

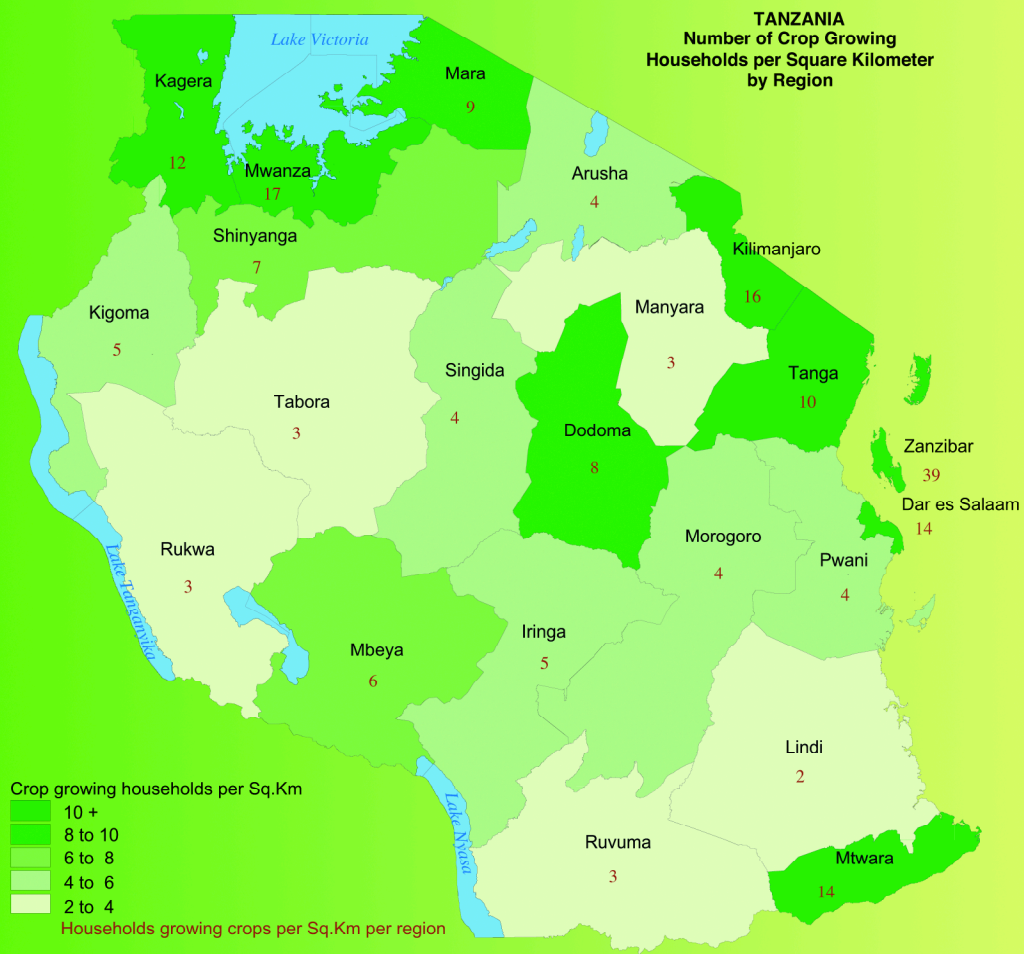
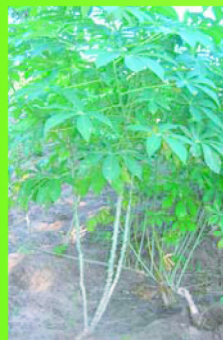


United Republic of Tanzania

# NATIONAL SAMPLE CENSUS OF AGRICULTURE 2002/2003

## SMALL HOLDER AGRICULTURE

### Volume II: CROP SECTOR – NATIONAL REPORT



National Bureau of Statistics, Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development, Ministry of Cooperatives and Marketing, Presidents Office, Regional Administration and Local Government, Ministry of Finance and Economic Affairs – Zanzibar

June -2006

National Sample Census of Agriculture 2002/2003 - Smallholder Agriculture





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**ABBREVIATIONS**

<b>ASDP</b> .....	<b>Agricultural Sector Development Programme</b>
<b>CSPro</b> .....	<b>Census and Survey Processing system</b>
<b>SPSS</b> .....	<b>Statistical Package for Social Sciences</b>
<b>CSTWG</b> .....	<b>Census and Surveys Technical Working Group</b>
<b>EU</b> .....	<b>European Union</b>
<b>DADIPS</b> .....	<b>District Agricultural Development and Investment Projects</b>
<b>DFID</b> .....	<b>Department for International Development</b>
<b>FAO</b> .....	<b>Food and Agriculture Organisation</b>
<b>GDP</b> .....	<b>Gross Domestic Product</b>
<b>ICR</b> .....	<b>Intelligent Character Recognition</b>
<b>IEC</b> .....	<b>Information, Education and Communication</b>
<b>JICA</b> .....	<b>Japan International Cooperation Agency</b>
<b>MAFS</b> .....	<b>Ministry of Agriculture and Food Security</b>
<b>NBS</b> .....	<b>National Bureau of Statistics</b>
<b>NSGRP</b> .....	<b>National Strategy for Growth and Reduction of Poverty</b>
<b>NGO</b> .....	<b>Non Government Organisations</b>
<b>OCCS</b> .....	<b>Office of the Chief Government Statistician in Zanzibar</b>
<b>PORALG</b> .....	<b>Presidents Office, Regional Administration and Local Government</b>
<b>SAC</b> .....	<b>Scotts Agriculture Consultancy Ltd.</b>
<b>UNDP</b> .....	<b>United Nations Development Programme</b>
<b>ULG</b> .....	<b>Ultek Laurence Gould Consultants</b>

**PREFACE**

At the end of the 2002/03 Agriculture Year, the National Bureau of Statistics and the Office of the Chief Government Statistician in Zanzibar in collaboration with the Ministries of Agriculture and Food Security; Water and Livestock Development; Cooperatives and Marketing as well as the Presidents Office, Regional Administration and Local Government (PORALG) conducted the Agriculture Sample Census for 2002/2003. This is the third Agriculture Census to be carried out in Tanzania, the first one was conducted in 1971/72, the second in 1993/94 and 1994/95 (during 1993/94 data on household characteristics and livestock count were collected and data on crop area and production in 1994/95).

It is considered that this census is one of the largest to be carried out in Africa and indeed in many other countries of the world. For the crop sub-sector, the census collected detailed data on all annual and permanent crops. It also collected comprehensive input use, storage, processing, marketing, tree farming and erosion control and extension services. As a result, the crop report from this census is much more detailed than the previous censuses' reports and, for the first time, has a conclusion and makes recommendations.

In addition to this, the census was large in its coverage as it provides data that can be disaggregated at district level and therefore allow comparisons with the 1998/99 District Integrated Agricultural Survey. The census covered smallholders in rural areas only and large scale farms. This report presents data disaggregated up to regional level and it focuses on crops grown kept by smallholders. For the first time, it includes figures for Zanzibar. The analysis in the report includes time series comparisons using data from the previous censuses and surveys.

The extensive nature of the census in relation to its scope and coverage of the crop sub-sector is a result of the increasing demand for more detailed information to assist in the proper planning of this sub-sector and in the administrative decentralization of planning to district level. It is hoped that this report will provide new insights for planners, policy makers, researchers and others involved in the agricultural sector in order to improve the prevailing conditions faced by crop producers in the country.

On behalf of the Government of Tanzania, I wish to express my deep appreciation for the financial support provided by the development partners, in particular, the European Union as well as DFID, UNDP, Japanese Government, JICA and others who contributed through the pool fund mechanism.

Finally, my appreciation goes to all those who in one-way or the other contributed to the success of the survey. In particular, I would also like to mention the enormous effort made by the Planning Group composed of professionals from the Agriculture Statistics Department of the National Bureau of Statistics, the Office of the Chief Government Statistician in Zanzibar and the Statistics Unit of the Ministry of Agriculture and Food Security with technical assistance provided by Ultec Lawrence Gould, Scotts Agriculture Consultancy Ltd and the Food and Agriculture Organisation of the United Nations.

Additionally, I would like to extend my appreciation to all professional staff of the National Bureau of Statistics, the sector Ministries of Agriculture and PORALG, the Consultants as well as Regional and District Supervisors and field enumerators for their commendable work. Certainly without their dedication, the census would not have been such a success.



Cletus P. B. Mkai

**The Director General**

**National Bureau of Statistics**



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**EXECUTIVE SUMMARY:**

Of the total 4,901,837 rural agriculture households in Tanzania, the number of crop growing households in the country was 4,858,810 representing 99 percent of the agriculture households. Sixty four percent of the households only grow crops whilst 35 percent grow crops and keep livestock. Shinyanga, Mbeya, Kagera, Mwanza and Dodoma have the highest number of crop growing households, whereas Dar es Salaam, Zanzibar, Pwani and Lindi have the lowest number. However, in terms of number of households per square kilometer, Zanzibar, Mwanza, Dar es Salaam, and Kilimanjaro have the highest number of crop growing households per square kilometer. In general, the regions with the lowest number of households growing crops also have a low numbers of livestock keepers. The number of households growing crops has increased by 32 percent over a period of 9 years (3.5 per year).

The total land area allocated to smallholders either through formal titles or customary rights is 11,999,071 ha, (2.4 ha per household). Of this, each household uses an average of 2.0 ha, however there are large regional variations with Shinyanga utilizing around 3.4 ha per household and Kilimanjaro with only 1 ha per household. The total land area allocated to smallholders has not changed over the last 10 years (12,227,840 in 1994), however the area of land utilized per household has increased by 186 percent and the area of land utilization is almost the same as the area of allocated land. Additionally around 50 percent of households reported insufficiency of land. The results of the census strongly indicates that there is real pressure of land and if land utilization continues to increase, serious encroachment into undesignated land will occur. This has just been identified on time and the monitoring and enforcement of the laws associated with designated land areas needs to be stepped up.

The total planted area with annual crops is 7,818,620 and the planted area per household is 1.61 ha. The planted area in the short rainy season was only 19 percent of the total planted area. Twelve of the 21 regions plus Zanzibar did not get a short rainy season, however in Mwanza and Kagera the short rainy seasons were more important than the long rainy season. Mwanza region had the highest planted area in Tanzania mainly due to getting good short and long rainy seasons.

Mono-cropping of annual crops is the dominant farming practice, followed by annual mixed cropping. Permanent crops are important in Kagera, Ruvuma, Mtwara, Zanzibar, Pwani, Tanga and Lindi.

Maize is the most important crop in the country and it has a planted area 4.25 times greater than cassava which has the second largest planted area. This is followed by beans, paddy, sorghum, cashew nuts, groundnuts, cotton, bananas, coffee, sweet potatoes and mangoes.

Cereals are the most important crop type in Tanzania, mainly due to the aforementioned dominance of maize production. Roots and tubers are next, mainly due to the large planted area of cassava. These are followed by pulses, of which beans are the most important, then oilseeds which is dominated by groundnuts and then cash crops with cotton and tobacco being the most important.

A total of 2,613,970 tonnes of maize was produced from a planted area of 3,465,173 ha resulting in a low yield of 0.75 tonnes per hectare. Time series analysis shows that since the last agriculture census in 1994, there has been a large increase in the planted area for maize from 1,203,000 hectares to 3,465,173, however there has only been a small increase in production over the same period and as a result of this, there has been a rapid decline in the yield from around 1.25 tonnes per hectare to 0.75 tonnes per hectare in 2003 with the main period of yield reduction occurring over the period 1994 to

1998. All other cereals followed the same trend in relation to the increase in planted area and reduction in yield over the same period.

In contrast to this, beans and groundnuts, whilst following the same pattern of increased planted area (from around 100,000 ha in 1994 to 750,000 ha in 2003 for beans and from about 75,000 ha in 1994 to 350,000 ha in 2003 for groundnuts), there has been a large increase in the production of these crops from 26,000 tonnes in 1994 to 330,000 tonnes in 2003. The resultant yield for both crops has been constant over the same period.

The main difference between maize and beans/groundnuts is that maize has a high requirement for Nitrogen, whilst beans and groundnuts manufacture their own Nitrogen and the comparison of planted area, production and planted area between these crops gives a clear indication that the reason for the large decline in productivity in cereals is directly due to a decline in the use of fertilizers since the previous census in 1994. This is further supported by time series data on fertilizer use which shows a 50 percent reduction in the number of households using fertilizers over the intercensal period. The main reason for not using fertilizers was related to cost.

This is probably the most important finding of the census in relation to reduction of poverty and moving from smallholder subsistence agriculture into self sustaining profit making farms, therefore it is imperative that the cost of fertilizers be set at a price where the cost benefit of using them results in increased profit. The failure to do this will result in continuing poverty in the rural areas of Tanzania.

The most important regions for the production of fruit and vegetable are Morogoro and Iringa, especially for tomatoes and cabbage and Arusha especially for onions. The main cash crops are cotton and tobacco. Cotton had a production of 181,073 tonnes, 60 percent of which was grown in Shinyanga region, whilst the production of tobacco was 49,300 tonnes and mostly grown in Tabora region.

The planted areas of permanent crops is 1,360,309 ha and are grown by 2,364,277 smallholder households. As with annual crops a larger planted area is grown by smallholders compared to large scale farms. Cashew nuts have the largest planted area compared to other permanent crops with 414,520 ha and 30 percent of the total area planted for permanent crops. This is followed by bananas with a planted area of 319,616 ha and coffee, 180,649 ha. Mtwara has the largest planted area with permanent crops followed by Kagera, Mbeya, Ruvuma and Kilimanjaro. Rukwa, Singida, Tabora and Mara have the smallest area under permanent crops.

Cashew nuts are mainly grown in Mtwara with 50 percent of the national total planted area with cashew nuts. Kagera is the main region for banana production with 34 percent of the total planted area with banana. Kilimanjaro and Mbeya are also important banana producing regions. Coffee is mainly grown in four regions (Mbeya, Kigoma, Kilimanjaro and Ruvuma). Mangoes are grown in most regions of the country with Shinyanga having the largest planted area compared to other regions. Pigeon peas are mostly grown in Manyara, Dodoma and Lindi. Coconuts are predominantly found in Pwani and Tanga. Morogoro is the main region for the production of sugar cane with 56 percent of the planted area of sugar cane in the country. The main region for oil palm is Kigoma.

The area under irrigation is very small with an annual crop planted area of only 186,006 ha, 2.4 percent of the total area planted with annual crops. Mbeya, Iringa, Arusha and Kilimanjaro have the largest planted area with irrigation. The planted area with irrigation has remained stagnant since the last census and there has been a noticeable reduction in the

number of households practicing irrigation in Kilimanjaro. Of the total irrigated area 34 percent is applied to maize, 32 percent paddy and 12 percent each for tomatoes and beans. However, a higher percent of irrigation is applied to fruits and vegetables than any other crop type. Rivers are the main source of water for irrigation with gravity being the most common method of obtaining water and flood the most common means of field application.

Land clearing is predominantly done by hand slashing. Soil preparation is also mostly done by hand (56% of the total planted area) however a substantial amount is by oxen (32% of the planted area). Only a small area is cultivated using tractors (4%). Arusha has the smallest area cultivated by hand and this is followed by Manyara. Shinyanga has the largest area cultivated by oxen. Only 16 percent of the total planted area is with improved seed with cereals having 54 percent of the total planted area with improved seed. Improved seeds are most commonly used with cash crops and vegetables.

Fertilisers were applied to only 23 percent of the total planted area and 13 percent of this was with farm yard manure. Only 6 percent was with inorganic fertilizers. The highest percent of planted area with fertilizers was in Kilimanjaro, Ruvuma and Iringa. Iringa and Ruvuma had the largest area planted with inorganic fertilizer. Very small areas had pesticide applications. Of the total area with pesticides 68 percent was with insecticides, 18 percent herbicides and the 14 percent with fungicides.

Maize is stored by more households than any other crop. This is followed by beans and pulses, paddy, sorghum/millet and groundnuts/beans. The most common period of storage is 3 to 6 months but this is closely followed by over 6 months. The most common means of storage is in open drums/sacks and traditional storage cribs. Other means of storage are not common, however it is worth noting that the most common means of storage in Kilimanjaro is in airtight drums. The main reason for the storage of food crops is for home consumption, followed by seed. For cash crops the reason for storage is for a higher price. The reported storage loss was relatively low with maize having the highest percent loss at 7 percent and paddy with the lowest percent loss at 2 percent.

Seventy percent of the crop growing households reported selling crops. Ruvuma has the highest percent of crop growing households that sell crops. Low market price is the main marketing problem facing smallholders. Apart from low prices, the main marketing problems were related to access to markets (for instance the market is too far, the transport cost too high and no transport). Of the 30 percent of crop growing smallholders that did not sell, the over-riding reason was that their production was insufficient to sell.

Agro-processing is carried out by 89 percent of the crop growing households in Tanzania, however, whilst most regions have over 80 percent of households processing crops, Dar es Salaam and Pwani have less than 40 percent and Arusha less than 60 percent. The main processed product is flour, with bran being the most common bi-product. Most processing is done on neighbours machine (73 %) followed by hand (17%). The highest percent of manual processing was in Dar es Salaam region, Pwani region and Zanzibar. Only 5 percent of the processed product was sold. Most processing is done for household use/consumption. Processed products that are sold are mostly sold to neighbours and local markets

Outreach by the extension was reported to be relatively high especially in Dar es Salaam, Iringa, Kilimanjaro and Kigoma. The lowest numbers of households receiving extension were in Lindi, Rukwa, Mtwara and Zanzibar. The government provides 95 percent of extension, with only 1 percent being provided by large scale farms. A low to moderate number of households received extension in the high crop production regions of Shinyanga, Tabora, Morogoro and Mwanza. The interventions that require no costs are the most commonly adopted.



Access to manual implements is predominant, however in regions with a large number of livestock there is a correspondingly high number of animal draft equipment. Tractors are more common in Kilimanjaro and Morogoro than other regions. The major source of financing these implements is through the sale of crops.

Thirteen percent of households have planted trees on their land, with the Eucalyptus and Pinus being the most planted. Iringa has the highest number of trees planted by smallholders with Pinus being the main species. Mbeya, Kagera and Ruvuma are also important with eucalyptus and cyprus being the dominant species. Most of the trees are planted in plantations (78%) with only 10 percent scattered in fields and 12 percent in field boundaries. The main purpose of planted trees is for planks/timber followed by wood for fuel and shade.

Ten percent of the total number of agriculture households has erosion control/waterharvesting structures on their farms. Most of these structures are in the highland areas of Kilimanjaro, Iringa, Arusha, Mbeya, Manyara and Tanga. The most common facility is the erosion control bunds.

The following key findings/recommendations are a result of the analysis of the census together with time series analysis and are detailed in the conclusion section of the report:

- There has been a large reduction in productivity of cereals since the last census and this is directly associated with a reduction in the use of fertilizer due to its high price.
- Access to land has become a major problem. Two to three times more land was utilized in 2003 compared to 1994 and practically all the land that is allocated to smallholders is utilised. Any further increase in planted area will be into areas not designated for crop production.
- For most smallholders, the area under production per household is insufficient for the conversion into self supporting profit making entities and this can only be achieved by land consolidation.
- There has been no growth in the number of households with irrigation in the last 10 years.
- With the almost negligible use of chemicals in crop production in Tanzania, certified organic farming areas should be established and encouraged.
- Whilst some tree planting is practiced by small holders, it should be further promoted. Trees are an extremely valuable resource and methods of incorporating tree farming to substitute food crop production should be promoted.
- Large scale farms are important in providing services to attached out-growers but they are not going to be able to assist the majority of smallholders in the country.
- In terms of productivity, the crop sector has not only stagnated, it has got less productive. In order to assist smallholders to move away from subsistence, direct support is required in the form of start up capital and input subsidies.
- The frequency of surveys in the past has provided essential data for identifying trends and making recommendations. It is important that these frequent surveys be reinstated.
- Whilst the Department of Extension Services has a relatively high contact rate it has not had a real impact. The central sector Ministries of Agriculture should be instrumental in replacing the package delivery system currently in place with an advisory system. Information systems can assist in this transformation and sourcing and development of these should be promoted.

## COUNTRY PROFILE

### Introduction

This part of the report presents a short profile of Tanzania giving general information on land, climate, administrative set-up and population.

#### - Geographical Location

Tanzania lies south of the equator between the great lakes Victoria, Tanganyika and Nyasa on one hand and the Indian Ocean on the other. It has frontiers with Kenya and Uganda in the north, Rwanda, Burundi and Democratic Republic of Congo in the west, and Zambia, Malawi and Mozambique in the south. Tanzania is located in the Eastern Africa region between longitudes 29 and 41 degrees East, latitudes 1 and 12 degrees South.

#### - Land Area

Its total area of Tanzania is approximately 945,000 sq. km which includes approximately 60,000 sq. km. of inland water. Out of the 945,000 sq. km., over 100,000 sq. km. are devoted to reserves and national parks. The area of planted arable land is 9.5 million hectares.

#### - Geographical Features

The country has a vast central plateau sloping down towards the Indian Ocean. Except for a narrow belt along the 900 kilometers of the coastline, most of the land lies above 200m altitude, and much of the country is higher than 1,000 meters above sea level. In the north Mt. Kilimanjaro, with a permanent ice cap, rises to over 5,500 meters with the highest peak Kibo reaching 5,895 meters. A distinctive feature of Tanzania is the rift valley. The great valley runs from near the mouth of the Zambezi river northwards through Tanzania, Kenya, Ethiopia and across the Red Sea to Israel. Woodland, bushland and grassland, are the predominant types of vegetation.

#### - Climate

The main climatic feature is the long dry spell from May to October, followed by a period of low rainfall which is often concentrated into relatively few days of heavy showers'. The main rain season on the coast is from March to May but there is a second season from October to December. Total rainfall increases towards the north. Around lake Victoria, rainfall is well distributed throughout the year with a peak during March to May.

October to mid-March is the hottest period and from June to September the coolest. However, the range of temperatures is fairly limited and it is always hot between 25 and 30 degrees centigrade on the coast and between 22 and 27 degrees centigrade in the north.

#### - Administrative Set-up

Tanzania Mainland is divided into 21 administrative regions namely; Dodoma, Arusha, Kilimanjaro, Tanga, Morogoro, Pwani, Dar es Salaam, Lindi, Mtwara, Ruvuma, Iringa, Mbeya, Singida, Tabora, Rukwa, Kigoma, Shinyanga, Kagera, Mwanza, Mara and Manyara. Each region is divided into districts (rural and urban). In total there are 119 administrative districts and five cities - Dar es Salaam, Mwanza, Mbeya, Tanga and Arusha.

The country has 120 ethnic groups with Kiswahili as their official language. English is however widely spoken.

- **Population**

The last population census was conducted in August 2002. According to the 2002 census, the population of Tanzania Mainland was 34.6 Million giving an annual growth rate of 2.9 percent.

- **Agriculture**

The country's economy is heavily dependent on agriculture, which accounts for about 45% percent of the GDP (the value of all goods and services produced by all factors of production resident in the country in one year) and about two-thirds of the total exports.

The country has a dual agricultural economy that is the smallholder sub-sector and the commercial/large-scale sub-sector. Smallholder farmers who dominate the agricultural sector are estimated to be 4.8 million according the 2002/03 Agriculture Sample Census. These agricultural holders carry out rain fed agriculture, producing a variety of crops mainly for subsistence purposes. These holders account for most of the food produced in the country.

The main food crops grown in the country are maize, sorghum, millet, cassava, sweet potatoes, bananas, pulses, paddy and wheat. Cash crops are also grown in Tanzania, the country was once the world's leading producer of sisal, but the introduction of synthetic fiber depleted the market. Besides sisal, the other cash crops grown are coffee, tea, tobacco, cotton and cashew nuts. On average the crop sub sector contributes about 34.8% percent of the Agricultural GDP according to the 2003 economic Survey.



## **1. INTRODUCTION**

### **1.1 Introduction**

The agricultural sector is the main source of employment and livelihood for more than two-thirds of the Tanzanian population. It is an important economic sector in terms of food production, employment generation, production of raw material for industries, and generation of foreign exchange earnings. It accounts for about 46 percent of GDP (Economic Survey, 2004). The contribution of crop production to GDP was 36.5 percent during the 2004 year.

Having a diversity of climatic and geographical zones, Tanzania's farmers grow a wide variety of annual and permanent crops. The country grows a large number of food crops including maize, cassava, beans, banana, paddy, sorghum and millet. In addition smallholders produce a variety of fruits and vegetables such mangoes, oranges, water melon, tomatoes, potatoes, egg plants, etc. Permanent crops like coffee, tea, spices, etc. are also grown. Coffee which is grown on estates and by smallholders is a major export crop. Cotton, cashew nuts and tobacco are also grown by smallholders for export. Smallholders in Tanzania mainly carry out rain-fed agriculture for subsistence purposes. The commercial large scale sub sector is very small (1206 holdings) and produces some of the export crops in the country (coffee, tea, sisal, sugar, etc.).

The present report analyses the data related to land ownership, land use, crop production, input use, storage, processing, marketing, investment in agriculture and access to inputs and services for the crops produced in the country.

This report (Volume II) covers the crop sector at national and regional levels and includes Zanzibar estimates. Other Census reports include the Technical Report (Volume I), Livestock Report (Volume III), Smallholder Household Characteristics and Access to Natural Resources Report (Volume IV), 21 Regional Reports for the Mainland (Volume V), Large Scale Farms Report (Volume VI) and a separate report for Zanzibar (Volume VII). In order to address the specific issue of gender, a separate thematic report on gender has been published. Other thematic reports will be produced depending on the demand and availability of funds. In addition to these reports two dissemination applications have been produced to allow users to create their own tabulations, charts and maps.

This report is divided into four main sections: Introduction, Results, Conclusions and Appendices. The definitions relating to all aspects of this report can be found in the questionnaire (Appendix I).

### **1.2 Background Information**

In 2003, the Government of Tanzania launched the Agricultural Sample Census as an important part of the Poverty Monitoring Master Plan which supports the production of statistics for advocacy of effective public policy, including poverty reduction, access to services, gender, as well as the standard crop production data normally collected in an agriculture census. The census is intended to fill the information gap and support planning and policy formulation by high level decision making bodies. It is also meant to provide critical benchmark data for monitoring ASDP and other agriculture and rural development programs as well as prioritising specific interventions of most agriculture and rural development programs.

Following the decentralisation of the Government's administration and planning functions, there has been a pressing need for agriculture and rural development data disaggregated at regional and district levels. The provision of district level estimates will provide essential baseline information on the state of agriculture and support decision making by the Local

Government Authorities in the design of District Agricultural Development and Investment Projects (DADIPS). The increase in investment is an essential element in the national strategy for growth and reduction of poverty.

### 1.2.1 Census Objectives

The 2003 Agriculture Sample Census was designed to meet the data needs of a wide range of users down to district level including policy makers at local, regional and national levels, rural development agencies, funding institutions, researchers, NGOs, farmer organisations, etc. As a result the dataset is both more numerous in its sample and detailed in its scope compared to previous censuses and surveys. To date this is the most detailed Agricultural Census carried out in Africa. The census was carried out in order to:

- Identify structural changes if any, in the size of farm household holdings, crop and livestock production, farm input and implement use. It also seeks to determine if there are any improvements in rural infrastructure and in the level of agriculture household living conditions;
- Provide benchmark data on productivity, production and agricultural practices in relation to policies and interventions promoted by the Ministry of Agriculture and Food Security and other stake holders.
- Establish baseline data for the measurement of the impact of high level objectives of the Agriculture Sector Development Programme (ASDP), National Strategy for Growth and Reduction of Poverty (NSGRP) and other rural development programs and projects.
- Obtain benchmark data that will be used to address specific issues such as: food security, rural poverty, gender, agro-processing, marketing, service delivery, etc.

### 1.2.2 Census Coverage

The census covers both large and small scale farms. This report covers small scale farms in detail with some summary data on large scale farms in order to provide complete national estimates for some variables. Data was collected from a sample of 53,070 small scale farmers of which 48,315 were from the Mainland and 4,755 from Zanzibar. Data was also collected from 1,254 Large Scale Farms (1,206 on the Mainland and 48 in Zanzibar) on a complete enumeration basis.

### 1.2.3 Census Scope

The census covered agriculture in detail as well as many other aspects of rural development and was conducted using three different questionnaires:

- Small scale farm questionnaire
- Community level questionnaire
- Large scale farm questionnaire

The small scale farm questionnaire was the main census instrument and includes questions related to crop and livestock production and practices; population demographics; access to services, resources and infrastructure; and issues on poverty, gender and subsistence versus profit making production units. The main topics covered were:

- Household demographics and activities of the household members
- Land access/ownership/tenure and use
- Crop and livestock production and productivity
- Access to inputs and farming implements
- Access and use of credit
- Access to infrastructure (roads, district and regional headquarters, markets, advisory services, schools, hospitals, veterinary clinics, etc...)

- Crop marketing, storage and agroprocessing
- Tree farming, agro-forestry and fish farming
- Access and use of communal resources (grazing, communal forest, water for humans and livestock, beekeeping etc.)
- Investment activities: Irrigation structures, water harvesting, erosion control, fencing, etc.
- Off farm income and non agriculture related activities
- Households living conditions (housing, sanitary facilities, etc.)
- Labour use, livelihood constraints and subsistence versus non subsistence activities
- Gender issues.

The community level questionnaire was designed to collect village level data such as access and use of common resources, community tree plantations and seasonal farm gate prices.

The large scale farm questionnaire was administered to large farms which were either privately or corporately managed. Some data from the large scale farm questionnaire are incorporated in this report, however an in depth analysis of large scale farms is presented in a separate report.

### 1.3 Census Methodology

The main focus at all stages of the census execution was on data quality and this is emphasised in this section. The main activities undertaken include:

- Census organisation
- Tabulation plan preparation
- Sample design
- Design of census questionnaires and other instruments.
- Field pretesting of the census instruments
- Training of trainers, supervisors and enumerators
- Information Education and Communication (IEC) campaign
- Data Collection
- Field supervision and consistency checks
- Data processing:
  - Scanning
  - ICR extraction of data
  - Structure formatting application
  - Batch validation application
  - Manual data entry application
  - Tabulation preparation using SPSS
- Table formatting and charts using Excel, map generation using ArcView and Freehand.
- Report preparation using Word and Excel.

#### 1.3.1 Census Organisation

The Census was conducted by the National Bureau of Statistics (NBS) in collaboration with the sector ministries of agriculture, and the Office of the Chief Government Statistician in Zanzibar (OCGS). At the National level the Census was headed by the Director General of the National Bureau of Statistics with assistance from the Director of Economic Statistics. The Planning Group oversaw the operational aspects of the Census and this consisted of staff from the Department of Agriculture Statistics of NBS and three representatives of the Department of Policy and Planning of the



Ministry of Agriculture and Food Security (MAFS). At the regional level, implementation of census activities was overseen by the Regional Statistical Office of NBS and the Regional Agriculture Supervisor from the Ministry of Agriculture and Food Security. At the District level the Census activities were managed by two Supervisors from the Presidents Office, Regional Administration and Local Government (PORALG). The supervisors managed the enumerators who also came from PORALG.

The members of the Planning Group had a minimum qualification of a bachelor degree; the Regional Supervisors were Agriculture Economists, Statisticians or Statistical Officers. The District Supervisors and Enumerators had diploma level qualifications in Agriculture.

The Census and Surveys Technical Working Group (CSTWG) provided support in sourcing financing, approving budget allocations and Technical Assistance inputs as well as monitoring the progress of the Census. A Technical Committee for the census was established with members from key stakeholder organisations and its function was to approve the proposed instruments and procedures developed by the Planning Group. It also approved the tabulations and analytical reports prepared from the Census data.

### 1.3.2 Tabulation Plan Preparation

The tabulation plan was developed following three user group workshops and thus reflects the information needs of the end users. It took into consideration the tabulations from previous census and surveys to allow trend analysis and comparisons.

### 1.3.3 Sample Design

The Mainland sample consisted of 3,221 villages. These villages were drawn from the National Master Sample (NMS) developed by the National Bureau of Statistics (NBS) to serve as a national framework for the conduct of household based surveys in the country. The National Master Sample was developed from the 2002 Population and Housing Census. The total Mainland sample was 48,315 agricultural households. In Zanzibar a total of 317 EAs were selected and 4,755 agriculture households were covered. Nationwide, all regions and districts were sampled except three urban district (two from Mainland and one from Zanzibar).

In both Mainland and Zanzibar, a stratified two stage sample was used. The number of villages/Enumeration Areas (EAs) were selected for the first stage with a probability proportional to the number of villages in each district. In the second stage, 15 households were selected from a list of farming households in each Village/EA using systematic random sampling. Table 1.1 gives the sample size of households, villages and districts for Tanzania Mainland and Zanzibar.

Table 1.1 Census Sample Size (number)

Level	Mainland	Zanzibar	Total
Households	48,315	4,755	53,070
Villages/EAs	3,221	317	3,539
Districts	117	9	126
Regions	21	5	26

### 1.3.4 Questionnaire Design and Other Census Instruments

The questionnaires were designed following user meetings to ensure that the questions asked were in line with users data needs. Several features were incorporated into the design of the questionnaires to increase the accuracy of the data:

- Where feasible all variables were extensively coded to reduce post enumeration coding error.
- The definitions for each section were printed on the opposite page so that the enumerator could easily refer to the instructions whilst interviewing the farmer.

- The responses to all questions were placed in boxes printed on the questionnaire, with one box per character. This feature made it possible to use scanning and Intelligent Character Recognition (ICR) technologies for data entry.
- Skip patterns were used to reduce unnecessary and incorrect coding of sections which do not apply to the respondent.
- Each section was clearly numbered, which facilitated the use of skip patterns and provided a reference for data type coding for the programming of CSPro, SPSS and the dissemination applications.

Three other instruments were used:

- Village Listing Forms were used for listing households in the village and from this list a systematic sample of 15 agricultural households were selected.
- A Training Manual which was used by the trainers for the cascade/pyramid training of supervisors and enumerators
- Enumerator Instruction Manual which was used as reference material.

### **1.3.5 Field Pre-testing of the Census Instruments**

The Questionnaire was pre-tested in five locations (Arusha, Dodoma, Tanga, Unguja and Pemba). This was done to test the wording, flow and relevance of the questions and to finalise crop lists, questionnaire coding and manuals. In addition to this, several data collection methodologies had to be finalised, namely, livestock numbers in pastoralist communities, cut flower production, mixed cropping, use of percentages in the questionnaire and finalising skip patterns and documenting consistency checks.

### **1.3.6 Training of Trainers, Supervisors and Enumerators**

During training, cascade/pyramid training techniques were employed to maintain statistical standards. The top level of training was provided to 66 national and regional supervisors (3 supervisors per region plus Zanzibar). The trainers were members of the Planning Group from the National Bureau of Statistics and the sector ministries of agriculture. In each region, three training sessions were conducted for the district supervisors and enumerators. In addition to training them in field level census methodology and definitions, emphasis was placed on training the enumerators and supervisors in consistency checking. Tests were given to the supervisors and enumerators and the best 50 percent of the trainees were selected to administer the smallholder and community level questionnaires. This increased the number of interviews per enumerator but it also released finance to increase the number of supervisors and hence the supervisor enumerator ratio. The household listing exercise was carried out by all trained enumerators.

### **1.3.7 Information, Education and Communication (IEC) Campaign**

Radio, television, newspapers, leaflets, t-shirts and caps were used to publicise the Agriculture Sample Census. This helped in sensitising the public for the field level activities. The t-shirts and caps were given to the field staff and the village chairpersons. The village chairpersons helped to locate the selected households.

### **1.3.8 Data Collection**

Data collection activities for the 2002/03 Agriculture Sample Census took three months from January to March 2004. The data collection methods used during the census were by interview only. No physical measurements, e.g., crop cutting and field area measurement, were taken. Field work was monitored by a hierarchical system of supervisors at the top of which was the Mobile Response Team followed by the Regional Supervisors and District Supervisors. The Mobile Response Team consisted of three Principal Supervisors who provided overall direction to the field operations and responded to queries raised outside the scope of the training exercise. The mobile response team consisted of the Manager of

Agriculture Statistics Department, Long-term Consultant and the Desk Officer for the Census. Decisions made on definitions and procedures were then communicated back to all enumerators via the Regional and District Supervisors.

On the Mainland district supervision and enumeration were done by staff from the President's Office, Regional Administration and Local Government (PORALG). Regional and national supervision was provided by senior staff of the National Bureau of Statistics and the sector ministries of agriculture. In Zanzibar the enumeration was done by staff from the Ministry of Agriculture, Natural Resources, Environment and Cooperatives. Supervision was provided by senior officers of the same ministry and the Office of the Chief Government Statistician.

During the household listing exercise, 3,222 extension staff were used on the Mainland and 317 in Zanzibar. For the enumeration of the small holder questionnaire, 1,611 enumerators on Mainland and 158 in Zanzibar were used. An additional five percent of the total number of enumerators was held in reserve in case of drop outs during the enumeration exercise.

### **1.3.9 Field Supervision and Consistency Checks**

Enumerators were trained to probe the respondents until they were satisfied with the responses given before they recorded them in the questionnaire. The first check of the questionnaires was done by enumerators in the field during enumeration. The second check was done by the district supervisors followed by Regional and National Supervisors. Supervisory visits at all levels of supervision focused on consistency checking of the questionnaires. Inconsistencies encountered were corrected, and where necessary a return visit to the respondent was made by the enumerator to obtain the correct information. Further quality control checks were made through a major post enumeration checking exercise where all questionnaires were checked for consistencies by supervisors in the district offices.

### **1.3.10 Data Processing**

Data processing consisted of the following processes:

- Data entry
- Data structure formatting
- Batch validation
- Tabulation

#### **Data Entry**

Scanning and ICR data capture technology for the small holder questionnaire were used on the Mainland. This not only increased the speed of data entry, it also increased the accuracy due to the reduction of keystroke errors. Interactive validation routines were incorporated into the ICR software to track errors during the verification process. The scanning operation was so successful that it is highly recommended for adoption in future censuses/surveys. In Zanzibar all data was entered manually using CPro.

Prior to scanning, all questionnaires underwent a manual cleaning exercise. This involved checking that the questionnaire had a full set of pages, correct identification and good handwriting. A score was given to each questionnaire based on the legibility and the completeness of enumeration. This score will be used to assess the quality of enumeration and supervision in order to select the best field staff for future censuses/surveys.



CSPro was used for data entry of all Large Scale Farm and community based questionnaires due to the relatively small number of questionnaires. It was also used to enter data from the 2,880 small holder questionnaires that were rejected by the ICR extraction application.

#### **Data Structure Formatting**

A program was developed in visual basic to automatically alter the structure of the output from the scanning/extraction process in order to harmonise it with the manually entered data. The program automatically checked and changed the number of digits for each variable, the record type code, the number of questionnaires in the village, the consistency of the Village ID Code and saved the data of one village in a file named after the village code.

#### **Batch Validation**

A batch validation program was developed in order to identify inconsistencies within a questionnaire. This is in addition to the interactive validation during the ICR extraction process. The procedures varied from simple range checking within each variable to the more complex checking between variables. It took six months to screen, edit and validate the data from the smallholder questionnaires. After the long process of data cleaning, tabulations were prepared based on a pre-designed tabulation plan.

#### **Tabulations**

Statistical Package for Social Sciences (SPSS) was used to produce the Census tabulations and Microsoft Excel was used to organize the tables and compute additional indicators. Excel was also used to produce charts while ArcView and Freehand were used for the maps.

#### **Analysis and Report Preparation**

The analysis in this report focuses on regional comparisons, time series and national production estimates. Microsoft Excel was used to produce charts, ArcView and Freehand were used for maps, whereas Microsoft Word was used to compile the report.

#### **Data Quality**

A great deal of emphasis was placed on data quality throughout the whole exercise from planning, questionnaire design, training, supervision, data entry, validation and cleaning/editing. As a result of this, it is believed that the census is highly accurate and representative of what was experienced at field level during the Census year. With very few exceptions, the variables in the questionnaire are within the norms for Tanzania and they follow expected time series trends when compared to historical data. Standard Errors and Coefficients of Variation for the main variables are presented in the Technical Report (Volume I).

#### **1.4 Funding Arrangements**

The Agricultural Sample Census was supported mainly by the European Union (EU) who financed most of the operational activities. Other funds for operational activities came from the Government of Tanzania, Government of Japan, United Nations Development Programme (UNDP) and other partners in the Pool fund of the Vice President's Office (VPO). In addition to this, technical assistance funds were provided by the European Union (EU), Department for International Development (DFID) and Japan International Cooperation Agency (JICA). The technical assistance was managed by Ultek Laurence Gould Consultants (ULG), Scotts Agriculture Consultancy Ltd. (SAC) and the Food and Agriculture Organisation (FAO).

## 2. CROP RESULTS

This section of the report analyses the census results in relation to type of crop growing households, land use, crop production and crop husbandry.

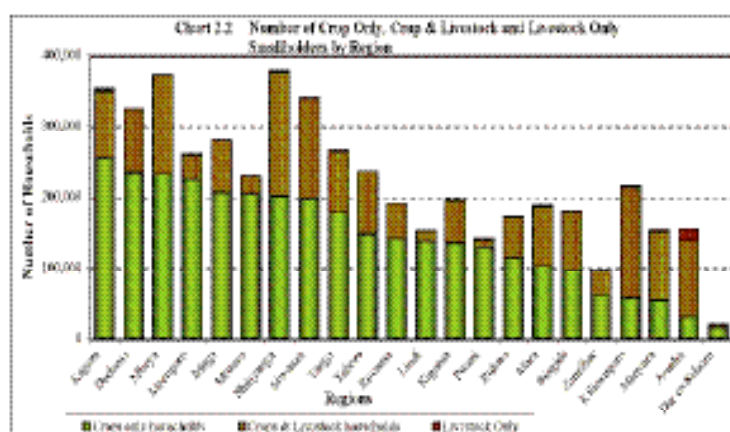
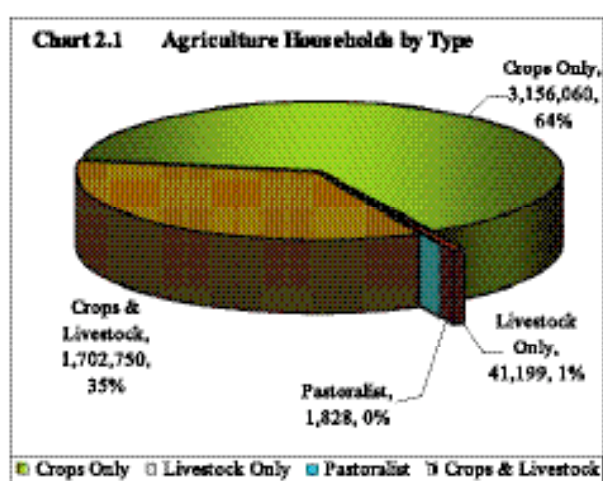
The total number of agriculture households (those involved in crops, livestock, vegetable production and fish farming) in Tanzania was 4,901,837 (4,805,315 on the Mainland and 96,522 in Zanzibar). The regions with the highest number of agriculture households in Tanzania were found in the Lake Zone (Shinyanga, Mwanza and Kagera), the southern highland regions of Mbeya and Dodoma (Map 2.1). However, in terms of farming intensity (the number of agriculture households per square kilometre of land) Zanzibar, with 39/km<sup>2</sup>, has the highest in the country. On the Mainland, the highest number of agriculture households per square kilometre is found in Mwanza (17/km<sup>2</sup>) and Kilimanjaro (16/km<sup>2</sup>) regions (Map 2.2). The trends for crop growing households are exactly the same due to the very small number of households that do not grow crops.

### 2.1 Type of Agriculture Household

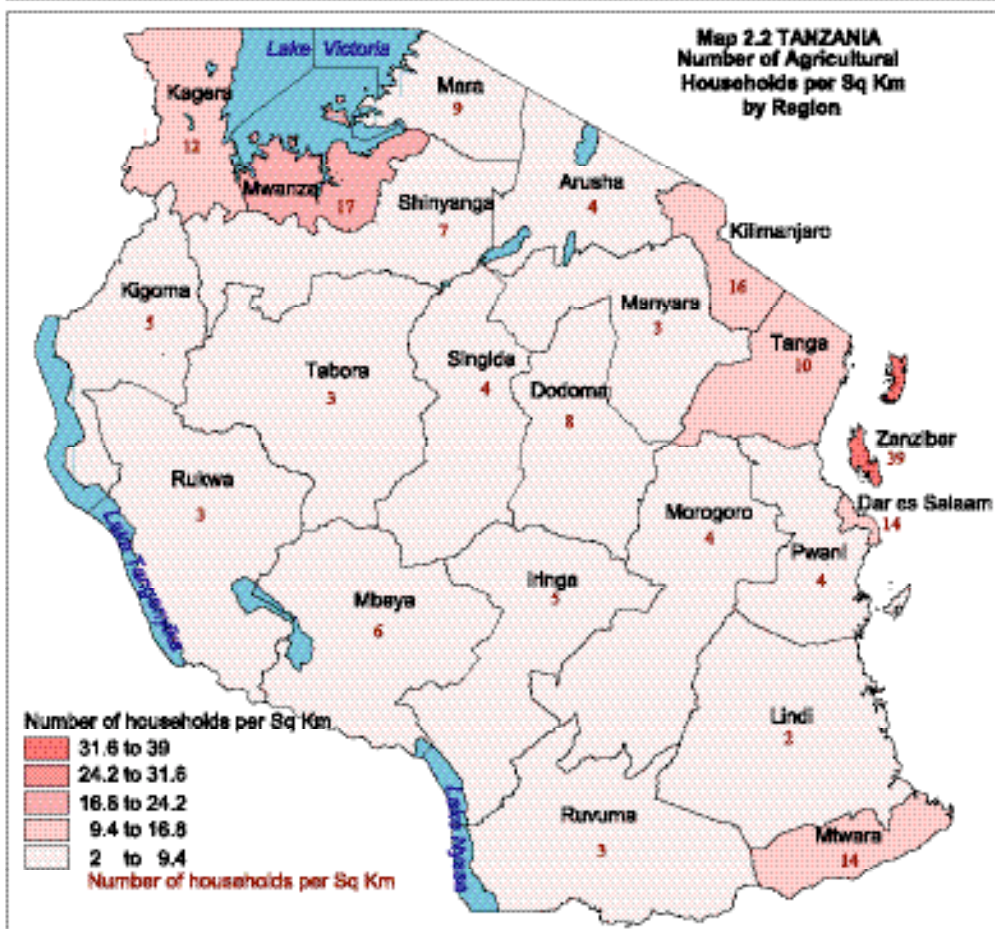
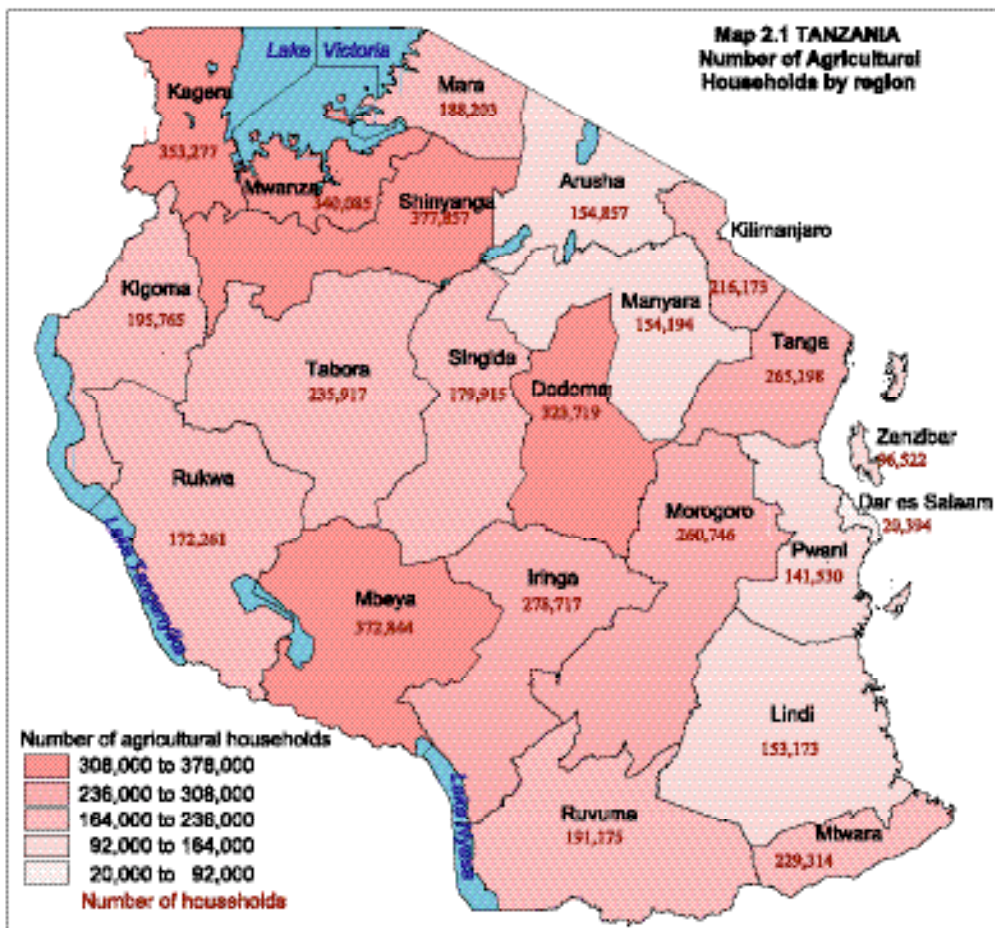
At national level, crop farming is more important than livestock keeping with 99 percent (4,858,810) of smallholder households involved in crop production against 36 percent (1,745,777) keeping livestock. Of the crop growing households 4,762,589 (98%) were on the Mainland and 96,221 (2%) in Zanzibar (Chart 2.1) and this is made up of 3,156,060 crops only households and 1,702,740 households with both crops and livestock.

Shinyanga has the highest number of crop growing households in the country. This is followed by Mbeya, Kagera, Mwanza and Dodoma. Dar es Salaam and Zanzibar have the lowest number of households involved in crop production (Chart 2.2, Map 2.3 and Map 2.4). Zanzibar has the highest intensity of crop growing households with 39 crop growing households per square kilometre of land (Map 2.5)

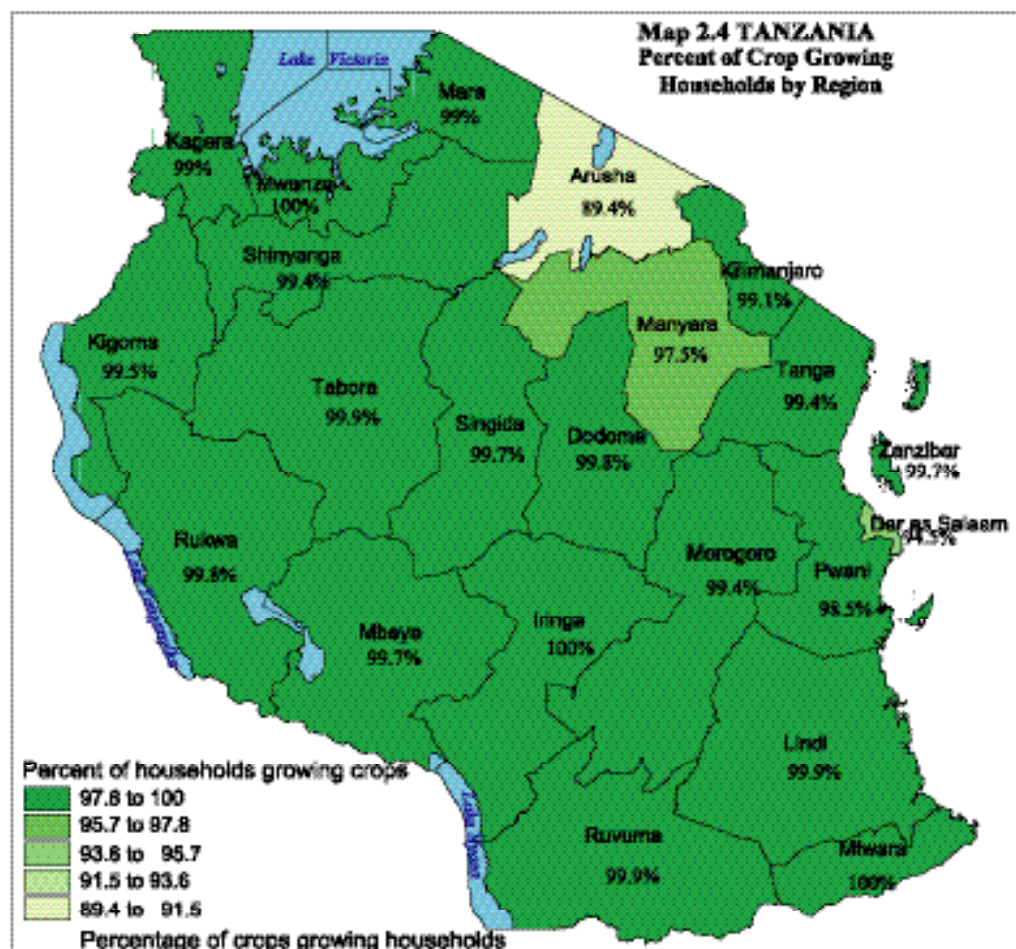
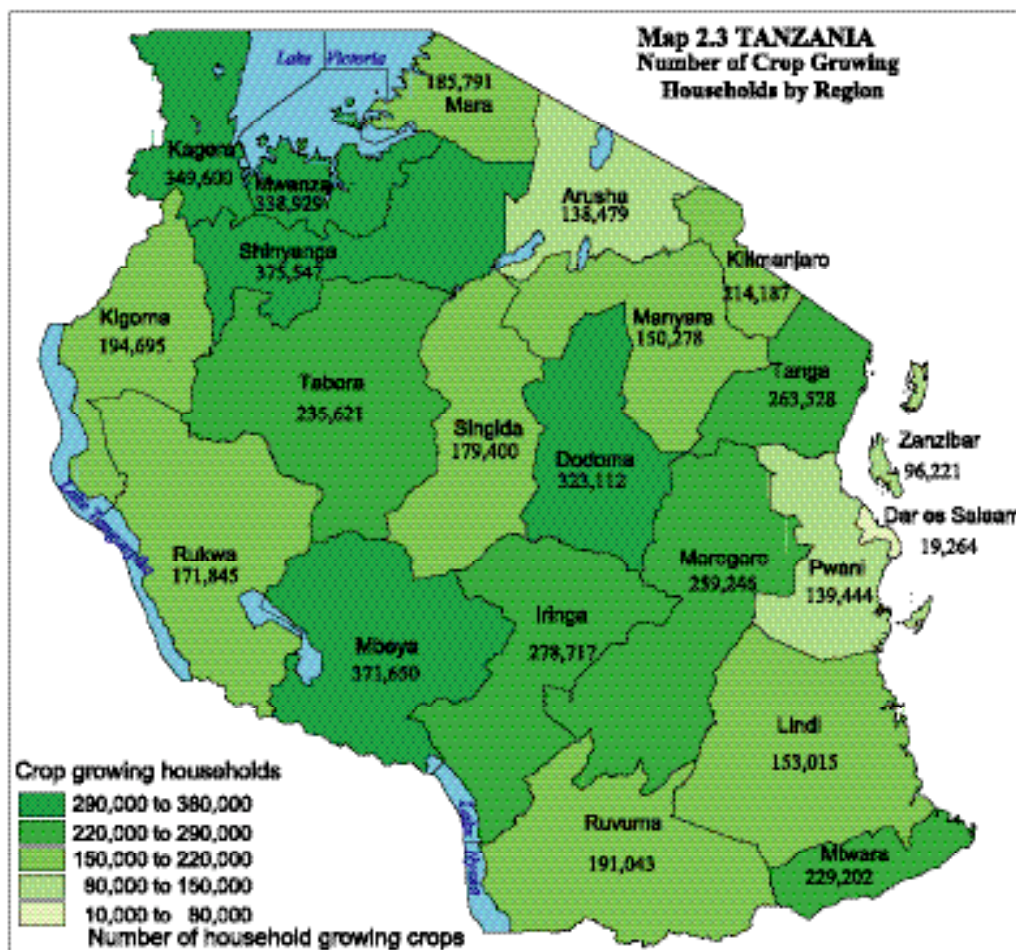
Kilimanjaro, Arusha and Manyara are the only regions with a higher number of households with crops and livestock than households growing crops only. Smallholder households in Mtwara, Morogoro, Iringa, Lindi and Pwani keep very few livestock and are practically totally dependant on crop growing in regard to their on farm activities (Chart 2.2, Map 2.6). Pastoralists and livestock only households (43,027 households) are mainly found in Arusha (16,379 households) (Chart 2.2 and Map 2.7).

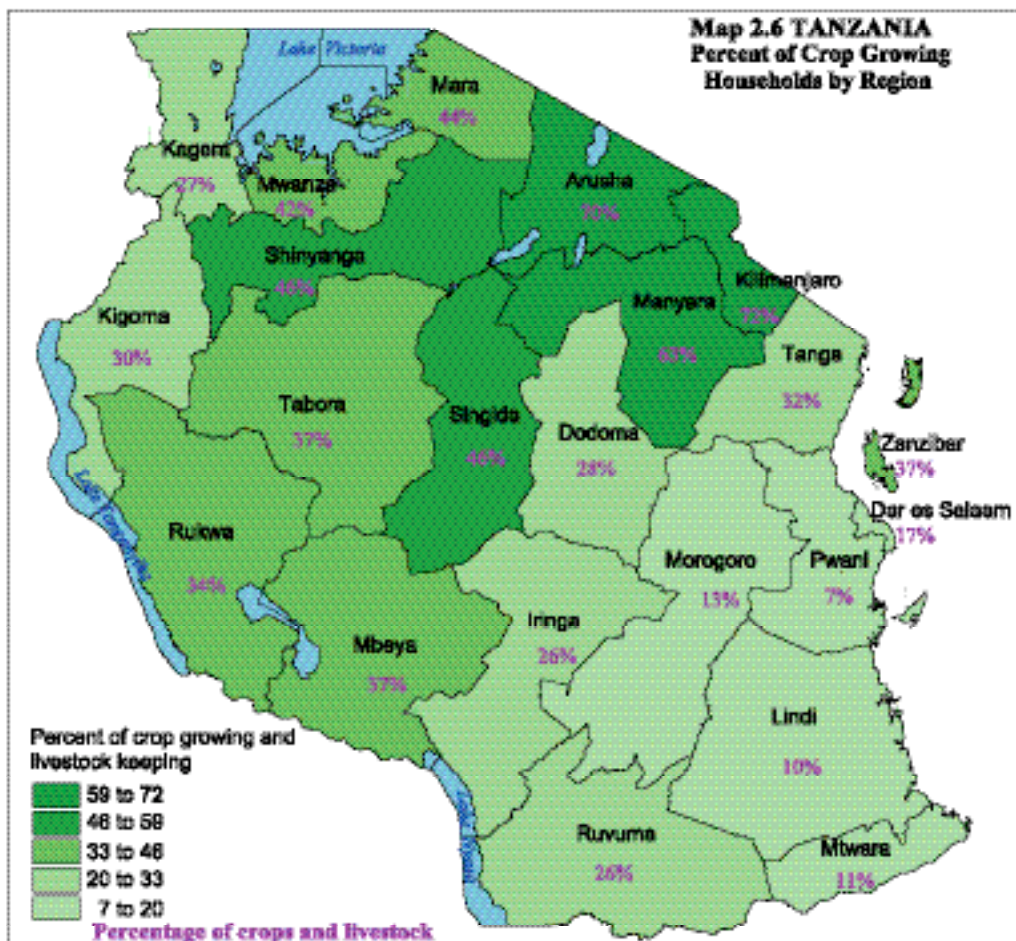
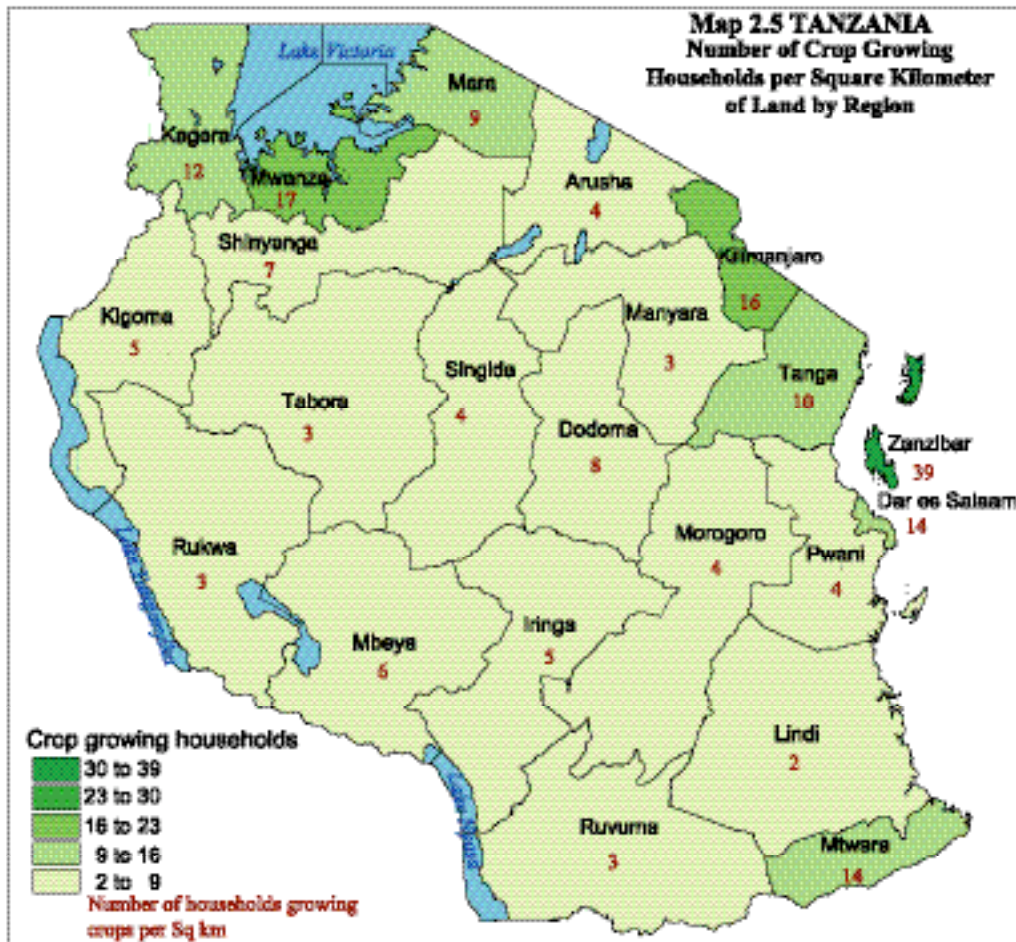






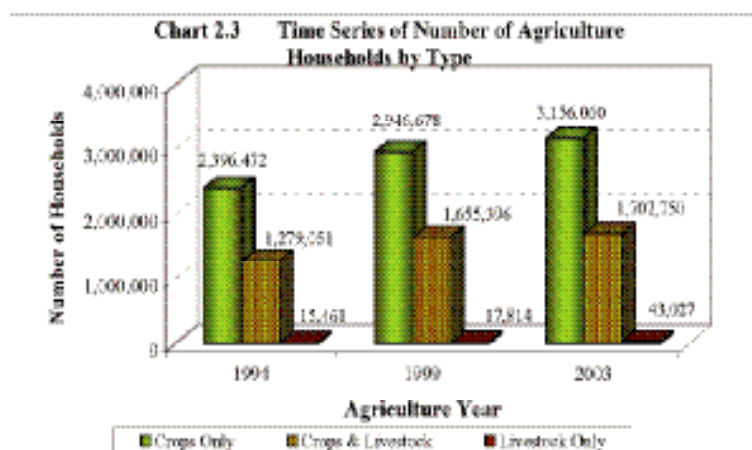








Time series data show an increase in all types of agriculture households over the period 1994 to 2003 (32.2% or 3.4% per year). For crop growing households the increase was greater between 1993/94 and 1998/99 (3.2% increase per year). Crop and livestock small holders follow the same trend as that of crops only smallholders (Chart 2.3). The increase in livestock only households was large over the period 1999 to 2003, however the numbers are very small and caution must be taken when using them.



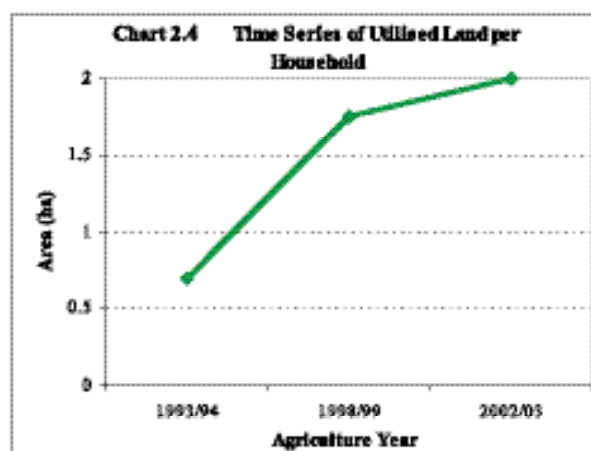
## 2.2 Land Use

Land area planted and planted area are two different types of area measurements. Land area planted refers to the physical area of land and is the same regardless of the number of crops planted on the same land in one year. Land area planted is used in the Land Use Section as it refers to physical land area whereas planted area is used in the Annual Crop Production Section as it refers to the area of crops planted in a year whereby the area is summed if there were more than one crop on the same land in a year.

### 2.2.1 Area of Land Utilised

The total area of land allotted to smallholders is 11,997,071 ha (11,885,132 ha (99%) on the Mainland and 111,939 ha (1%) in Zanzibar). The total utilised land area is 9,521,592 which is 79 percent of the total allocated land area. This is equivalent to 2.4 hectares per household. However, the utilisable area per household (which includes area utilised plus area usable but not used) is 2.3 ha. The national average land area utilised for agriculture per household is only 2.0 ha (includes area under fallow, if fallow is excluded the land area per household is only 1.9 percent). This implies that 0.3 hectares of usable land per household of usable land was not cultivated during the 2002/03 agriculture year.

The total area allocated to smallholders has not changed significantly over the last 10 years and, if any, there has been a reduction in the allocated area. This implies that smallholders

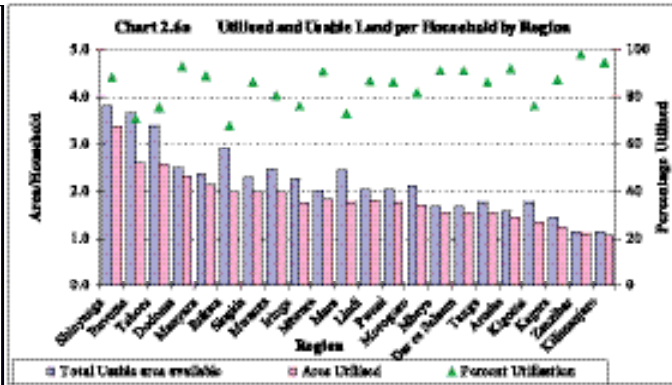
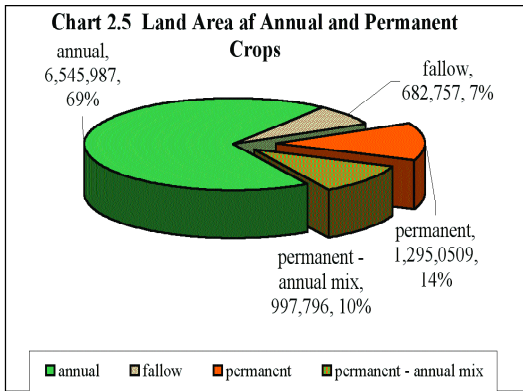


are not encroaching into land which has not been designated for agriculture purposes and the major change is in the area of allocated land that is utilised. The area of land utilised per household has increased by 186 percent since 1993/94. Most of the increase was between 1994 and 1999 and the rate of increase diminished sharply over the period 1999 to 2003 (Chart 2.4).

Large differences in land area utilised per household exist between regions with Shinyanga utilising more than three hectares per household and Ruvuma, Tabora, Dodoma and Manyara utilising between 2.0 and 3.0 ha per household. In other regions the percentage utilisation is lower as in Rukwa, Ruvuma, Tabora, Mara and Kigoma. The smallest land area utilised per household is found in Zanzibar, Kilimanjaro and Kagera where the utilisation is only between 1.0 and 1.2 ha per household. In Zanzibar, Mtwara, Dodoma, Arusha, Mbeya and Dar es Salaam regions the percentage utilisation is

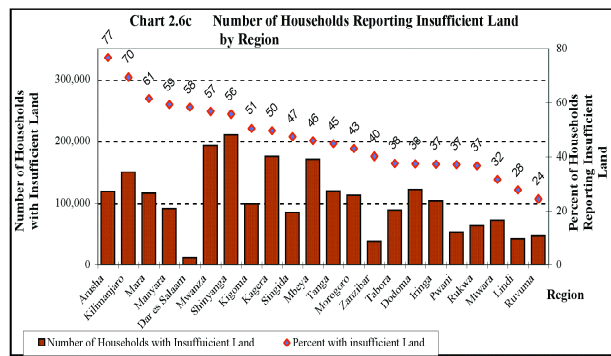
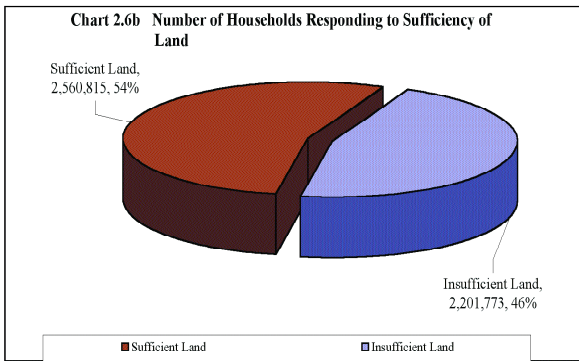


approaching maximum (Map 2.8). Total usable area refers to the land that the household has access to either by official title or customary law (Chart 2.5).



2.2.2 Land Sufficiency

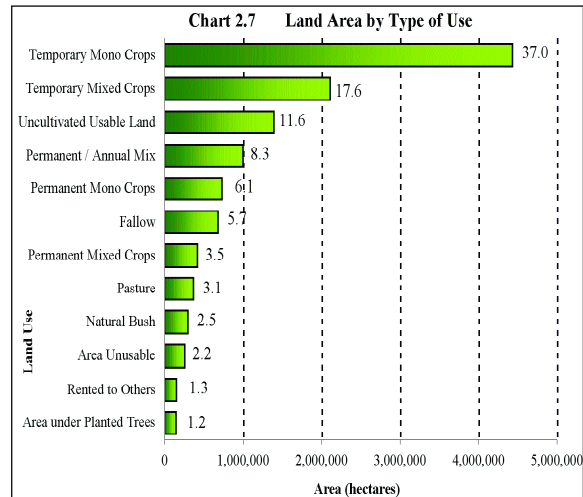
Although Tanzania, with its relatively low population coupled with its large land resources, it has problems with land access in many areas, with 2,201,773 households (46% of total agriculture households) reported having insufficient land (Chart 2.5b).



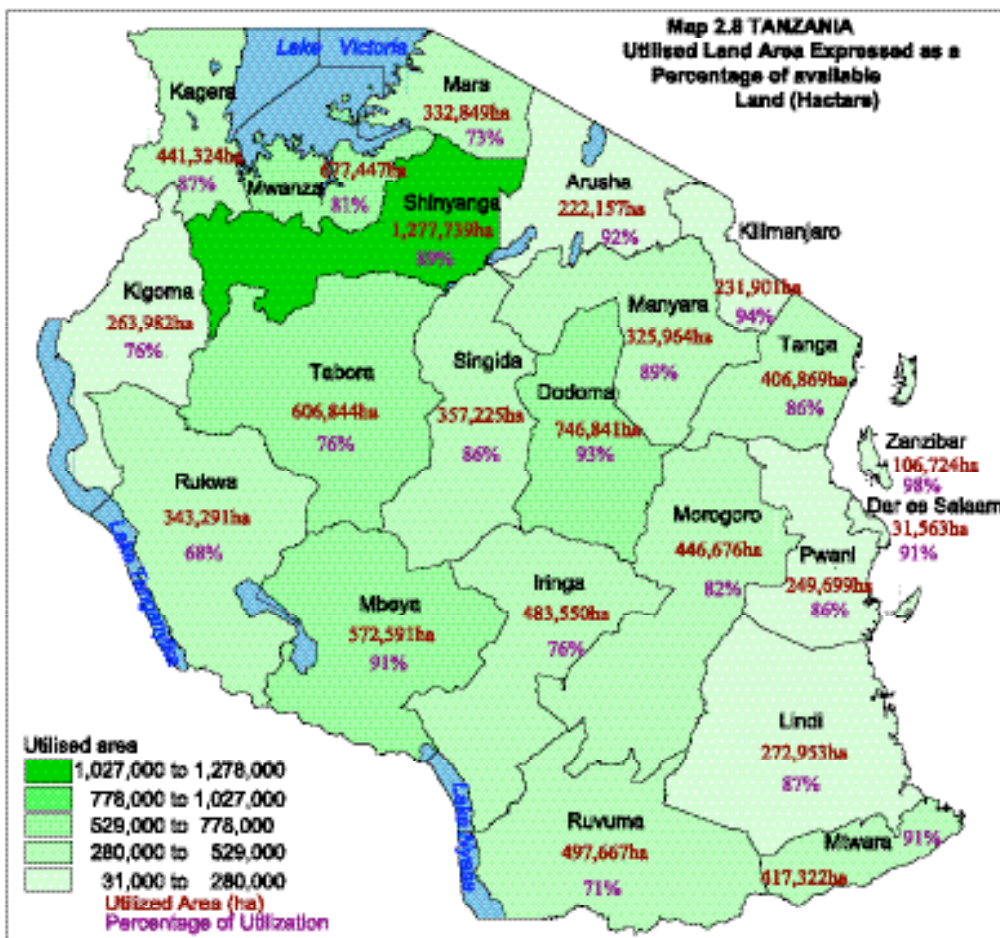
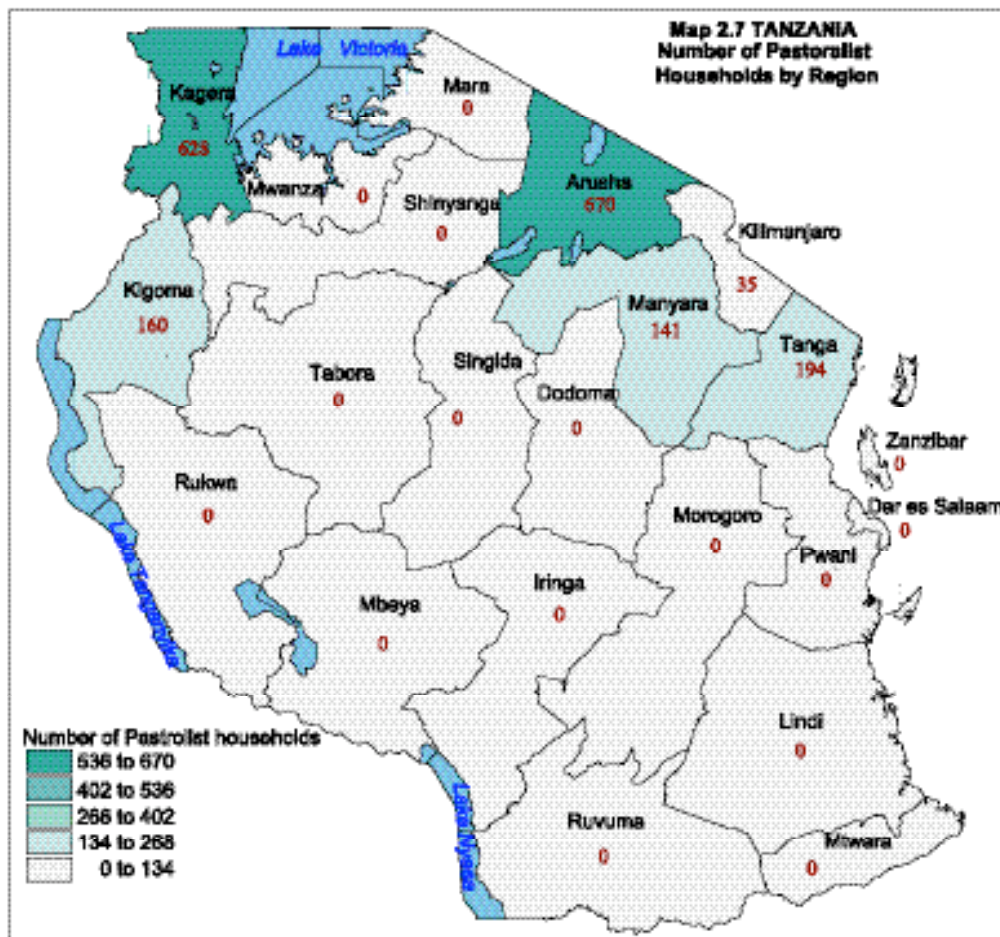
There are large differences in land pressure between regions with over 70 percent of the households in Arusha and Kilimanjaro reporting insufficiency of land, whilst in Ruvuma, Lindi and Mtwara it is under 35 percent.

2.2.3 Type of Land Use

Of the total land area with crops (9,521,592ha), the area with annual crops only (including fallow) is 7,228,745 ha (76% of the total land area with crops) whilst the land area with permanent crops only (including planted trees) is 1,295,050 ha or 14 percent of the total area with crops. Permanent-annual mixed stands occupy 997,797 ha (10% of the total land area under crops) (Chart 2.6).



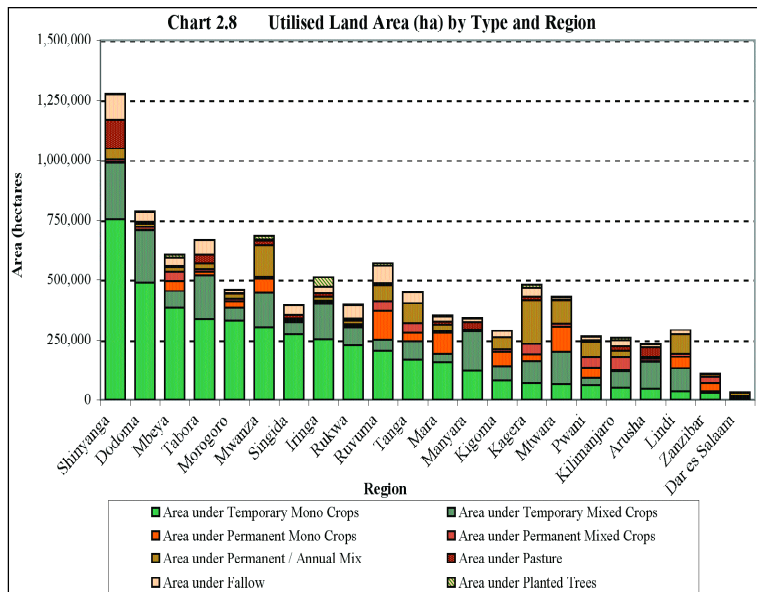
The area of land under temporary mono-crops is the most common type of agriculture land use in Tanzania constituting 4,436,177 ha (37% of the land allocated to small holders in Tanzania) and cultivated by 3,293,663 households. This is followed by temporary mixed crops (17.6%). Planted trees, land rented to others and natural bush are the least common





types of land use (less than 2.5%). Ninety four percent of the total land available to smallholders is utilised. Only 11.6 percent of usable land available to smallholders was not used (Chart 2.7). About 5.7 percent of the total usable land was fallow. The area under planted trees is small at 1.2 percent.

Shinyanga has the largest utilised land area under crops in Tanzania with an area of about 1,250,000 ha (Chart 2.8 and Map 2.9). This does not necessarily mean that it is the highest crop producing region in the country. There is virtually no permanent crop production in the region and mono-cropping of annual crops is the dominant farming system (Chart 2.8). Kagera, Mtwara, Ruvuma, Mwanza, Tanga Lindi and Kigoma have the highest area of permanent crops (Chart 2.8 and Map 2.10).



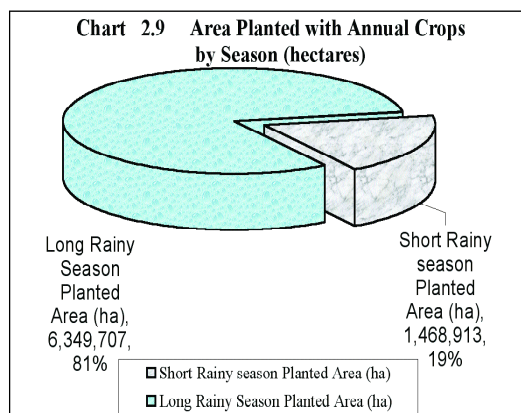
Relatively small land areas of planted trees are found in Iringa, Mwanza, Ruvuma and Kilimanjaro regions. Small areas of pasture exist in Shinyanga, Arusha, Singida and Tabora (Map 2.11 and 2.12).

**2.3 Annual Crop Production**

In some areas of Tanzania there are two rainy seasons; the long rainy season (Masika) and the short rainy season (Vuli). The long rainy season normally covers the whole country. The short rainy season is normally found in Dar es Salaam, Pwani, Morogoro, Tanga, Kilimanjaro, Kagera, Mwanza, Mara, Kigoma, Zanzibar and parts of Mbeya, Arusha and Shinyanga regions.

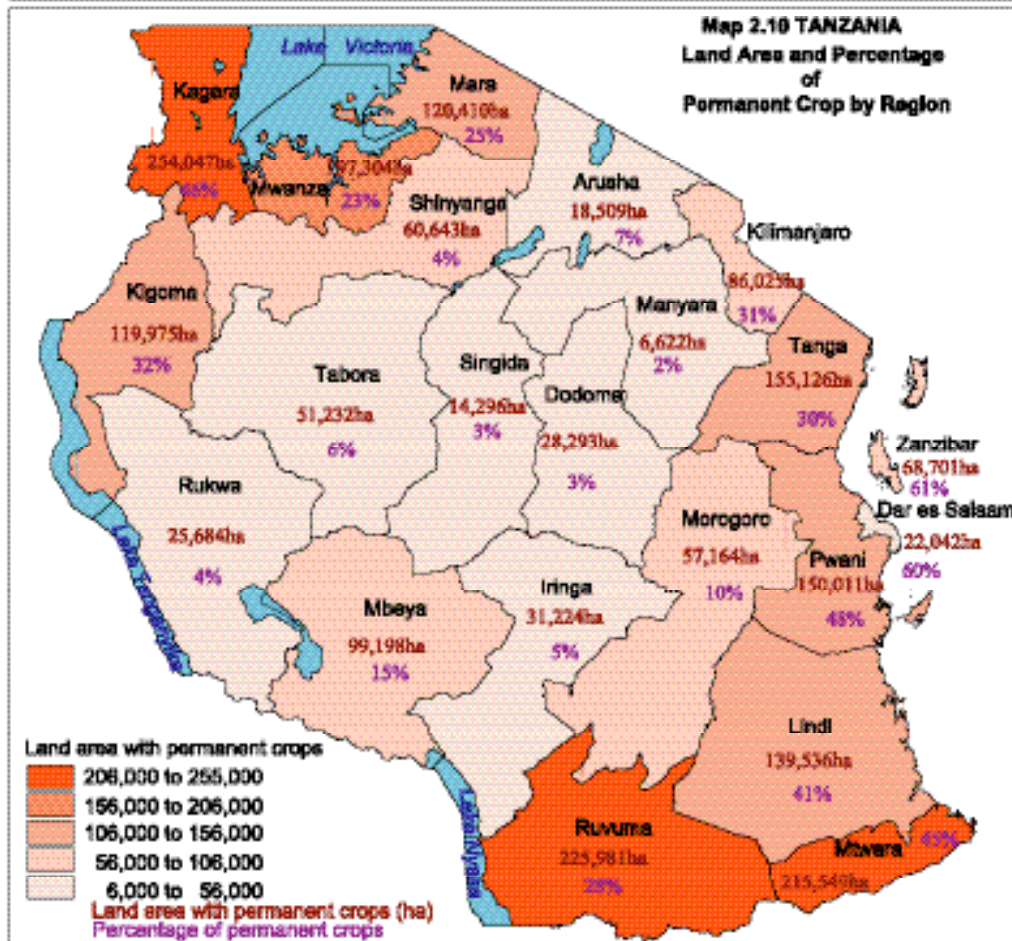
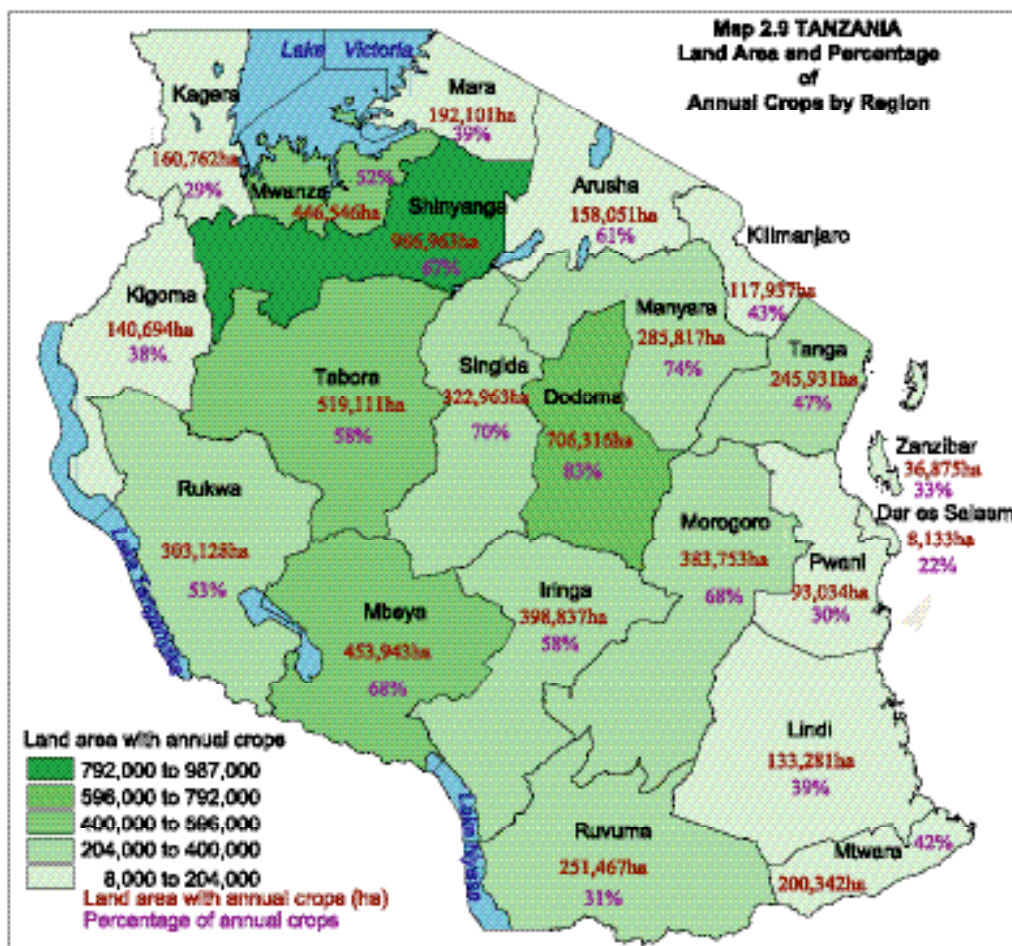
**2.3.1 Area Planted**

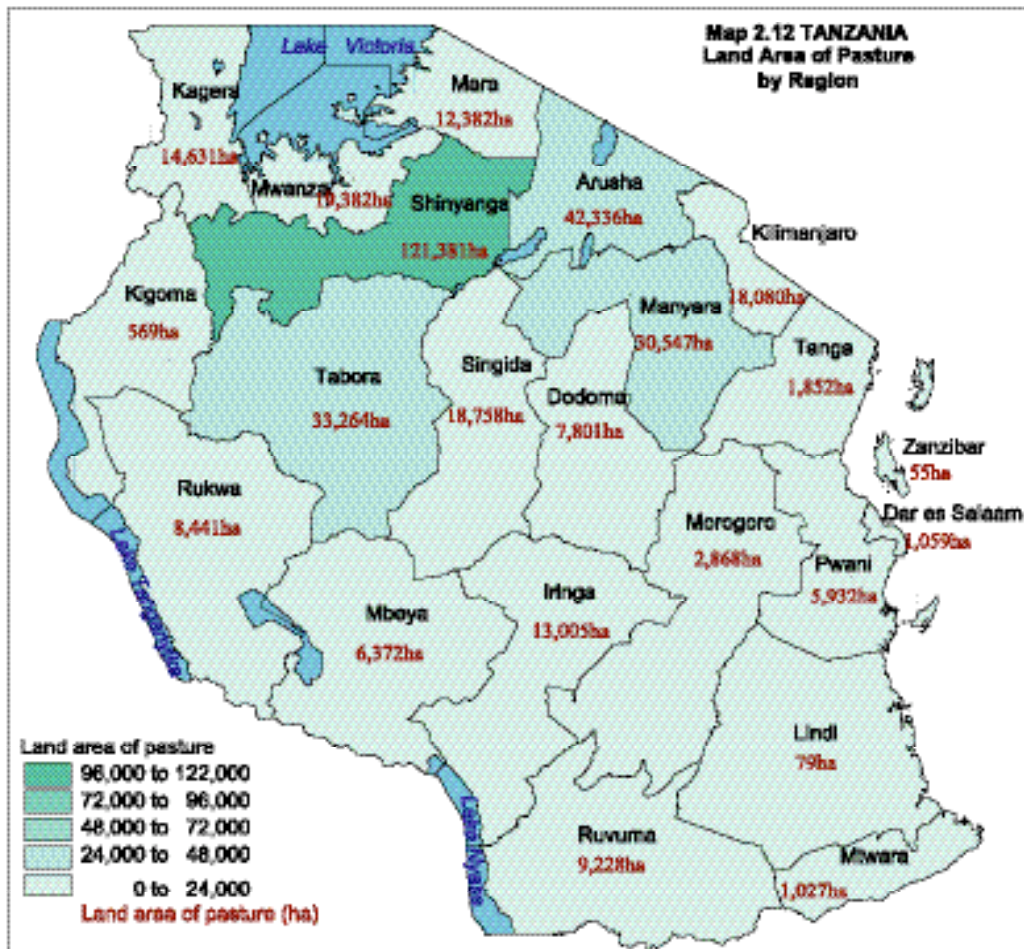
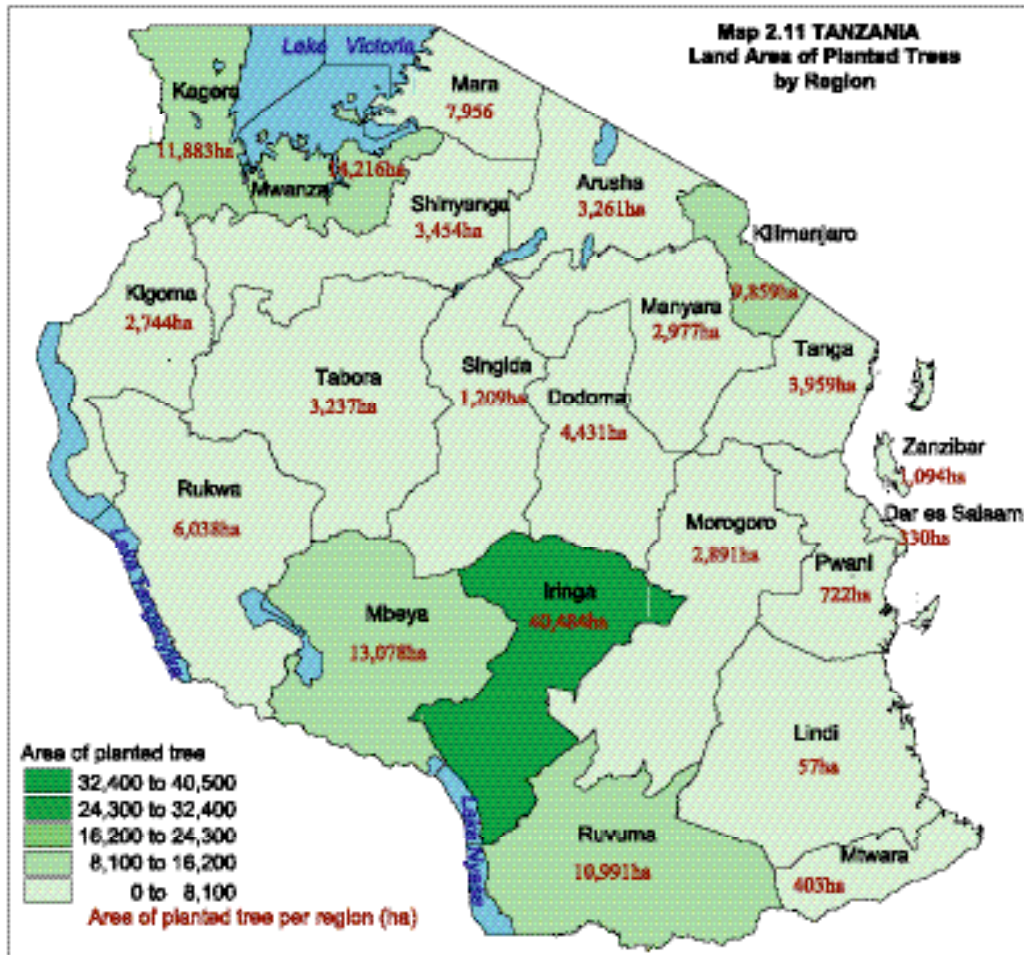
The total area planted with annual crops during the 2002/03 was 7,818,620 ha (7,740,344 ha on the Mainland and 78,276 ha in Zanzibar) of which 6,349,707 ha were planted in the long rainy season (81% of the total area planted) and 1,468,913 ha in the short rainy season (Chart 2.9). The overall average planted area of annuals per crop growing households is 1.61 ha. Mwanza has the highest planted area in the country as a result of it having good long and short rainy seasons (Chart 2.11 and Maps 2.13 and 2.14).



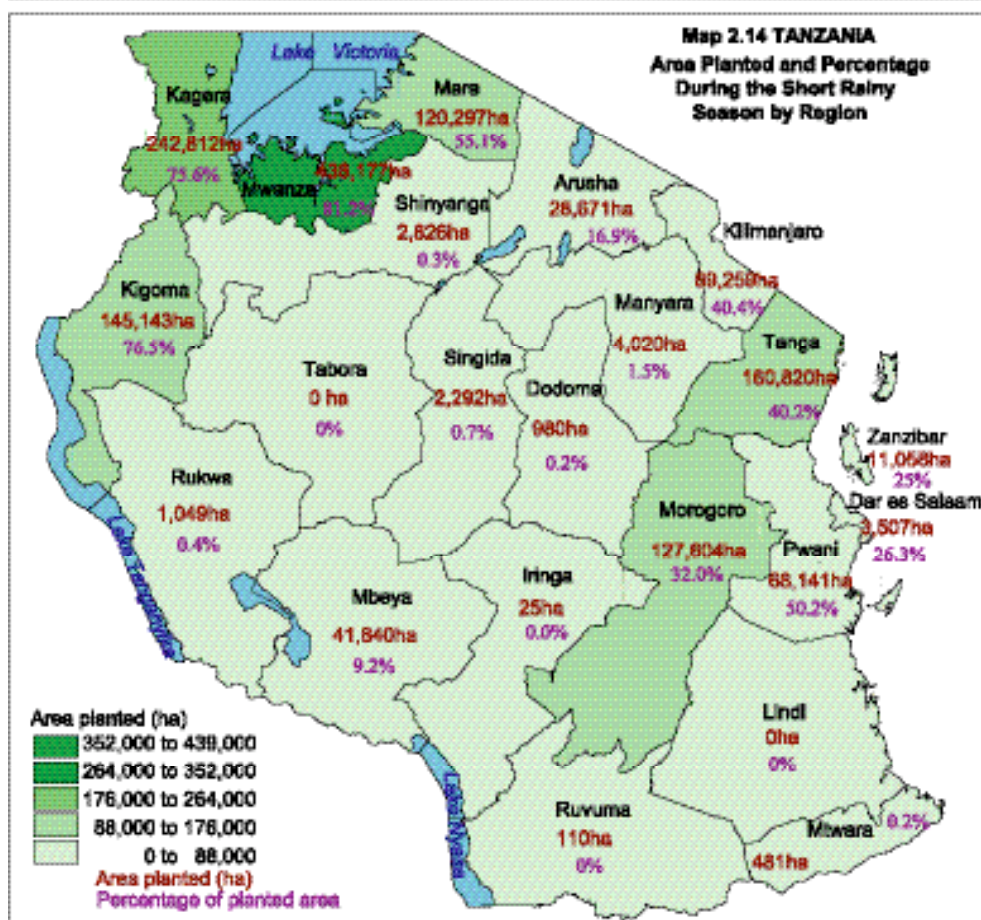
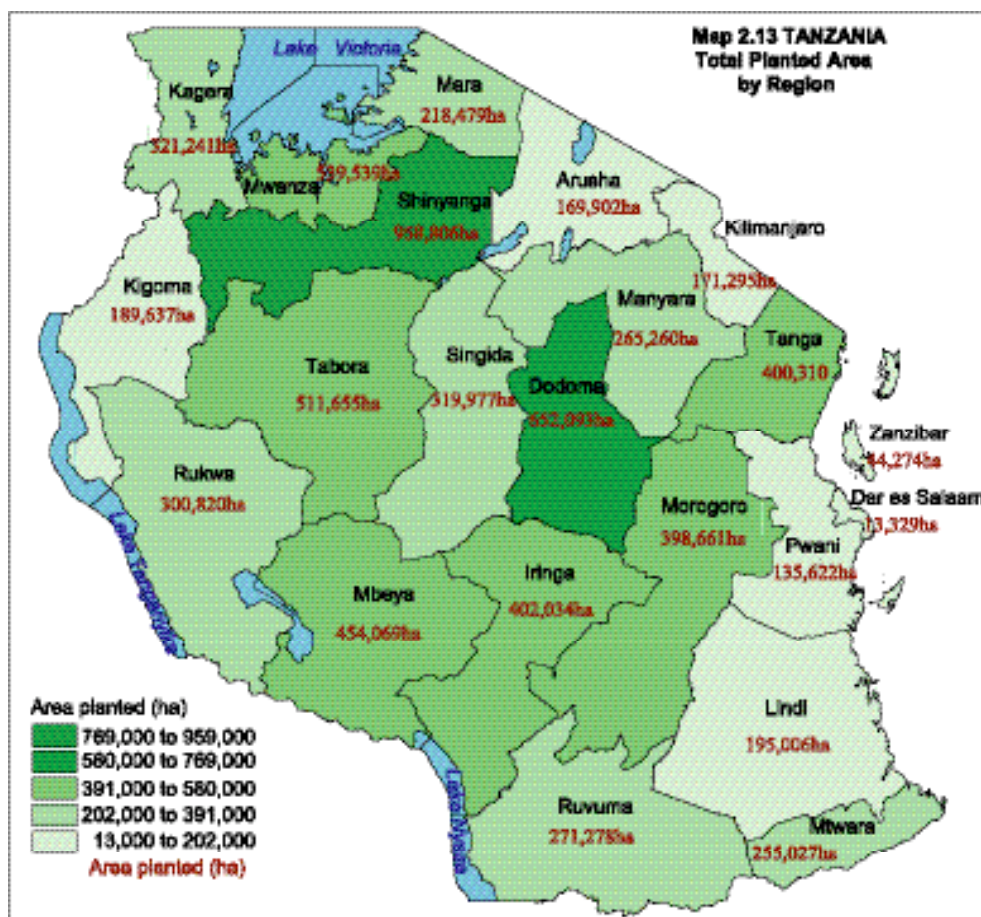
A comparison of seasonal annual crop planted area with land area of annual crops in the previous section indicates that smallholders mostly plant crops on the same land during both seasons as there is only a difference of 196,280 ha (6,545,987 ha – 6,349,707 ha) between the area planted in the long rainy season and the physical land area planted with annual crops during the year.





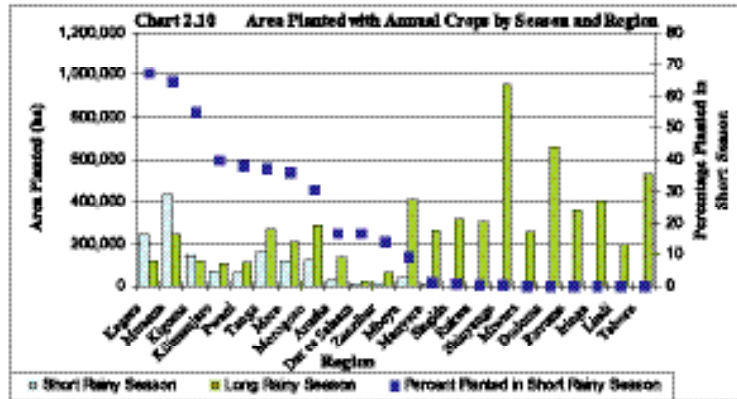




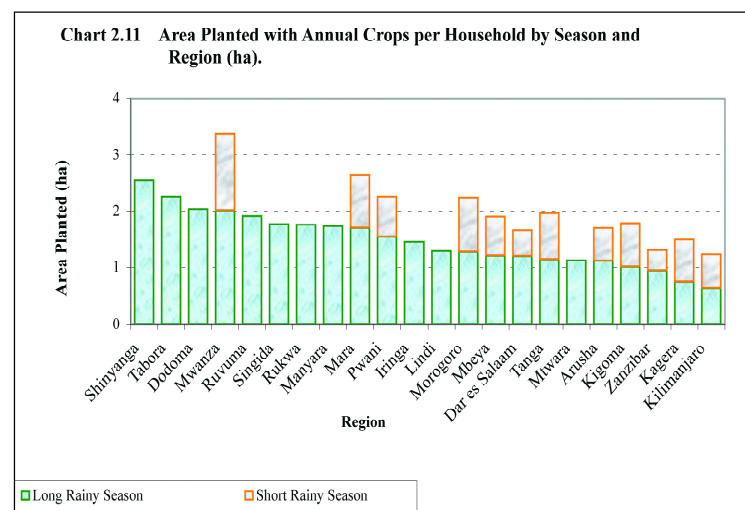




The area planted during the short rainy season was higher than the area in the long rainy season in three regions. These regions are located in the North West of Tanzania (Mwanza, Kagera and Kigoma). Shinyanga, Dodoma, Tabora, Mbeya and Iringa had the largest planted areas during 2002/03 long rainy season. The smallest areas planted during the long rainy season were in Dar es Salaam, Zanzibar, Kigoma, Pwani, Kagera and Mara. In the regions with a short rainy season the largest area planted was in Mwanza (438,177 ha), followed by Kagera (242,812 ha), Tanga (160,820 ha), Kigoma (145,143 ha) and Morogoro (127,604 ha) (Chart 2.10, Map 2.14)



The average area planted per household during the long rainy season was 1.57 ha, however there were large regional differences. Shinyanga had the largest area planted per household (2.6 ha) followed by Tabora (2.3 ha), Dodoma (2.0 ha), Mwanza (2.0 ha), Ruvuma (1.9 ha), Singida (1.8 ha), and Rukwa (1.8 ha). The smallest area planted per household during the long rainy season was found in Kilimanjaro, Kagera, Dar es Salaam, Zanzibar, Kigoma, Arusha, Mtwara and Mbeya (Chart 2.11 and Map 2.13). For



the regions that have short rainy season, the average area planted per household was 1.1 ha. The region with the largest area planted per household during the short rainy season was Mwanza (1.4 ha) followed by Morogoro (1.0 ha) and Mara (0.9 ha)<sup>1</sup> (Chart 2.11 and Map 2.14).

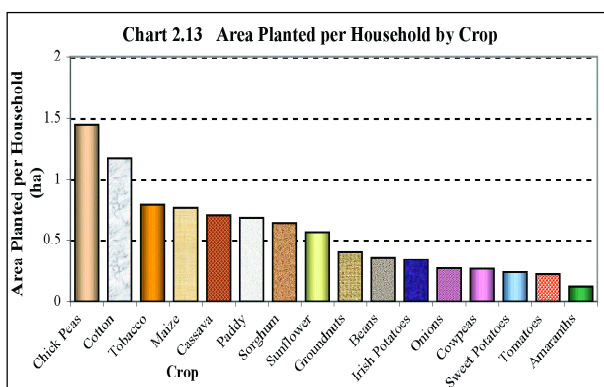
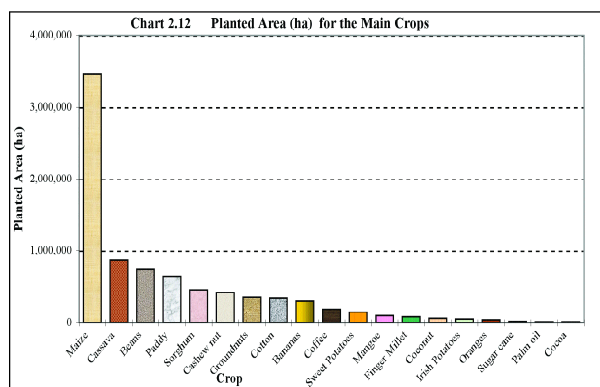
### 2.3.2 Analysis of the Most Important Crops

Results on crop production are presented in three different sections. The first section compares the importance of each crop regardless of whether they are annual or permanent. The second and third sections contain more detailed analyses of annual and permanent crops respectively.

#### Crop Importance

Maize is the dominant annual crop grown in Tanzania with a planted area 4.25 times greater than casseava, which has the second highest planted area. This is closely followed by beans and paddy, then sorghum, cashew nuts, groundnuts, cotton, bananas, coffee, sweet potatoes and mangoes (Chart 2.12).

<sup>1</sup> Only the regions with long rainy seasons are included. In the regions with no short rainy season small amounts of crops are grown but mostly under irrigation and thus seasonal comparisons cannot be made.

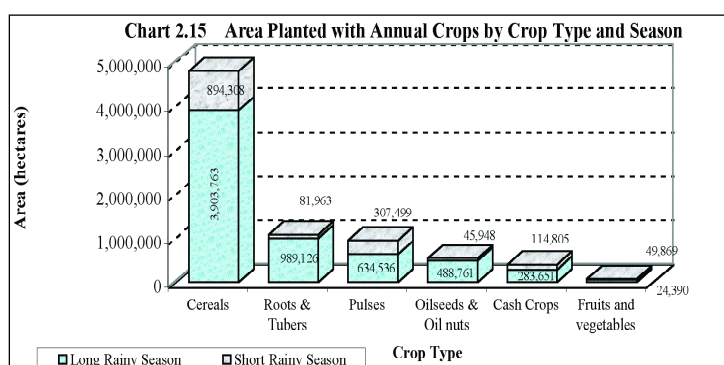
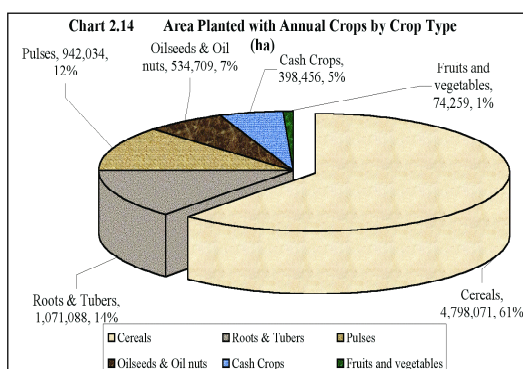


**Crop Area Planted per Household**

Chart 2.13 shows the area planted per household growing selected crops. Crops that are mainly grown for cash have a larger planted area per household than other crops, e.g. chick peas, cotton and tobacco. Cassava has the second highest planted area per household growing that crop than other staple crops whereas vegetables have the lowest planted area per household.

**2.3.3 Crop Types**

Cereals are the main crops grown in Tanzania. The area planted with cereals was 4,798,071 ha (61% of the total planted area), followed by roots and tubers with 1,071,089 ha (14%), Pulses 942,035 ha (12%), oil seeds 534,710 (7%), and cash crop 398,456 ha (5.1%). Fruit are normally permanent crops and are not totally reflected in Chart 2.13. Vegetables are underestimated because of difficulties in establishing the area and production on small household plots.

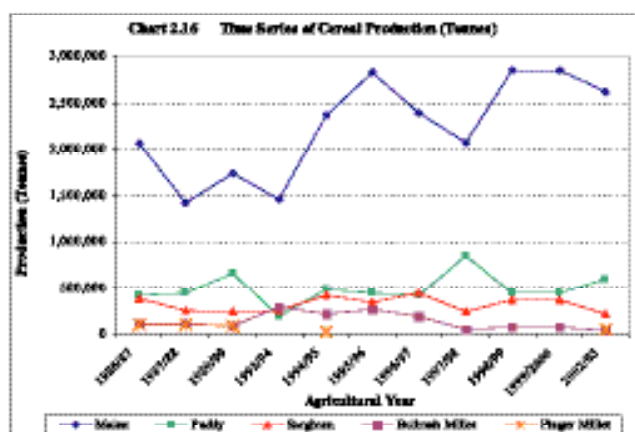


There is little difference in the proportions of the crop types grown between seasons. Short rainy season production was very small compared to that of the long rainy season and it is therefore inappropriate to make detailed comparisons between the two seasons. Cereals, roots and tubers and pulses are the dominant crops grown in both season. Other crop types are of minor importance in comparison (Chart 2.14).

**2.3.4 Cereal Crop Production**

The total production of cereals was 3,557,893 tonnes (3,543,955 tonnes on the Mainland and 13,938 in

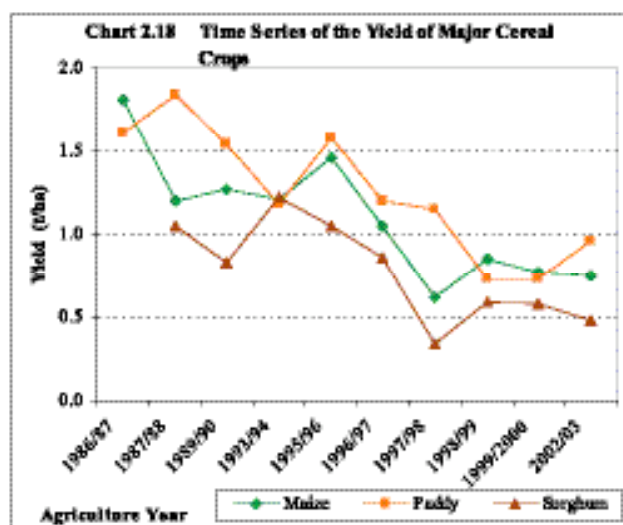
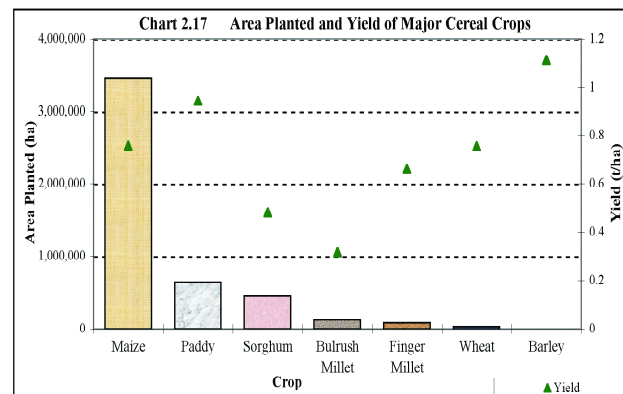
Tanzania Agriculture Sample Census



Zanzibar). Maize production is higher than any other cereal in Tanzania with a total production of 2,617,115 tonnes (2,613,970 tonnes on the Mainland and 3,145 in Zanzibar) and it represents 74 percent of the total cereal production. This is followed by paddy with 604,978 tonnes (17%), sorghum (216,435t, 6%), finger millet (55,314t, 1.6%), bulrush millet with (39,364t, 1.1%), wheat with 23,521t, 0.7%) and barley with (1,165t, less than 1%) (Chart 2.16).

The area planted with maize is much larger than other crops, 44 percent of the total area planted and 72 percent of the area planted with cereals. The second most important cereal is paddy (13%), followed by sorghum (9%), bulrush millet (2%), finger millet (2%), wheat and barley (less than 1%). For all cereal crops with the exception of paddy (96%) and bulrush millet (91%) almost 100 percent of the planted area with cereals was found on the Mainland. The yield of wheat and barley appear to be high, however this is probably due to the small number of households planting these crops coupled with the weighting factor (Chart 2.17).

The yield of all cereal crops decreased over the period 1987 to 1998. Previous data covering the period 1986 to 2000 shows that the yield of maize during the census year was down by 36 percent, sorghum by 42 percent and 32 percent for paddy (Chart 2.18). This partially reflects the drought experienced during the year in many parts of the country, however other factors are involved in causing the diminishing negative trend in yield.



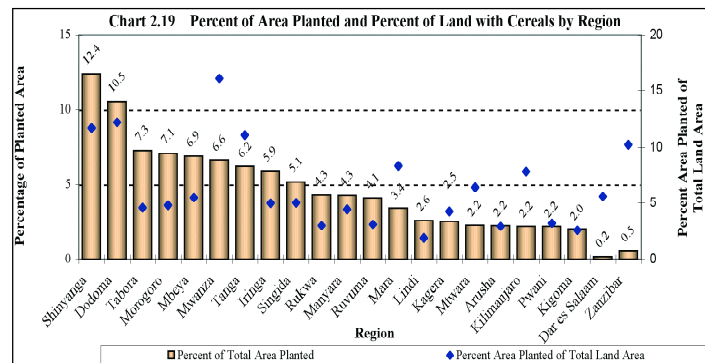
**Table 2.1 Area Planted and Quantity Harvested by Season and Type of Cereal Crops**

Crop	Rainy Season	Mainland			Zanzibar			Total		
		Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha
Maize	Short season	726,131	611,520	0.84	998	1,208	1.21	727,129	612,727	0.84
	Long season	2,736,403	2,002,451	0.73	1,642	1,938	1.18	2,738,045	2,004,388	0.73
Paddy	Short season	102,184	91,094	0.89	240	232	0.97	102,424	91,326	0.89
	Long season	518,653	503,525	0.97	21,374	10,127	0.47	540,027	513,652	0.95
Sorghum	Short season	52,009	43,220	0.83	93	41	0.45	52,101	43,261	0.83
	Long season	397,619	172,932	0.43	450	241	0.54	398,068	173,174	0.44
BulrushMillet	Short season	1,908	654	0.34	192	63	0.33	2,100	717	0.34
	Long season	122,303	38,559	0.32	120	88	0.74	122,423	38,647	0.32
Finger Millet	Short season	10,364	6,938	0.67	-	-	-	10,364	6,938	0.67
	Long season	73,120	48,376	0.66	-	-	-	73,120	48,376	0.66
Wheat	Short season	-	-	-	-	-	-	-	-	-
	Long season	31,224	23,521	0.75	-	-	-	31,224	23,521	0.75
Barley	Short season	190	91	0.48	-	-	-	190	91	0.48
	Long season	856	1,074	1.25	-	-	-	856	1,074	1.25
Total	Short season	892,786	753,516		1,522	1,544		894,308	755,060	
	Long season	3,880,178	2,790,439		23,585	12,394		3,903,763	2,802,832	
Grand Total		4,772,964	3,543,955		25,107	13,938		4,798,071	3,557,893	



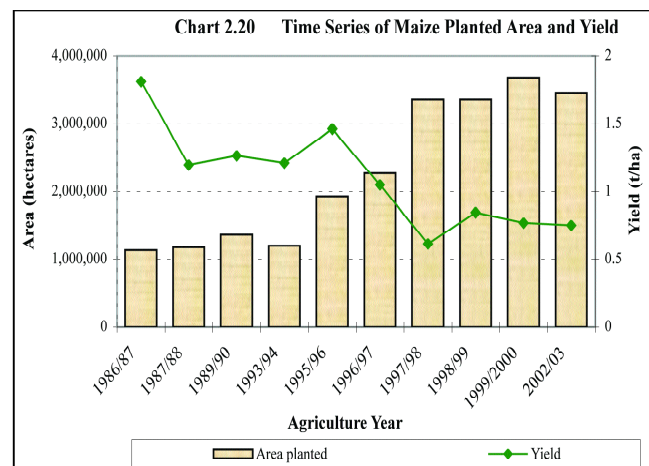
The short rainy season is relatively unimportant for cereal production (19% of the total area planted). There is little difference in this trend for the main cereal crops in the short rainy season with maize representing 21 percent of the total area planted with maize, followed by barley 18.2 percent and paddy 15.9 percent. Other minor cereals had much less planted area in the short rainy season with finger millet having only 12.4 percent, sorghum 11.6 percent and bulrush millet 1.7 percent (Table 2.1).

Over 50 percent of cereals are planted in eight regions. The largest area is found in Shinyanga with 591,440 ha (12.4%), followed by Dodoma with 502,753 ha (10.5%), Tabora with 347,455 ha (7.3%), Morogoro with 337,461 ha (7.1%), Mbeya with 328,941 ha (6.9%) and Mwanza with 315,648 ha (6.6%). Very small quantities of cereals are grown in Dar es Salaam and Zanzibar. Mwanza region has the highest concentration of cereal production with 16 percent of the total land area planted with cereals (Chart 2.19 and Map 2.15).

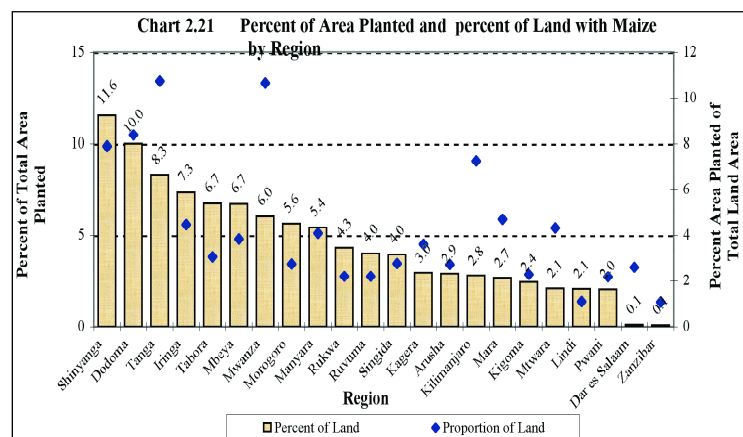


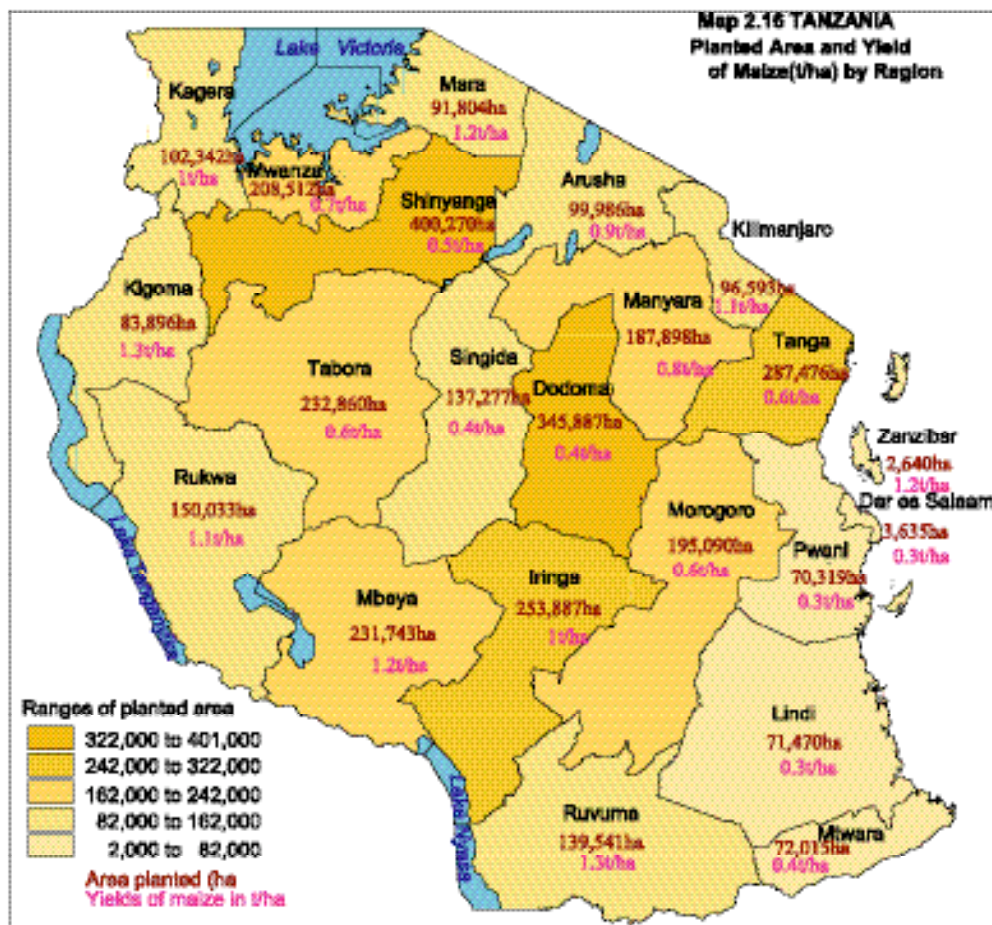
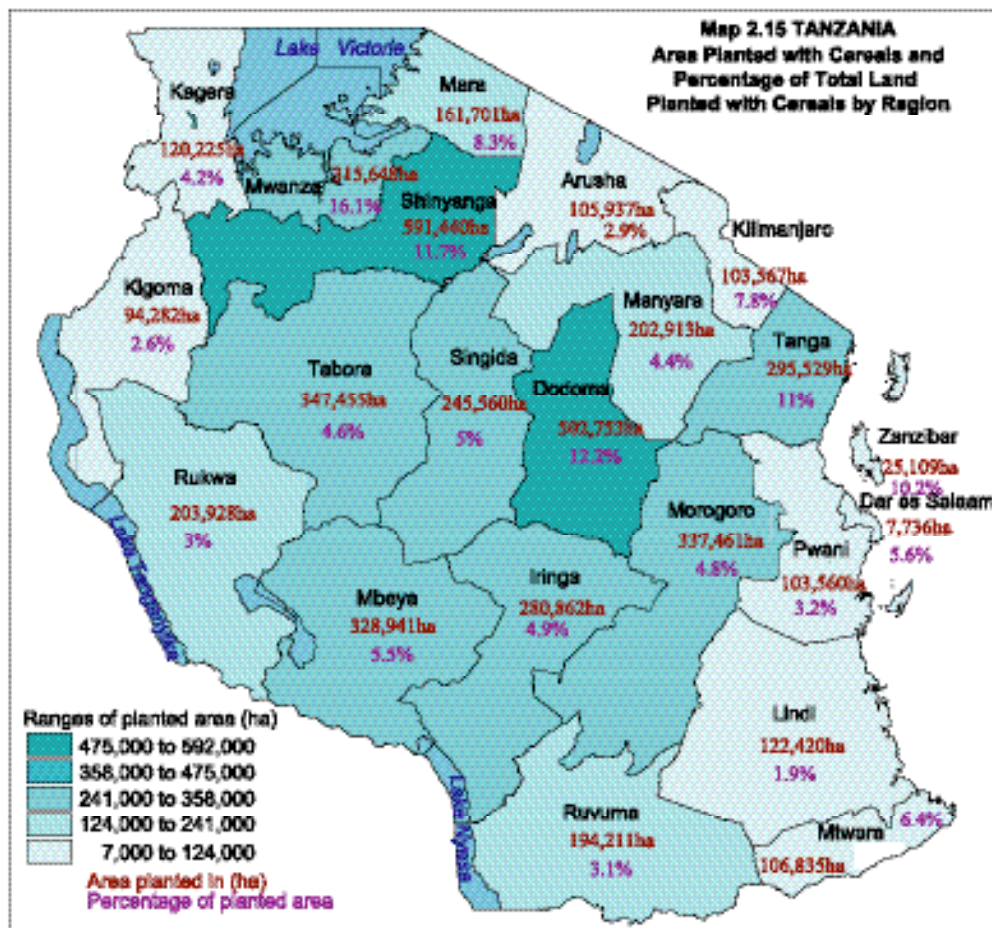
### Maize

The number of households growing maize in Tanzania during the long rainy season was 3,103,925 (3,096,707 households on the Mainland and 7,218 in Zanzibar) and in the short rainy season the number was 1,429,630 households (1,424,672 on the Mainland and 4,958 in Zanzibar). This represents 65 percent of the total crop growing households in Tanzania for the long rainy season and 30 percent for the short rainy season. The total production of maize during the census year was 2,617,115 tonnes. Production has increased gradually by over a 1,000,000 tonnes since 1987 which is equivalent to an increase of about 142,857 tonnes per year. Production of other cereal crops remained stagnant over the same period (Chart 2.16).

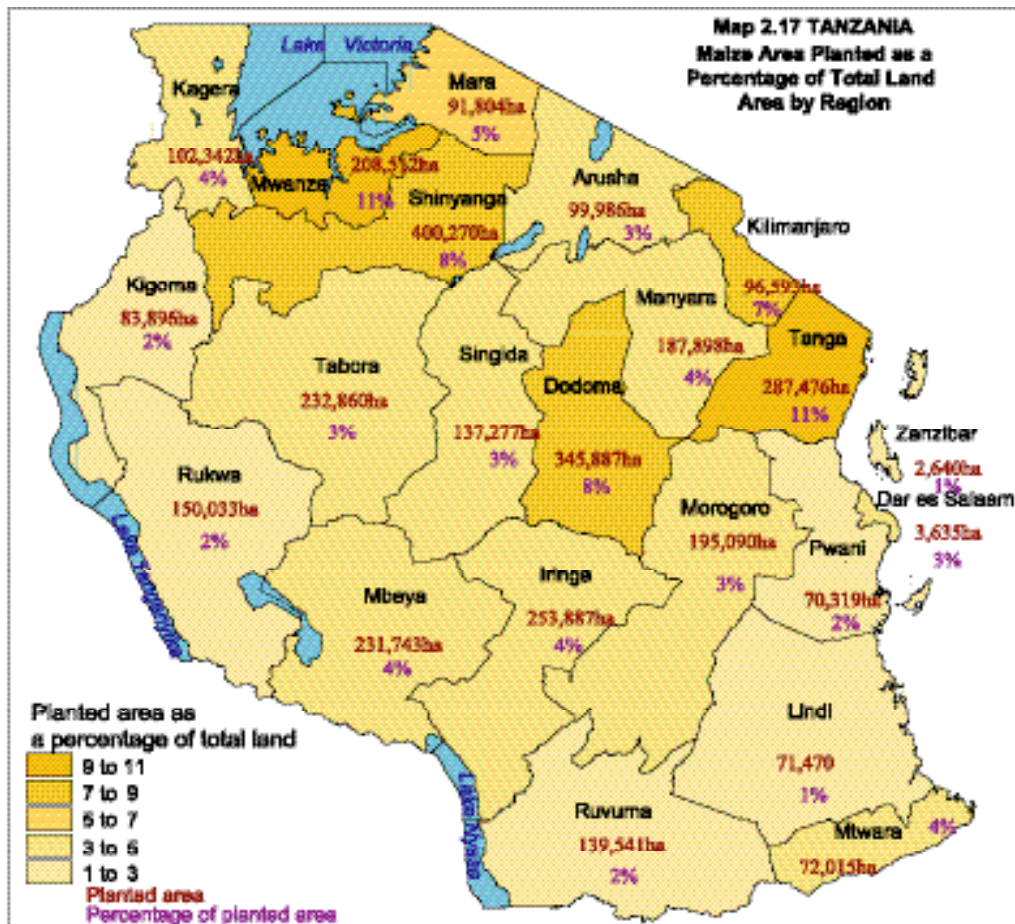


Charts 2.16 and 2.20 show that whilst the yield of maize has dropped dramatically over the previous 10 years, the quantity produced has increased and this has been due to a large increase in the area under production. The area planted with maize remained constant over the period from 1986 to 1994 after which, the area under production expanded rapidly until 1998 and the area has remained constant ever since. Over the period 1988 to 1996 the yield of maize remained constant at







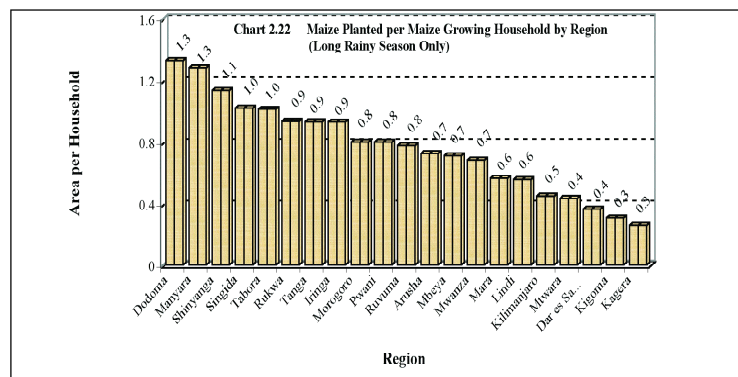




around 1.25 tonnes per hectare. However, there was a sharp decline in yield over the period 1996 to 1998 (down to 0.6t/ha) and it has remained at this low level since then. (Chart 2.20).

Shinyanga region has the largest planted area of maize (400,270 ha, 11.6%), followed by Dodoma (345,887 ha, 10%), Tanga (287,476 ha, 8.3%), Iringa (253,887 ha, 7.3%), Tabora (232,860 ha, 6.7%) and Mbeya (231,743 ha, 6.7%). However, the regions with the highest proportion of land with maize in the country is found in Mwanza, Tanga, Dodoma, Shinyanga and Kilimanjaro regions. The lowest proportion of land under maize is found in Lindi and Zanzibar (Chart 2.21 and Maps 2.16 and 2.17).

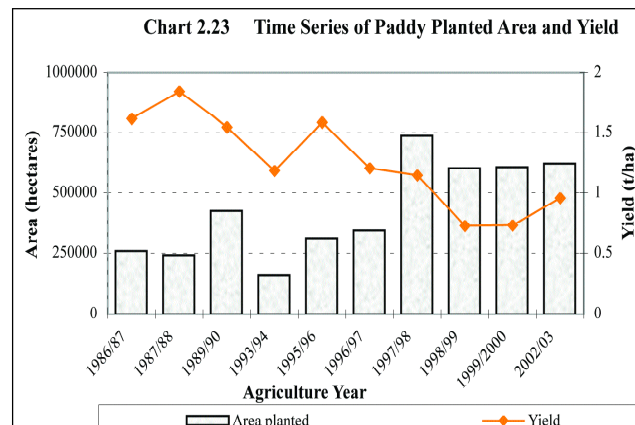
The area planted per maize growing household is larger in Dodoma, Manyara and Shinyanga. The regions with comparatively moderate planted area per household are Morogoro, Pwani and Ruvuma. The smallest areas planted with maize per household are found in Kagera, Kigoma and Dar es Salaam (Chart 2.22 and Map 2.18).



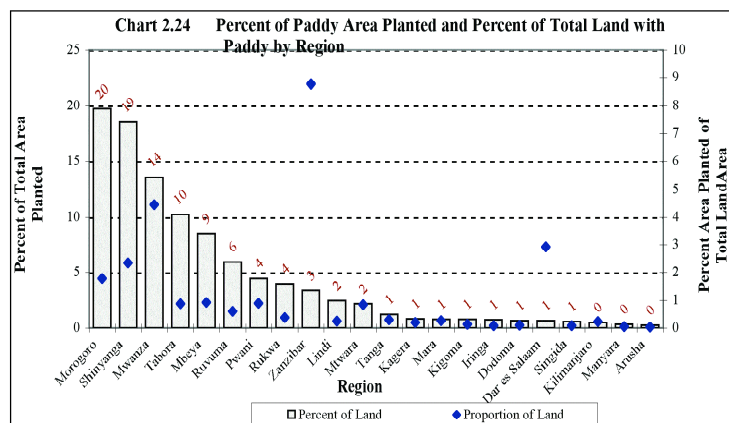
**Paddy**

The number of households growing paddy in the long rainy season was 810,314 (756,634 on the Mainland and 53,680 in Zanzibar) and 155,328 (154,458 on the Mainland and 870 in Zanzibar) in the short rainy season. This represents 17 percent of the total crop growing households in Tanzania in the long rainy season and 3 percent in the short rainy season.

As is the case of maize, the area planted with paddy has increased dramatically since the last census in 1994 with most of this increase occurring over the period 1997 to 1998. The planted area has more or less remained at the same level since then and is currently 642,451 ha. The total production of paddy during the census year was 604,978 tonnes (594,619 tonnes on the Mainland and 10,359 in Zanzibar). Production has remained more or less constant since 1987 (Chart 2.16). However, the yield of paddy has declined erratically since 1987 from 1.7 t/ha to about 1.0 t/ha during the census year. From 1996 to 1999 there was a sharp and consistent decline in yield. However, the yield increased marginally during the census year (Chart 2.23).



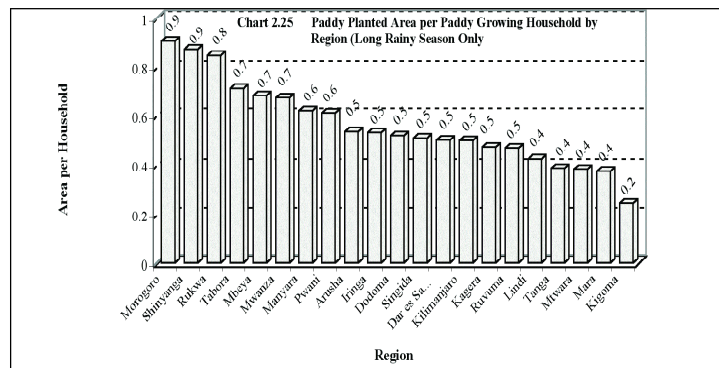
The planted area of paddy over the period 1987 to 2003 follows a similar trend to that of maize with a more or less constant area planted during the period 1987 to 1996. Between 1996 and 1998



the area planted almost tripled from around 250,000 hectares to 750,000 hectares. The area planted remained almost constant at this level up to the time of this census. The increase in planted area has been offset by a decline in yield resulting in no change in the quantity of paddy produced since 1987 (Charts 2.16 and 2.23).

Paddy is mainly produced in five regions. Morogoro and Shinyanga regions have the largest planted area of paddy (126,527 ha, 19.7% and 118,916 ha, 18.5% respectively). This is followed by Mwanza (87,231 ha, 13.6%), Tabora (65,657 ha, 10.2%) and Mbeya (54,743 ha, 8.5%). Zanzibar has a comparatively high proportion of land with paddy, whereas Mwanza region has a comparatively moderate proportion of land with paddy. The rest of the regions have very small proportion (Chart 2.24 and Maps 2.19 and 2.20).

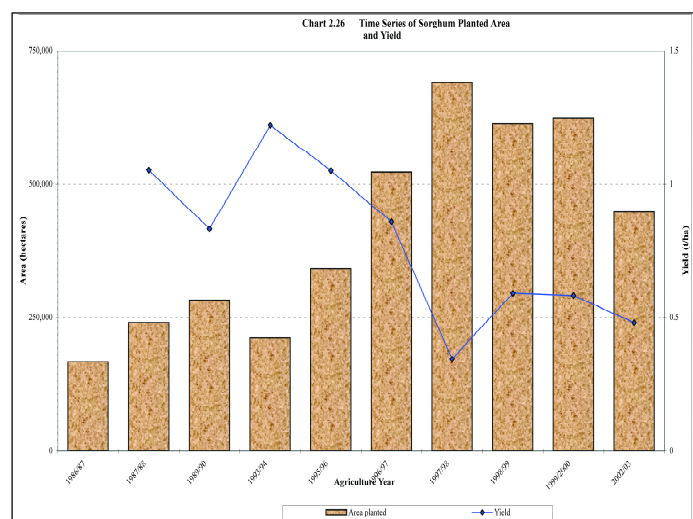
Morogoro, Shinyanga and Rukwa regions had the largest planted area of paddy per paddy growing household. Although there is a moderate to low production of paddy in Rukwa, the households that produce paddy have among the largest area planted per household (Chart 2.25 and Map 2.21).



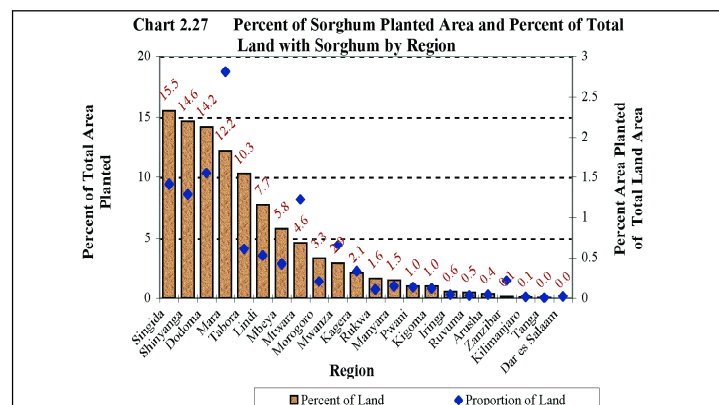
**Sorghum**

The number of households growing sorghum in the long rainy season was 583,022 (580,925 on the Mainland and 2,097 in Zanzibar) and 121,541 (120,878 on the Mainland and 663 in Zanzibar) in the short rainy season. This represents 12 percent of the total crop growing households in Tanzania in the long rainy season and 3 percent in the short rainy season.

The total production of sorghum during the census year was 216,435 tonnes (216,152 tonnes on the Mainland and 283 in Zanzibar). Production has remained more or less constant from 1987 to 2003 (Chart 2.16).

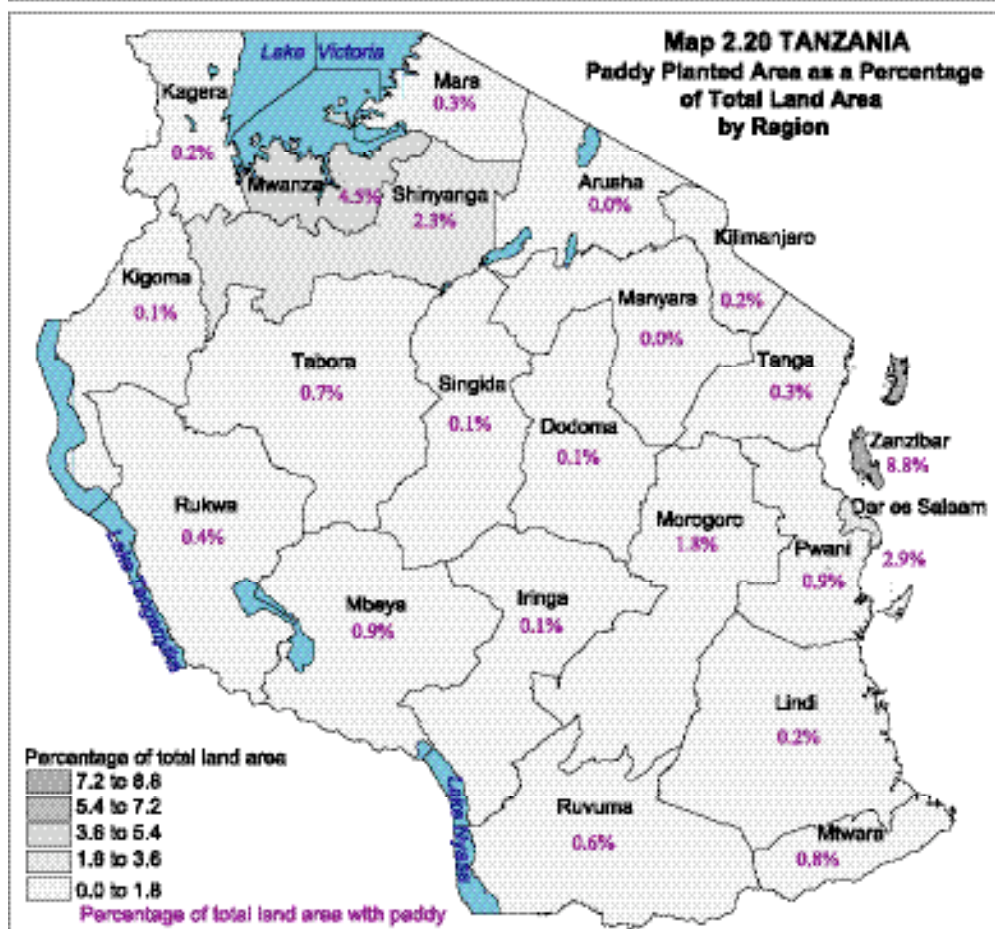
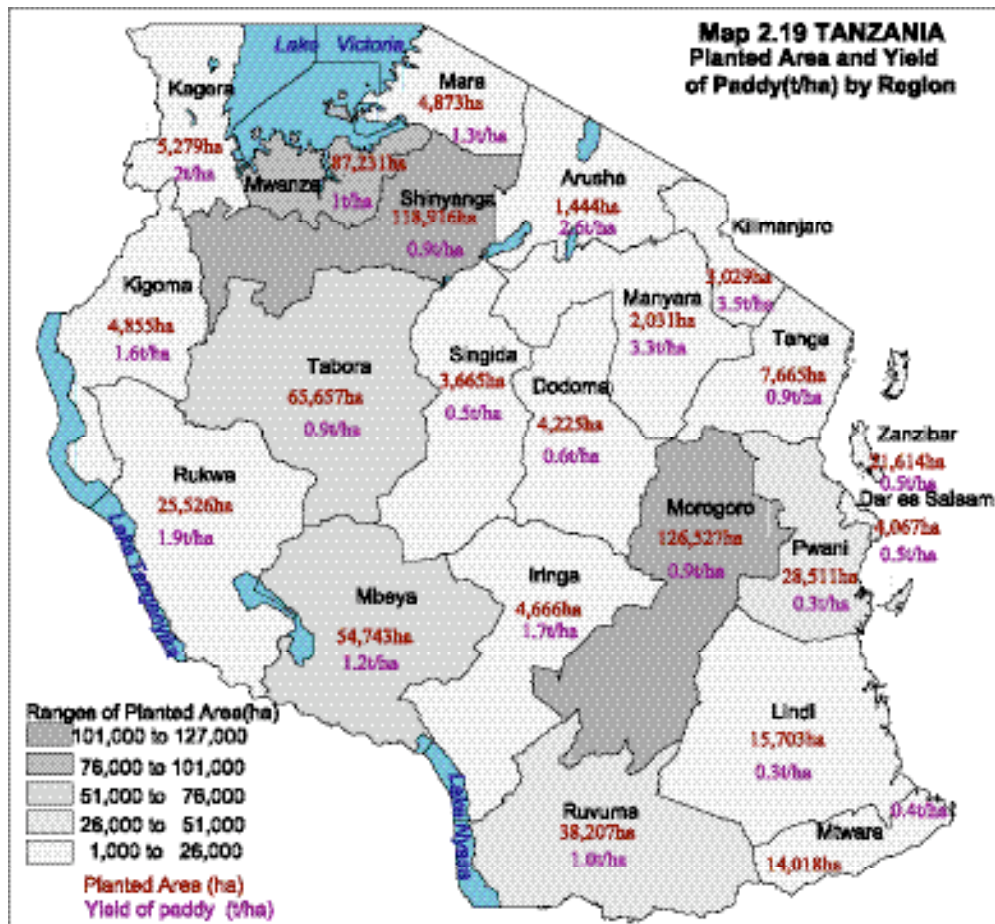


The yield of sorghum declined steadily over the period 1994 to 1998 from 1.22 t/ha to about 0.5 t/ha and it has remained at this low level up to the census year. The yield for the year 1986/87 was relatively very high (2.3t/ha) and has not been included in the chart as it is believed to be unrepresentative (Chart 2.26).

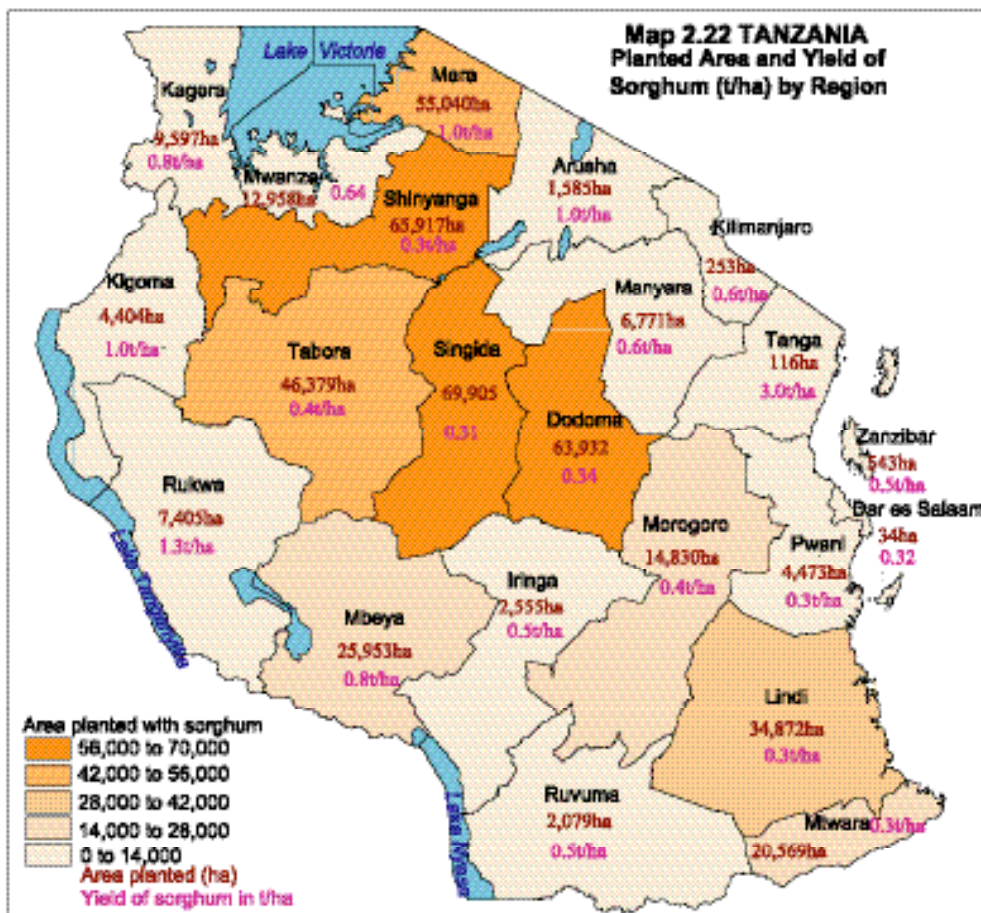
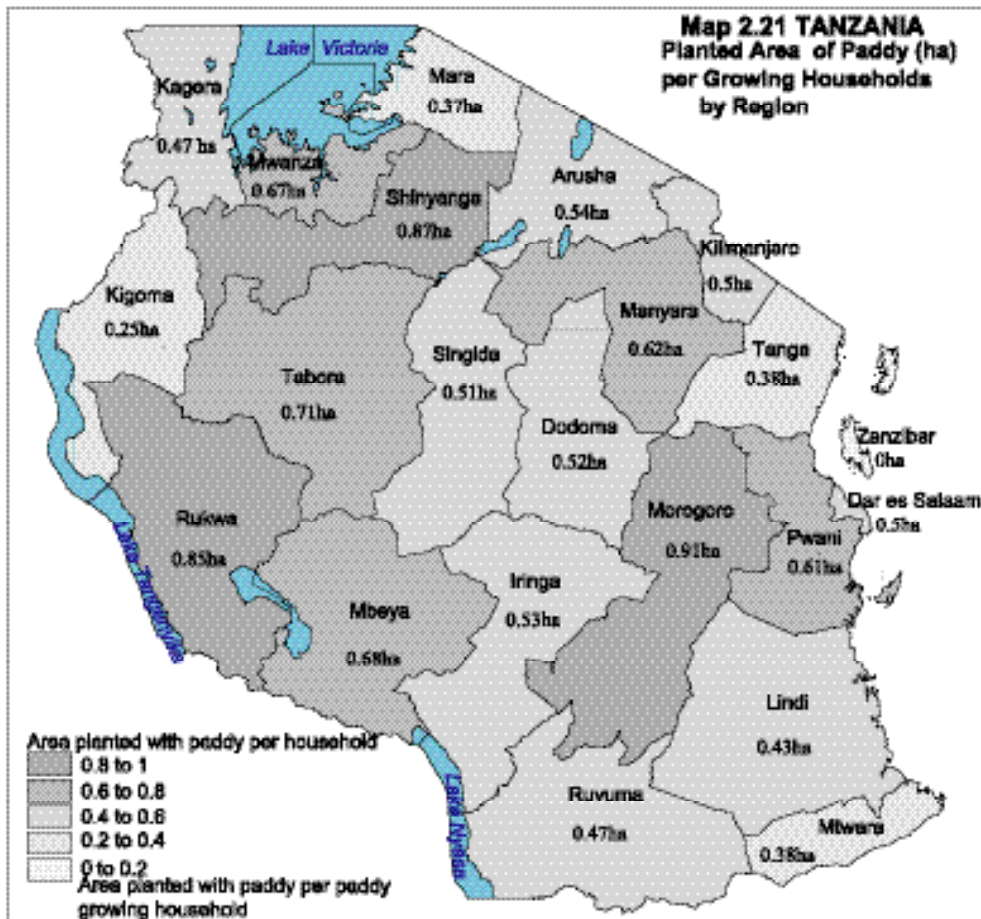


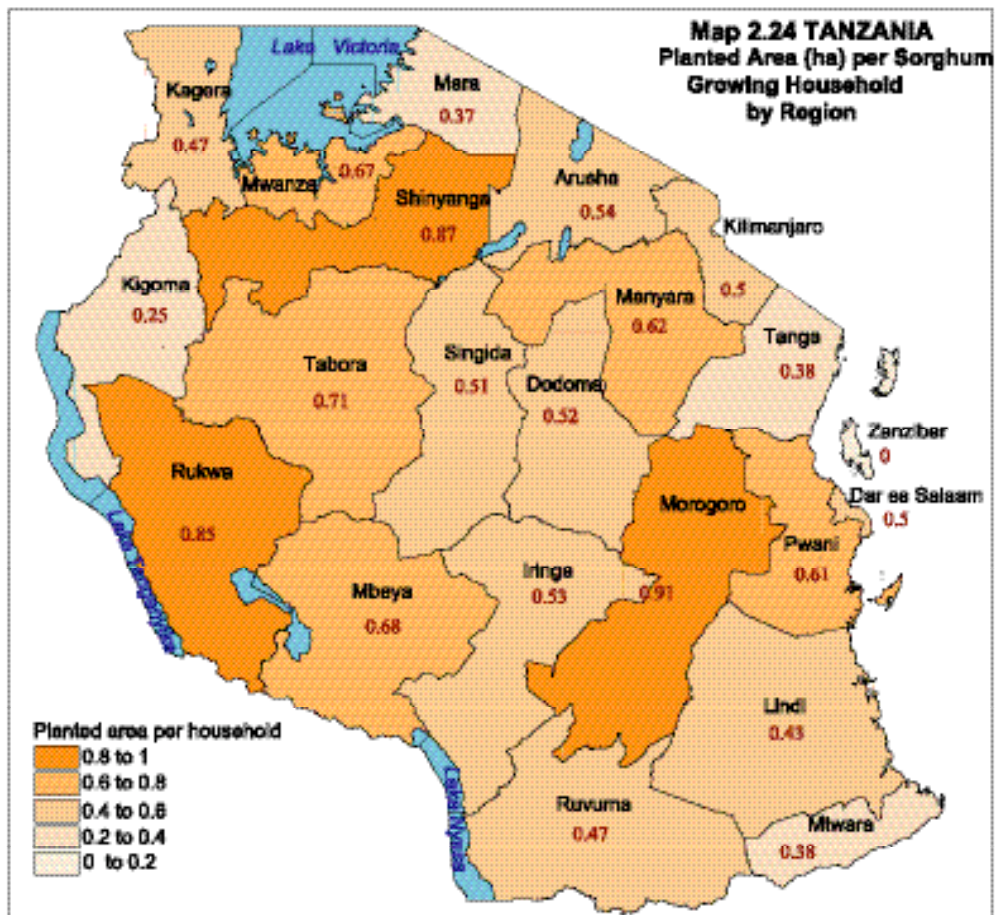
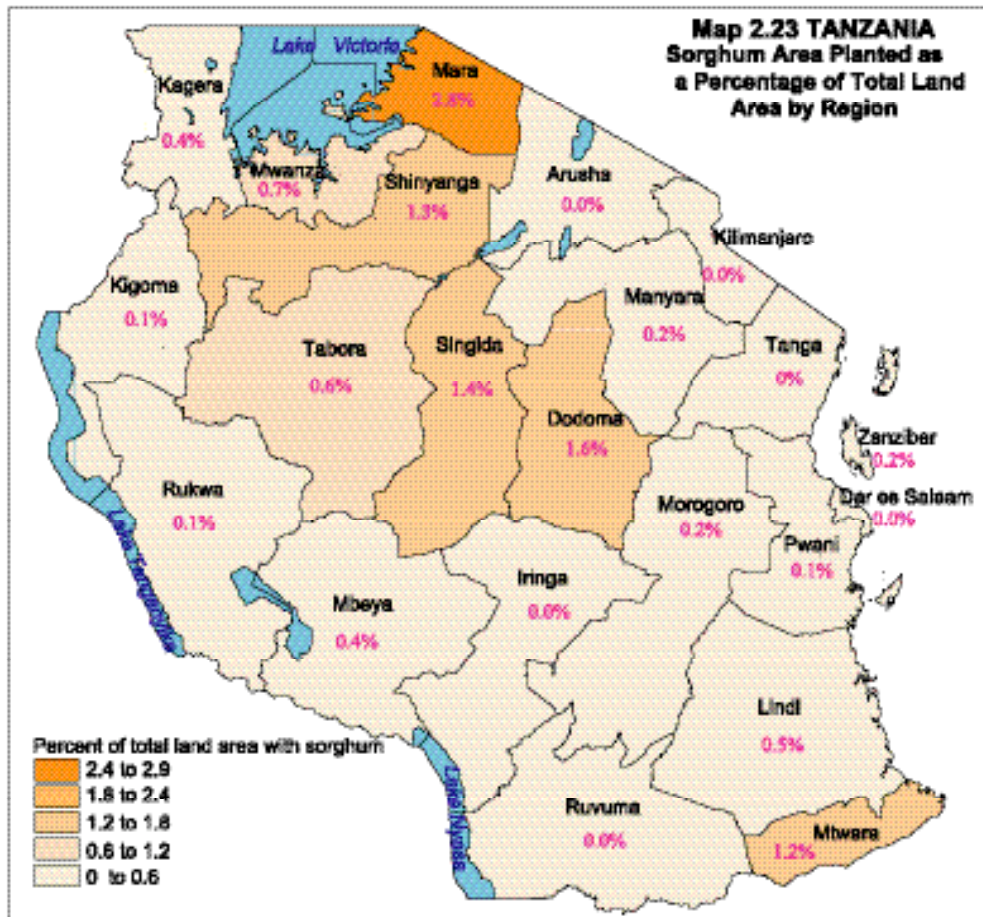
The area planted with sorghum remained almost constant over the period 1986 to 1996. From 1996 to 1998 the area planted increased dramatically by about 100 percent, to about









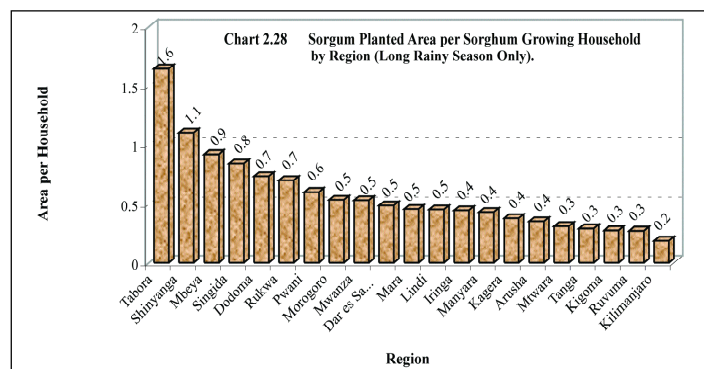




700,000 ha and remained at this level up to 1999. The census year showed a marked reduction in area planted with sorghum to less than 500,000 ha (Chart 2.26).

Singida, Shinyanga and Dodoma regions have the largest planted area of sorghum (69,905 ha, 15.5%; 65,917 ha, 14.6% and 63,932 ha, 14.2% respectively). This is followed by Mara (55,040, 12.2%), Tabora (46,379 ha, 10.3%) and Lindi (34,872 ha, 7.7%). There is virtually no sorghum grown in Dar es Salaam, Tanga, Kilimanjaro and Zanzibar. A comparatively high proportion of land with sorghum was found in Mara followed by Dodoma, Singida and Shinyanga (Chart 2.27 and Maps 2.22 and 2.23).

The area planted per sorghum growing household is largest in Tabora, Shinyanga, Mbeya and Singida. Kilimanjaro, Kigoma, Ruvuma and Tanga have the smallest planted area per sorghum growing households. Mbeya has a moderate production of sorghum, however it has a large planted area per households indicating that the households that produce sorghum plant relatively large areas (Chart 2.28 and Map 2.24).



### Other Cereals

Other cereals are produced in small quantities, however they are important in some regions. Bulrush millet is produced mainly in two regions Dodoma and Singida with planted areas of 78,555 and 30,783 ha respectively representing 88 percent of the total area planted with bulrush millet. Finger millet is planted in five regions: Rukwa with 18,967 ha representing 22.7 percent of the total area planted, followed by Ruvuma (10,287 ha, 12.3%), Dodoma (10,153 ha, 12.2%), Mbeya (10,028 ha, 12%) and Mara (9,957 ha, 11.9%).

### 2.3.5 Root and Tuber Crops Production

Crop	Season	Mainland			Zanzibar			Total		
		Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha
Cassava	Short season	11,702	13,527	1.16	0	0	0.00	11,702	13,527	1.16
	Long season	820,130	2,021,353	2.43	34,002	67,958	2.00	854,132	2,089,311	2.41
Sweet Potatoes	Short season	47,755	83,046	1.74	1,488	2,309	1.55	49,243	85,355	1.73
	Long season	87,712	125,165	1.43	3,743	5,958	1.59	91,456	131,123	1.43
Irish Potatoes	Short season	14,402	33,791	2.35	0	0	-	14,402	33,791	2.35
	Long season	36,888	110,606	3.00	0	0	-	36,888	110,606	3.00
Yams	Short season	1,140	1,827	1.60	1,036	1,416	1.37	2,176	3,243	1.49
	Long season	2,513	3,771	1.50	467	609	1.30	2,980	4,380	1.47
Coco yams	Short season	3,938	4,887	1.24	502	404	0.80	4,440	5,291	1.19
	Long season	3,144	7,160	2.28	526	407	0.77	3,670	7,567	2.06
Total	Short season	78,937	137,078		3,026	4,128		81,863	141,206	
	Long season	950,388	2,268,054		38,738	74,932		989,125	2,342,986	
Grand Total		1,029,325	4,405,132		41,764	79,060		1,071,089	2,484,192	

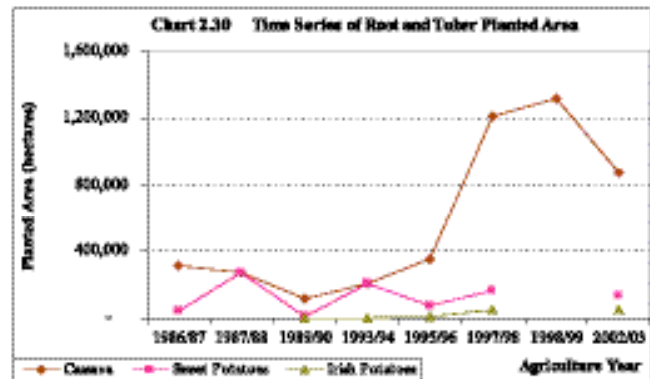
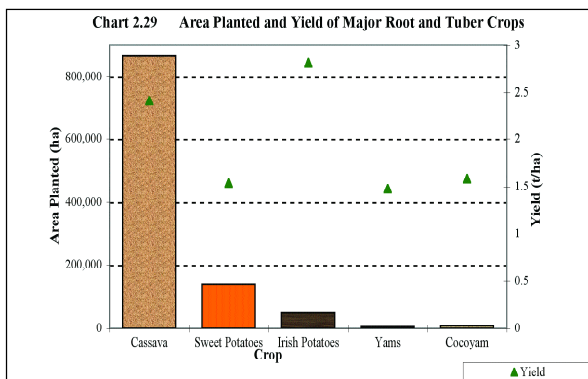
Note: Cassava is produced in both the long and short rainy seasons. However, it was not possible to separate cassava production into the different growing seasons as the growth period spans both seasons and even over a year for certain varieties. Because of this cassava has been combined and is reported in the long rainy season only



The total production of roots and tubers was 2,484,192 tonnes (2,405,132 tonnes on the Mainland and 79,060 in Zanzibar). Cassava production is higher than any other root or tuber crop in Tanzania with a total production of 2,102,838 tonnes (2,034,880 tonnes on the Mainland and 67,958 in Zanzibar) representing 84.6 percent of the total root and tuber crop production. This is followed by sweet potatoes with 216,478 tonnes (8.8%), Irish potatoes (144,397t, 5.8%), coco yams (12,858t, 0.5%) and yams with (7,623t, less than 0.3%) (Table 2.2).

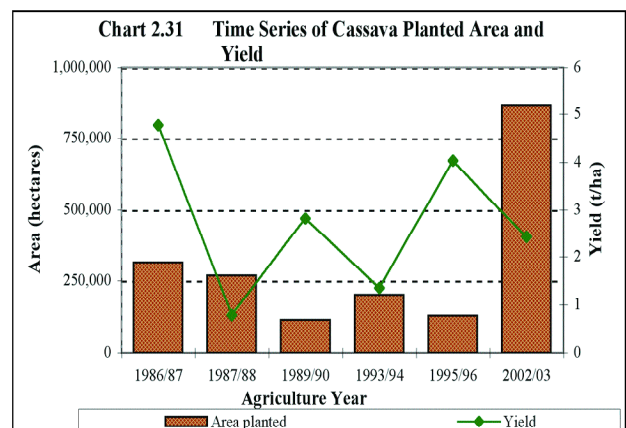
The area planted with cassava is much greater than other root and tuber crops (865,834 ha, 81% of the roots and tuber planted area). Cassava, together with beans and paddy, represent the other most important crops in Tanzania in terms of total planted area (11.1%, 9.5% and 8.2% of the total area planted respectively). Other roots and tubers had a planted area of 140,698 ha (13% of the planted area with roots and tubers) for sweet potatoes, 51,290 ha (5%) for Irish potatoes. The remaining root crops, yams and coco yams, are grown in minor quantities (less than 1% of the roots and tuber planted area) (Chart 2.29). The production of roots and tubers in Zanzibar is minor (3.2%) compared to that of the Mainland.

Cassava is the only root and tuber crop with an increase in planted area since 1986. This increase occurred during the period 1996 to 1998 (Chart 2.30). It is difficult to divide the planted area and production between the short and long rainy seasons for roots and tubers as much of the production of cassava was reported in the permanent crop section of the questionnaire which did not distinguish the season. However, excluding cassava, 34 percent of the planted area with roots and tubers was in the short rainy season. Of the total planted area with sweet potatoes, 35 percent was planted during the short rainy season. A relatively high percent of yams (42%) and coco yams (55%) were also produced in the short rainy season.



With the exception of cassava and Irish potatoes the yields of roots and tubers was relatively low. Time series data show that cassava is the only root and tuber that has increased its production and like all other major crops this increase was over the period 1995 to 1998. The production of other roots and tubers was stable over the 1994 to 2003 period.

Over 70 percent of roots and tubers are planted in eight regions. The largest planted area was found in Mwanza with 176,634 ha (16.5%), followed by Mara with 133,202 ha (12.4%), Mtwara with 114,309 ha (10.7%), Ruvuma with 94,591 ha (8.8%), Kigoma with 78,509 ha (7.3%), Kagera with 64,593 ha (6%), Pwani with 51,160 ha (4.8%) and Shinyanga with 48,080 ha (4.5%).



## Cassava

The number of households growing cassava in Tanzania was 1,213,958 (1,130,226 on the Mainland and 83,732 in Zanzibar). This represents 25% of the total crop growing households in Tanzania. The total production of cassava during the census year was 2,102,838 (2,034,880 tonnes on the Mainland and 67,958 in Zanzibar). According to previous censuses and surveys, the area planted with cassava remained low for the period 1986 to 1996. Since 1996 the area planted with cassava increased sharply from a low level of 175,000 ha to over 800,000 ha (Chart 2.31). Chart 2.31 shows that whilst the yield of cassava has varied erratically between 1986 and 2003, it is the very large increase in the planted area of cassava over the period 1996 to 1998 that explains the increase in production during these years.

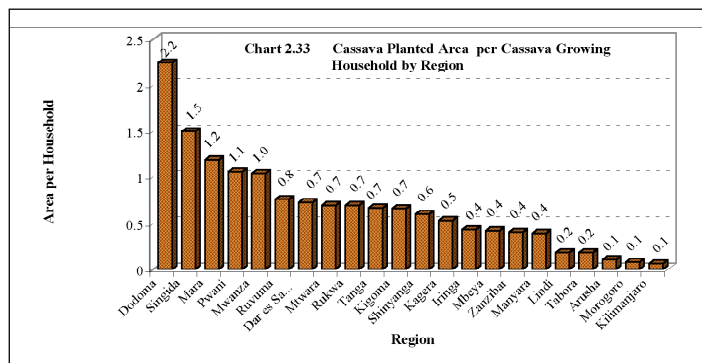
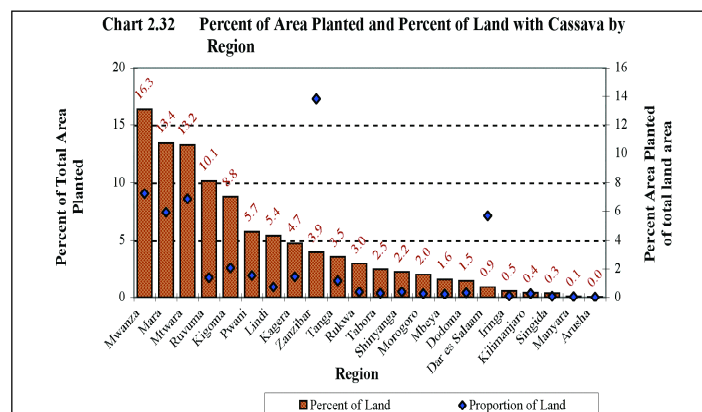
Mwanza Region has the largest planted area of cassava (141,223 ha, 16.3%), followed by Mara (115,825 ha, 13.4%), Mtwara (114,157 ha, 13.2%), Ruvuma (87,591 ha, 10.1%) and Kigoma (75,821 ha, 8.8%). However, the region with the highest proportion of its planted area under cassava was in Zanzibar. This is followed by Mwanza, Mara, Mtwara and Dar es Salaam. The lowest production and smallest proportion of land used for cassava are found in Arusha, Manyara, Singida, Kilimanjaro and Iringa regions (Chart 2.32 and Map 2.25 and 2.26).

The average planted area of cassava is 0.52 ha per cassava growing household. However, there are large regional variations. The area planted per cassava growing household is largest in Dodoma (2.2 ha). This is followed by Singida (1.5 ha), Mara (1.2 ha), Pwani (1.1 ha) and Mwanza (1 ha). The smallest area planted with cassava per cassava growing household was found in Kilimanjaro, Morogoro and Arusha (Chart 2.33 and Map 2.27).

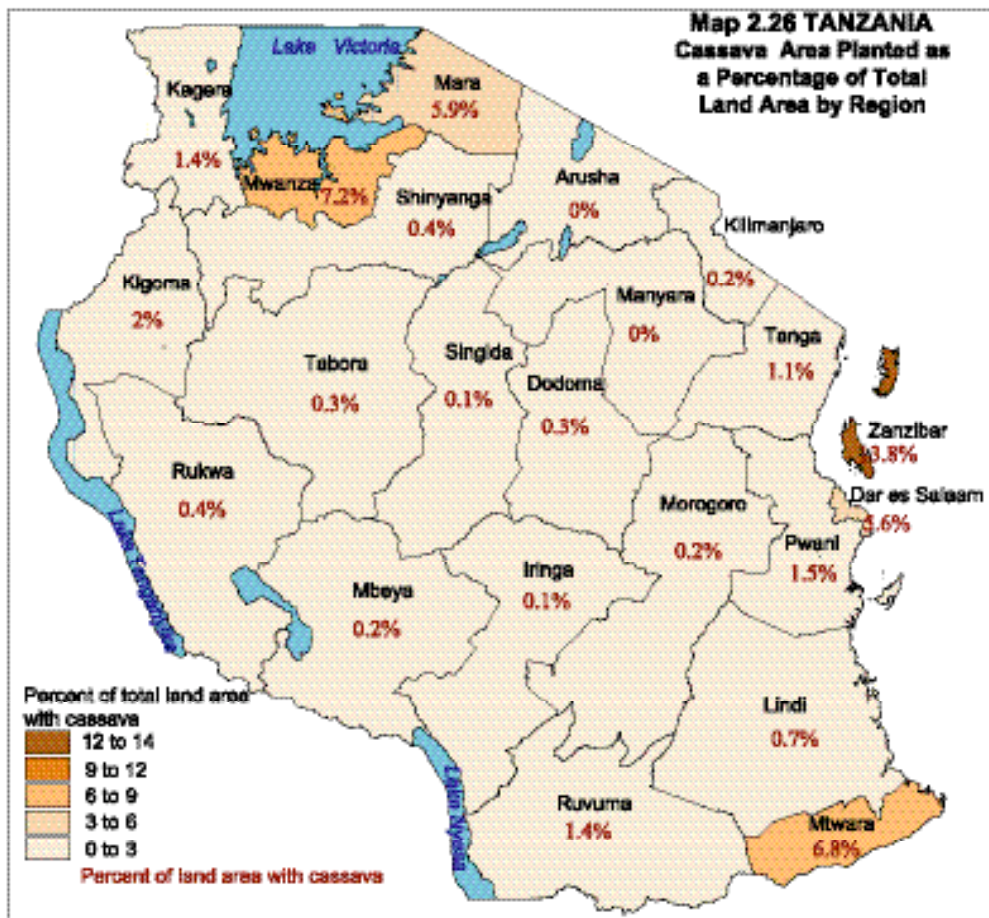
Other roots and tubers are not nearly as important as cassava in terms of area planted. However, they are more important in certain regions than in others. The largest areas planted with sweet potatoes are found in Mwanza, Shinyanga, Kagera and Mara regions whilst for Irish potatoes, the largest planted areas are found in Iringa, Tanga and Mbeya regions. Other roots and tubers are of minor importance.

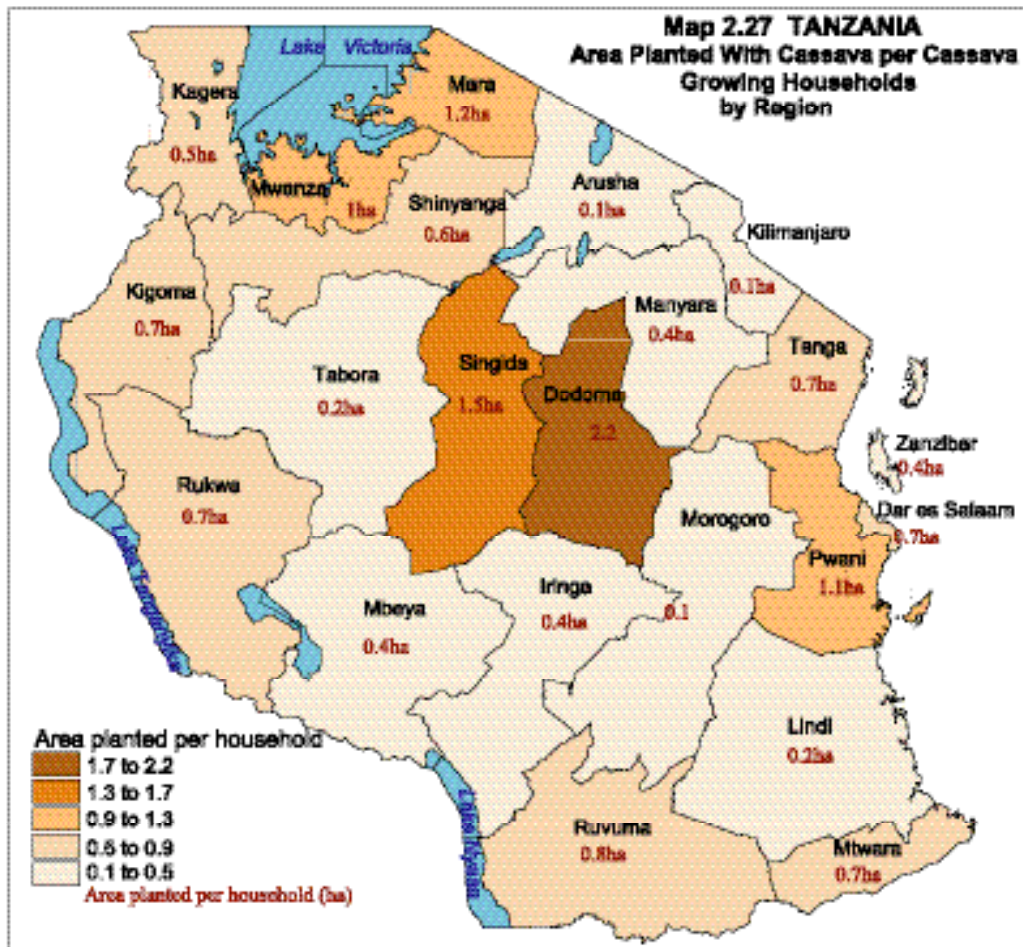
### 2.3.6 Pulse Crop Production

The total production of pulses was 405,253 tonnes (404,553 tonnes on the Mainland and 699 in Zanzibar). The production of beans is higher than any other pulse crop in Tanzania with a total production of 333,312 tonnes (333,308 tonnes on the Mainland and only 4 tonnes in Zanzibar) representing 82 percent of the total pulse production. Other pulses are produced in minor quantities with chick peas having a production of 29,885 tonnes (7%), cowpeas (17,672t, 4%), bambara nuts (9,773t, 2%), field peas (8,497t, 2%), and green gram with 5,007t, (1%) (Table 2.3). In Zanzibar cowpeas have the highest production of all pulses.











**Table 2.3 Area Planted and Quantity Harvested by Season and Type of Pulse Crop**

Crop	Season	Mainland			Zanzibar			Total		
		Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha
Beans	Short season	259,461	125,739	0.48	14	2	0.13	259,475	125,741	0.48
	Long season	486,452	207,569	0.43	14	2	0.17	486,466	207,571	0.43
Chick Peas	Short season	629	335	0.53	0	0	0.00	629	335	0.53
	Long season	62,398	29,550	0.47	0	0	0.00	62,398	29,550	0.47
Cowpeas	Short season	30,000	6,869	0.23	2,033	367	0.18	32,033	7,236	0.23
	Long season	44,119	10,302	0.23	493	134	0.27	44,612	10,436	0.23
Bambara nuts	Short season	1,328	830	0.62	0	0	0.00	1,328	830	0.62
	Long season	23,445	8,937	0.38	7	6	0.86	23,452	8,943	0.38
Field Peas	Short season	2,006	1,352	0.67	0	0	0.00	2,006	1,352	0.67
	Long season	8,715	7,145	0.82	0	0	0.00	8,715	7,145	0.82
Green Gram	Short season	11,331	2,940	0.26	492	134	0.27	11,823	3,074	0.26
	Long season	7,451	1,896	0.25	187	37	0.20	7,638	1,933	0.25
Mung Beans	Short season	185	127	0.69	15	7	0.47	200	134	0.67
	Long season	794	692	0.87	61	10	0.02	854	702	0.82
Pigeon Peas	Short season	6	0	0.00	0	0	0.00	6	0	0.00
	Long season	401	270	0.67	0	0	0.00	401	270	0.67
Total	Short season	304,945	138,193		2,554	509		307,499	138,702	
	Long season	633,775	266,361		761	190		634,536	266,550	
Grand Total		938,719	404,553		3,316	699		942,035	405,253	

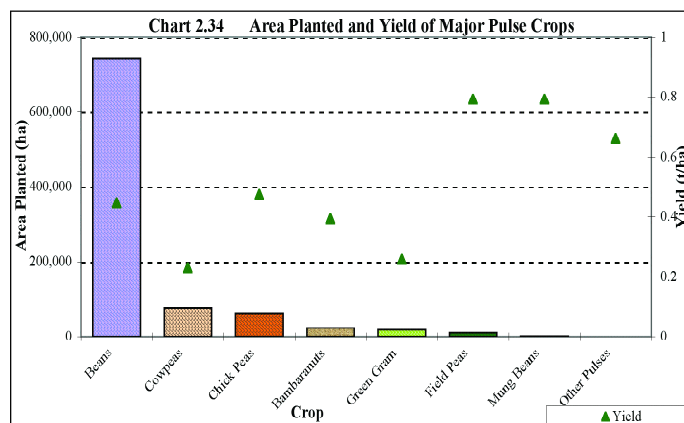
The total area planted with pulses was 942,035 ha (12% of the total planted area with annual crops). Of the total area planted with pulses, beans occupied 745,941 ha (79%), cow peas (76,645 ha, 8%) and chick peas (63,027, 7%) (Chart 2.34). Almost 100 percent of the planted area with pulses and found on the Mainland (Table 2.3).

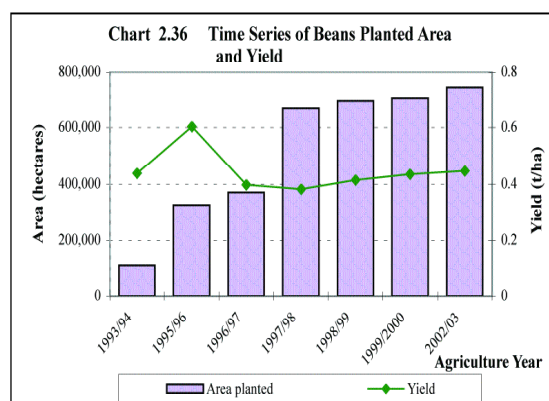
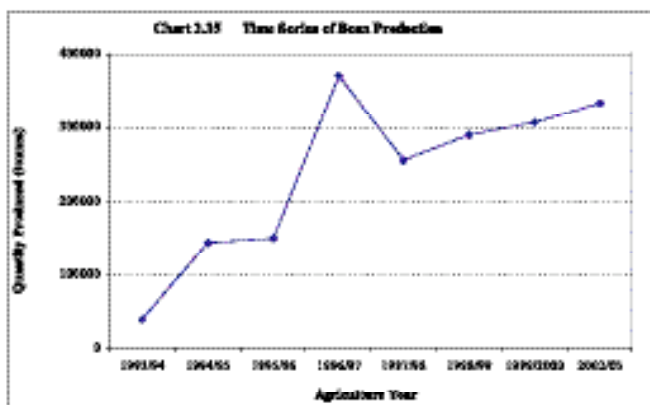
The short rainy season is less important for pulse production with 33 percent of the total area planted during the short rainy season. Most green gram production is in the short rainy season (61% of the green gram planted area). The percentage of total planted area of beans and cowpeas in the short rainy season is 35 and 42 percent respectively (Table 2.3).

Over 60 percent of pulses are planted in seven regions. The largest area is found in Dodoma at 172,368 ha (18.3%), followed by Arusha with 92,543 ha (9.8%), Tanga with 70,311 ha (7.5%), Kilimanjaro with 69,959 ha (7.4%), Morogoro with 67,060 ha (7.1%), Pwani with 58,121 ha (6.2%) and Dar es Salaam with 50,745 ha (5.4%).

### Beans

The number of households growing beans in Tanzania during the long rainy season was 1,263,475 (1,263,368 households on the Mainland and 107 in Zanzibar) and 118,662 households in the short rainy season (118,595 households on the Mainland and 67 in Zanzibar). This represents 27 percent of the total crop growing households in Tanzania in the long rainy season and 2.5 percent in the short rainy season.

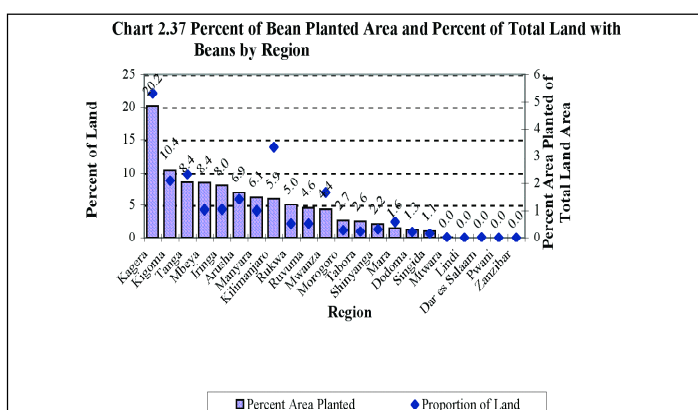




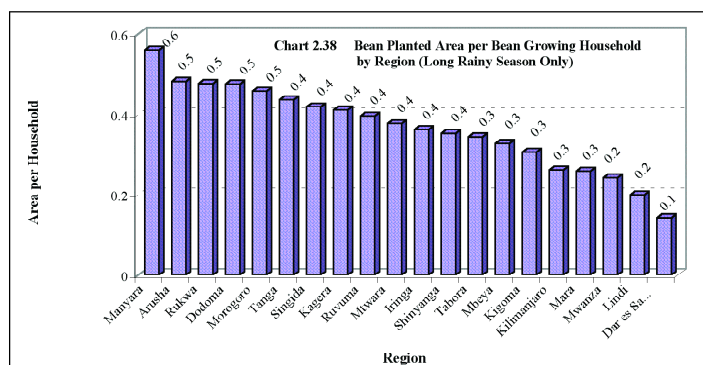
The total production of beans during the census year was 333,312 tonnes. Time series data on beans production shows a trend similar to that of maize, with production rising steadily from 1994 to 2003 from around 40,000 tonnes to 330,000 tonnes which is equivalent to an increase of 31,000 tonnes per year (Chart 2.35). The yield of beans has remained constant since 1994 at around 0.45 t/ha (Chart 2.36).

The area planted with beans increased dramatically from 100,000 ha in 1994 to around 700,000 in 1998 and it is this increase in area planted which accounts for the increased production and not an increase in yield. The area under production has remained constant at around this level since then (Chart 2.36).

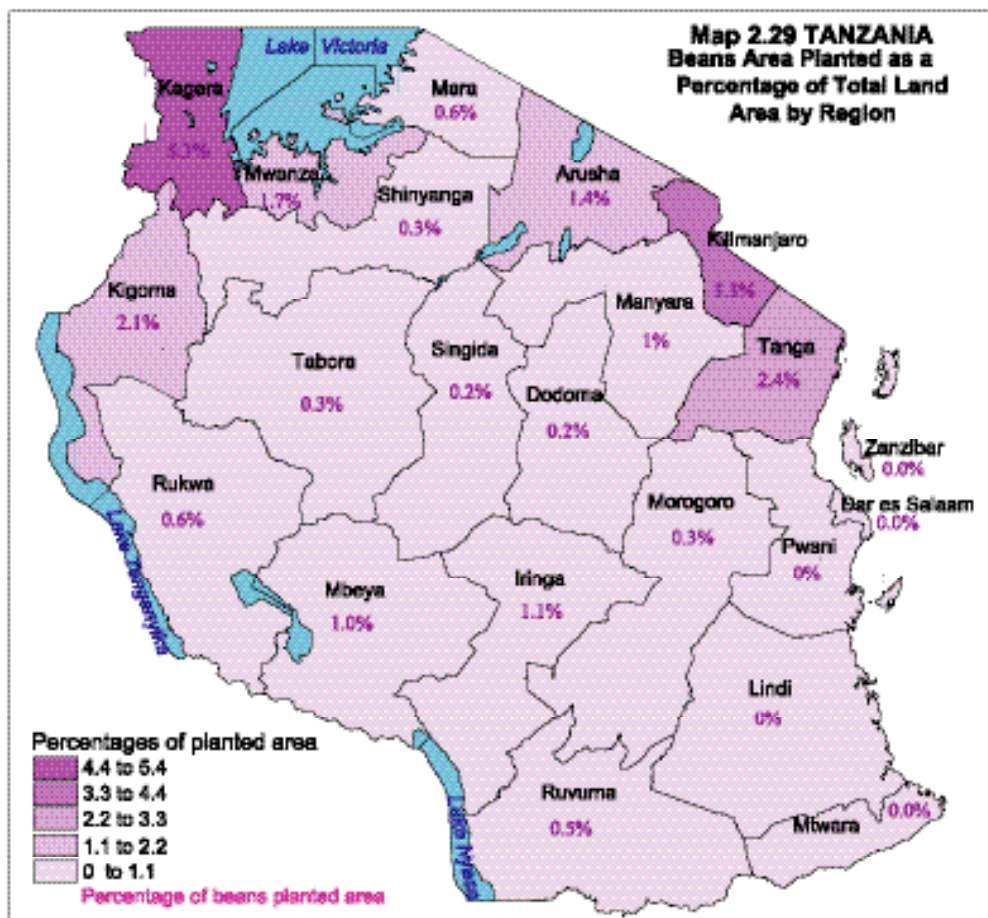
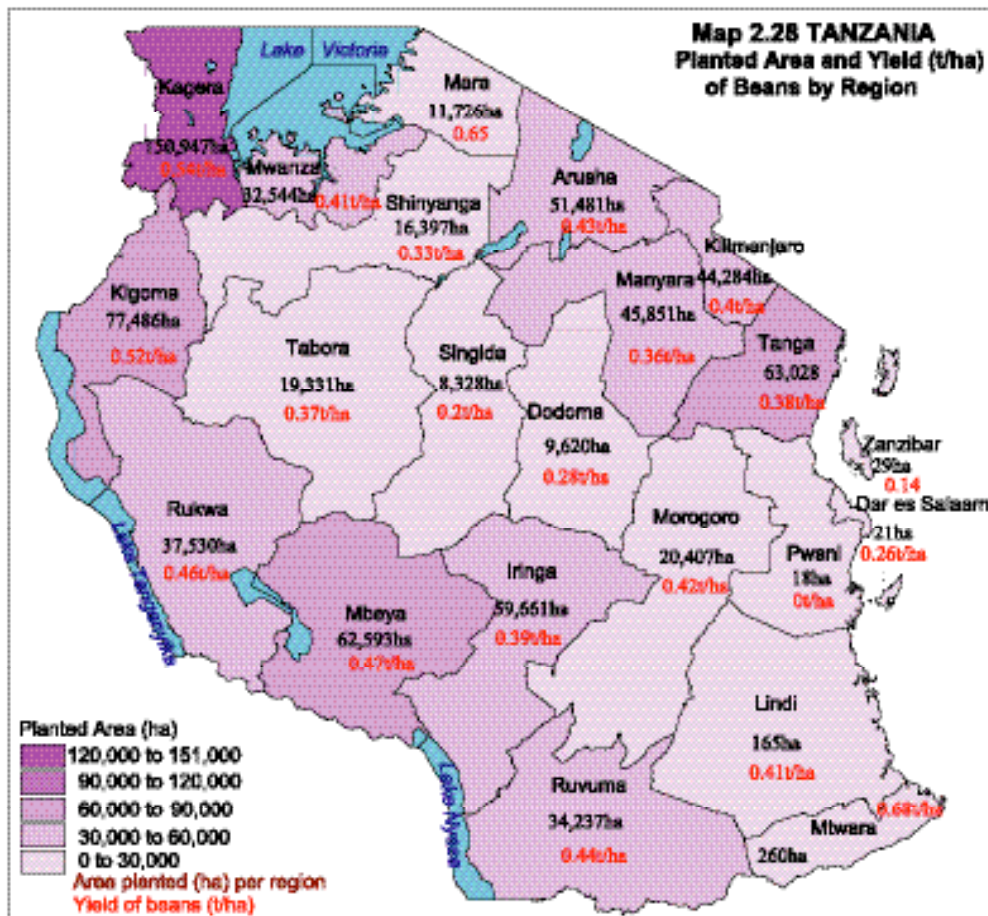
Kagera region has the largest planted area of beans (150,947 ha, 20.2%) and has around twice as much as the next highest region. This is followed by Kigoma (77,486 ha, 10.4%), Tanga (63,028 ha, 8.4%), Mbeya (62,593 ha, 8.4%) and Iringa (62,593 ha, 8.4%). The highest proportion of land with beans is also found in Kagera (5.3%) with Kilimanjaro (3.3%) having the second highest proportion. Very small amounts of beans are grown in Zanzibar, Pwani, Dar es Salaam, Lindi and Mtwara (Chart 2.37 and Maps 2.28 and 2.29).

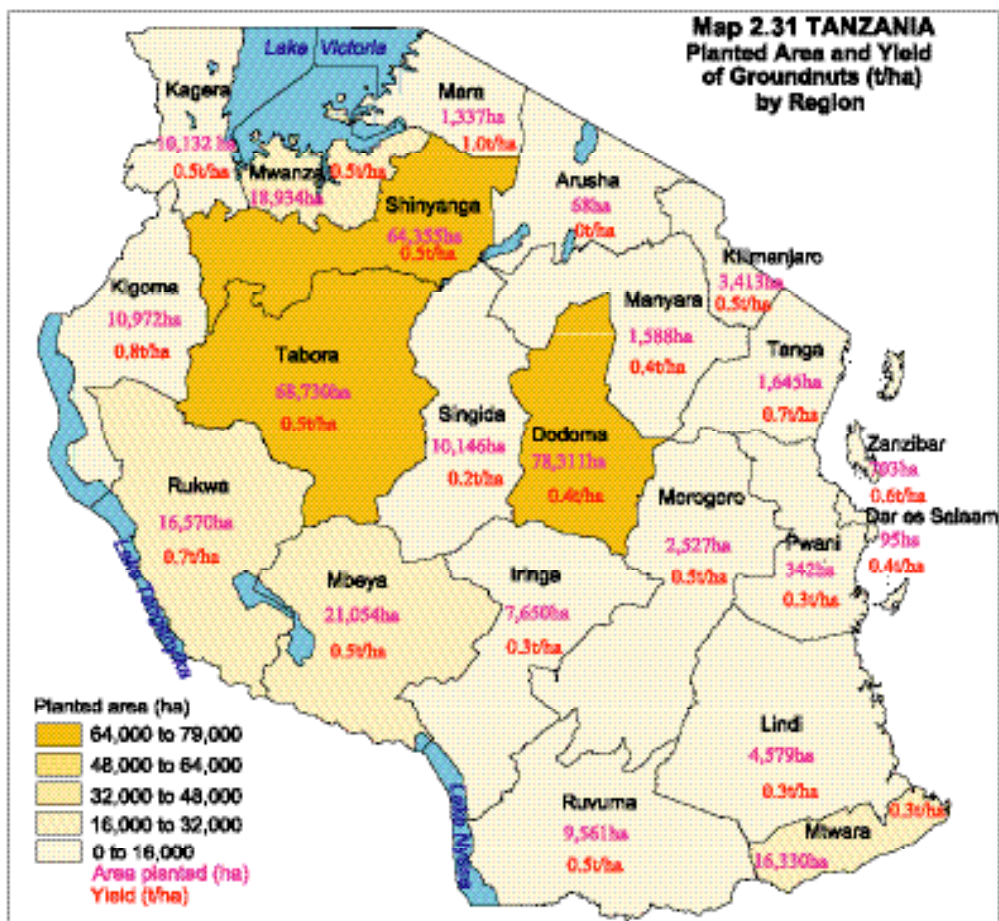
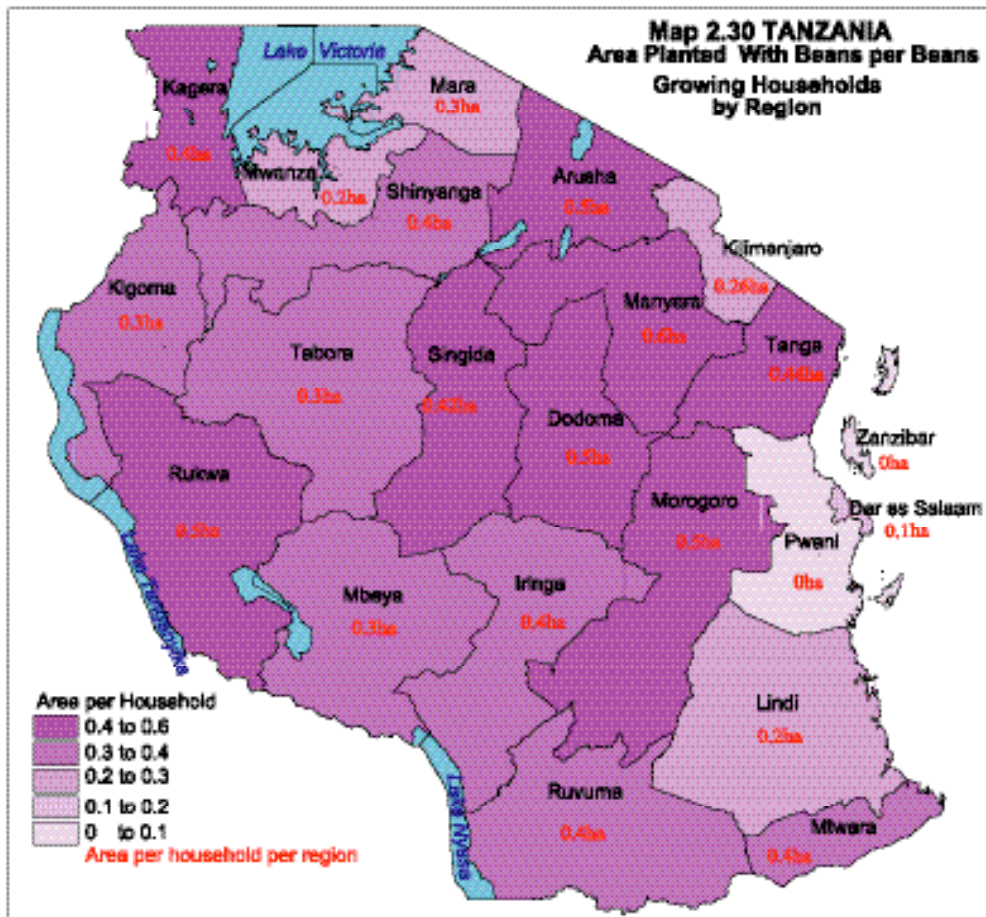


Manyara, Arusha, Rukwa and Dodoma have the largest area of land planted with beans per household. Small quantities of beans is produced in Dodoma, however, the households that produce beans plant a relatively large area. Mwanza, Lindi, and Dar es Salaam plant small areas of beans per household (Chart 2.38 and Map 2.30).





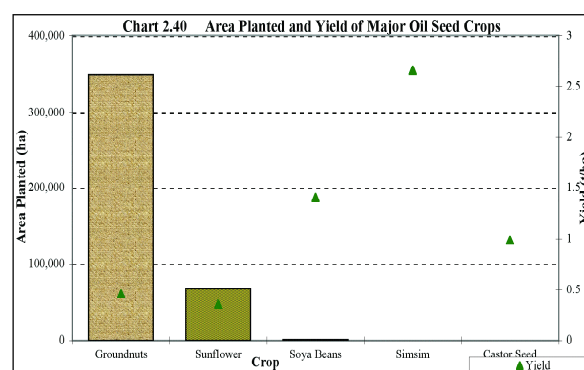
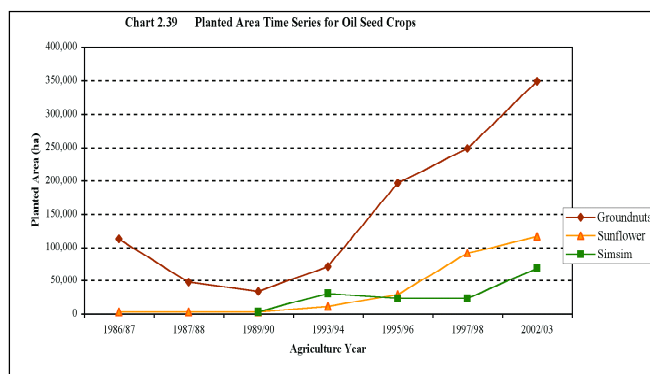






### 2.3.7 Oil Seed Production

The total oil seed production was 240,297 tonnes (239,909 tonnes on the Mainland and 388 tonnes in Zanzibar). The production of groundnuts is higher than any other oil seed crop in Tanzania with a total production of 160,258 tonnes (159,871 tonnes on the Mainland and 387 tonnes in Zanzibar) representing 66.7 percent of the total oil seed crop production. Other oil seed crops are produced in minor quantities with sunflower having a production of 55,070 tonnes (22.9%), simsim (23,669t, 9.8%), castor seeds (667t, 0.3%) and Soya beans with (634t, 0.3%) (Table 2.4).



Of the five oil seed crops grown in Tanzania, only groundnuts and simsim are grown in Zanzibar and at a relatively small scale (0.2% of the total oil seed crop planted area).

The total area planted with oil seed crops was 534,710 ha (6.8% of the total area planted). Of the total area planted with oil seed crops, groundnuts occupied 349,042 ha (65.3%), sunflower (21.6%), simsim (12.7%), soya beans (0.3%) and castor seed (less than 0.1%) (Chart 2.40). Almost 100 percent of the planted area with oil seed crops was found on the Mainland (99.9%) (Table 2.4).

Crop	Season	Mainland			Zanzibar			Total		
		Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha
Groundnuts	Short season	38,534	21,227	0.55	277	184	0.66	38,811	21,410	0.55
	Long season	309,805	138,644	0.45	426	203	0.48	310,231	138,847	0.45
Sunflower	Short season	4,004	2,145	0.54	0	0	0.00	4,004	2,145	0.54
	Long season	111,579	52,925	0.47	0	0	0.00	111,579	52,925	0.47
Simsim	Short season	2,910	991	0.34	2	1	0.00	2,911	992	0.34
	Long season	65,104	22,677	0.35	0	0	0.00	65,104	22,677	0.35
Soya Beans	Short season	179	35	0.20	0	0	0.00	179	35	0.20
	Long season	1,640	599	0.37	0	0	0.00	1,640	599	0.37
Castor Seed	Short season	42	294	-	0	0	-	42	294	1.50
	Long season	208	372	0.56	0	0	-	208	372	0.79
Total	Short season	45,669	24,692		279	185		45,948	24,877	
	Long season	488,336	215,217		426	203		488,762	215,420	
Grand Total		534,005	239,909		705	388		534,710	240,297	

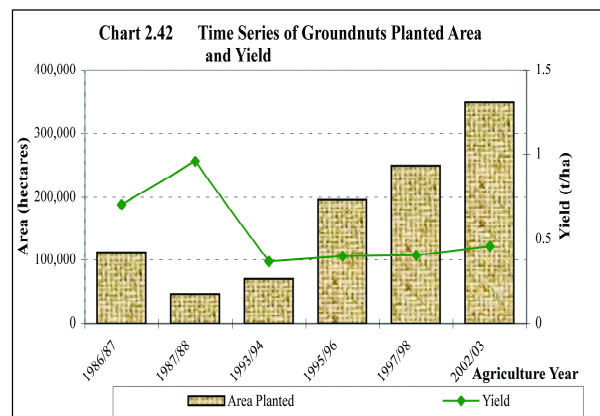
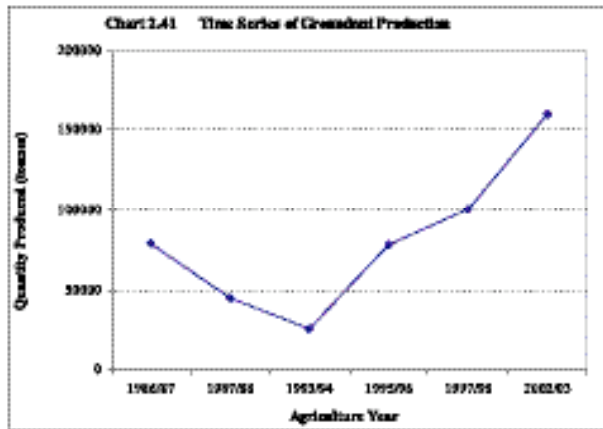
The short rainy season is much less important than the long rainy season for oil seeds production. The total area planted with oil seed crops in the short rainy season was 45,948 hectares which represents 8.6 percent of the total area planted with oil seeds.



Over 50 percent of oil seeds are planted in four regions. The largest area is found in Dodoma with 120,211 ha (22.5%), followed by Kilimanjaro with 70,742 ha (13.2%), Arusha with 69,834ha (13.1%) and Singida with 47,556 ha (8.9%).

**Groundnuts**

The number of households growing groundnuts in Tanzania during the long rainy season was 734,034 (732,624 on the

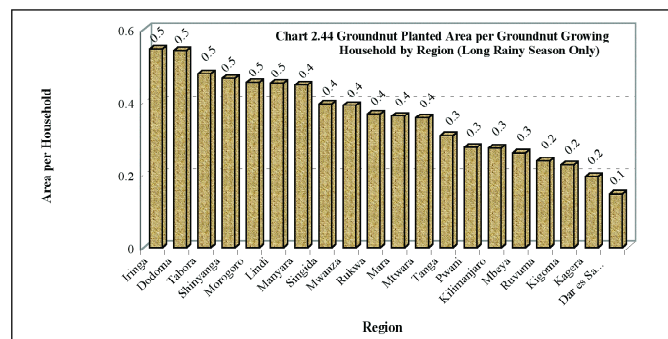
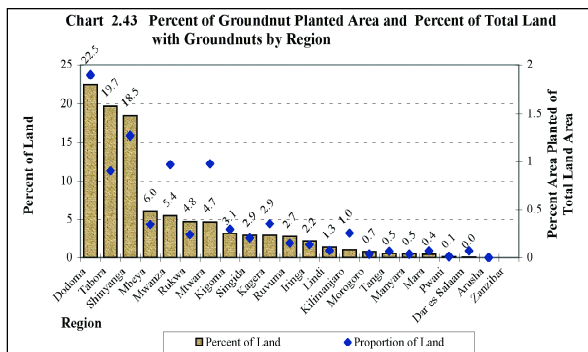


Mainland and 1,410 in Zanzibar) and 141,751 households in the short rainy season (140,848 households on the Mainland and 903 in Zanzibar). This represents 15.4 percent of the total crop growing households in Tanzania in the long rainy season and 3 percent in the short rainy season.

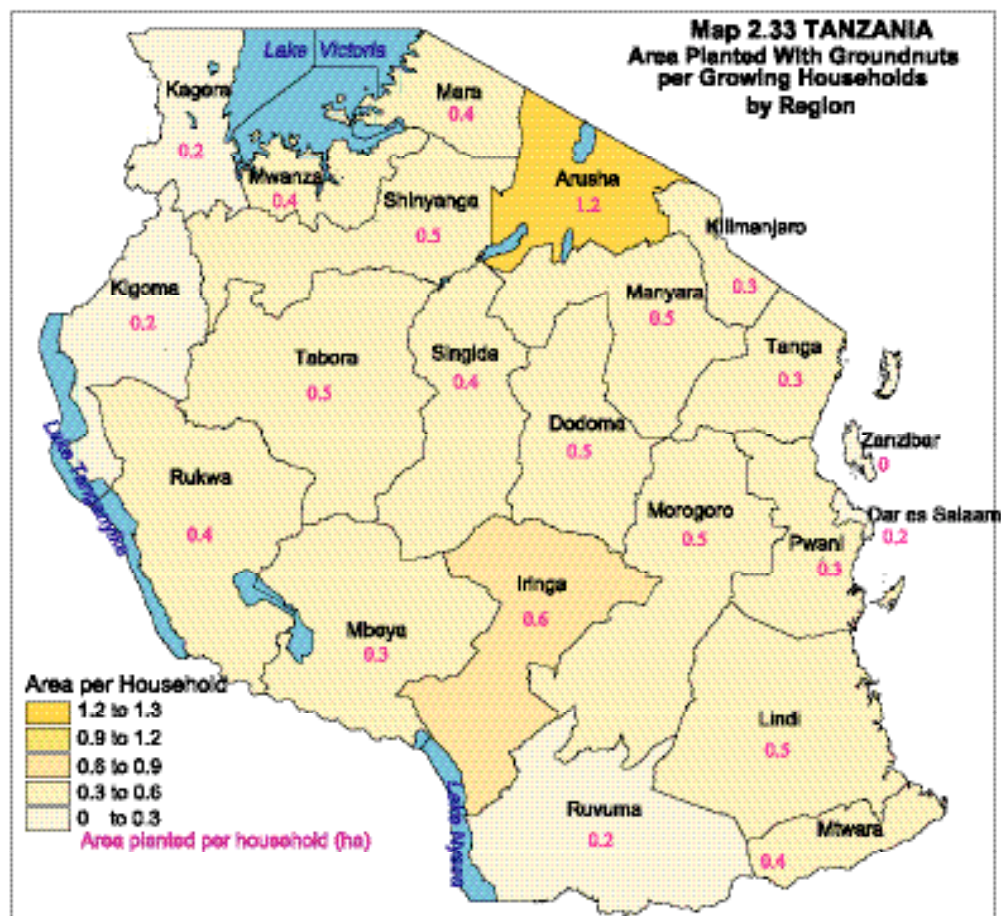
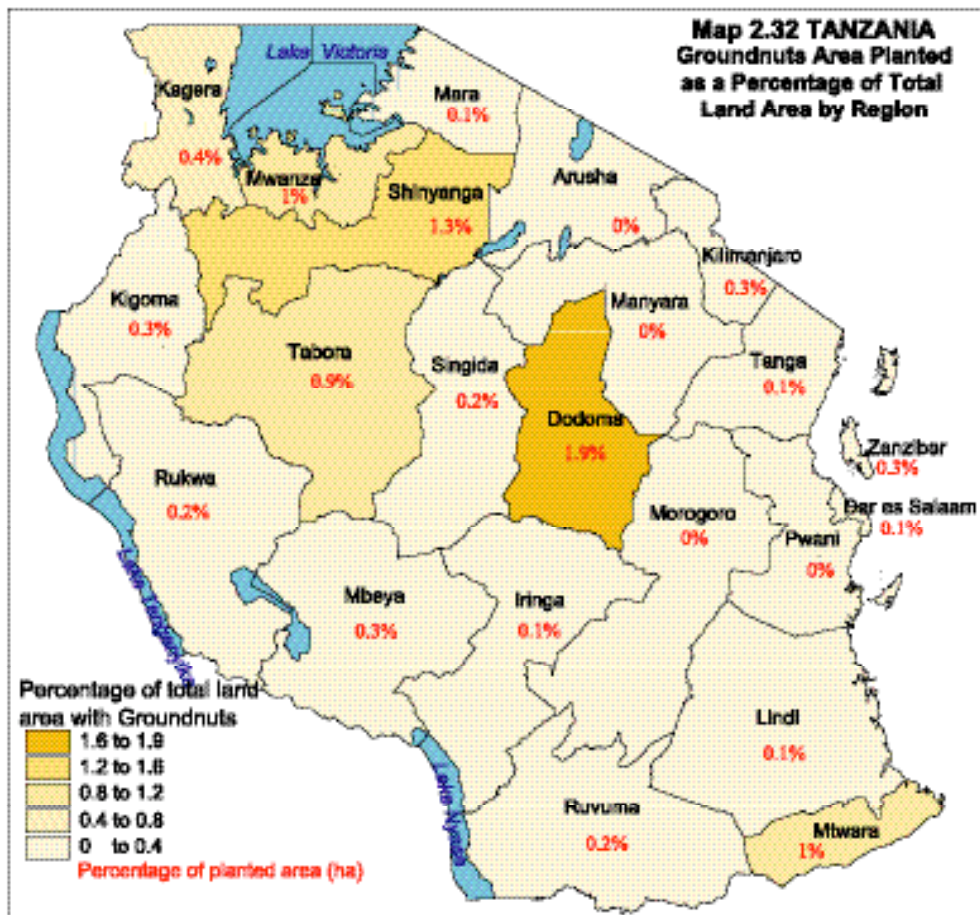
The total production of groundnuts during the census year was 160,258 tonnes. Time series data shows a steady increase in production from 1994 to 2003 from about 25,000 tonnes to 160,000 tonnes which is equivalent to an increase of 15,000 tonnes per year (Chart 2.41).

Charts 2.41 and 2.42 show that whilst groundnuts production has increased since 1994, the yield has remained constant over the same period. However, the planted area of groundnuts has increased approximately four times. This implies that the increase in groundnuts production over the period has been due to an increase in the area under production and not an increase in productivity.

Dodoma region has the largest planted area of groundnuts (78,311 ha, 22.5% of the oilseed planted area), followed by Tabora (68,730 ha, 19.7%) and Shinyanga (64,355 ha, 18.5%) regions. The highest proportion of land with groundnuts was also found in Dodoma, and Shinyanga regions. The lowest proportion of land used for groundnuts is found in Zanzibar,



Arusha, Dar es Salaam, Pwani, Mara, Manyara, Tanga and Morogoro regions (Chart 2.43 Maps 2.31 and 2.32).



The area planted per groundnut growing household is greater in Iringa and Dodoma. The lowest area planted with groundnuts per household is found in Dar es Salaam, Kagera and Kigoma regions. Most of the other regions have a moderate but similar area per groundnut growing household. Arusha has been excluded from the chart due to small numbers. (Chart 2.44 and Map 2.33).

### 2.3.8 Fruits and Vegetables

The collection of fruit and vegetable production data is difficult due to the small quantities produced per household. Most of the data presented here gives the production of small holders that grow these crops as cash crops and not for household use. Most fruit production is from permanent crops and only water melon is reported as an annual crop in this section.

The total production of fruit and vegetables was

254,739 tonnes (244,345 tonnes on the Mainland and 10,394 in Zanzibar). Tomato production is higher than any other fruit and vegetable crop in Tanzania with a total production of 129,578 tonnes (124,197 tonnes on the Mainland and 5,381 in Zanzibar) and represents 51 percent of the total fruit and vegetable crop production. This is followed by cabbage with 41,495 tonnes (16.3%), onions (36,087t, 14.2%), amaranths (9,195t, 3.6%), chillies (6,433t, 2.5%) and water melon (5390t, 2.1%). The production of other fruit and vegetable crops is relatively small (Chart 2.45 and Table 2.5).

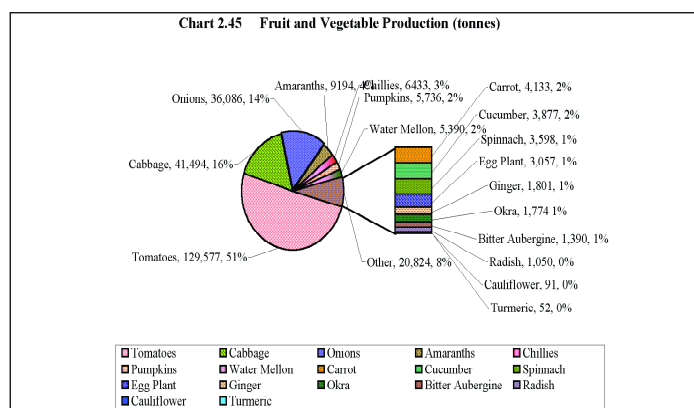


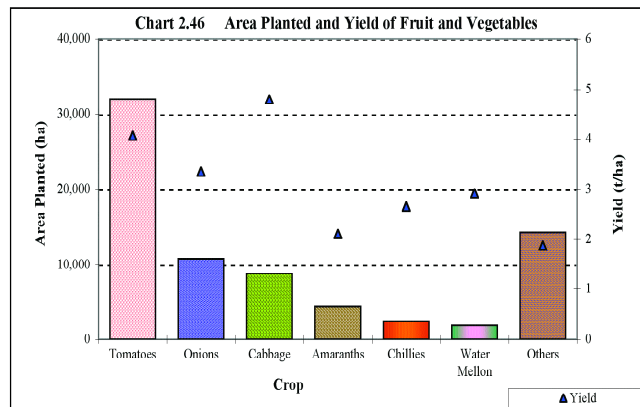
Table 2.5 Area Planted and Quantity Harvested by Season and Type of Fruit and Vegetable Crop

Crop	Season	Mainland			Zanzibar			Total		
		Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha
Tomatoes	Short season	9,621	40,329	4.19	1,043	2,197	2.11	10,664	42,525	3.99
	Long season	19,922	83,868	4.21	1,327	3,184	2.40	21,249	87,052	4.10
Cabbage	Short season	2,397	10,226	4.27	3	6	2.27	2,400	10,232	4.26
	Long season	6,278	31,254	4.98	1	9	7.13	6,280	31,263	4.98
Onions	Short season	2,723	10,761	3.95	1	1	0.62	2,725	10,762	3.95
	Long season	8,072	25,325	3.14	5	0	0.00	8,078	25,325	3.14
Amaranths	Short season	1,175	3,743	3.19	227	590	2.60	1,402	4,333	3.09
	Long season	2,795	4,576	1.64	180	285	1.59	2,975	4,862	1.63
Chillies	Short season	1,107	3,379	3.05	62	25	0.40	1,169	3,403	2.91
	Long season	1,195	2,999	2.48	61	61	1.00	1,256	3,030	2.41
Water Melon	Short season	969	3,071	3.17	29	45	1.57	998	3,116	3.12
	Long season	833	2,241	2.69	12	33	2.85	844	2,274	2.69
Others	Short season	4,099	8,828		934	1,960		5,033	10,788	
	Long season	8,299	13,775		888	1,999		9,188	15,774	
Total	Short season	22,091	80,337		2,299	4,823		24,390	85,160	
	Long season	47,395	164,008		2,474	5,571		49,869	169,579	
Grand Total		69,486	244,345		4,773	10,394		74,259	254,739	

Note: The "Other" category include okra, radish, turmeric, bitter aubergine, garlic, ginger, spinach, carrots, pumpkin, cucumber, egg plant and cauliflower.



The area planted with tomatoes is much larger than that of other fruit and vegetable crops (43% of the area planted with fruit and vegetables) or 0.41% of the total area planted with annual crops, followed by onions (14.5%), cabbage (11.7%) and amaranths (5.9%) (Chart 2.46). More than 95 percent of all fruit and vegetables are grown on the Mainland.

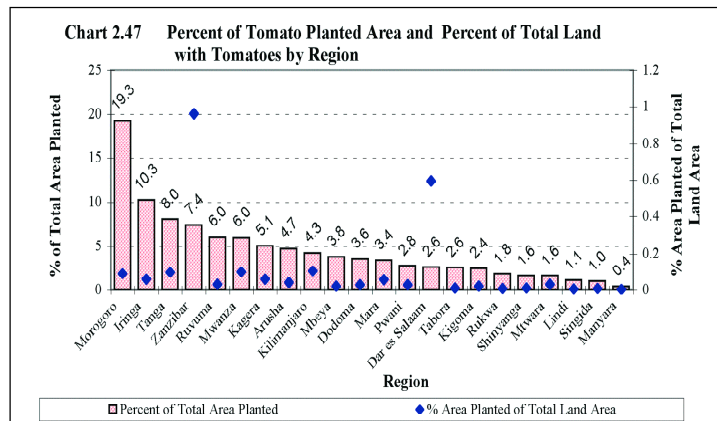


Most fruit and vegetable production takes place in the long rainy season with a planted area of 49,869 ha (67%) compared to 24,390 ha in the short rainy season. For cabbage, amaranths and onions around 70 percent of the planted area was in the long rainy season. Tomatoes are normally grown during the short rainy season, however the planted area of tomatoes during the census year was much more in the long rainy season (70% of the total planted area). It is thought that this was due to the poor rainfall in certain regions which was nevertheless favourable for tomato production (Table 2.5). Reliable historical data for time series analysis of fruit and vegetables is not available.

**Tomatoes**

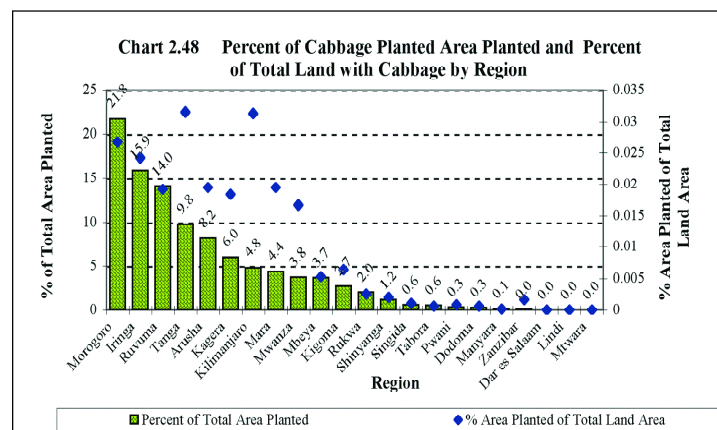
The number of households growing tomatoes in Tanzania during the long rainy season was 97,812 (91,966 on the Mainland and 5,846 in Zanzibar) and 47,581 households in the short rainy season (42,697 households on the Mainland and 4,884 in Zanzibar). This represents 2 percent of the total crop growing households in Tanzania in the long rainy season and 1 percent in the short rainy season.

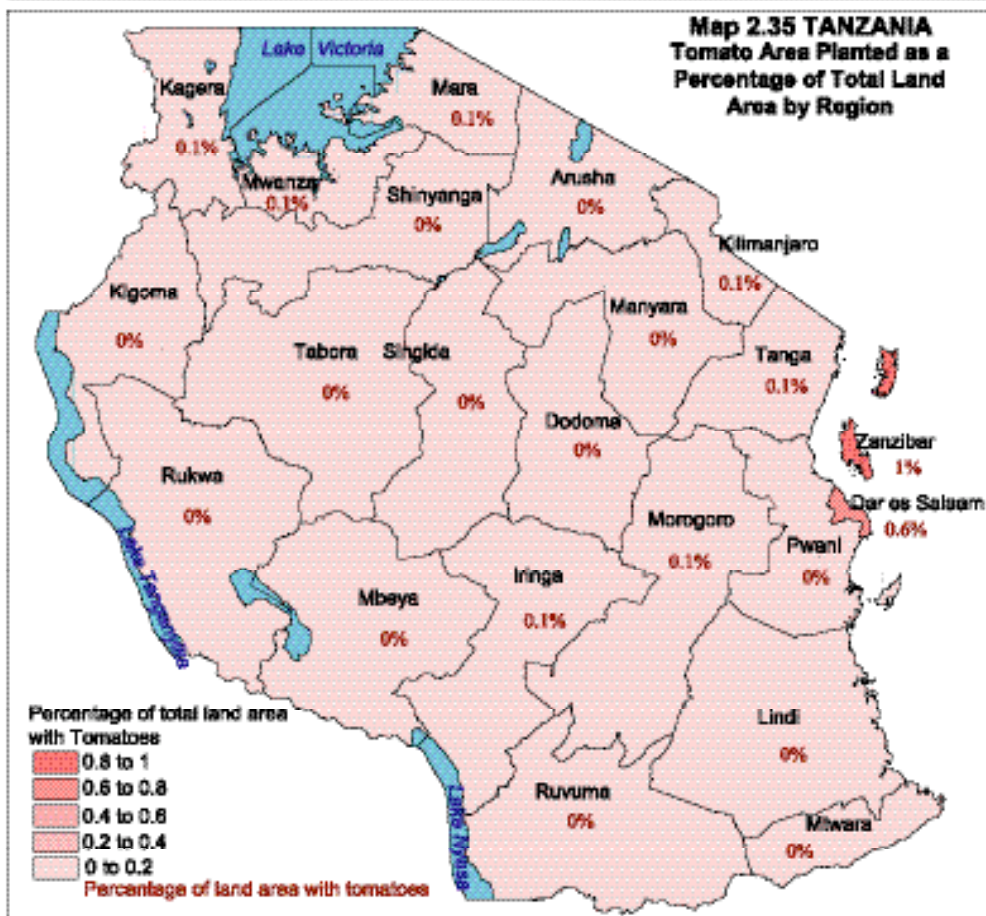
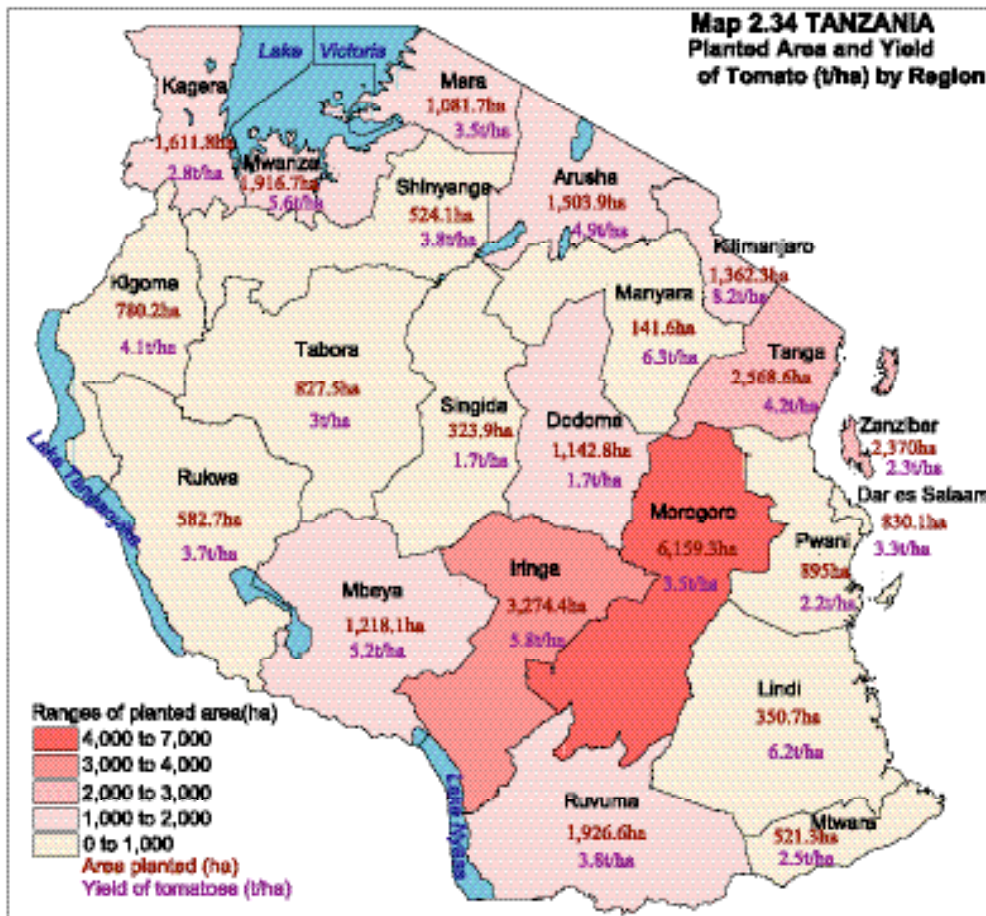
Morogoro region has the largest planted area of tomatoes (6,159 ha, 19.3% of tomato planted area), followed by Iringa (3,274 ha, 10.3%), Tanga (2,569 ha, 8.0%) and Zanzibar (2,370 ha, 7.4%) regions. The highest percentage of land with tomatoes was found in Zanzibar, followed by Dar es Salaam region. Most regions have a low percentage of land used for tomato production (Chart 2.47 and Maps 2.34 and 2.35).



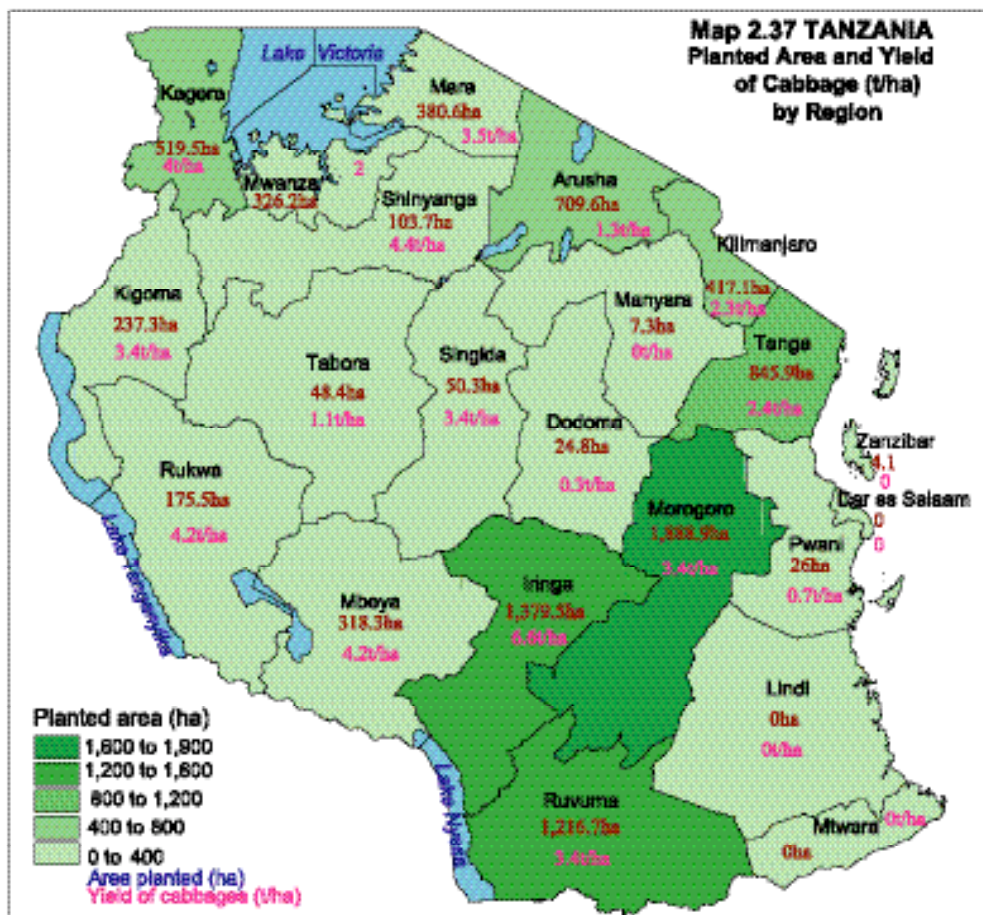
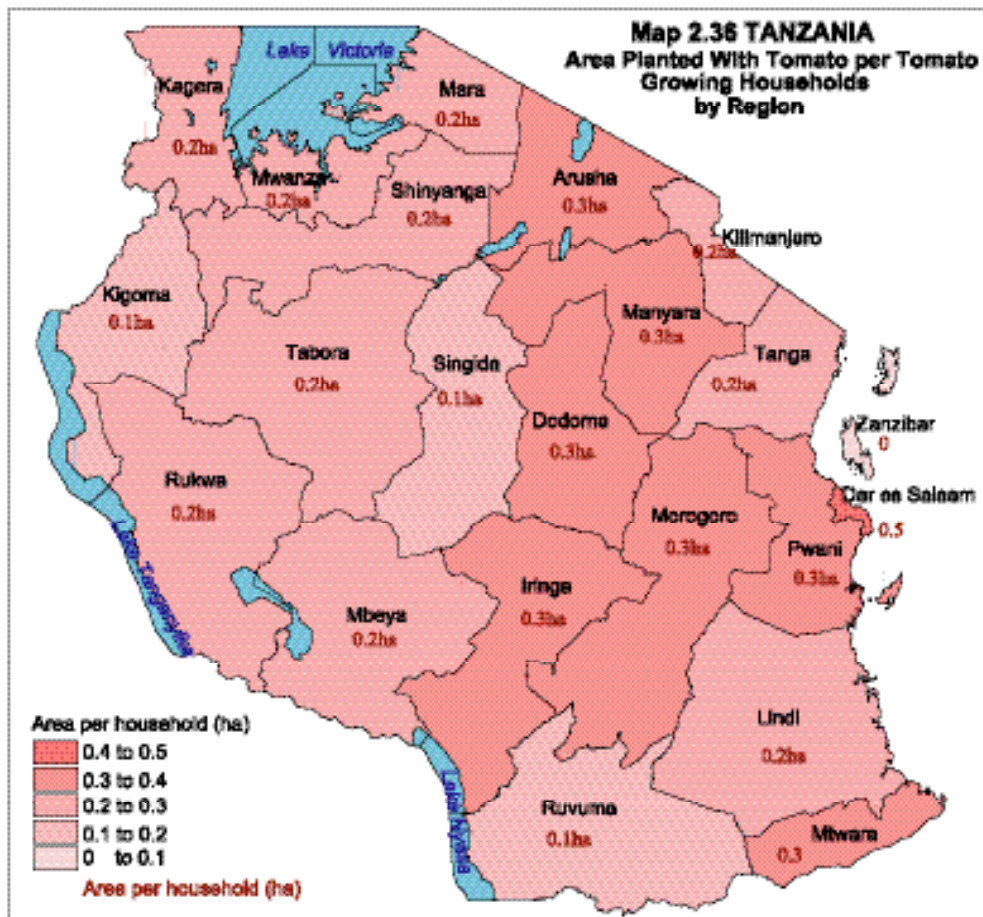
**Cabbage**

The number of households growing cabbage in Tanzania during the long rainy season was 37,772 households (37,748 households on the Mainland and 24 in Zanzibar), and 11,829 in the short rainy season (11,787 households on the Mainland and 42 in Zanzibar). This represents 0.8 percent of the total crop growing households in Tanzania in the long rainy season and 0.2 percent in the short rainy season.

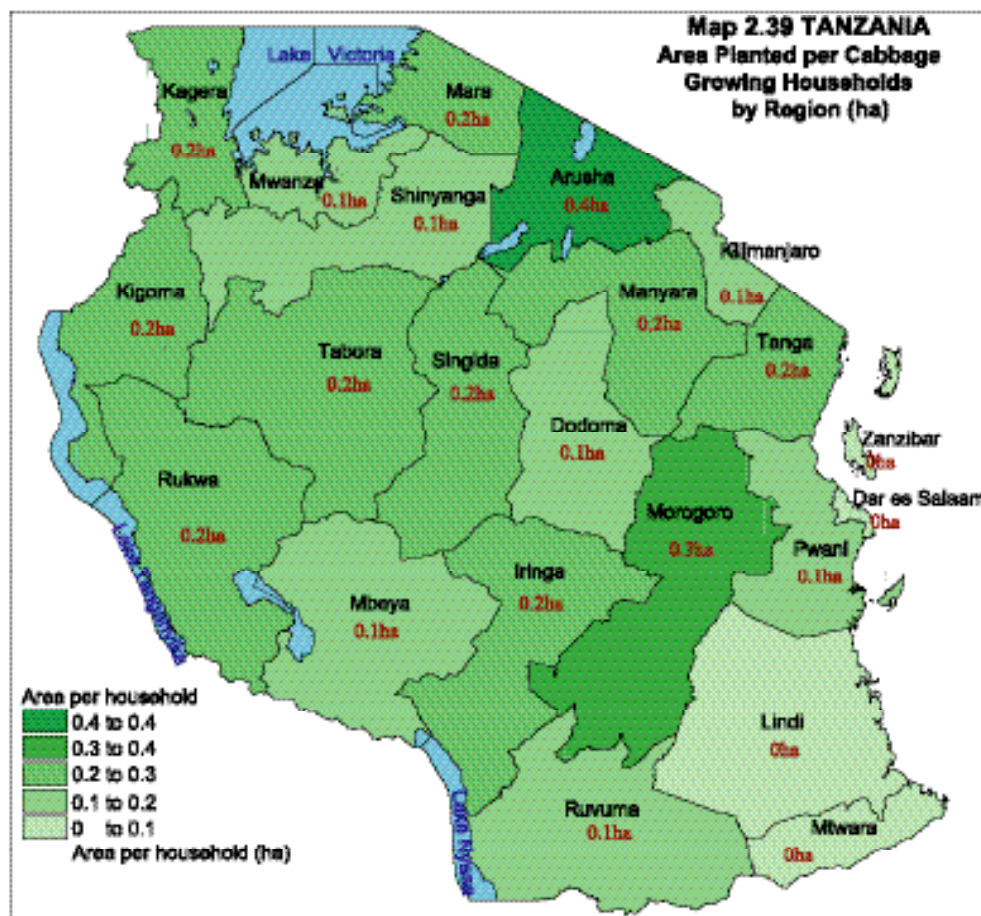
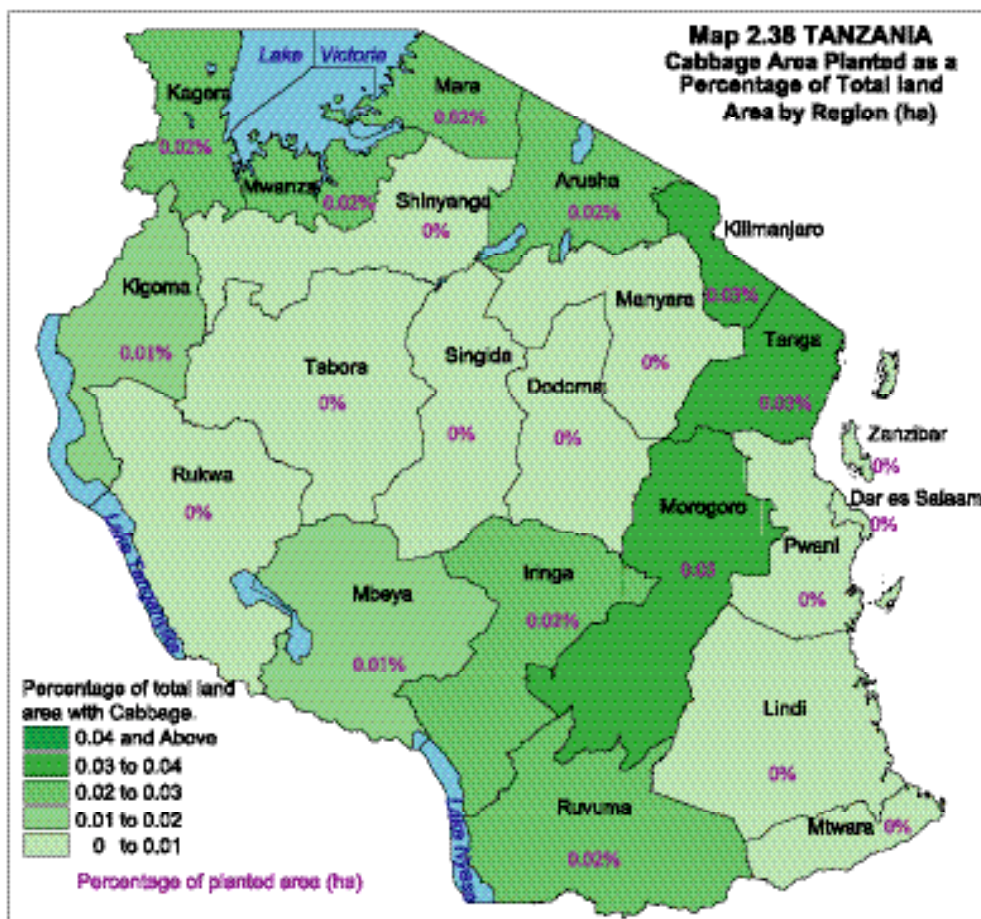








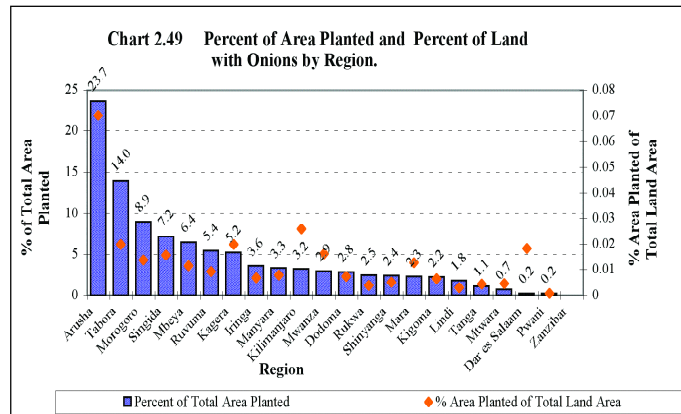




Morogoro region has the largest planted area of cabbage (1,889 ha, 21.8% of total cabbage), followed by Iringa (1,380 ha, 15.9%), Ruvuma (1,217 ha, 14%), Tanga (846 ha, 9.8%) and Arusha (710 ha, 8.2%) regions. The highest percentage of land with cabbage was found in Tanga and Kilimanjaro regions. Other regions with high proportion of land planted with cabbage are Morogoo, Iringa, Ruvuma, Arusha and Kagera, Mara and Mwanza. About 50 percent of the regions have very small/virtually no land planted with cabbage (Chart 2.48 and Maps 2.37, 2.38 and 2.39).

**Onions**

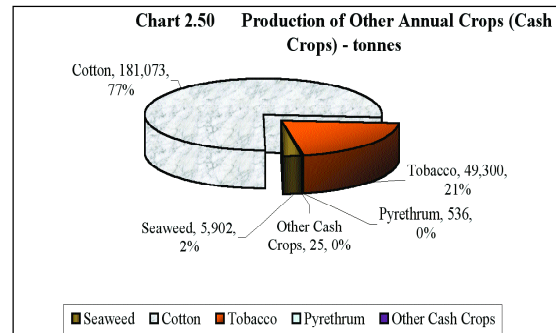
The number of households growing onions in Tanzania during the long rainy season was 29,646 households (29,619 on the Mainland and 27 in Zanzibar), and 10,318 in the short rainy season (10,301 on the Mainland and 17 in Zanzibar). This represents 0.6 percent of the total crop growing households in Tanzania in the long rainy season and 0.2 percent in the short rainy season.



Arusha region has the largest planted area of onions (2,558 ha, 23.7% of the total onion planted area), followed by Tabora (1,507 ha, 14%) and Morogoro (965 ha, 8.9) regions. The highest percentage of land with onions was found in Arusha. Zanzibar, Pwani and Dar es Salaam regions have virtually no planted area with onions (Chart 2.49, Maps 2.40 and 2.41).

**2.3.9 Other Annual Crop/Cash Crop Production**

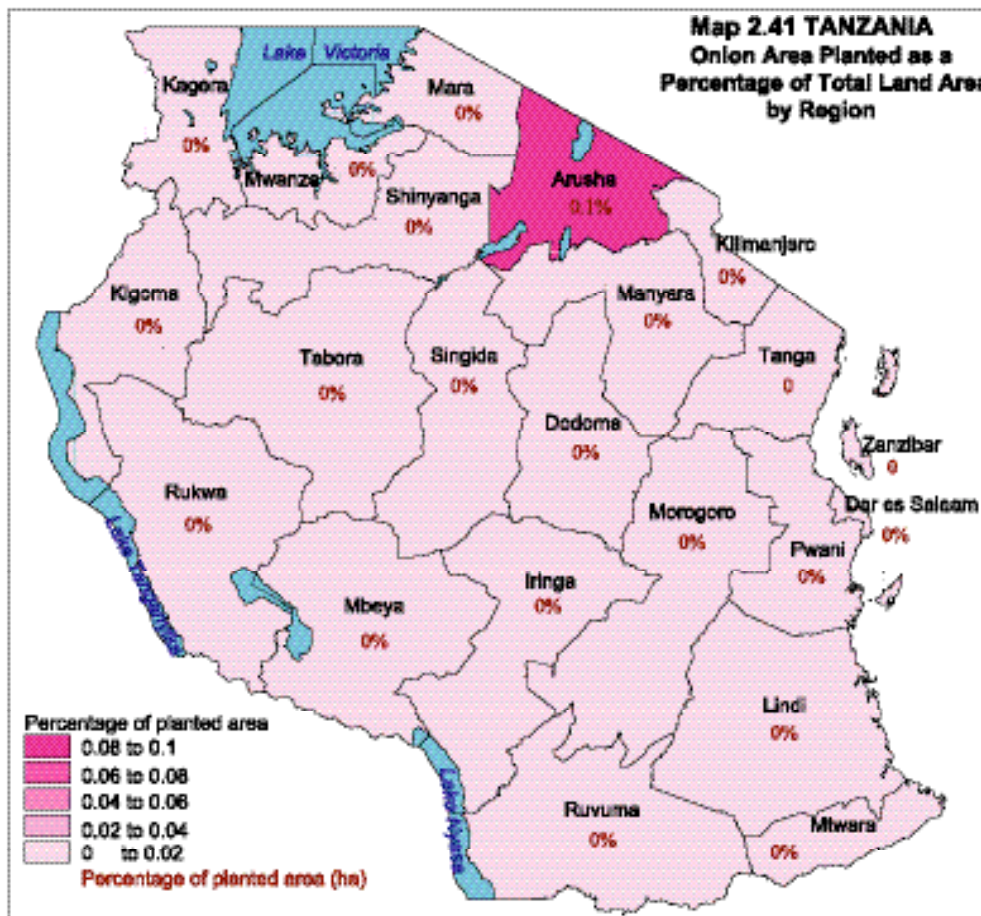
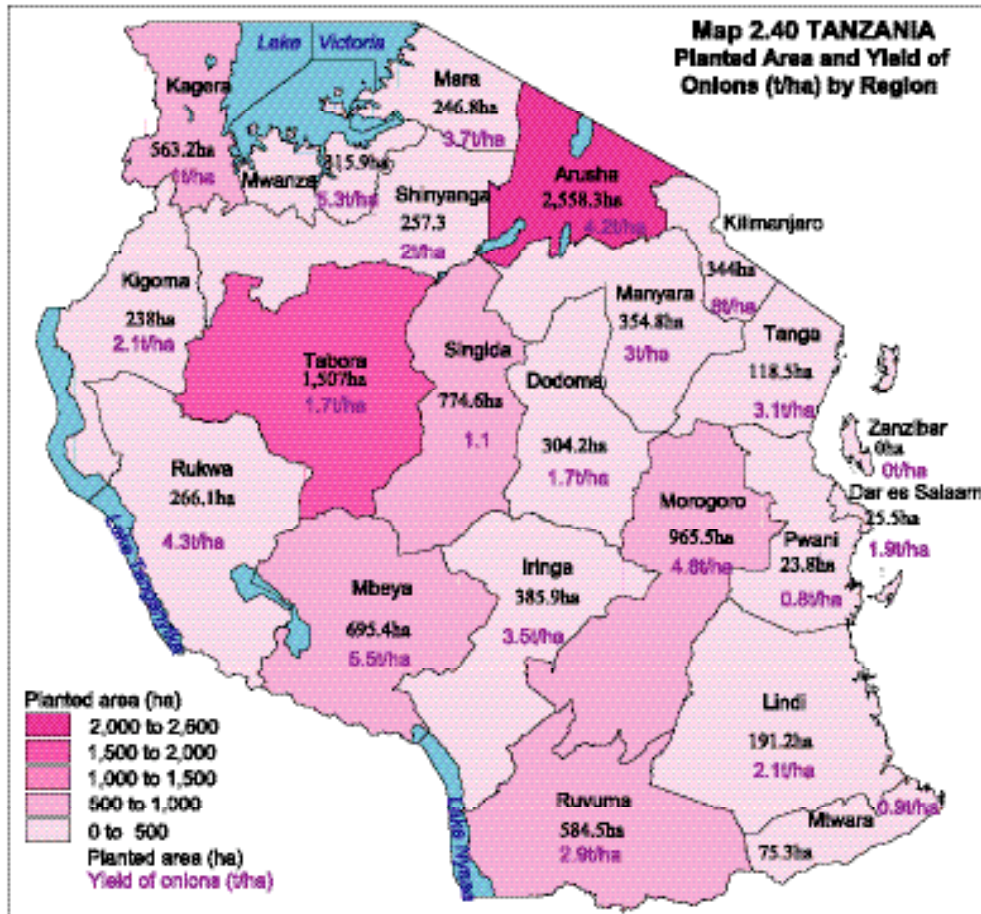
Most of the other annual crops can be defined as cash crops, however it is difficult to distinguish between cash crops and other crops given that many of the food crops are also used for generating income. During the 2002/03 agriculture year an area of 398,456 ha was planted with other crops and of these, cotton was the most important followed by tobacco, seaweed, pyrethrum and jute (Chart .2.50 and Table 2.6).



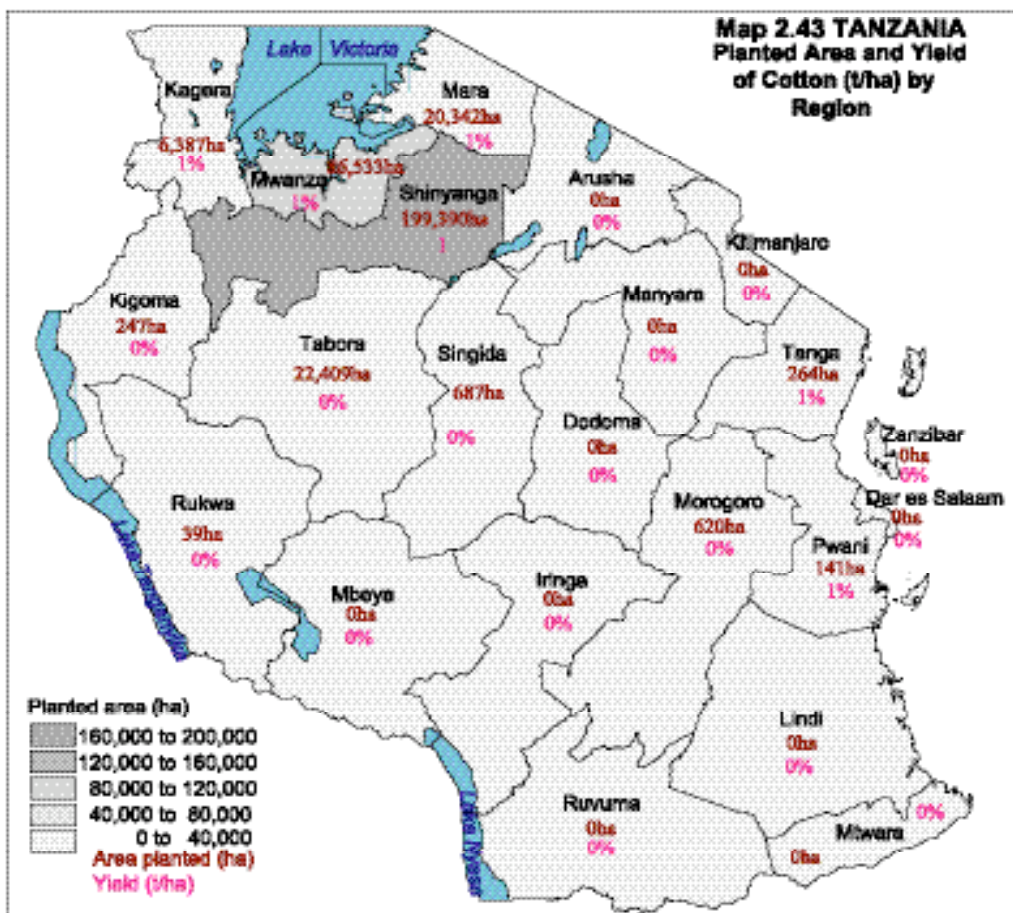
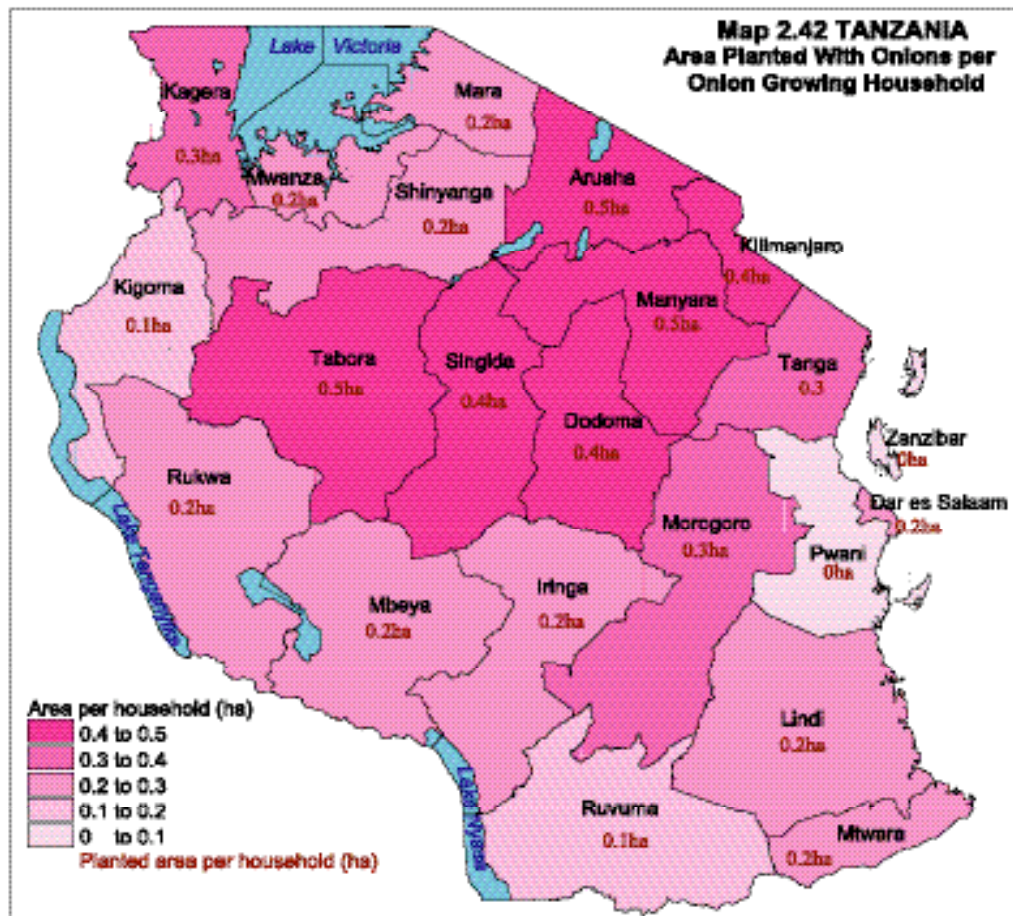
**Table 2.6 Area Planted and Quantity Harvested by Season and Type of Other Crops (Cash Crops)**

Crop	Season	Mainland			Zanzibar			Total		
		Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha	Area Planted (ha)	Quantity Harvested (t)	Yield t/ha
Seaweed	Short Season	173	187	1.08	1,377	2,698	1.96	1,550	2,885	1.86
	Long season	183	188	1.02	1,202	2,830	2.35	1,386	3,018	2.18
Cotton	Short season	110,154	66,383	0.60	0	0	0.00	110,154	66,383	0.60
	Long season	226,905	114,690	0.51	0	0	0.00	226,905	114,690	0.51
Tobacco	Short season	2,820	1,511	0.54	1	1	0.76	2,821	1,512	0.54
	Long season	54,586	47,770	0.88	31	18	0.58	54,617	47,788	0.87
Pyrethrum	Short season	280	218	0.78	0	0	0.00	280	218	0.78
	Long season	711	318	0.45	0	0	0.00	711	318	0.45
Other Cash Crops	Short season	0	0		0	0		0	0	
	Long season	32	25		0	0		32	25	
Total	Short season	113,427	68,298		1,378	2,699		114,805	70,997	
	Long season	282,418	162,991		1,233	2,848		283,651	165,839	
Grand Total		395,845	231,289		2,611	5,547		398,456	236,836	



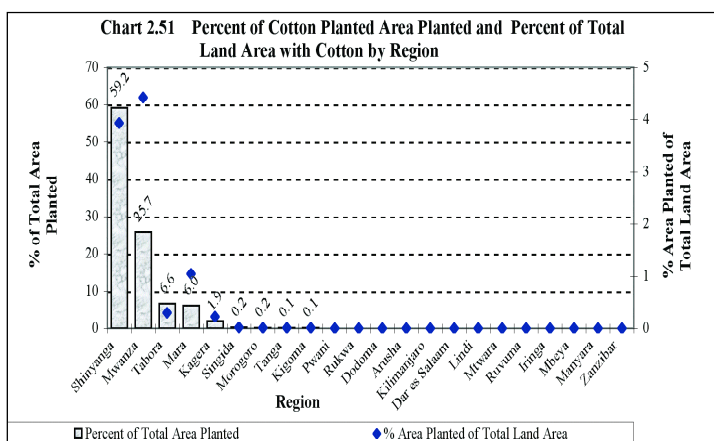






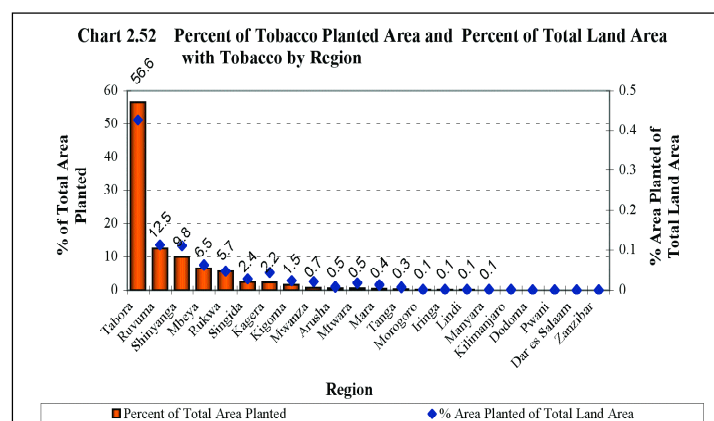
### Cotton

The quantity of cotton produced was 181,073 tonnes with 37 percent (66,383 t) of this being produced in the short rainy season. The total planted area for cotton was 337,059 ha and it was grown in only five regions with Shinyanga having the largest area planted (59.2%), followed by Mwanza (25.7%), Tabora (6.6%), Mara (6%) and a small amount in Kagera (Chart 2.51 and Map 2.43, 2.44 and 2.45).



### Tobacco

The quantity of tobacco produced was 49,300 tonnes. Tobacco had a planted area of 57,438 ha, most of which was planted in the long rainy season (54,617, 95%). Tobacco production is concentrated in 5 regions with Tabora having the largest percent of the area planted with this crop (56.6%), followed by Ruvuma (12.5%), Shinyanga (9.8%), Mbeya (6.5%) and Rukwa (5.7%). It is not grown in 50% of the regions of Tanzania (Chart 2.52, Maps 2.46, 2.47 and 2.48).



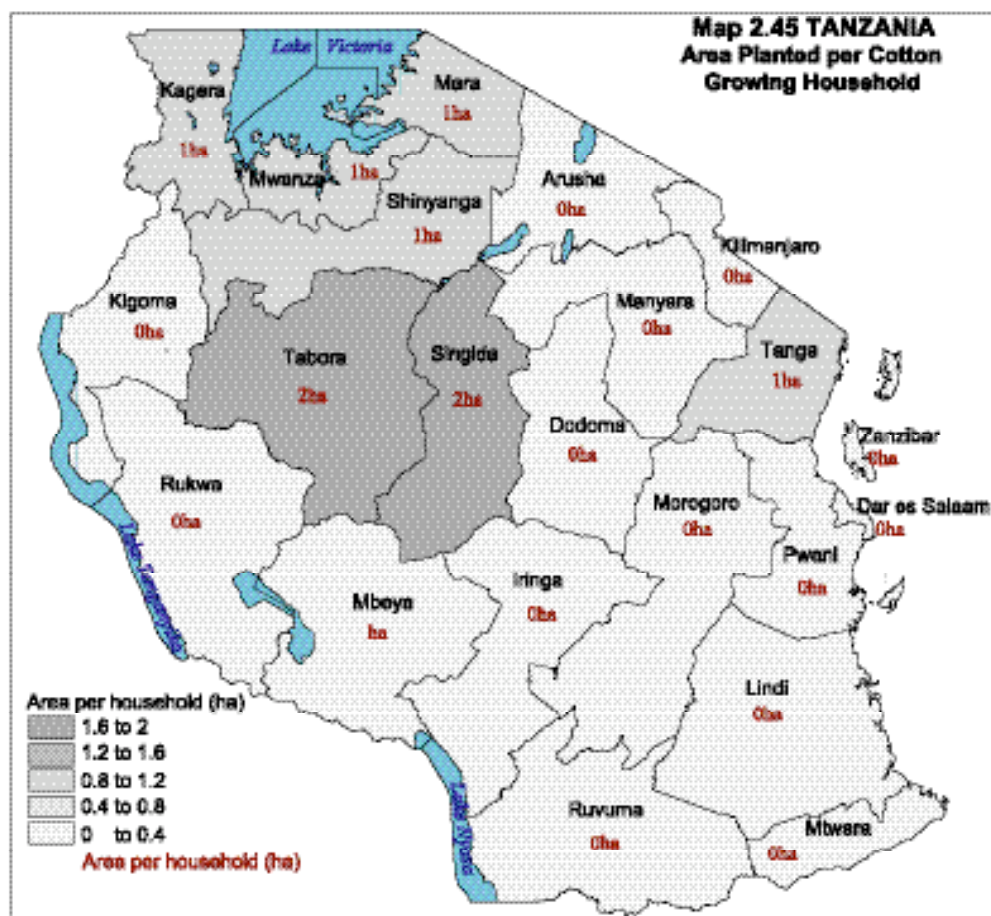
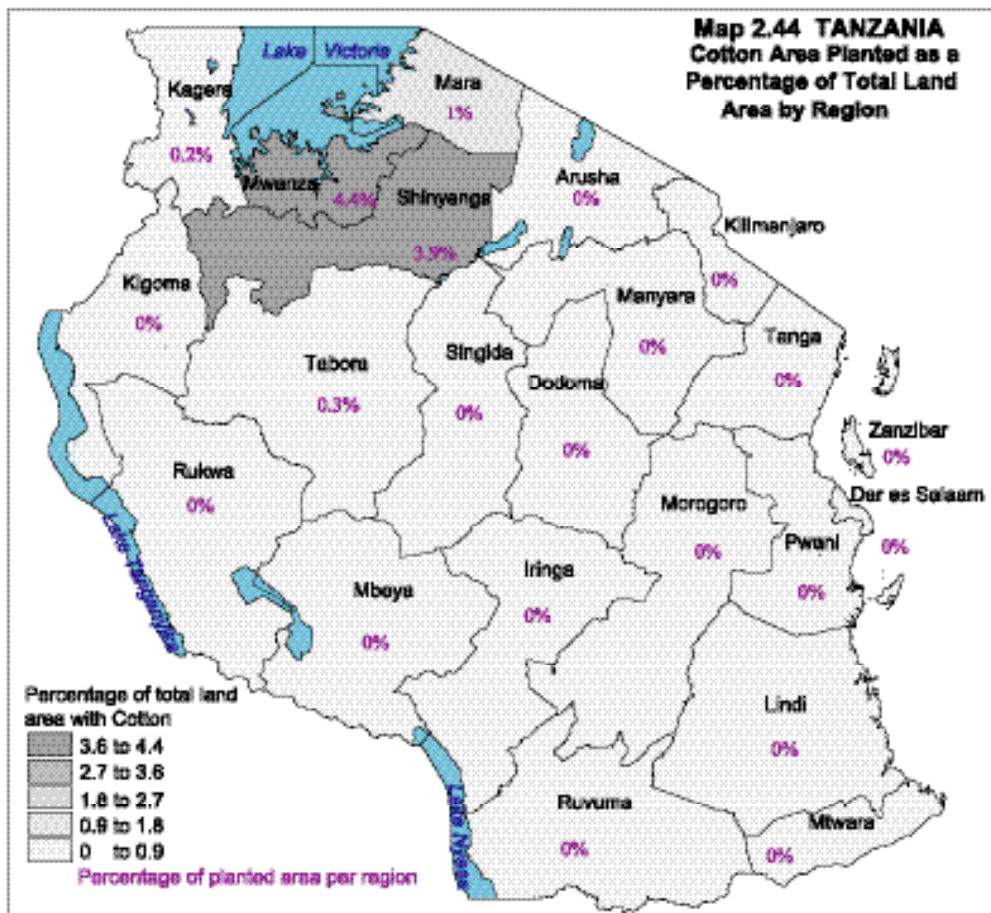
## 2.4 Perennial/Permanent Crops

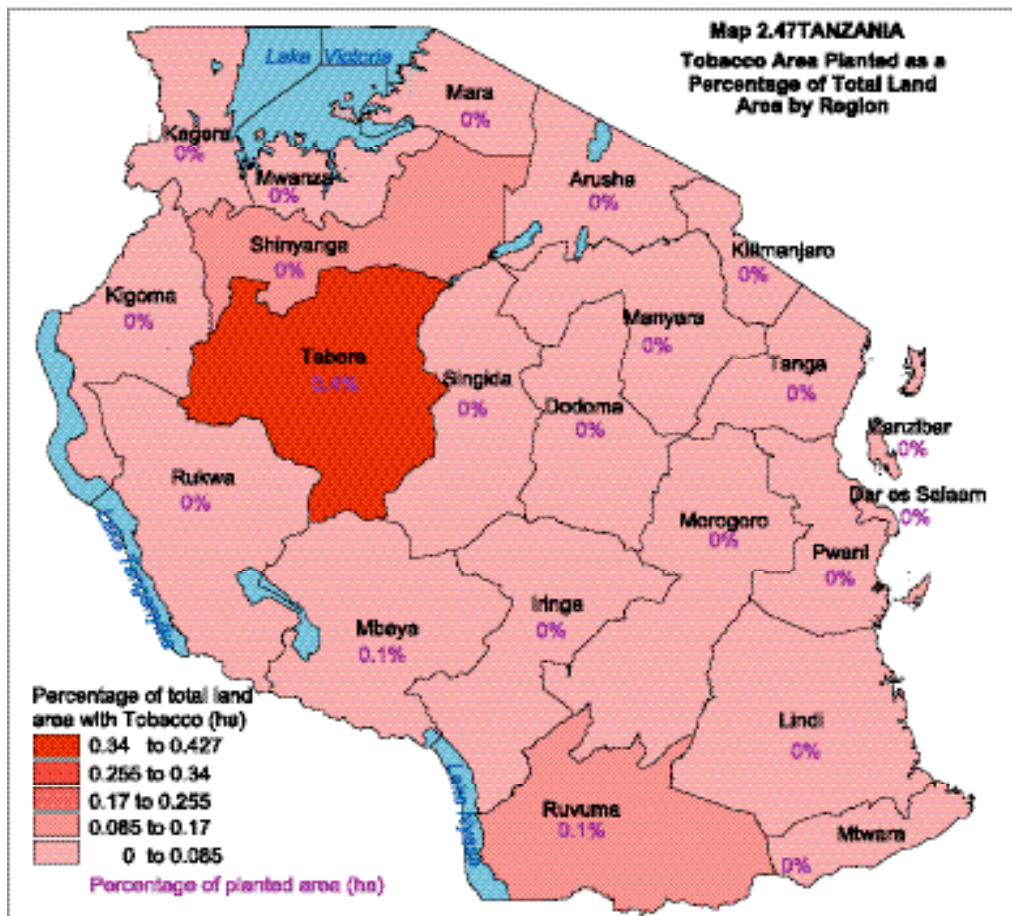
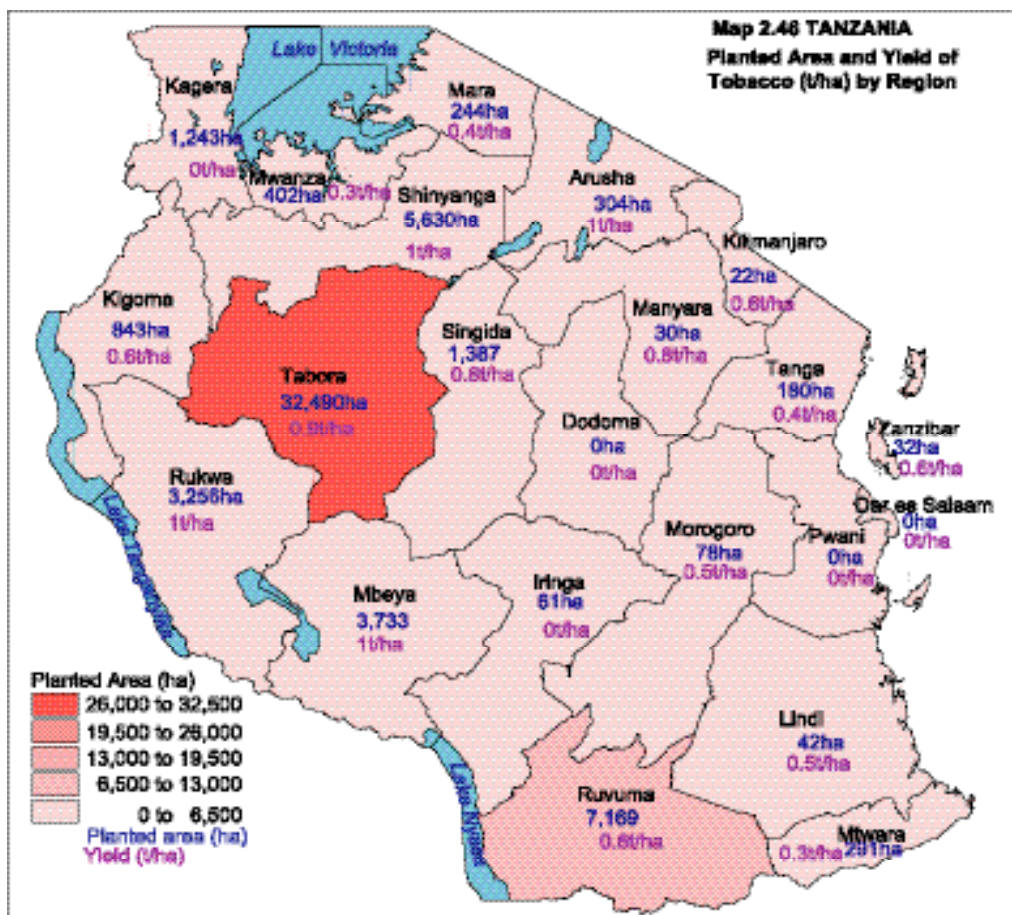
Perennial or permanent crops refer to crops that normally take over a year to mature and once mature can be harvest for a number of years. For most crops it is easy to determine if they are annual or permanent. However, for crops like cassava and bananas the distinction is not so clear. Cassava has varieties that mature within a year and produces only one harvest, whilst other varieties survive for more than one year and produces several harvests. In this census cassava was treated as an annual crop. Bananas normally take less than a year to mature and produce a harvest and survive for more than one year. Bananas are treated as permanent crops in the census. In this report the agriculture census results are presented for the most important permanent crops in terms of production, yield and area planted and they occupy 92 percent of the total area planted to permanent crops. Previous censuses and surveys do not provide sufficient details on these variables for permanent crops, therefore no time series analysis has been made in this section.

The number of smallholder households growing permanent crops is 2,456,101 (2,364,277 households on the Mainland and 91,824 in Zanzibar).

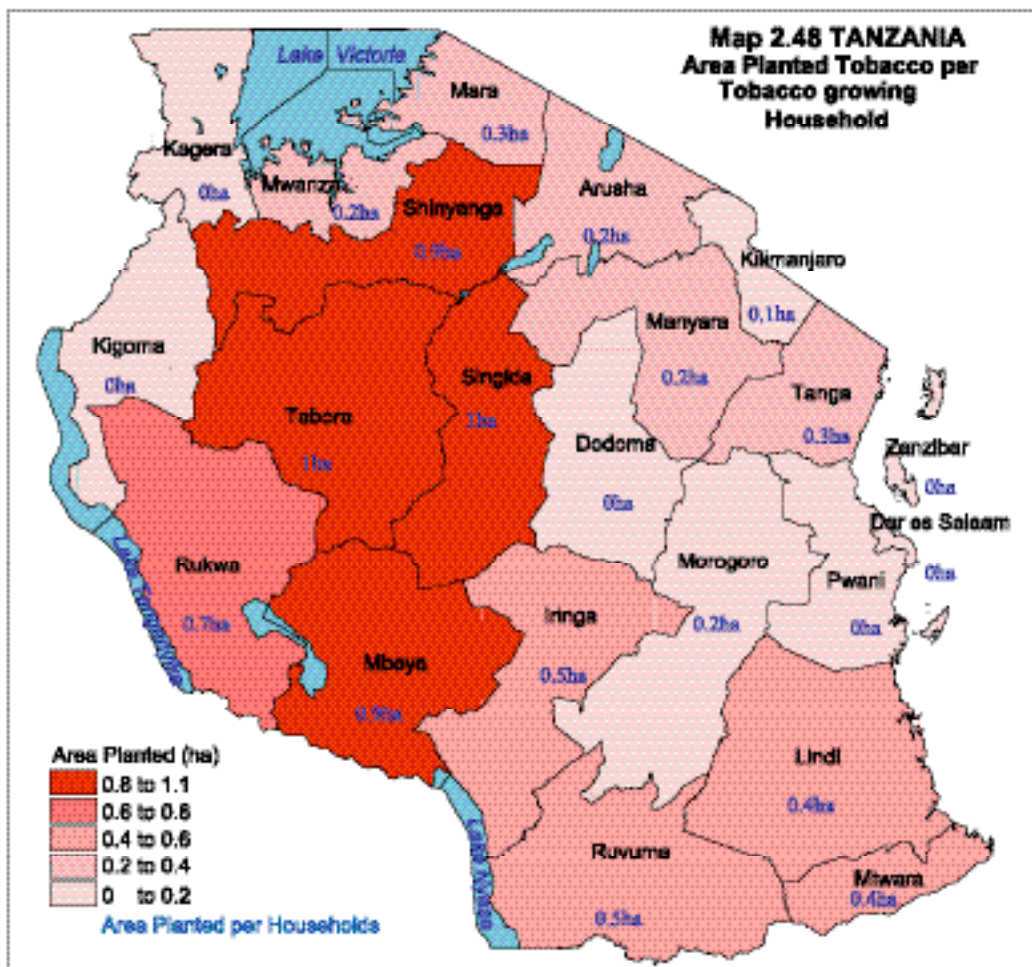
In terms of planted area, permanent crops are almost six times less important than annual crops for smallholders in Tanzania. However, the area planted with annual crops is not the actual physical land area as the annual planted area can include land which has been planted more than once during the year, whilst the planted area for permanent crops is the same as physical planted land area. Therefore, the percentage of land area planted with permanent crops is higher than indicated in Chart 2.53.



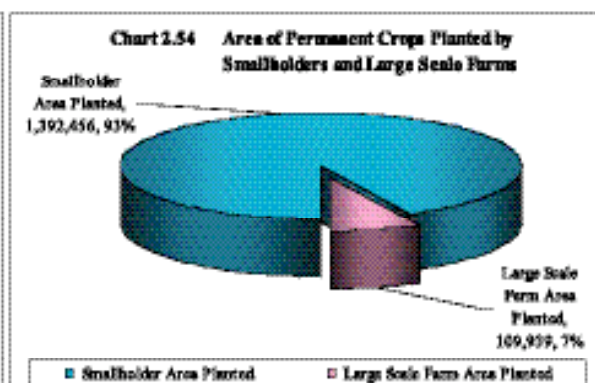
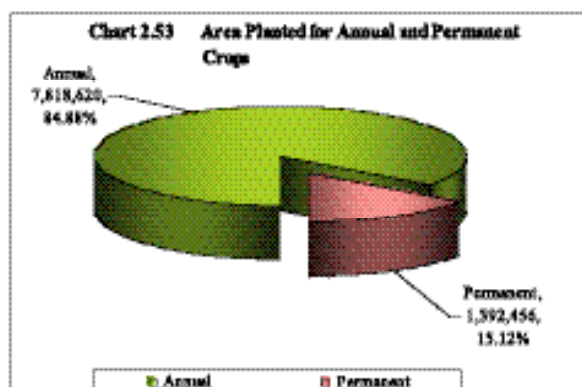








Permanent crop production is dominated by small holders (1,392,456 ha, 93%; 1,360,309 ha on the Mainland and 32,147 in Zanzibar) with large scale farms accounting for only 109,939 ha (7%) giving a total permanent crop planted area of 1,502,395 ha (Chart 2.54). This is not the case for all permanent crops with large scale farms having 97.9 percent of the



58.3 percent planted with tea.

Cashew nuts have a higher smallholder planted area (414,520 ha, 30% of the total area of permanent crops) than other permanent crops which is closely followed by bananas (319,676 ha, 23%). Taking into consideration the expected amount of old non productive cashew nut trees it is possible that bananas may be the most important permanent crop for smallholders. This is also supported by the higher harvested area for bananas. Coffee has the third highest planted area (180,649 ha, 13%) closely followed by mango (99,176 ha, 7%), pigeon peas (90,065 ha, 7%) and coconuts (68,313 ha, 5%) (Chart 2.55).

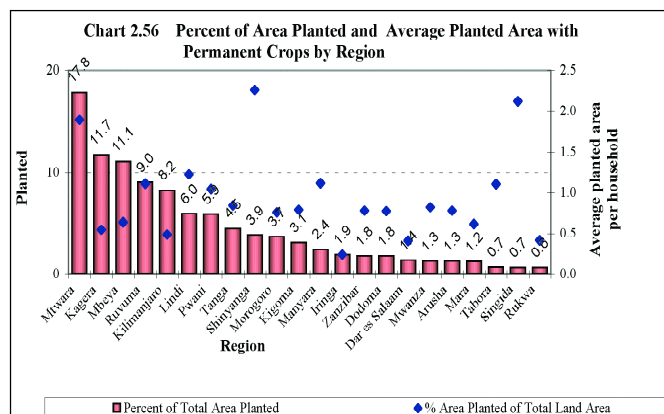
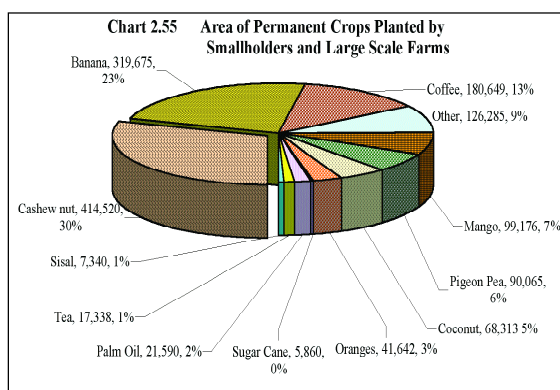


Chart 2.56 shows the combined planted area for main permanent crops only (refer to the crops in Chart 2.55) and the percentages in the following paragraph are based on the total planted area of these main crops.

Mtwara region has the largest area under smallholder permanent crops (247,188, 17.8%). This is followed by Kagera (162,395, 11.7%), Mbeya (153,578, 11.1%), Ruvuma (124,910, 9.0%), and Kilimanjaro (114,253, 8.2%). In terms of area of permanent crops planted per household Shinyanga has the largest area followed by Mtwara and Singida. However, in terms of area of permanent crops planted expressed as a percentage of the total land area per region Mtwara has the highest (15%) followed by Dar es Salaam (13%), Zanzibar (10%) and Kilimanjaro (9%).



Zanzibar's contribution to the total area planted with permanent crops represents 1.8 percent (Chart 2.56), but the area planted with cloves represents 84.7 percent of the total area planted with cloves in the country.

Table 2.7 presents the production information on some of the major permanent crops grown by smallholders in Tanzania. For all permanent crops, except bananas, the harvest area is used to calculate yield as it normally takes 3 or more years after planting before the crop starts producing. With bananas and annual crops the planted area is used to calculate yield. Production and yield data for each of the major crops is provided in the following sections.

**Table 2.7 Area Planted, Quantity Harvested and Yield by Season and Type of Permanent Crop**

Crop	Area Planted (ha)	Area Harvested (ha)	Quantity Harvested (t)	Yield t/ha
Cashew nut	414,520	258,337	183,419	0.7
Bananas	319,676	319,676	2,205,673	6.9
Coffee	180,649	136,894	61,602	0.4
Mango	99,176	31,888	336,028	10.5
Pigeon Pea	90,065	59,454	26,615	0.4
Cocunut	68,313	38,122	102,458	2.7
Oranges	41,643	21,707	186,695	8.6
Sugar cane	21,591	20,567	404,694	19.7
Palm Oil	17,338	15,757	51,109	3.2
Other	139,485			
<b>Total</b>	<b>1,392,456</b>	<b>864,672</b>		

**Table 2.8 Area Planted, Quantity Harvested and Yield by Type of Permanent Crop**

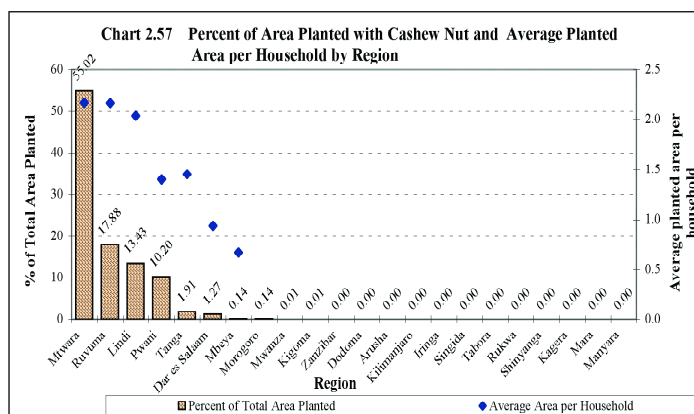
Crop	Mainland only		Zanzibar		Total Small Scale		Large Scale Farm		Total Planted Area for Tanzania
	Number of households	Total area planted	Number of households	Total area planted	Number of households	Total area planted	Households/farms	Total area planted	
Cashew nut	195,435	414,518	28	134	207,287	414,518	65	6,589	421,108
Bananas	527,305	306,103	56,917	13,573	576,241	319,676	141	1,001	320,677
Coffee	339,208	180,649	0	0	315,181	180,649	164	12,749	193,398
Cocunut	68,220	61,563	22,012	6,750	82,700	68,313	93	5,181	73,494
Mango	189,841	97,442	12,819	1,734	92,479	99,176	110	1,638	100,814
Oranges	83,442	39,930	10,384	1,712	53,697	41,643	122	1,330	42,972
Palm Oil	31,955	17,338	0	0	27,934	17,338	40	2,809	20,147
Sisal	1,472	5,861	0	0	458	5,861	40	35,031	40,892
Sugar Cane	172,202	21,262	975	329	34,142	21,591	57	17,351	38,942
Tea	3,563	7,340	0	0	14,781	7,340	34	10,282	17,622
Pigeon pea	103,513	89,274	1,000	792	140,014	90,065	8	256	90,321
Other		119,028		7,257		106,014		15,723	142,008
<b>Total</b>		<b>1,360,309</b>		<b>32,147</b>		<b>1,392,456</b>		<b>109,939</b>	<b>1,502,395</b>

#### 2.4.1 Cashew Nuts

The total production of cashew nuts by smallholders was 183,419 tonnes representing over 99 percent of cashew nut production in the country. In terms of area planted, cashew nut is the most important permanent crop grown by smallholders in Tanzania. It is grown by 269,500 households (5.5% of the total crop growing households). The average area planted with cashew nuts per cashew nut growing household is relatively high at around 1.4 ha and the average yield obtained by smallholders is 0.71 t/ha from a harvest area of 258,337 ha. Of the total planted area of cashew nuts in the country only 1% percent is by large scale farms.

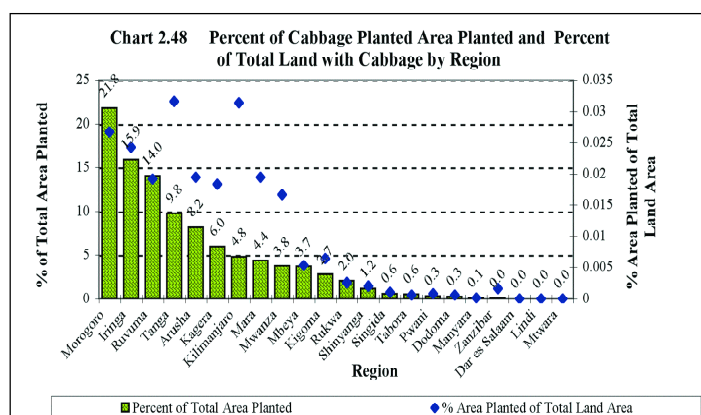
Cashew nuts are only produced in the dryer areas of the five coastal regions (Lindi, Pwani, Tanga, Dar es Salaam and Mtwara) and the southern region of Ruvuma. Mtwara has the largest planted area (228,078 ha, 55%).

Ruvuma, the region with the second largest planted area of cashew nuts has about one third of that of Mtwara (74,124 ha, 18%). This is followed by Lindi (55,683 ha, 13%) and Pwani (42,263, 10%). Tanga and Dar es Salaam have planted areas that are less than 10 percent of the total (Chart 2.57). The rest of the regions have very small quantities of cashew nuts or do not produce any at all (Chart 2.57 and Maps 2.49, 2.50 and 2.51)



## 2.4.2 Bananas

The total production of bananas by smallholders was 2,205,673 tonnes. It is grown by 576,241 households which represent 12 percent of the total crop growing households and in terms of area planted, bananas are the second most important permanent crop grown by smallholders in Tanzania. The average area planted with bananas per banana growing household was 0.6 ha/household and the average yield obtained by smallholders was 6.9t/ha from a harvest area of 319,676 ha.

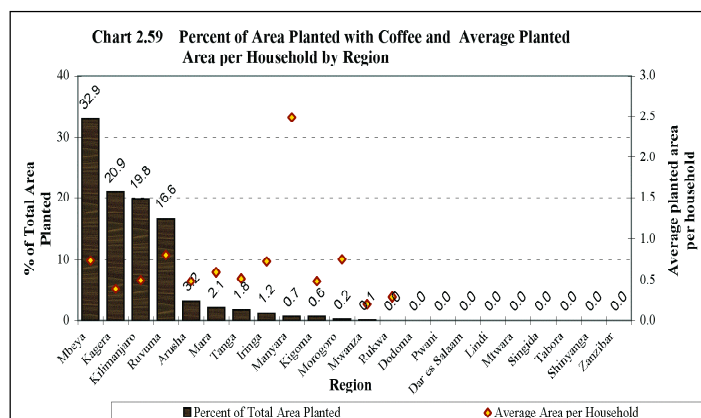


Bananas are grown almost everywhere in Tanzania, with the main producing areas in the high rainfall regions of Kagera (107,042 ha, 33%), Kilimanjaro (56,463 ha, 18%), Mbeya (52,715, 16%) and to a lesser extent Kigoma (20,503 ha, 6%). These regions account for 77.6 percent of the total area planted with bananas. All other regions produce small quantities with Lindi, Mtwara, Dar es Salaam and Dodoma producing very little (Chart 2.58, Maps 2.52, 2.53 and 2.54).

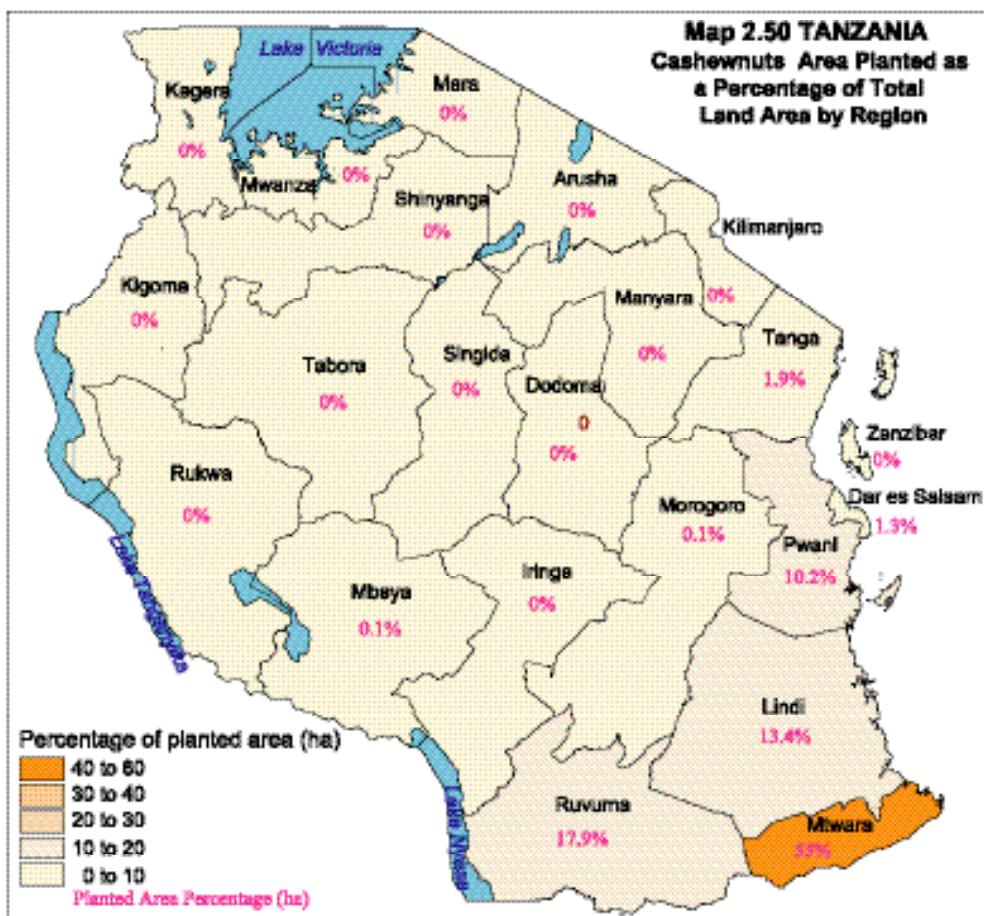
## 2.4.3 Coffee

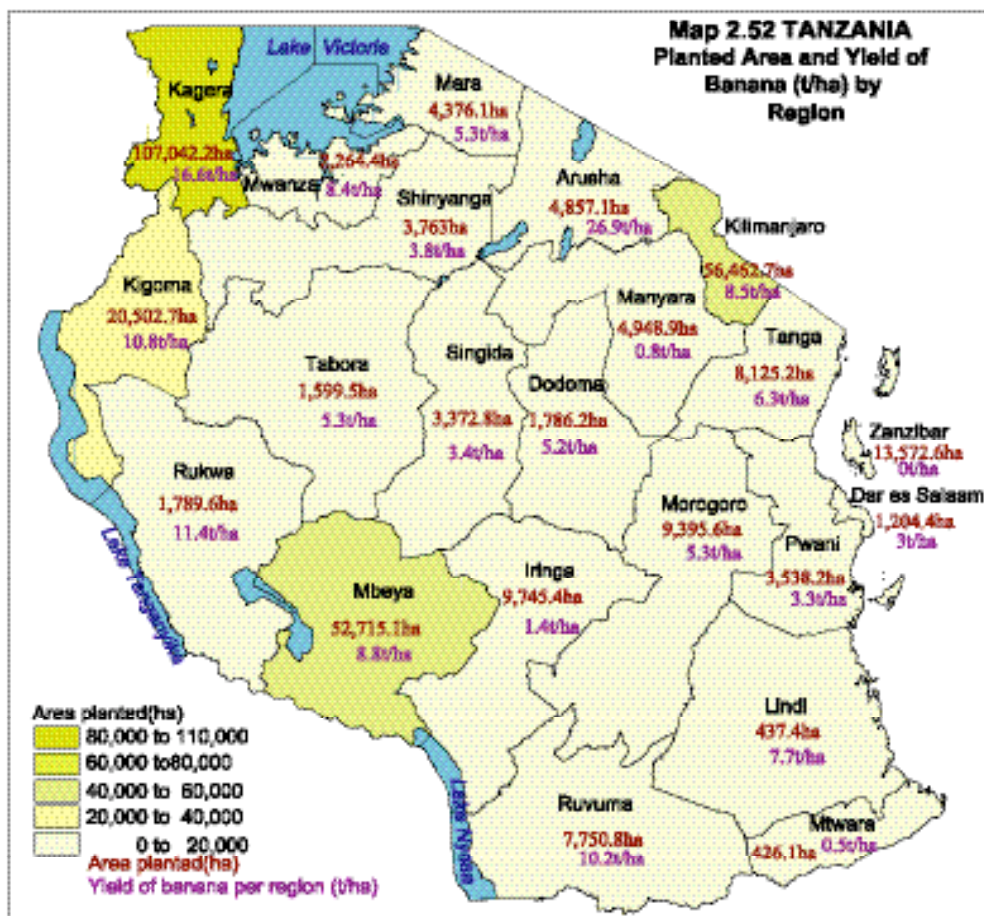
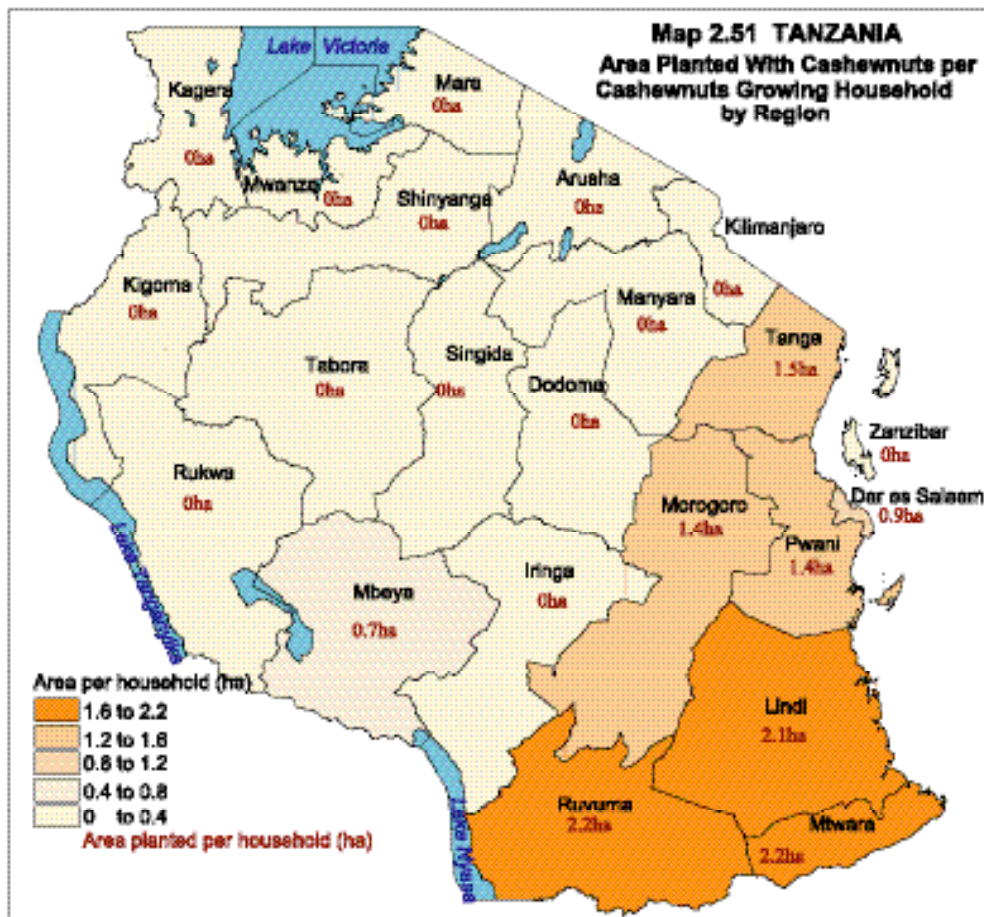
The total production of coffee by smallholders was 61,602 tonnes and is grown by 425,162 households which represents 3.7 percent of the total crop growing households and in terms of area planted, it is the third most important permanent crop grown by smallholders in Tanzania. The average area planted with coffee per coffee growing household was 0.42 ha per household and the average yield obtained by smallholders was 0.45 t/ha from a harvested area of 136,894 ha.

Coffee is mostly produced in 4 regions. Mbeya has the largest area planted with coffee (59,460 ha, 33%). This is followed by Kagera (37,759 ha, 21%), Kilimanjaro (35,808 ha, 20%) and Ruvuma (29,961 ha, 17%), which represents 91 percent of the total area planted with coffee.

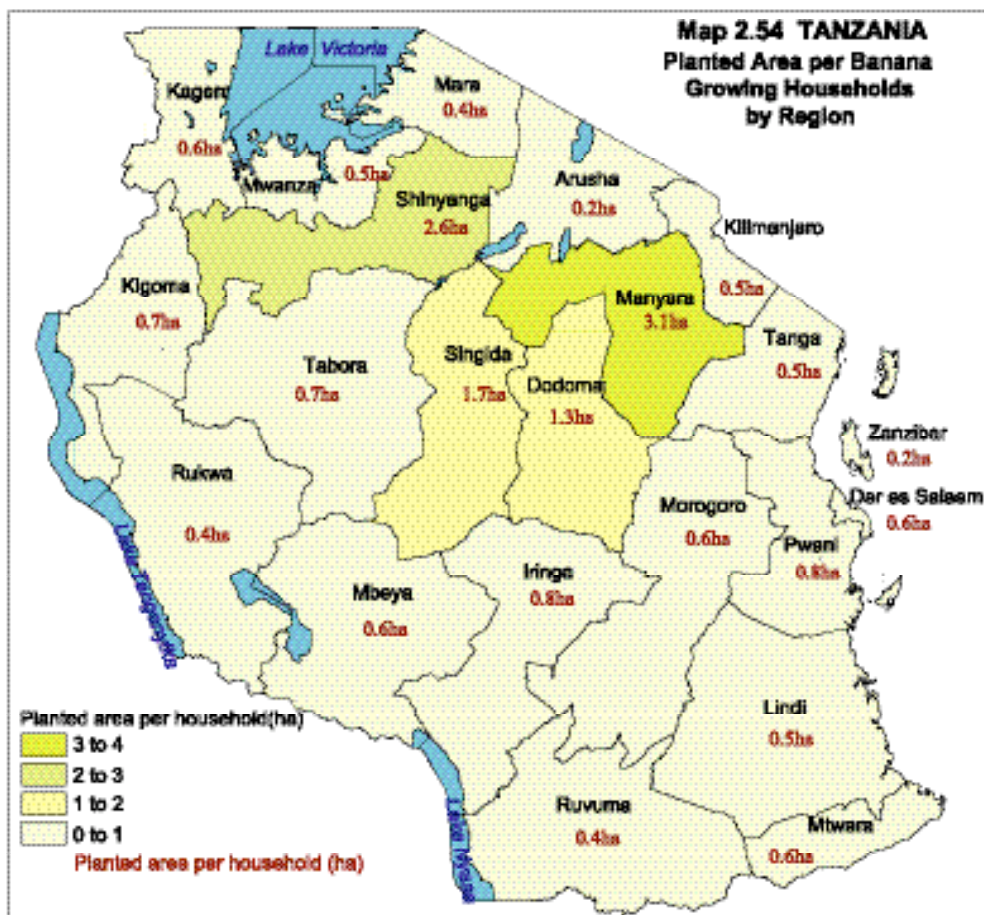
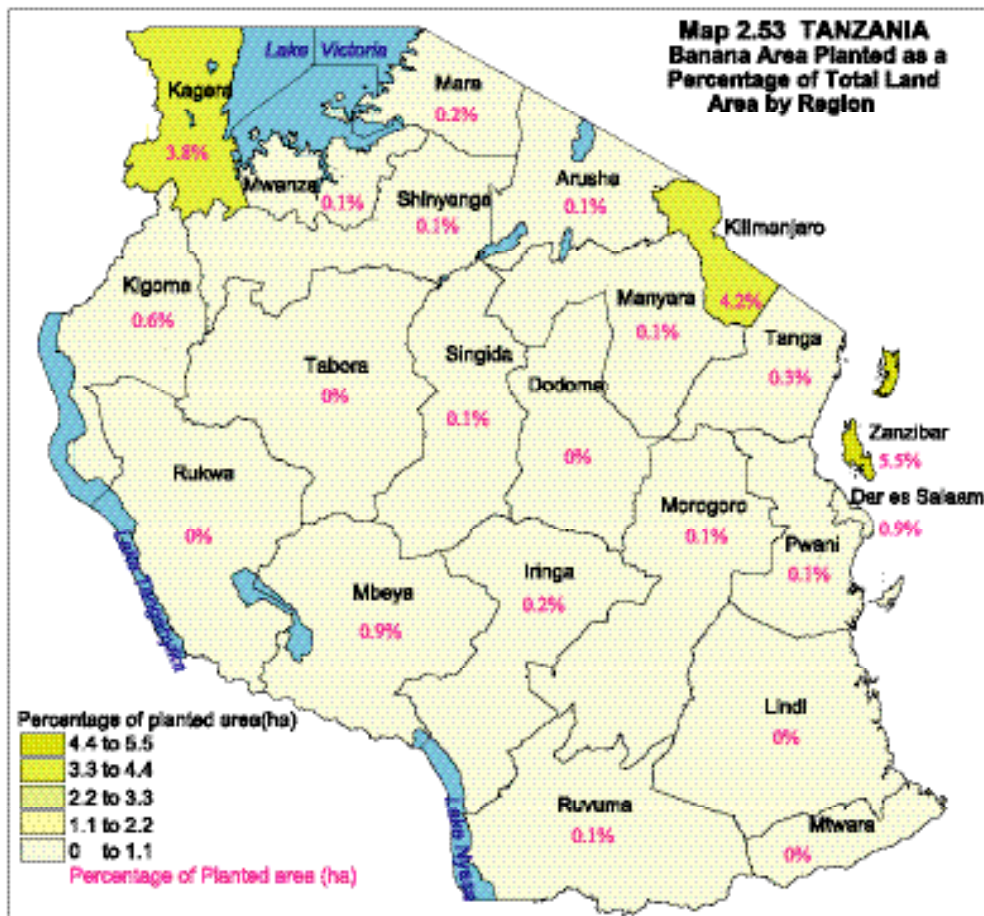












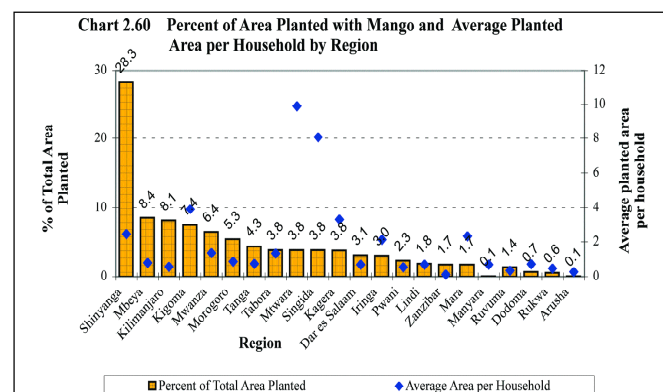
The remaining 9 percent is grown by seven regions and the other 11 regions do not produce coffee (Chart 2.59 Maps 2.55, 2.56 and 2.57).

Chart 2.97 shows that the largest planted area per household is in Manyara region, however, due to the small quantity planted in this region coupled with the weighting factor this figure should be treated with caution.

#### 2.4.4 Mango

The total production of mangoes by smallholders on the Mainland was 336,028 tonnes and are grown by 212,231 households which represent 4.4 percent of the total crop growing households and in terms of area planted, it is the 5th most important permanent crop grown by smallholders (with a planted area of 97,442 ha on the Mainland). The average area planted with mangoes per mango growing household was 1.0 ha per household. The estimate for yield is on the high side, indicating either an overestimation of production or an underestimation of harvested area and further investigation of the data is required in order to come up with plausible estimates. Of the total planted area of mangoes in the country, only 1.6 percent is by large scale farms. In Zanzibar 1,731 hectares of mangoes were grown.

Mangoes are produced by smallholders in almost every region of the country. Shinyanga region has the largest area planted with mangoes (28,065 ha or 28.3% of the total area planted with mangoes by smallholders) and the region produces about three times more than Mbeya, the next highest producing region with a planted area of 8,359 ha, (8.4%) followed by Kilimanjaro (8,045 ha, 8.1%), Kigoma (7,376 ha, 7.4%), Mwanza (6,358 ha, 6.4%), Morogoro (5,302 ha, 5.3%) and Tanga (4,268 ha, 4.3%). All the remaining regions have less than 4 percent each. Arusha, Manyara, Rukwa, Dodoma and Ruvuma have the smallest area planted with mangoes (Chart 2.60 and Maps 2.58, 2.59 and 2.60).

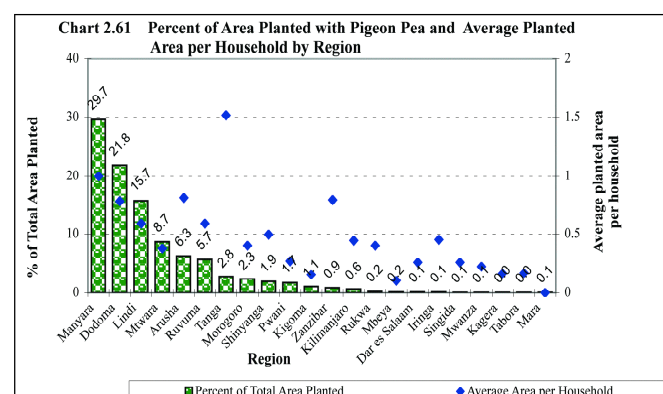


#### 2.4.5 Pigeon Peas

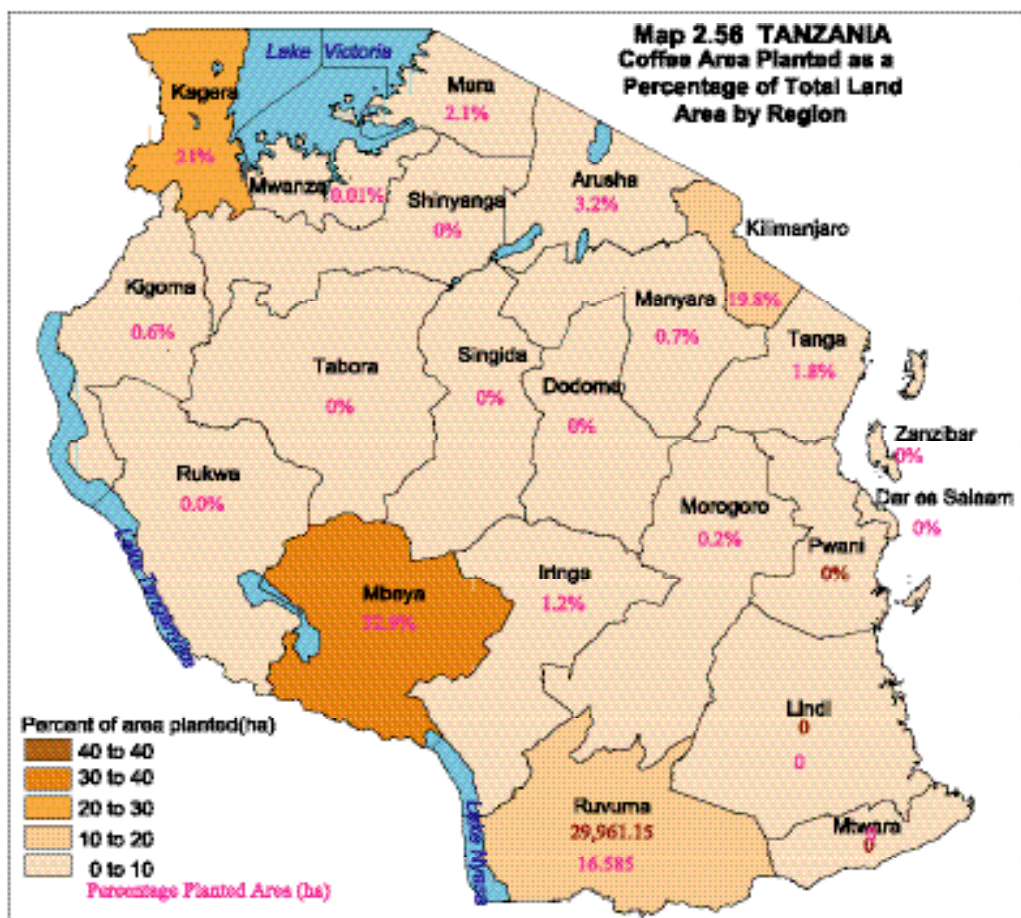
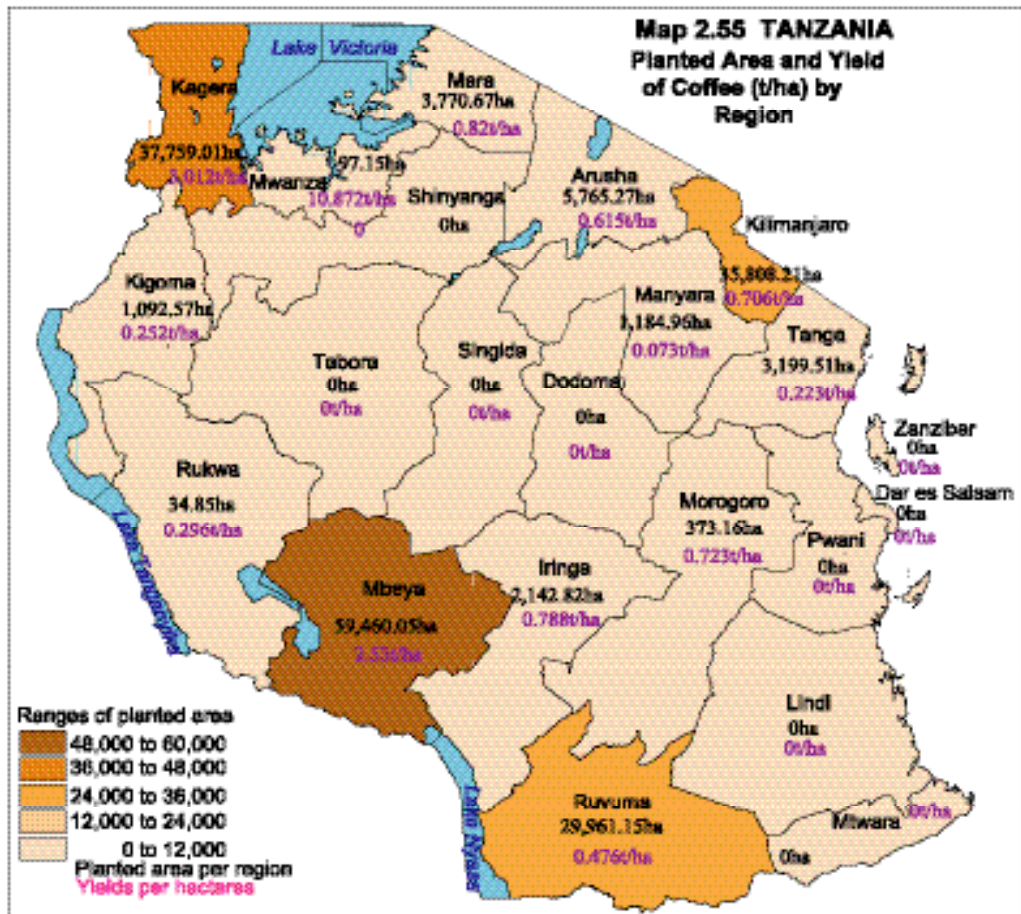
The total production of pigeon peas by smallholders was 26,615 tonnes, from a harvested area of 69,454 ha resulting in a 0.38 t/ha yield. Pigeon peas are grown by 140,014 households having an average of 0.6 hectares per pigeon pea producing household. Very small amounts of pigeon pea are grown in large scale farms.

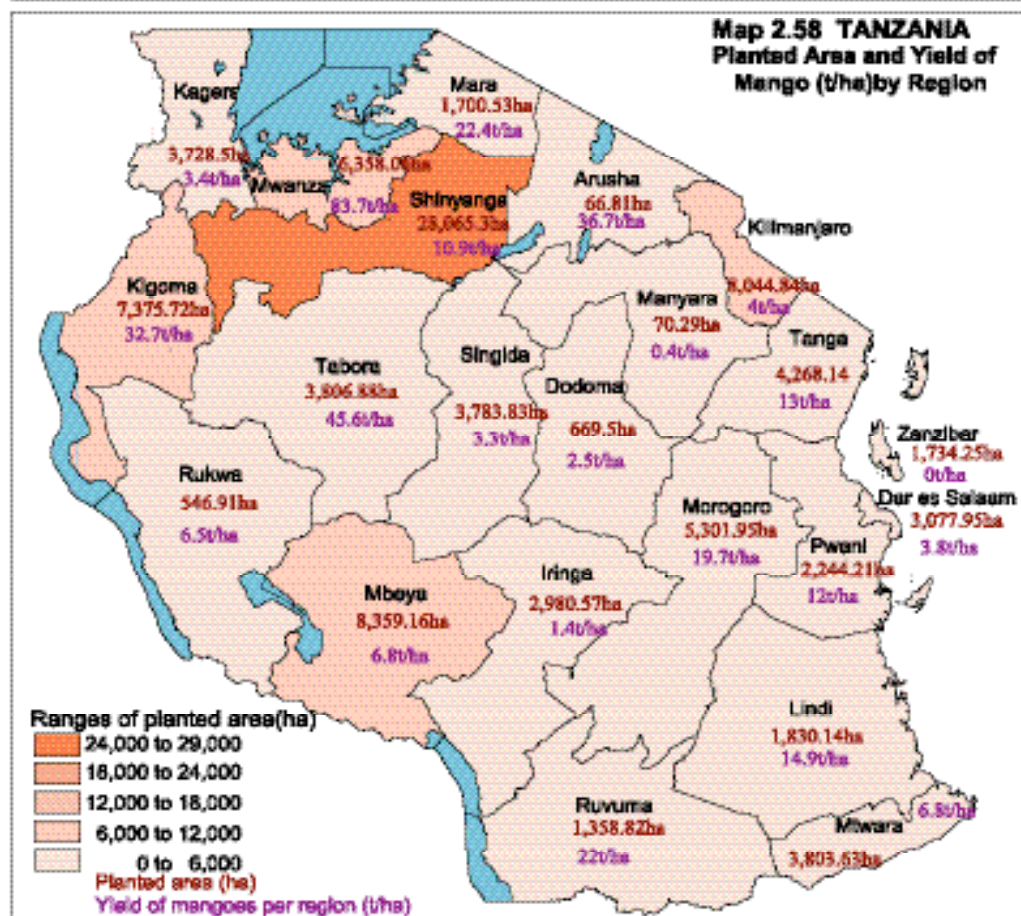
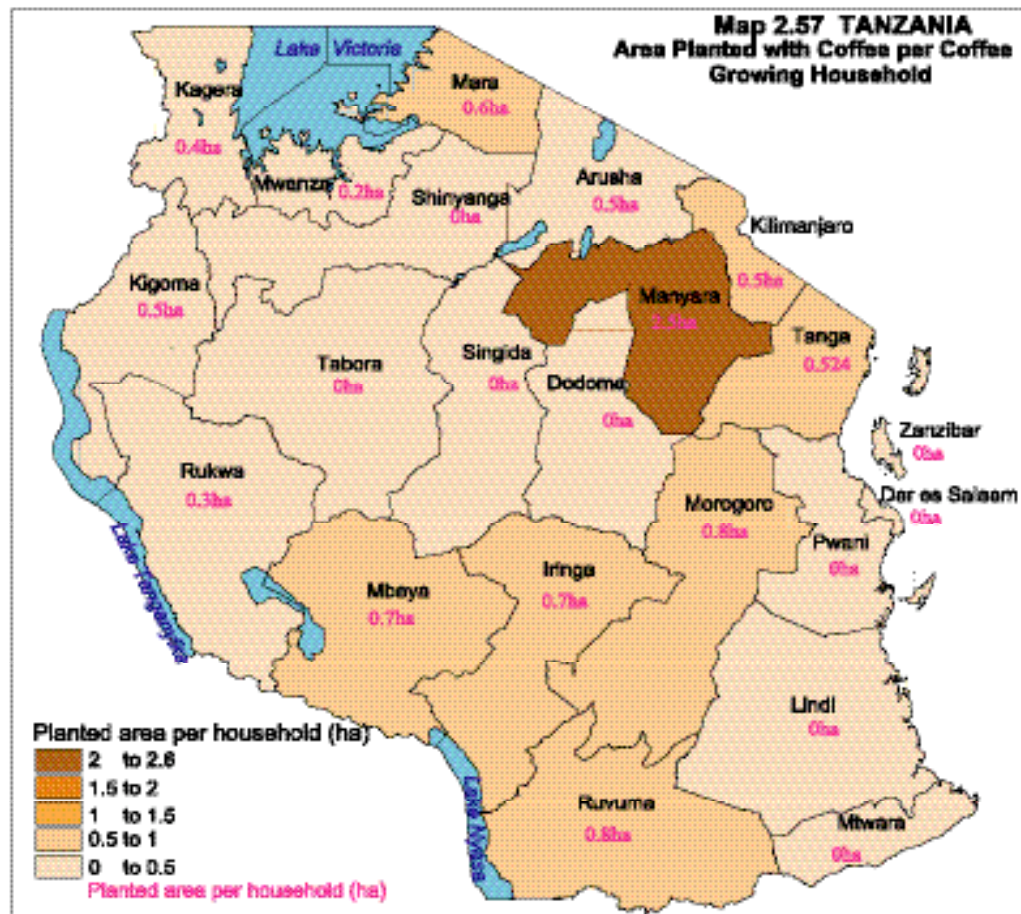
Pigeon pea production is mostly concentrated in the

Eastern part of the country with Manyara having the highest percentage of the area planted with pigeon pea (26,755 ha, 30% of the total area planted with pigeon peas), followed by Dodoma (19,678 ha, 21.8%), Lindi (14,142 ha, 15.7%) and Mtwara (7,841 ha, 8.7%). Other less important regions are Arusha (5,674 ha, 6.3%) and Ruvuma (5,159 ha, 5.7%). Each of the remaining regions have less than 5 percent of the total area planted with pigeon peas. Practically no pigeon peas are grown in Mara, Tabora, Kagera, Mwanza, and Singida regions (Chart 2.6,1 Maps 2.61, 2.62 and 2.63).

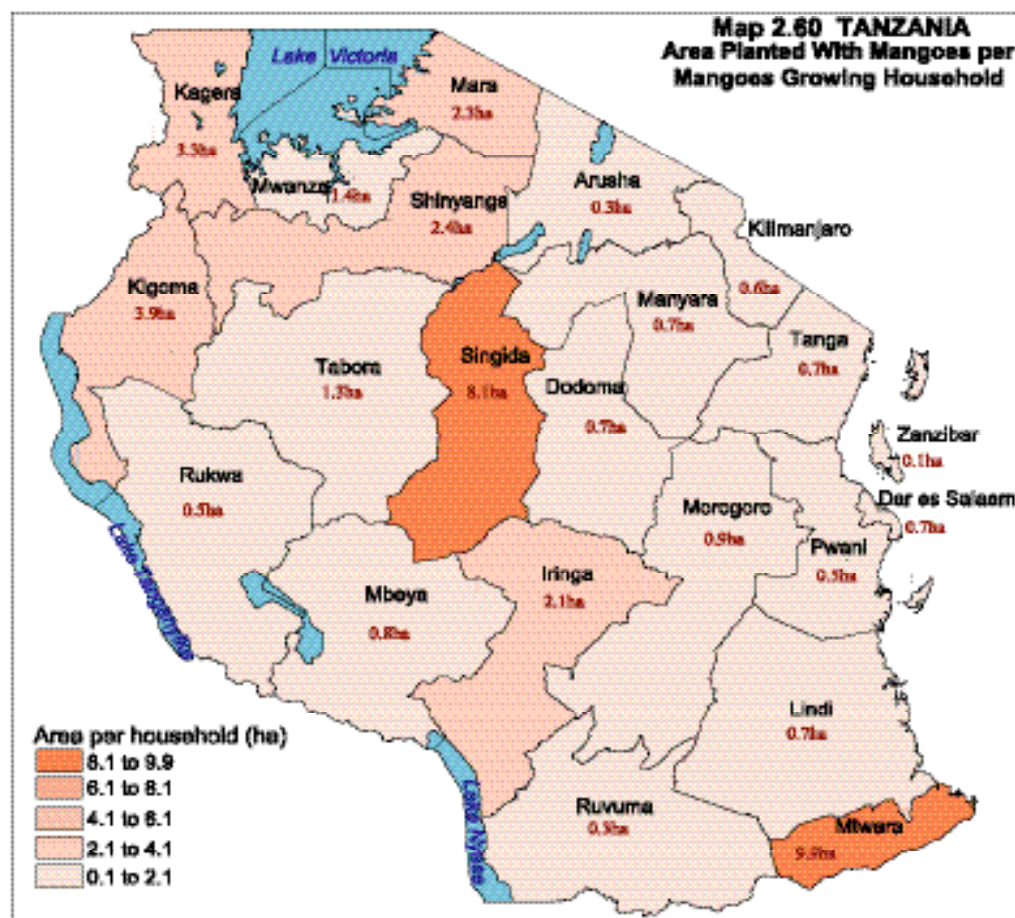
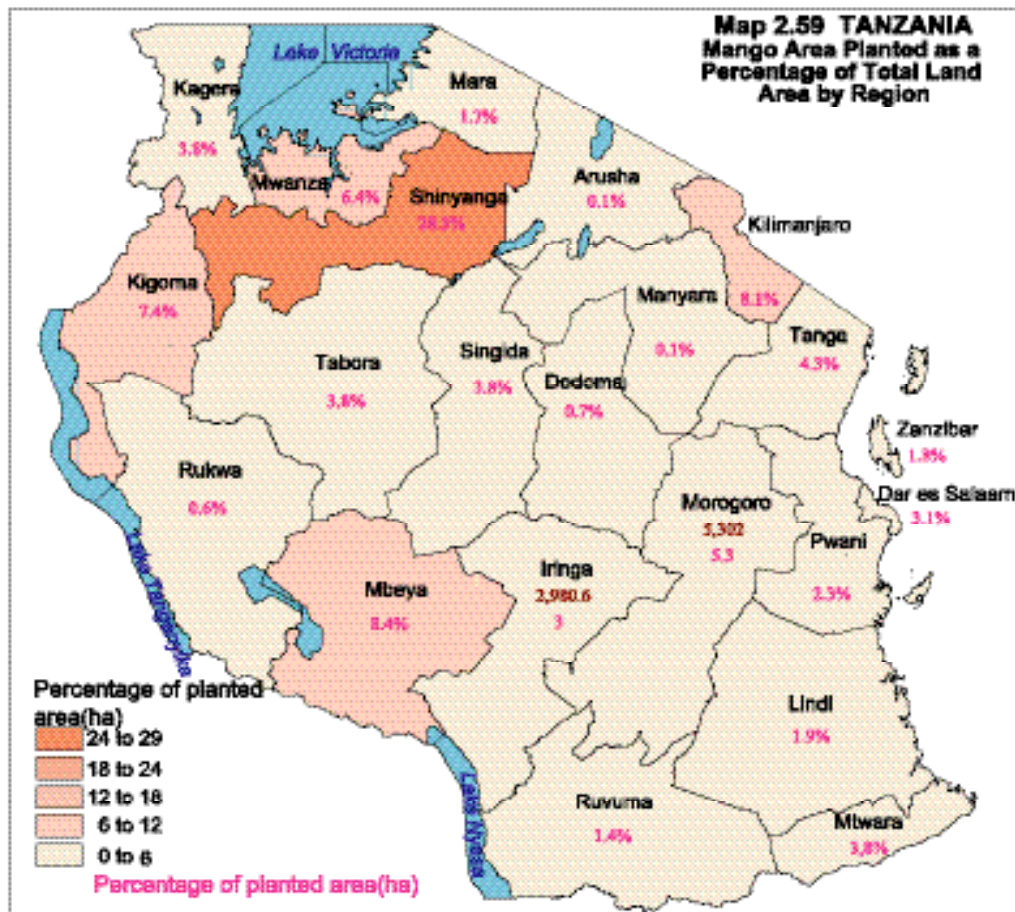


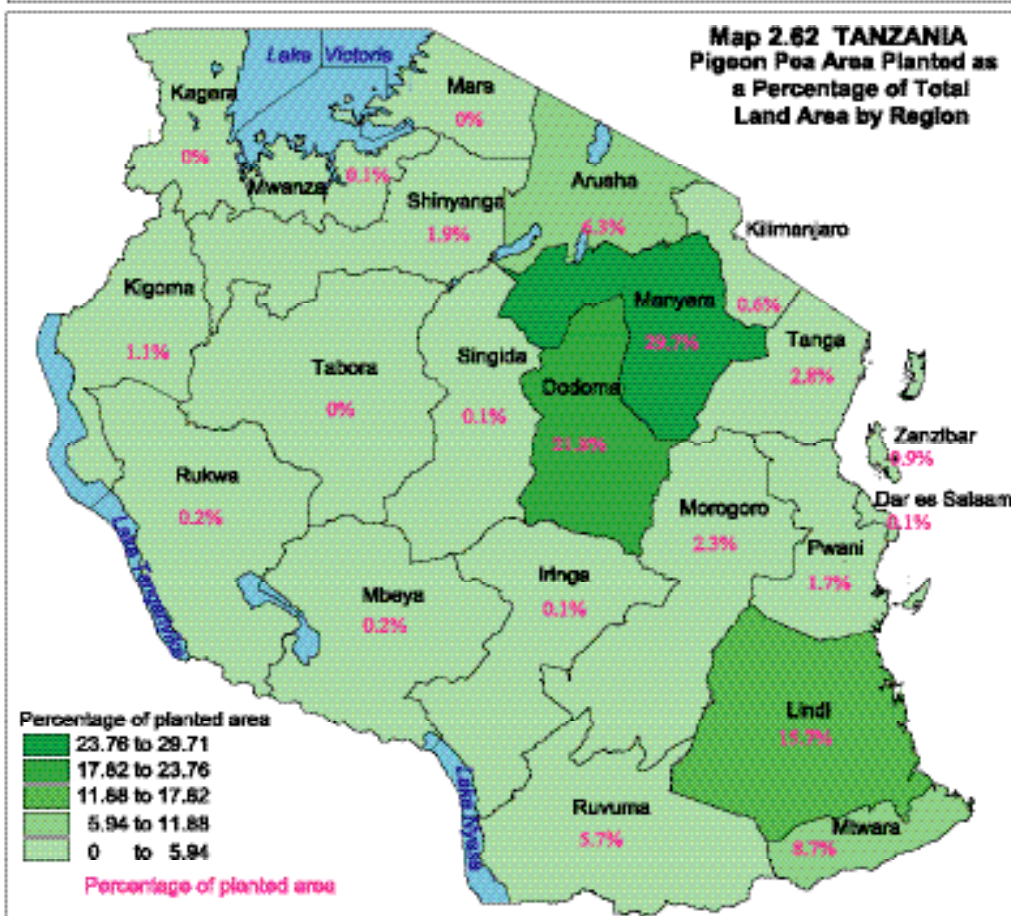
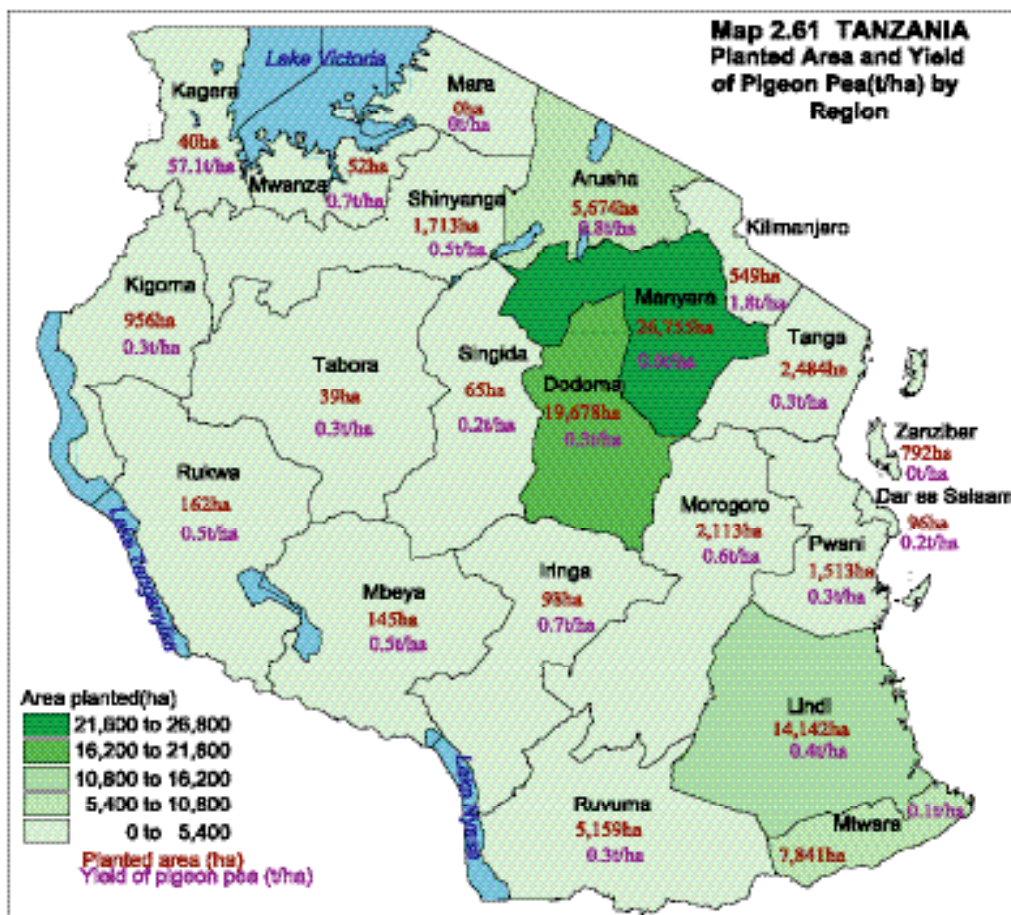




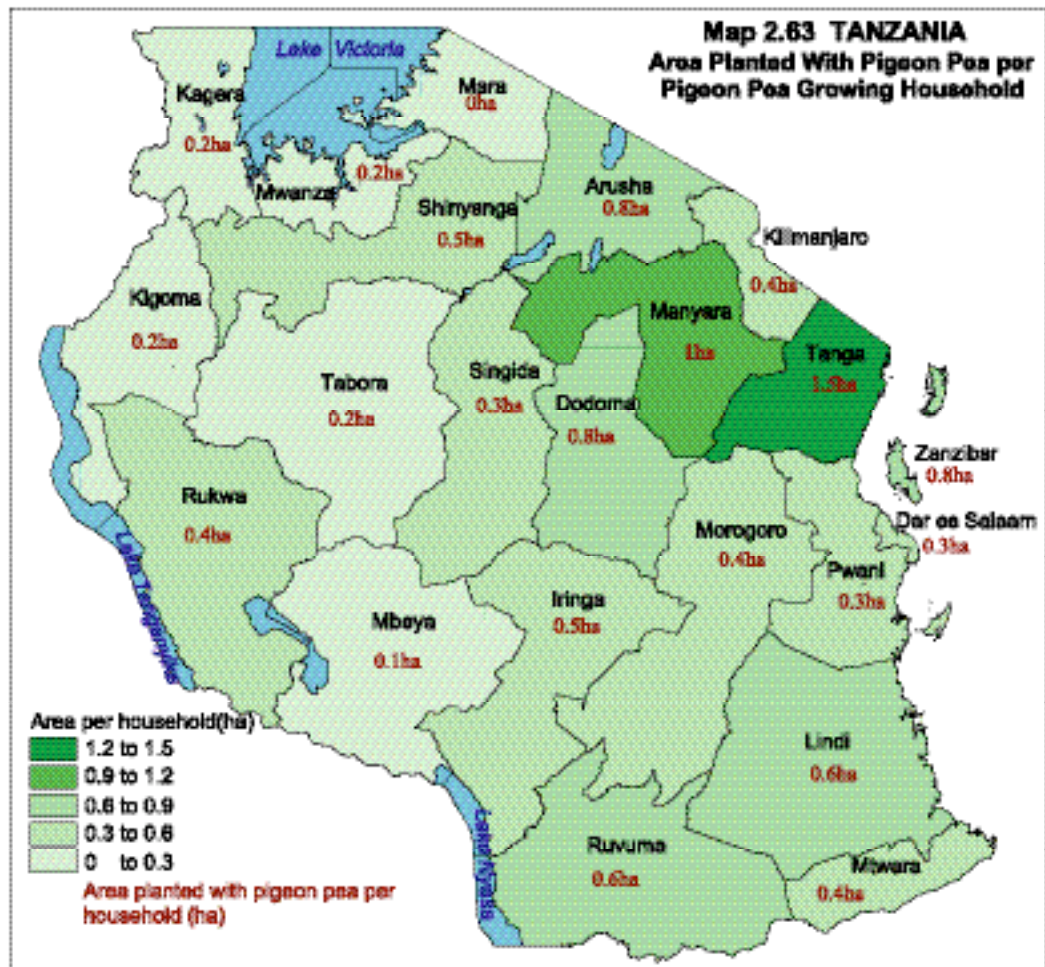








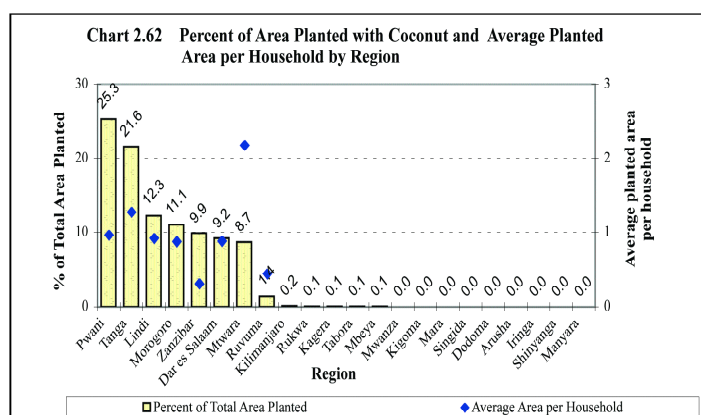




### 2.4.6 Coconuts

The total production of coconut by smallholders on the Mainland was 102,458 tonnes, with a harvested area of 38,122 ha resulting in a 2.69 t/ha yield. Coconuts are grown by 94,172 smallholder households resulting in an average of 0.4 hectares per coconut producing household. Of the total planted area of coconuts on the Mainland is 68,313 ha. Only 7 percent are by large scale farms.

Coconut production is mostly concentrated in the East of the country with Pwani having the largest proportion of the area planted with coconuts (17,300 ha, 25.3% of the total area planted with coconut) and Tanga (14,765 ha, 21.6%). These are followed by Lindi (8,381 ha, 12.3%), Morogoro (7,550 ha, 11.1%), Zanzibar (6,750 ha, 9.9%), Dar es Salaam (6,289 ha, 9.2%) and Mtwara (5,947 ha, 8.7%). The remaining regions have either very little coconuts or none at all (Chart 2.62, Maps 2.64, 2.65 and 2.66).



### 2.4.7 Oranges

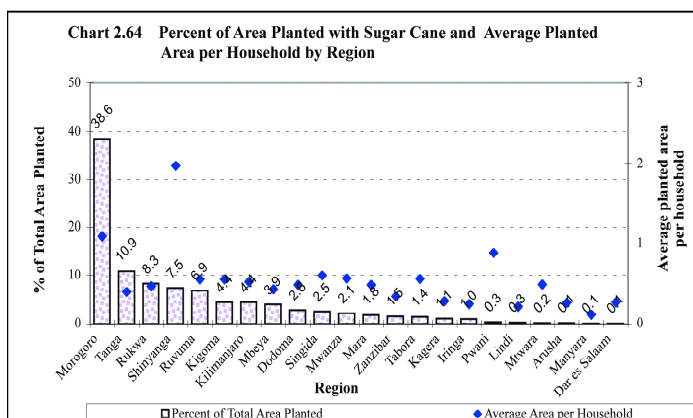
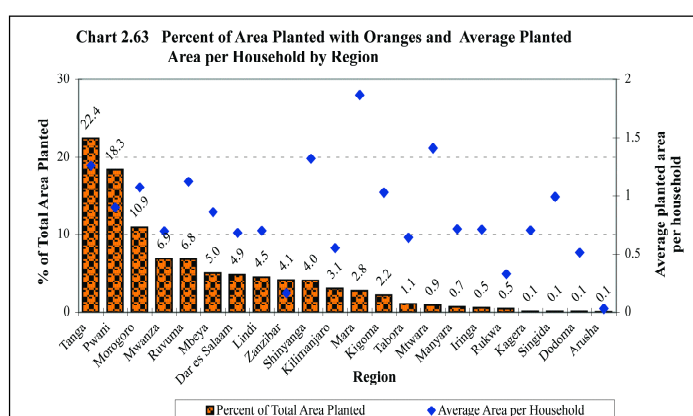
The total production of oranges by smallholders in Tanzania was 194,978 tonnes, with a harvested area of 23,062 ha resulting in a 8.5 t/ha yield. The total planted area of oranges is 41,643 ha and are grown by 109,413 households giving an average of 0.4 ha per orange producing household. Of the total planted area of oranges in the country only 0.2 percent are by large scale farms.

Orange production is largely concentrated in the in North East Coast, with Tanga (9,342 ha, 22% of the total area planted with oranges) and Pwani (7,635 ha, 18%) having the largest planted area. This is followed by Morogoro (4,549 ha, 11%) and Mwanza (2,855 ha, 7%) and Ruvuma (2,827 ha, 7%). (Chart 2.63, Maps 2.67, 2.68 and 2.69).

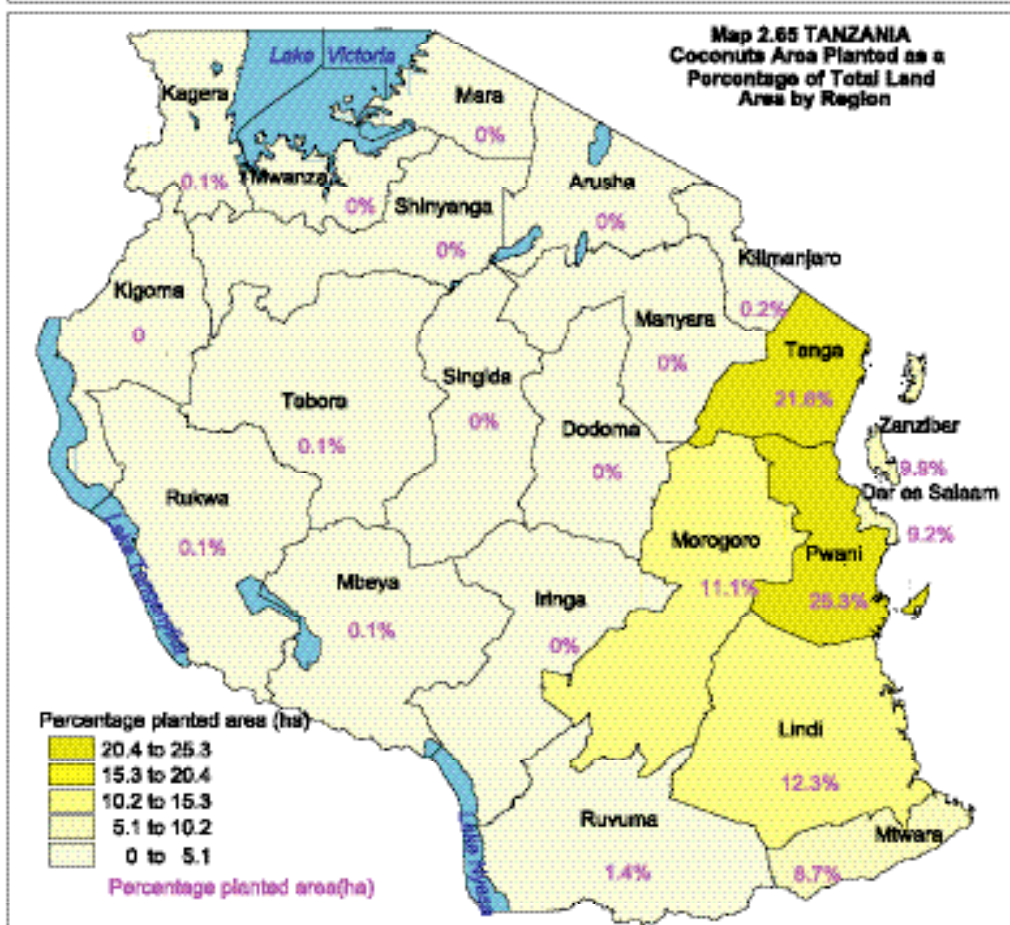
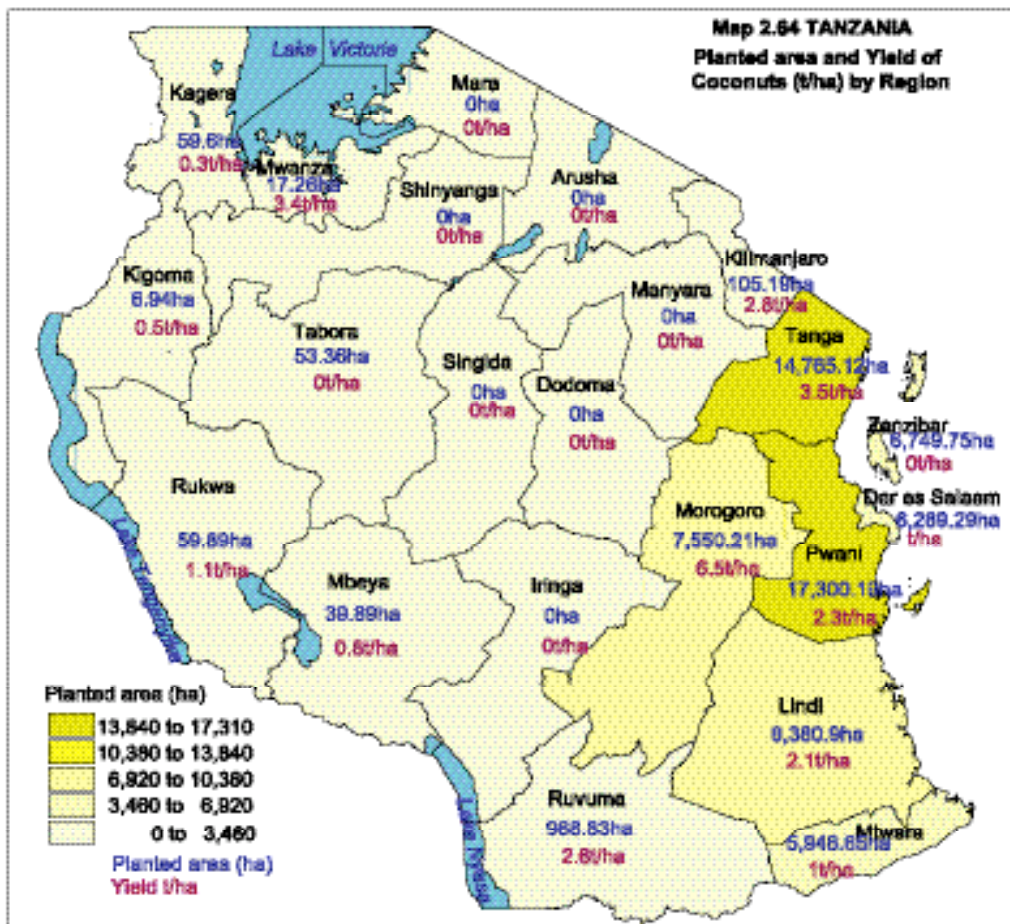
Considering the small land area of Dar es Salaam and Zanzibar, they have the largest percent of area planted with oranges per kilometre square (1.45% and 0.70% respectively). Arusha, Kigoma, Kagera, Singida, Dodoma and Iringa have the least area planted with Oranges.

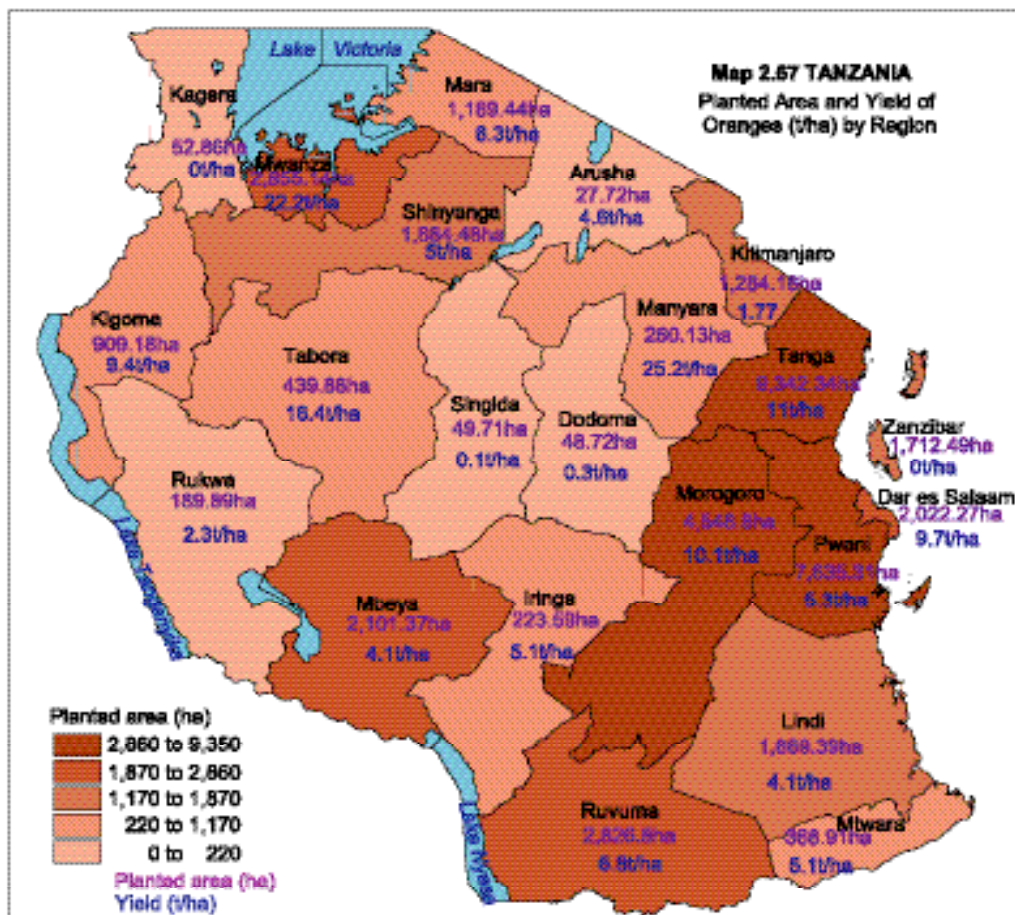
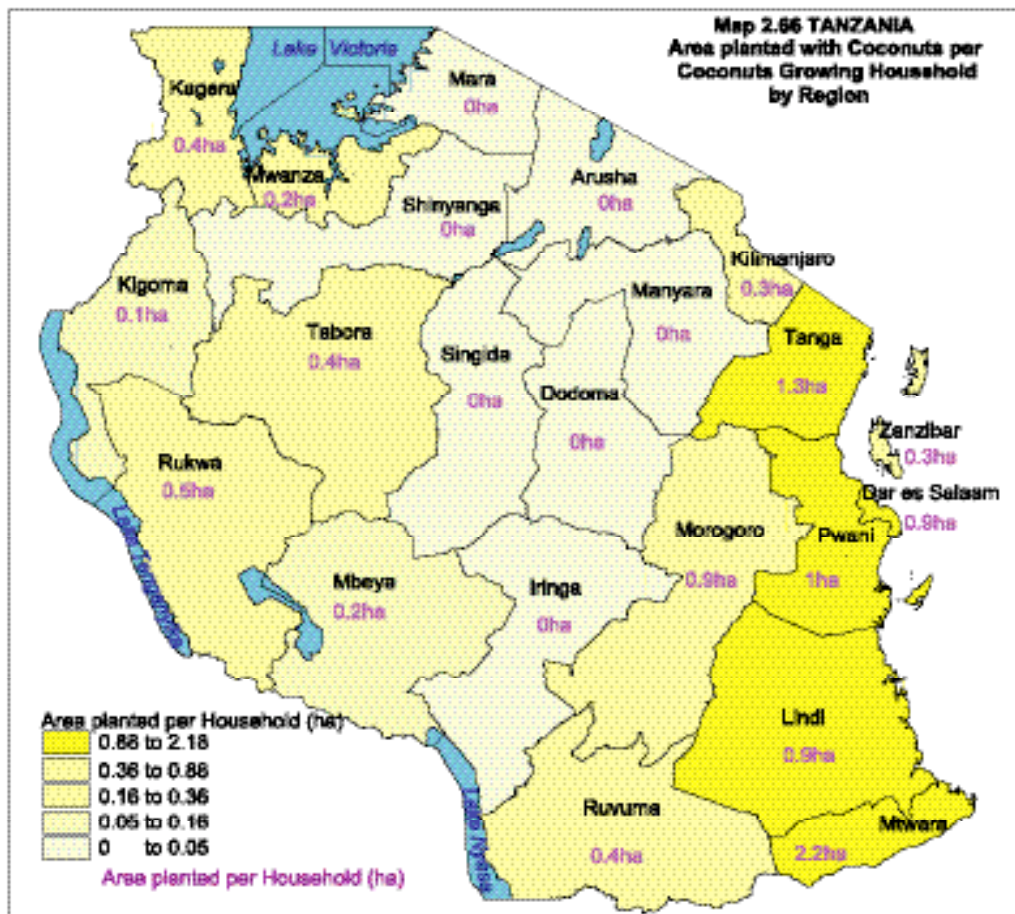
### 2.4.8 Sugar Cane

On the Mainland, the total smallholder sugarcane production was 404,694 tonnes, with a harvested area of 20,567 ha, resulting in a 19.7 t/ha yield. Sugar cane is grown by 50,607 households giving an average of 0.4 hectares per sugar cane producing household. Of the total production of sugar cane in the country,

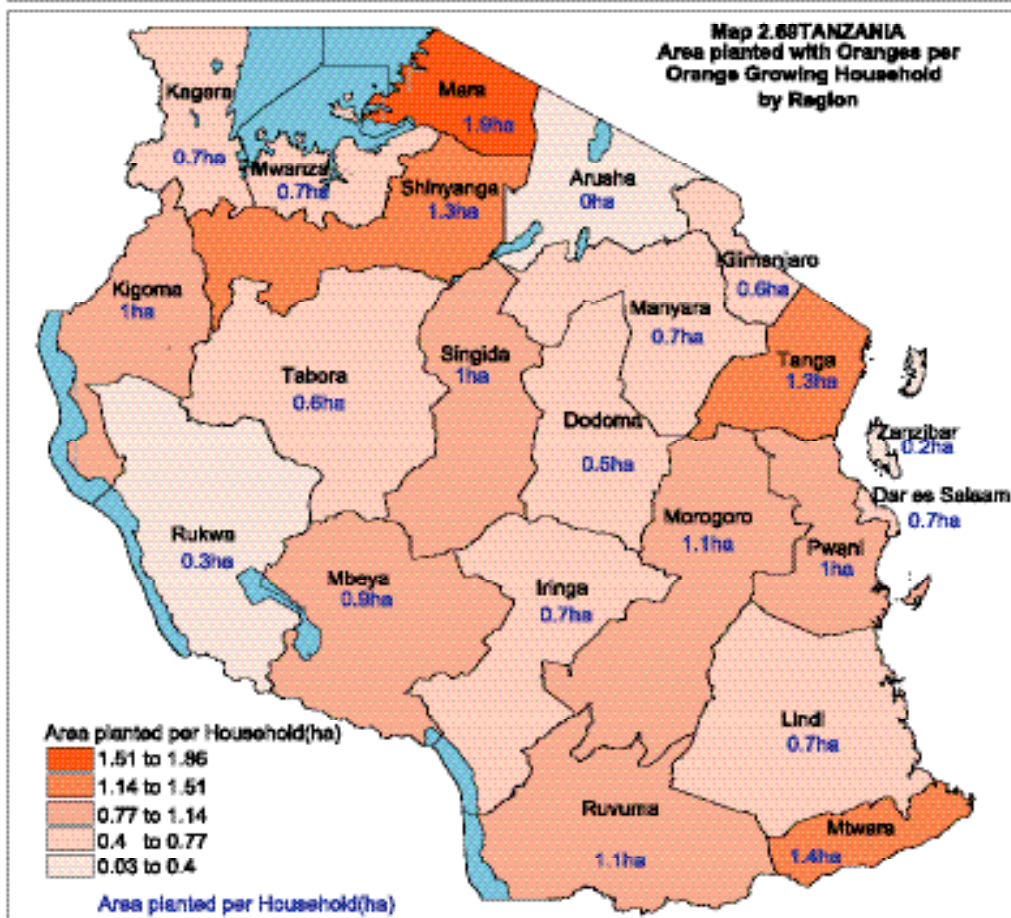
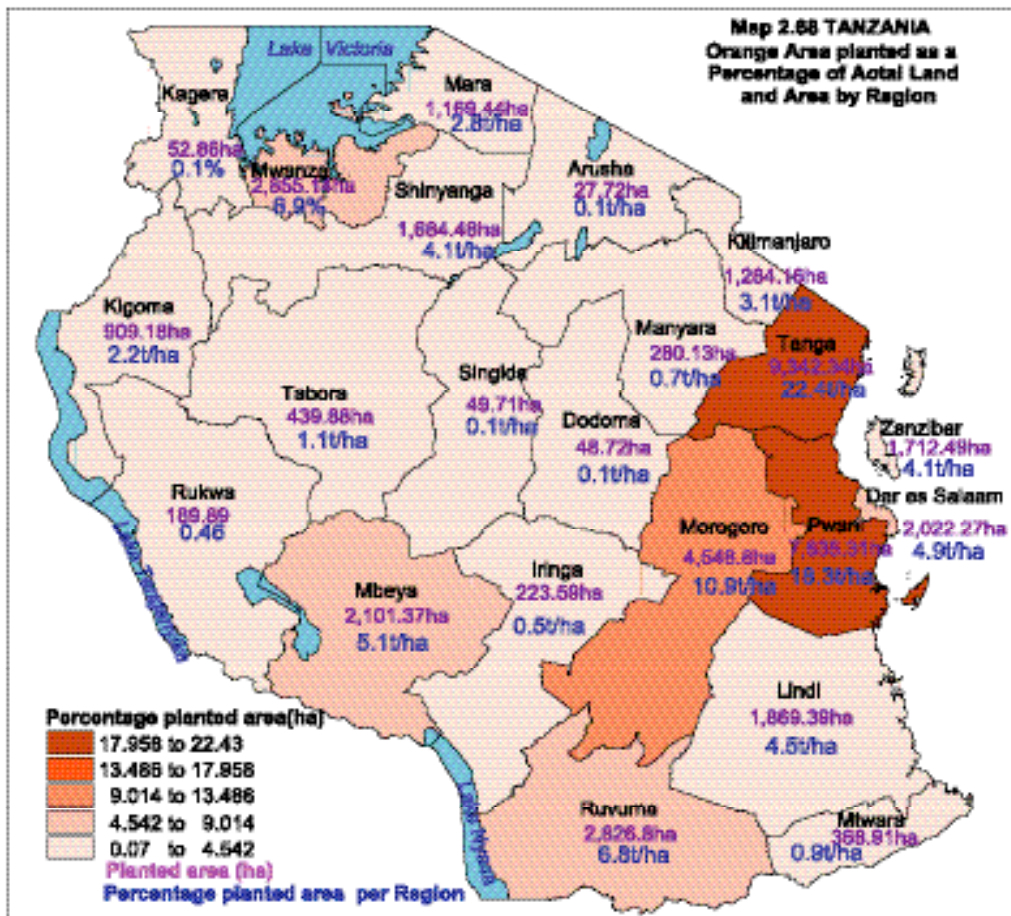












household. Of the total production of sugar cane in the country, 55 percent is produced by smallholders.

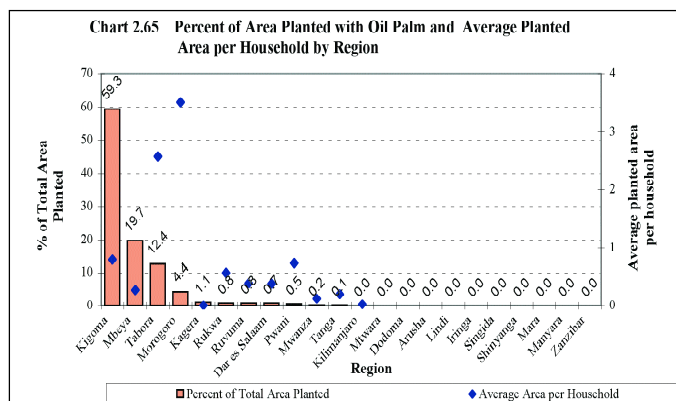
Sugar cane production is largely concentrated in Morogoro, with a planted area 8,330 ha or 39 percent of the total area planted with sugar cane. It has almost four times the planted area of Tanga, which is the second highest producing region in the country. Tanga has a planted area of 2,356 ha (10.9%) followed by Rukwa, Shinyanga and Ruvuma. The remaining regions constitute only 29 percent of the total area planted to sugar cane (Chart 2.64, Maps 2.70, 2.71 and 2.72).

#### 2.4.9 Oil Palm

The total production of oil palm by smallholders was 51,109 tonnes, with a harvested area of 15,757ha resulting in a 3.24 t/ha yield. Oil Palm is grown by 27,934 households with an average of 0.6 hectares per oil palm producing household.

Oil palm production is largely concentrated in Kigoma, with a planted area of 10,287 ha or 59 percent of the total area planted with oil palm. It

has almost three times that of Mbeya which has the second largest planted area in the country (3,414 ha, 18%). Tabora and Morogoro have small quantities and the remaining regions have either very small areas or none under oil palm production (Chart 2.65 Maps 2.73, 2.74 and 2.75).

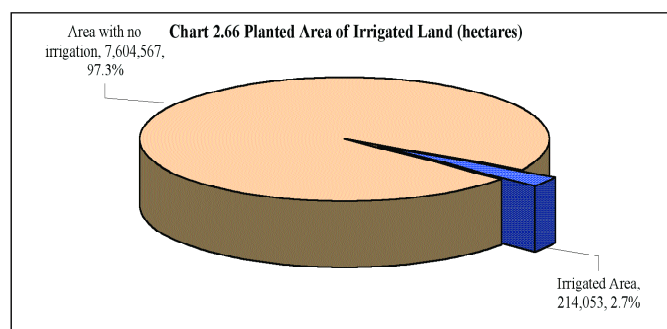


#### 2.5 Irrigation

Water is the limiting factor to crop production in the majority of areas in Tanzania and without water, most other agricultural practices applied to a crop will not result in a significant increase in yield. This section deals with the area under irrigation for different crops and the means by which water is extracted from the source and applied to the field.

##### 2.5.1 Area Planted with Annual Crops under Irrigation

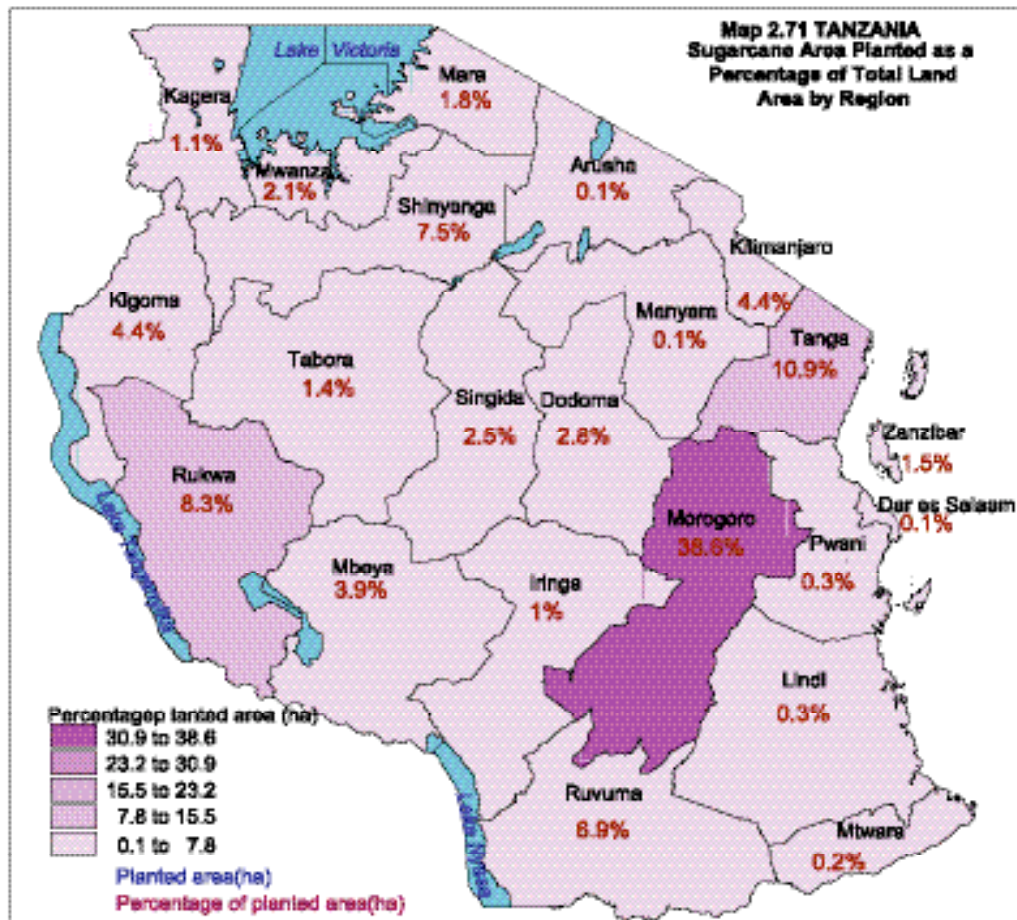
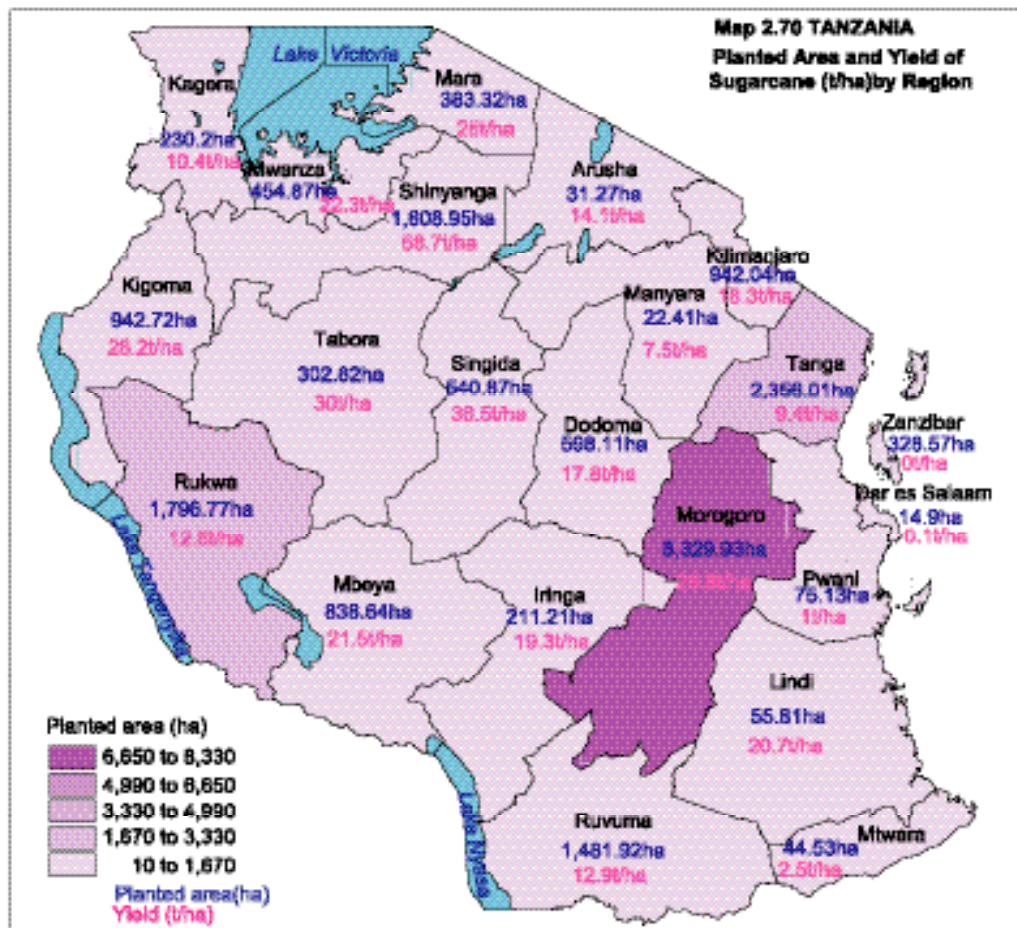
The total physical land area of annual crops under irrigation is very small at 168,430 ha. The total planted area under irrigation is 214,054 ha (211,872 ha on the Mainland and 2,182 in Zanzibar), representing only 2.7 percent of the total land area with annual crops. Of this, 165,437 ha (77%) was irrigated during the long rainy season (164,613 ha on the Mainland and 824 in Zanzibar) compared to only 48,616 ha (23%) in the short rainy season.

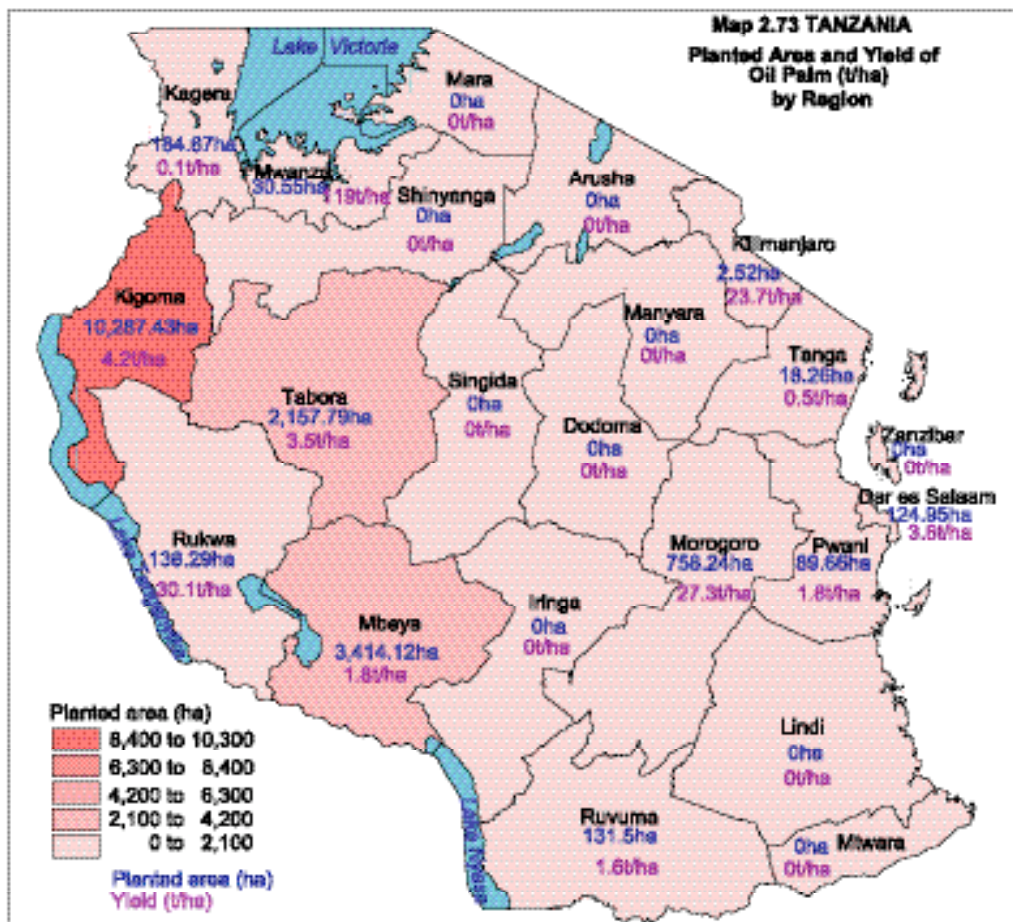
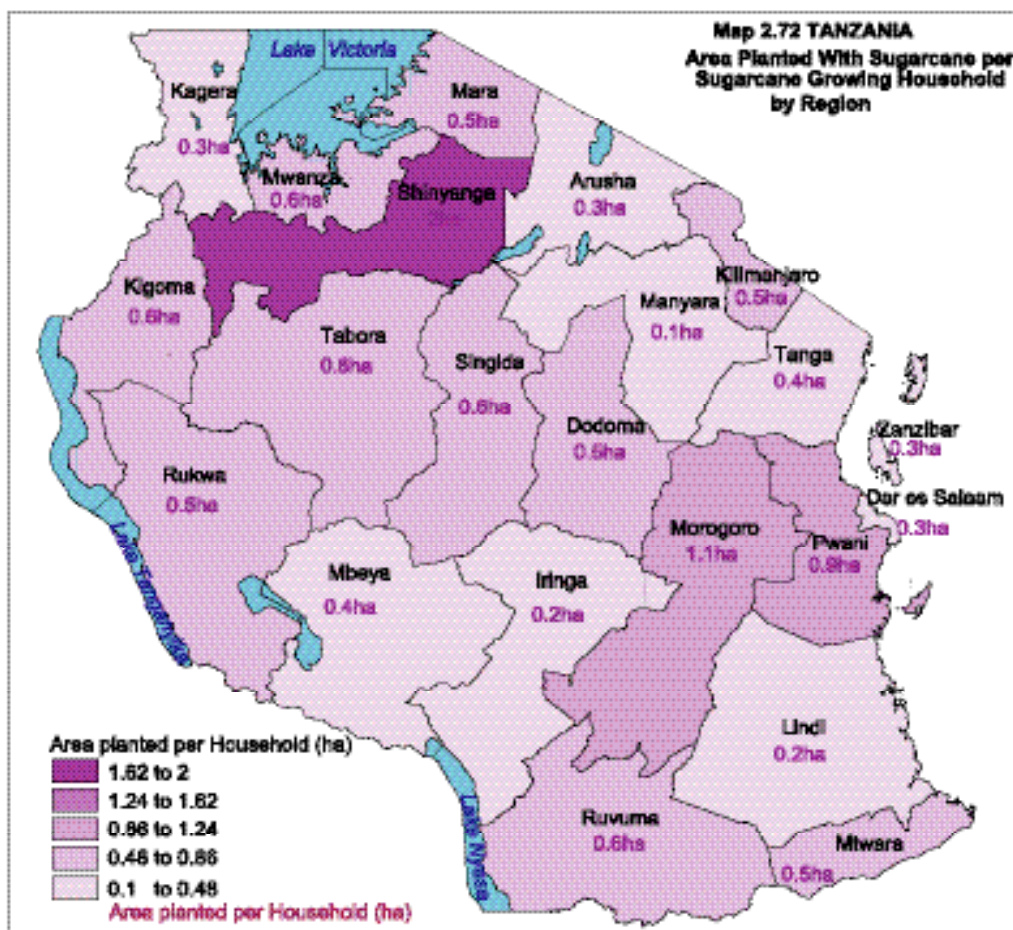


#### 2.9 Planted Area under Irrigation by Season

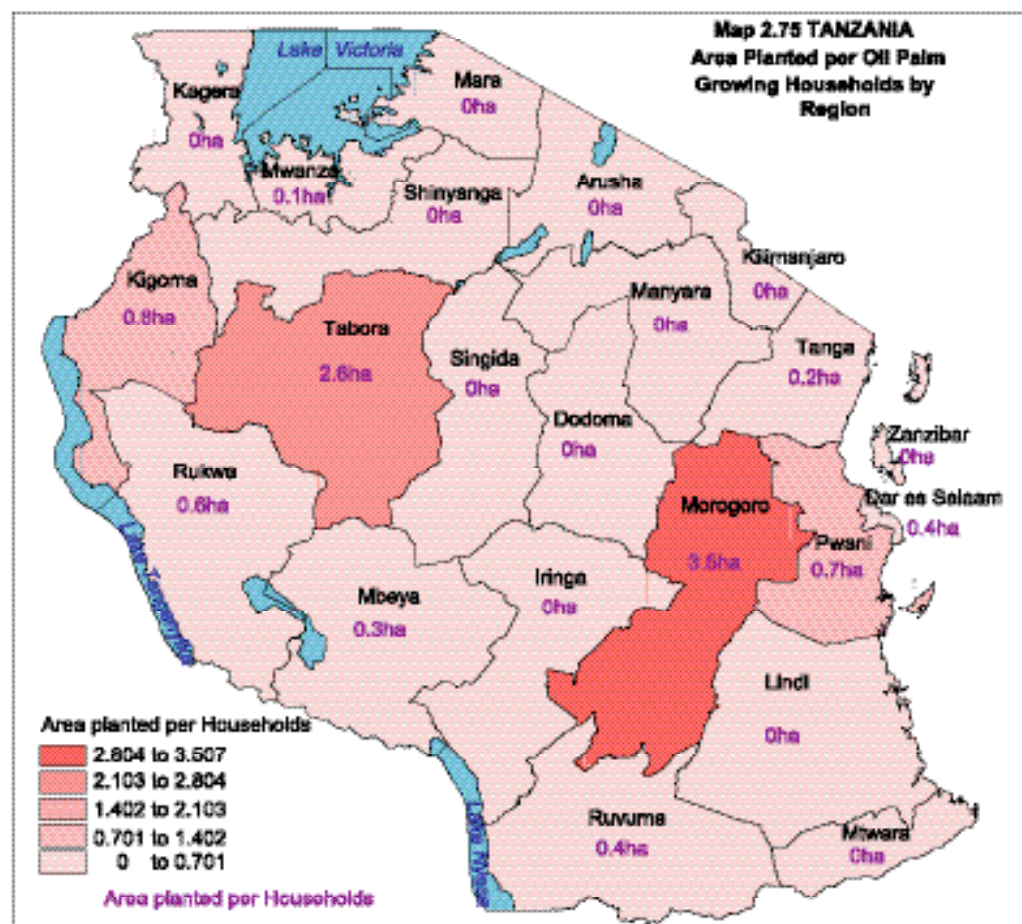
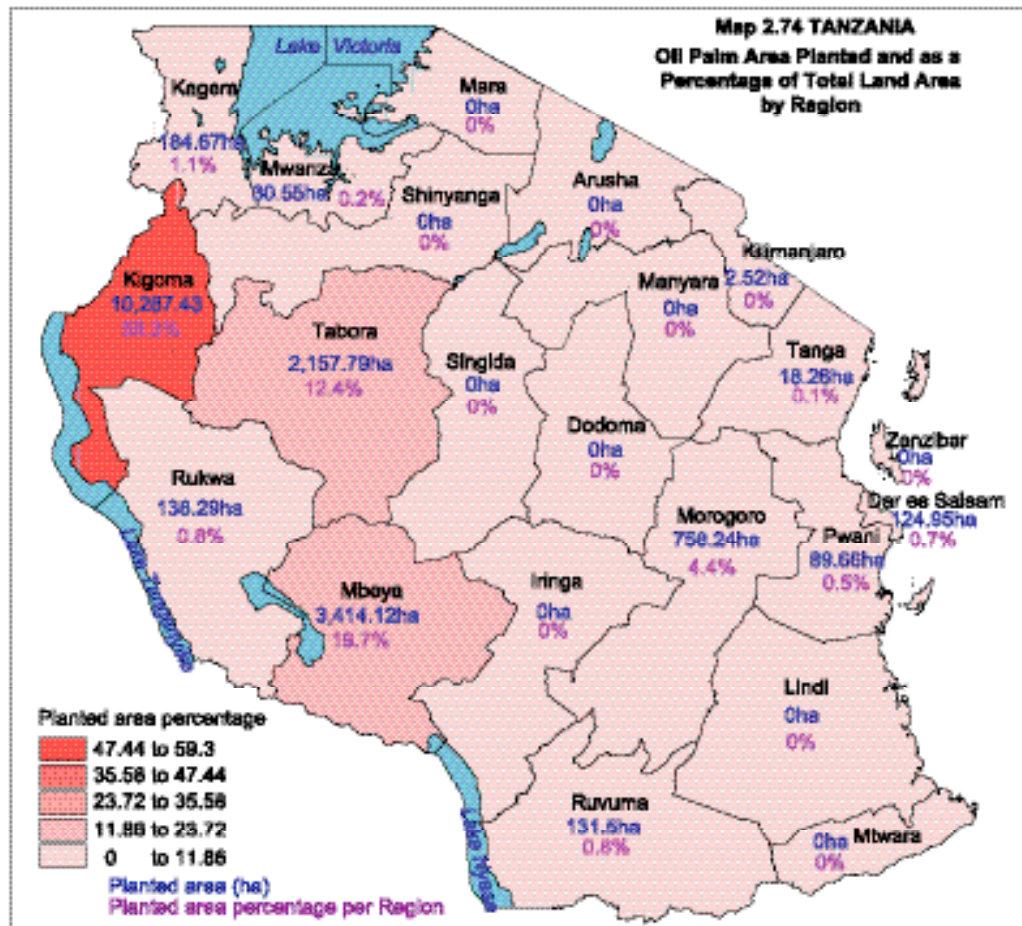
Seasons	Mainland				Zanzibar				National			
	Area Under Irrigation (ha)	Area under Rainfed (ha)	Total Planted Area (ha)	Irrigated Area %	Area Under Irrigation (ha)	Area under Rainfed (ha)	Total Planted Area (ha)	Irrigated Area %	Total Area under Irrigation (ha)	Total Area under Rain fed (ha)	Total Planted Area (ha)	Irrigated Area %
Short Rainy	47,259	1,410,596	1,457,855	3.2	1,357	9,701	11,058	12.3	48,616	1,420,297	1,468,913	3.3
Long Rainy	164,613	6,117,875	6,282,488	2.6	824	66,394	67,218	1.2	165,437	6,184,269	6,349,706	2.6
Total	211,872	7,528,471	7,740,343	2.7	2,181	76,095	78,276	2.8	214,053	7,604,566	7,818,619	2.7





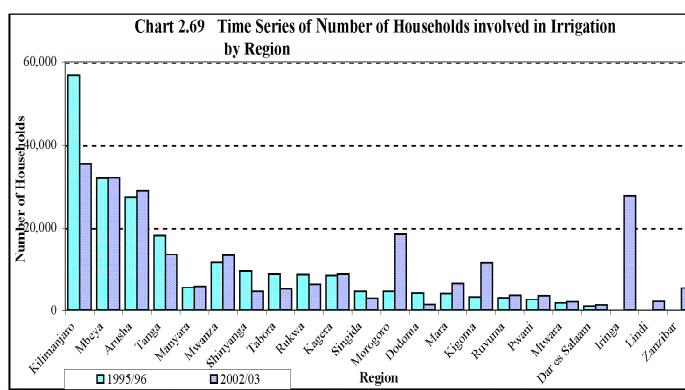
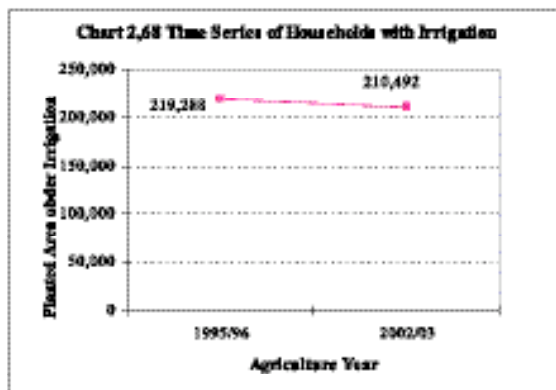
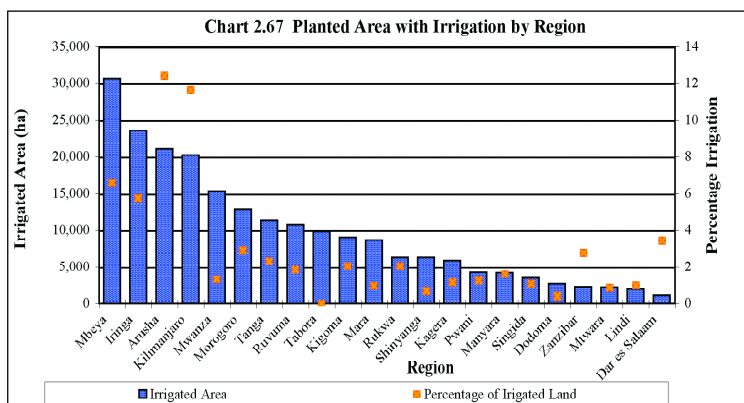






(47,259 on the Mainland and 1,357 in Zanzibar) suggesting that most irrigation is used as supplementary irrigation to compliment the water from rainfall during the long rainy season. (Table 2.8).

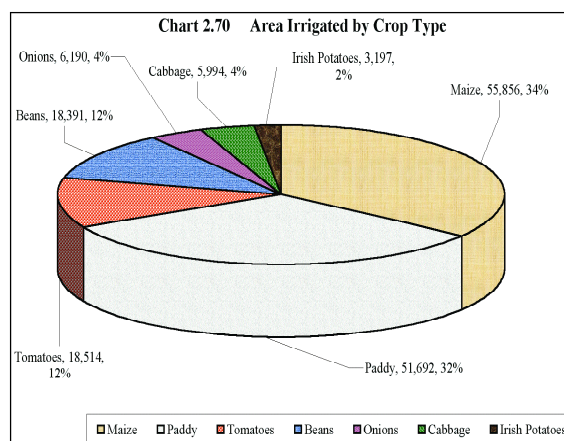
More vegetables are grown in the short rainy season with irrigation (68% of the fruit and vegetable planted area during the short rainy season) than in the long rainy season (54%)



(Map 2.76).

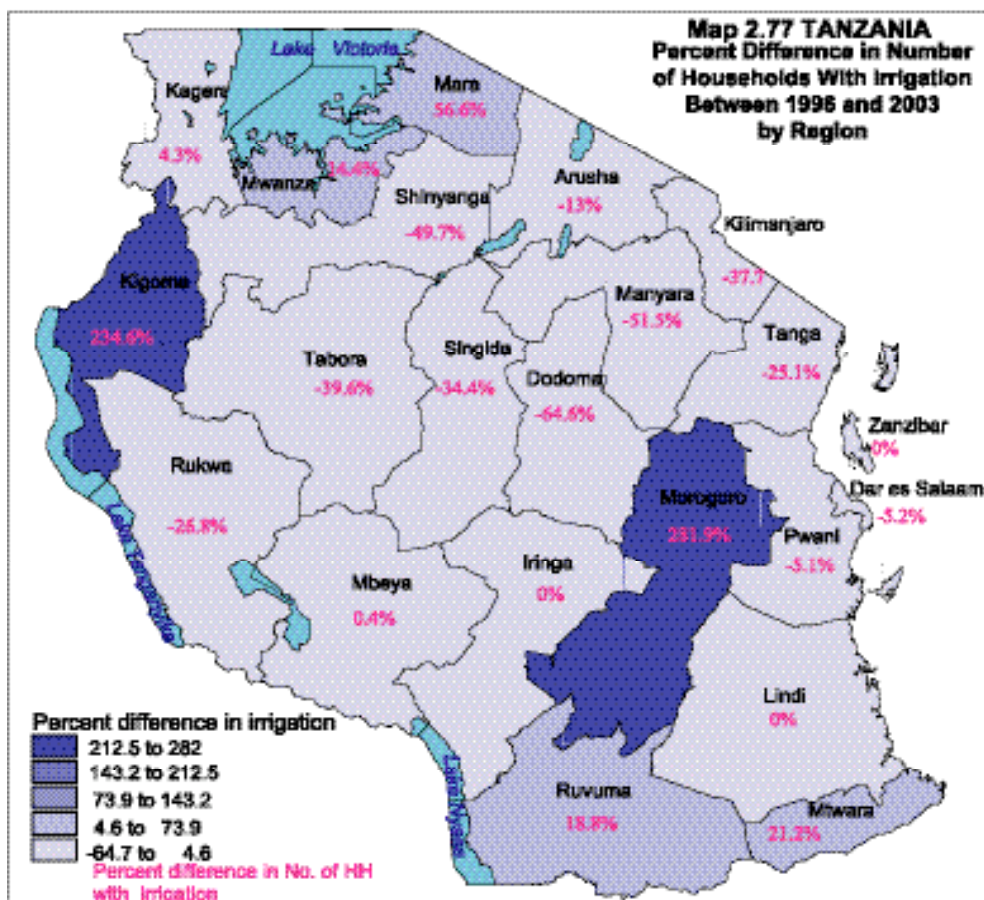
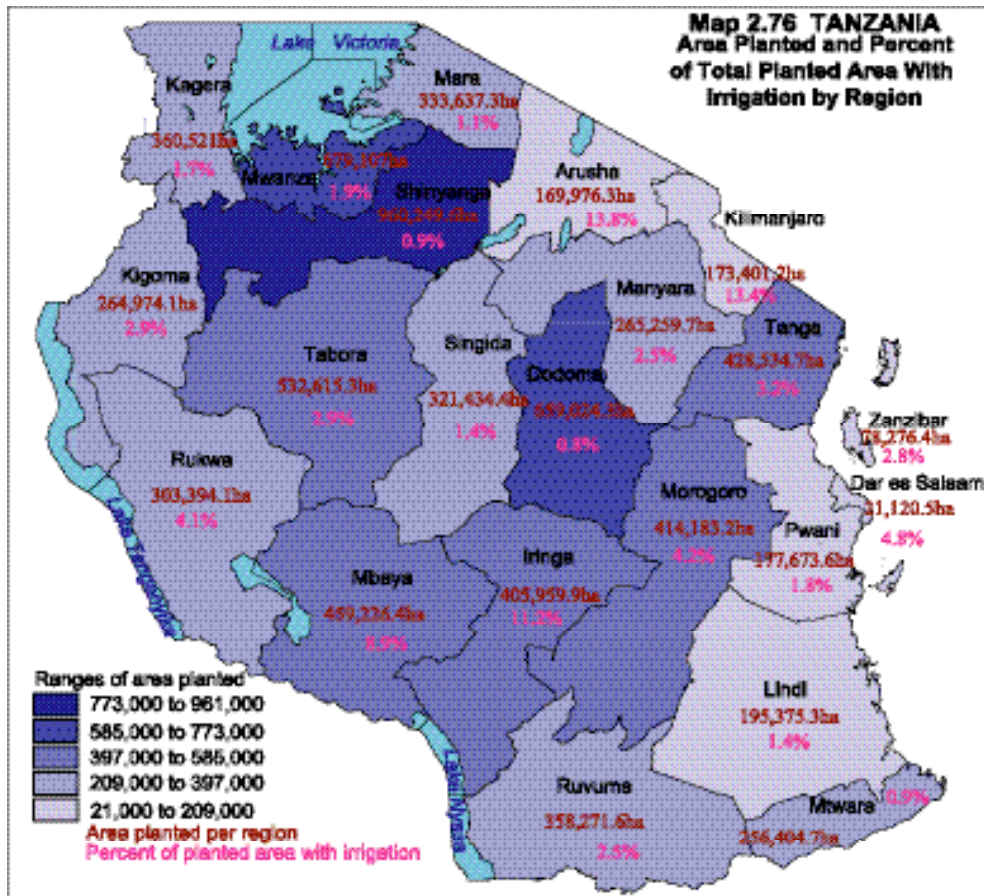
The regions with the largest land area of annual crops under irrigation are Mbeya (30,393 ha, 14% of the total planted area with irrigation) and Iringa (23,423 ha, 11%). When expressed as a percentage of the total area planted per region, Arusha and Kilimanjaro regions have proportionally more planted area with irrigation than other regions (12.4% and 11.7% respectively), followed by Mbeya (6.7%) and Iringa (5.8%) (Chart 2.67 and Map 2.77).

The number of smallholders practicing irrigation is 240,721. Time series analysis, using data from the previous census and surveys indicates that the number of households with irrigation has remained stagnant over the last eight years (Chart 2.68). (The numbers in the chart for the 2003 data point is less than the actual number due to the absence of comparative historical data for Iringa and Zanzibar). The main regional difference is with Morogoro where there was an increase of 282 percent in the planted area with irrigation over the period 1996 to 2003. This is followed by Kigoma (235%) and Mara (57%). Kilimanjaro had the greatest decrease in the number of households practicing irrigation (from 56,836 to 35,410 households) over the same period (Chart 2.69).



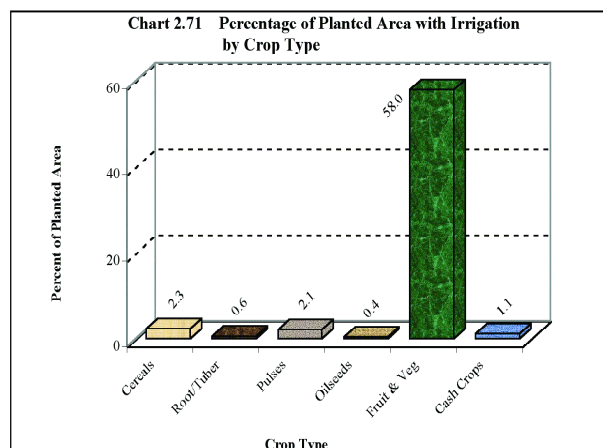
The irrigated planted area for individual crops and crop types (e.g. roots and tubers) is for the Mainland only. Fruit and Vegetables have the highest percentage of area planted with irrigation than any other crop type. The area of fruit and vegetables under irrigation is 40,313 ha which represents 58 percent of the total planted area with fruit and vegetables.





Water melon, chillies, amaranths and cabbage are the most cultivated fruit and vegetable crops under irrigation. The use of irrigation for the production of annual cash crops is very limited (4,430 ha, 1% of the total planted area with cash crops) (Chart 2.71).

In terms of total planted area, maize and paddy received most irrigation (107,549 ha, 66% of the total irrigated planted area). This is followed by tomato and beans (12%), onions (4%), cabbage (4%) and Irish potatoes (2%), (Chart 2.70). Cereals received more irrigation (10,958 ha, 60.4% of the total area planted under irrigation) than other crop types. This is followed by fruit and vegetables with 40,313 ha (21.9%), oils seeds and oil nuts with 2,315 ha (1.3%) (Chart 2.71). More irrigation is applied to beans than other pulse crops and accounts for 92 percent of the total planted area of pulses with irrigation. Ground nuts and sunflower receive more irrigation than other oilseeds and accounts for 56.6 and 37.8 percent of the total area planted with oil seeds under irrigation respectively. This is followed by simsim (4.8%).



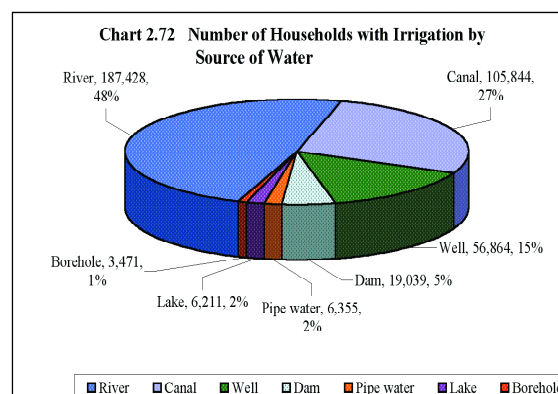
For root crops the planted area with irrigation for cassava recorded as a permanent crop during enumeration is not included in this section. Of the root and tuber crops, Irish potatoes benefits most from irrigation compared to other roots and tuber crops even though the area under irrigation for all roots and tuber crops is very small. Out of the 5,820 ha under irrigation 3,198 ha were planted with Irish potatoes (54.9%), 1,320 ha with sweet potatoes (22.7%), 1,043 ha planted with cassava (17.9%), 134 ha with cocoyam (2.3 %) and 126 ha with yam (2.1%).

### 2.5.2 Area Planted with Permanent Crops under Irrigation

The planted area with irrigation for permanent crops is almost the same as that of annual crops. The total area under irrigation planted with permanent crops is 183,793 ha representing 14 percent of the total area planted with permanent crops. Cashew nuts has the largest irrigated area (58,843 ha, 32.0%), followed by banana (51,042ha, 27.8%), coffee (27,173ha, 14.8%) and mango (19,128ha, 10.4%). In terms of planted area with irrigation per crop, sugar cane has the highest percent (24%) followed by banana and mango (16%) and then oranges and coffee (15%) (Table 2.9).

### 2.5.3 Source of Water Used for Irrigation

The main source of water used for irrigation is from rivers (48% of households with irrigation), canals (27%) and wells (15%). Only 5 percent of households use water from dams and the proportion of households that use lake, pipe water and borehole as a source of water for irrigation is very low (2%, 2% and 1%) (Chart 2.72).

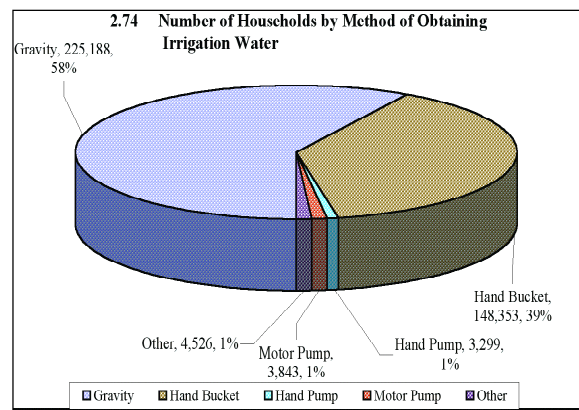
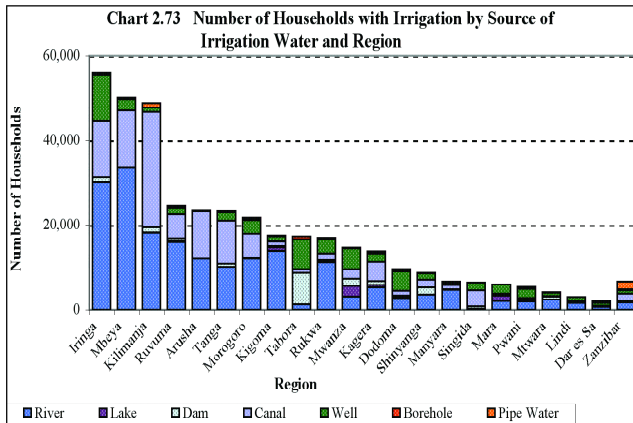


Almost all households with irrigation in Kigoma and Rukwa obtained irrigation water from rivers. In Mbeya, Iringa, Ruvuma and Morogoro over 50 percent of the households with irrigation use rivers as the source of irrigation water.



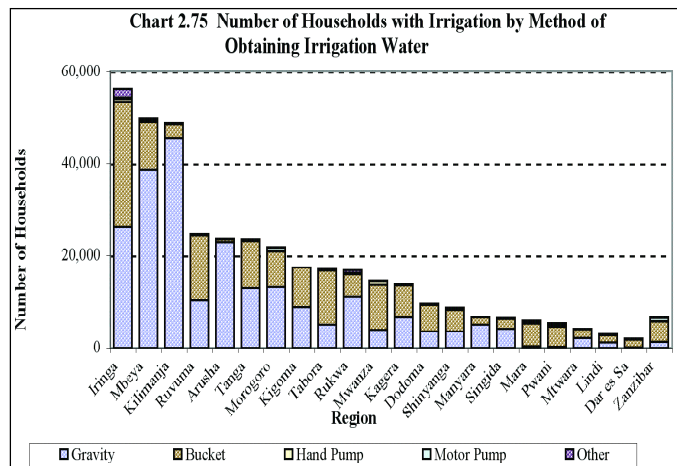
Canals are mostly used in Kilimanjaro (56% of households with irrigation in the region). Other regions in which over 23 percent of households with irrigation use canals as a source of irrigation water include Arusha, Tanga, Mbeya and Iringa.

Dams are not common as a source of irrigation water in Tanzania except in Tabora region where 43 percent of households obtain irrigation water from this source. Wells are important in Tabora, Dodoma, Mwanza and Iringa where they provide irrigation water to 41, 48, 34 and 20 percent of households with irrigation respectively. Lakes and pipe water are seldom used as sources of water for irrigation (Chart 2.73).

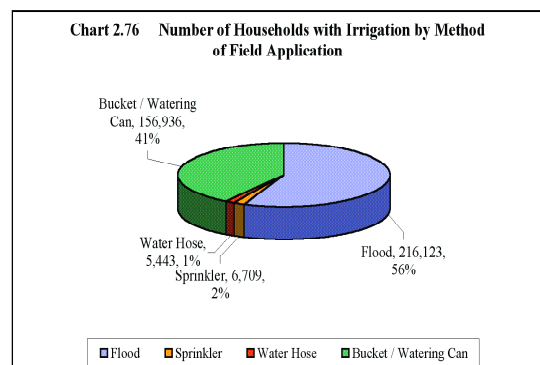


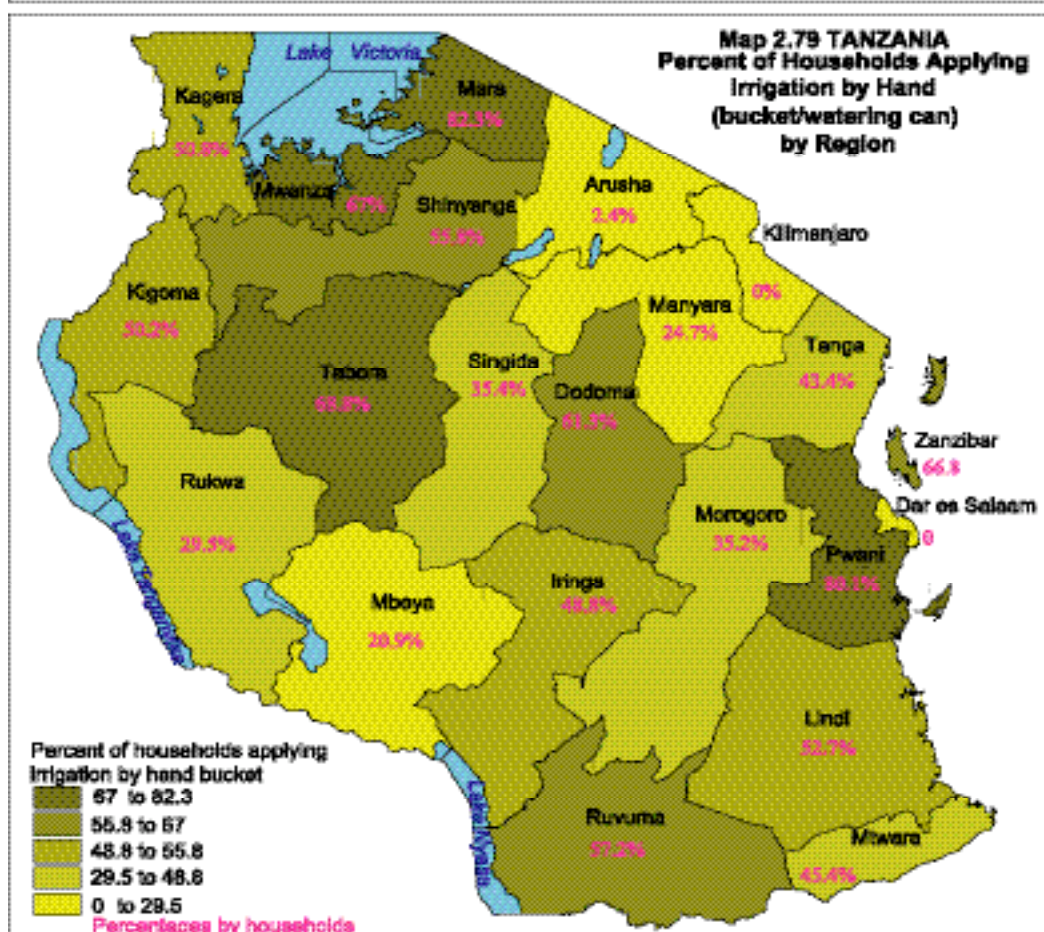
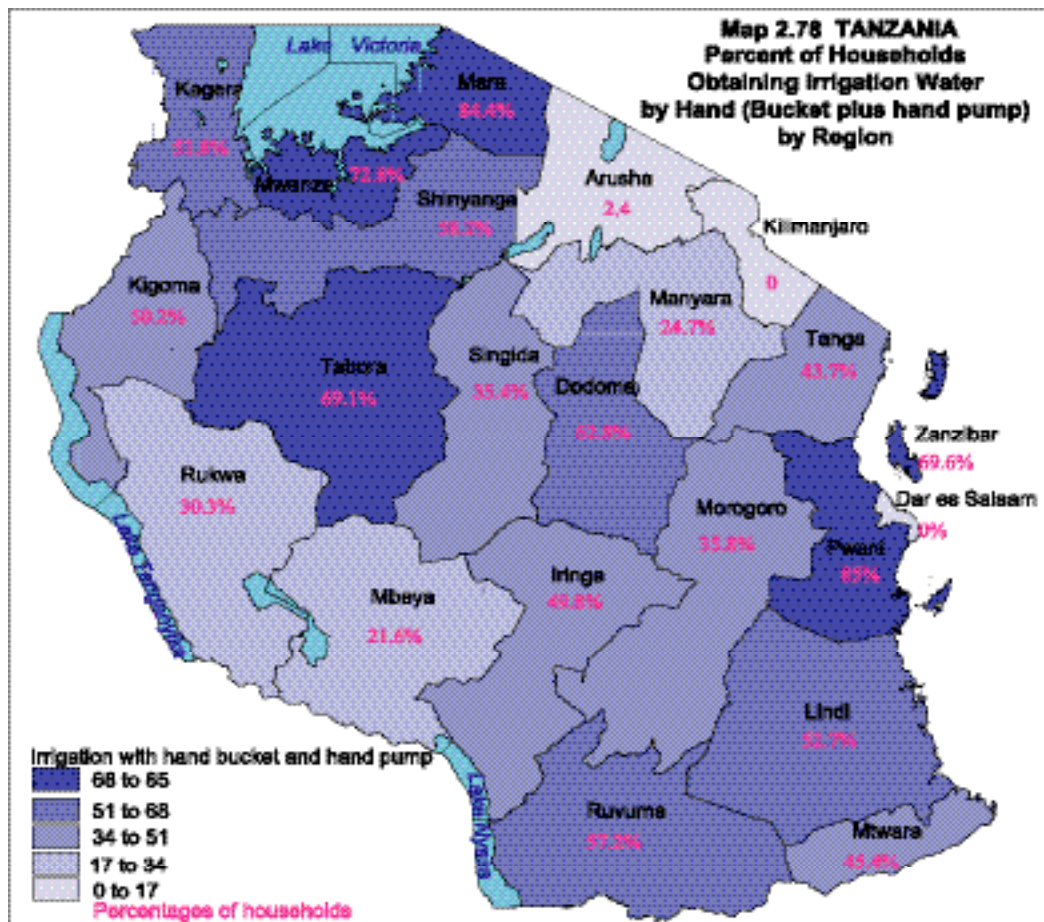
**2.5.4 Methods of Obtaining Water for Irrigation**

Gravity is the most common means of getting water for irrigation with 58 percent of households with irrigation using this method. This is closely followed by hand bucket with 39 percent of households. The remaining methods (hand pump, motor pump and other) are of minor importance (Chart 2.74).



In Iringa around 50 percent of the households with irrigation obtain irrigation water by gravity and bucket. Most households with irrigation in Kilimanjaro, Arusha and Mbeya obtain irrigation water by gravity (94%, 97% and 77% respectively). Buckets are more common in Dar es Salaam region where 82 percent of households use this means to get water for irrigation, followed by Mara (82%), Pwani (80%), Tabora (68%), Mwanza (67%), Dodoma (61%), Ruvuma (57%), Shinyanga (56%) and Lindi (53%) regions, however many of these regions have small numbers of households and real differences may not exist (Chart 2.75 and Map 2.78)).



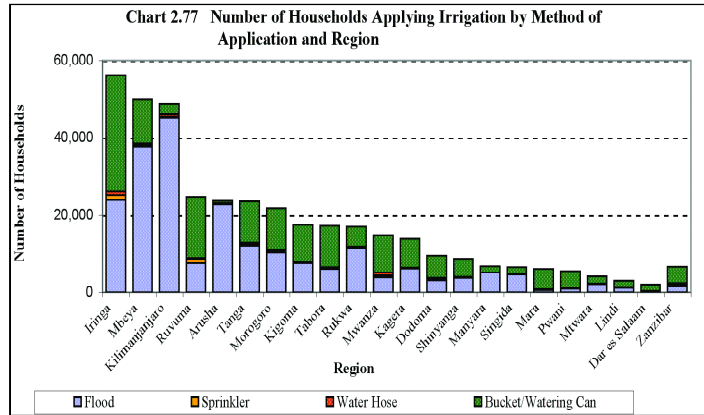




**2.5.5 Method of Water Application**

Most households use flood irrigation (56% of households using irrigation). This is closely followed by hand bucket/watering can (41%). Sprinklers and water hose are not often used (2% and 1% respectively) (Chart 2.76).

In Iringa, the irrigation application method is split almost equally between flood and bucket/watering can with 54 percent of households applying by bucket/watering can and 42 percent by flood.



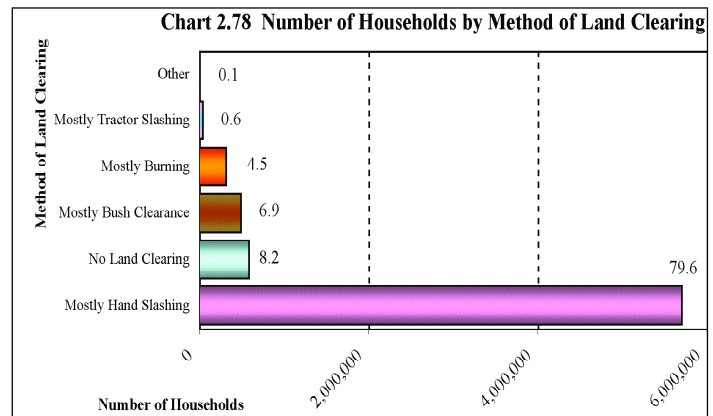
In Arusha, Kilimanjaro, Mbeya, Singida, Rukwa and Manyara most households with irrigation use flood irrigation (97, 92, 75, 71, 67 and 75 percent respectively). A small number of households use sprinklers in Iringa and Ruvuma (Chart 2.77 and Map 2.79).

**2.6 Husbandry Practices/Input Use**

This section deals with input use for annual crops only. The sub-sections on land clearing, soil preparation and use of improved seed excludes a small amount of data due to the reporting of some cassava in the permanent crop section of the questionnaire. The permanent crop section did not collect information on these variables.

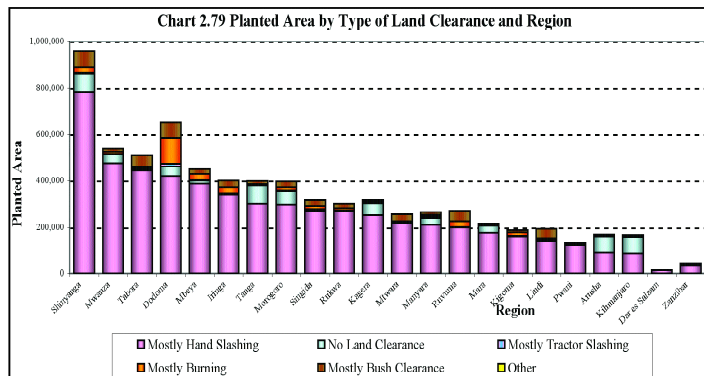
**2.6.1 Land Clearing**

Land clearing is divided into two categories: bush clearing, which by definition implies either expansion into virgin areas or into areas which have been left fallow for a long period. The other category, which includes burning, hand slashing or tractor slashing, is normally an annual clearing exercise to remove vegetation growth from the previous season.



Hand slashing is the most widespread method used for land clearing. The area cleared by hand slashing in Tanzania was 5,670,779 ha which represents 79.6 percent of the total planted area. Bush clearance, burning and tractor slashing are less important methods for land clearing and they represent 6.9, 4.5 and 0.6 percent respectively (Chart 2.78 and Table 9).

The largest planted area cleared by hand is in Shinyanga. It also has the largest planted area of bush cleared land. Regions with the largest amount of planted area that has not been cleared are Arusha, Kilimanjaro, Tanga and Morogoro. In these regions some of the land is usually bare before cultivation due to livestock grazing and therefore land clearing is not necessary. A greater planted area is cleaned by burning in Dodoma than

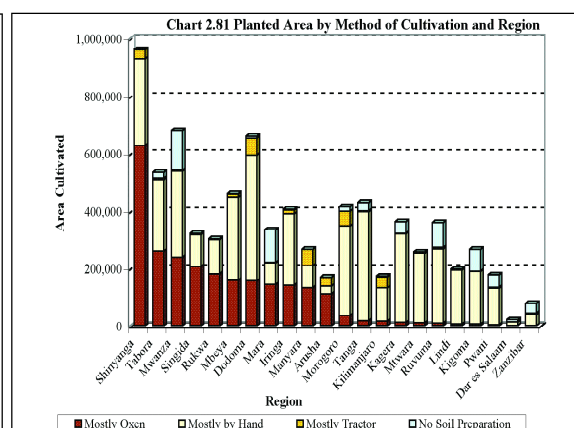
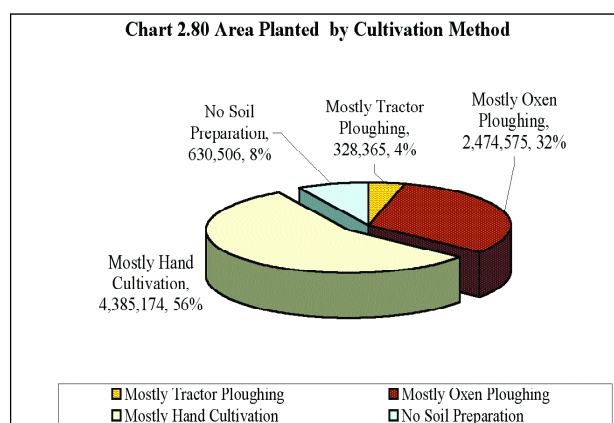


**Table 2.10 Land Clearing Methods**

Method	Short rainy season			Long rainy season			Total		
	Number of Households	Planted Area	%	Number of Households	Planted Area	%	Number of Households	Planted Area	%
Bush Clearing	48,325	45,057	3.1	275,922	446,289	7.9	324,248	491,327	6.9
Hand Slicing	1,271,329	1,185,363	81.7	3,150,761	4,485,417	79.1	4,422,090	5,670,779	79.6
Tractor Slicing	5,248	5,723	0.4	21,858	38,547	0.7	27,106	44,270	0.6
Burning	30,934	29,456	2.0	187,838	289,314	5.1	218,772	318,771	4.5
No Land Clearing	231,071	177,087	12.2	324,003	409,741	7.2	555,074	586,829	8.2
Other	30,730	8,198	0.6	626	740	0.0	31,356	8,938	0.1
<b>Total</b>		<b>1,450,865</b>	<b>100.0</b>		<b>5,670,048</b>	<b>100.0</b>		<b>7,120,914</b>	<b>100.0</b>

### 2.6.2 Methods of Soil Preparation

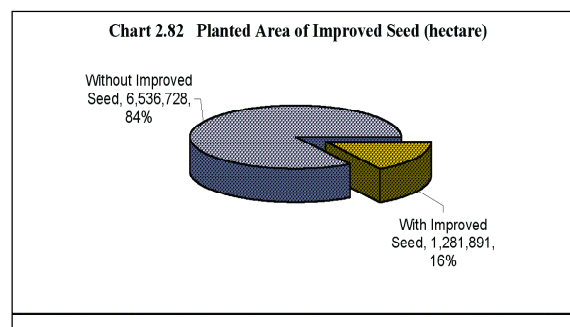
Cultivation by hand is the most common method of soil preparation with an area of 4,385,175 ha representing 56 percent of the total planted area. This is followed by oxen ploughing with 2,474,575 ha (32% of the total area planted) and tractor ploughing with 328,365 ha (4%) (Chart 2.80). No soil preparation mainly refers to cassava that was recorded as a permanent crop under which this variable was not recorded. However, one may assume that the majority of this is by hand.



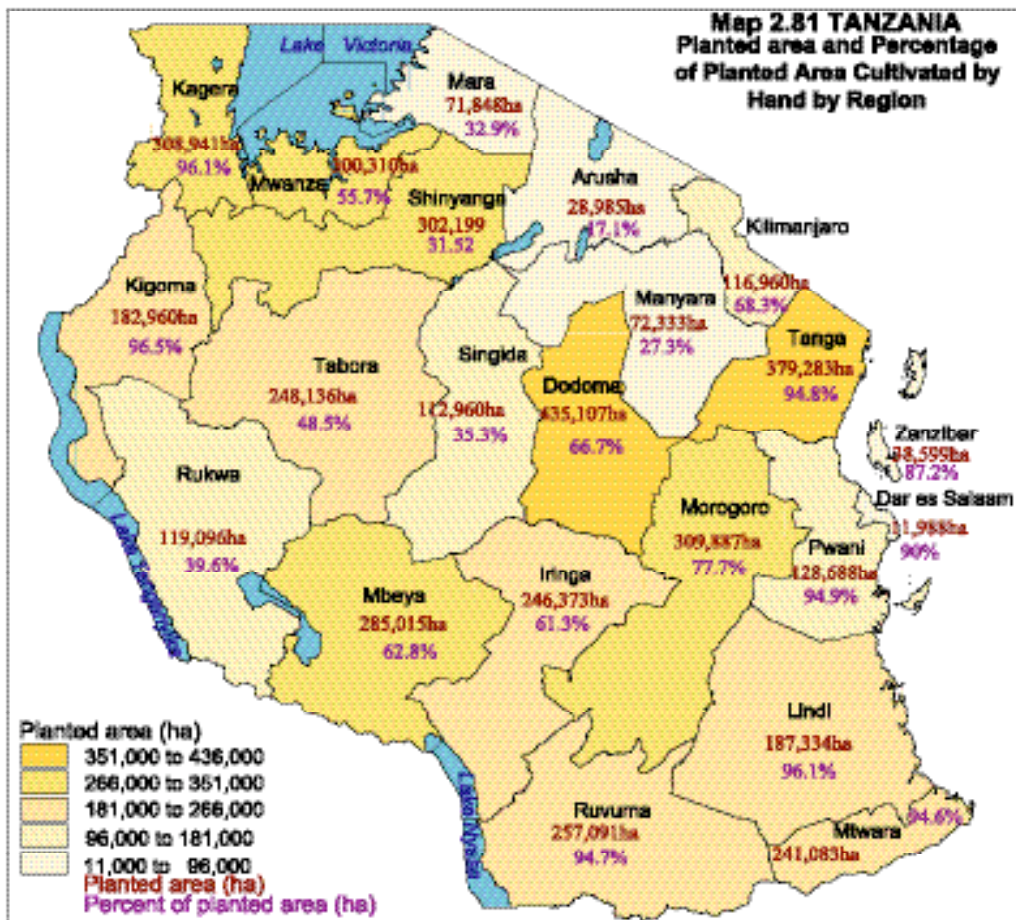
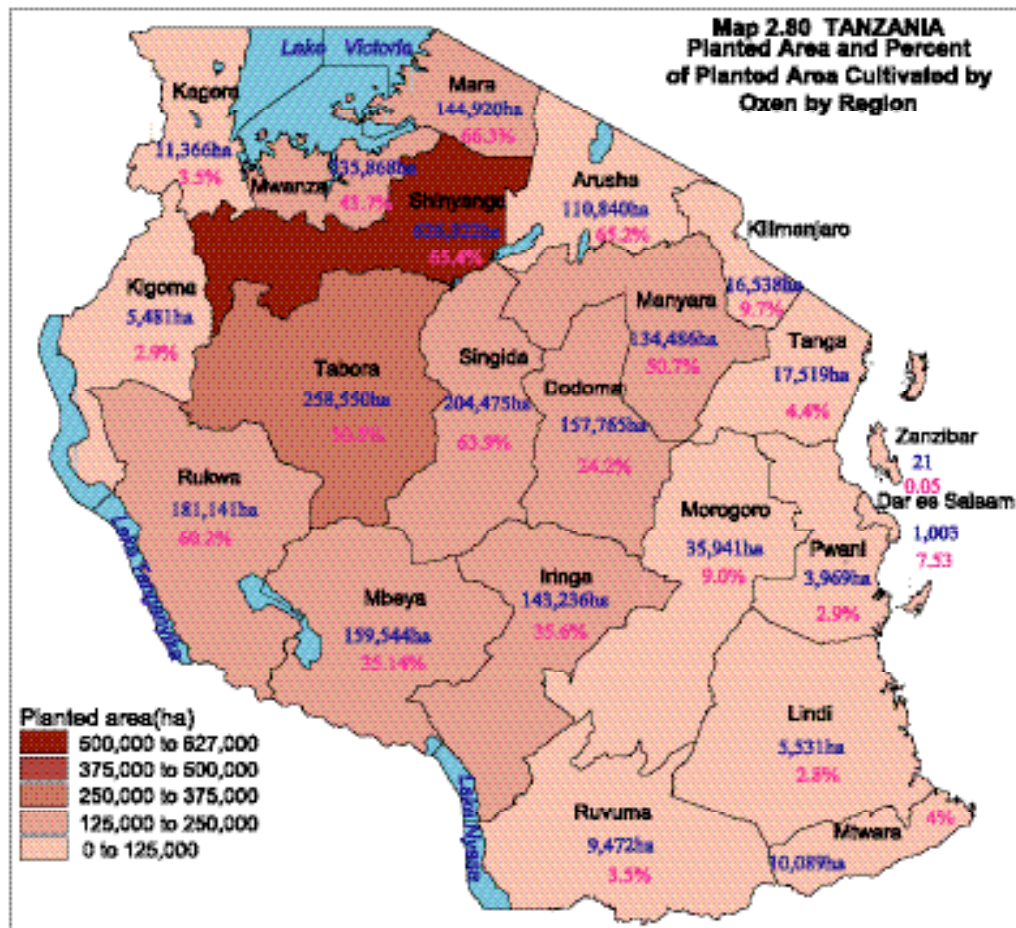
In Coastal regions plus Kigoma, Ruvuma, Kagera, Kilimanjaro and Morogoro regions, almost all land is cultivated by hand. The largest planted area is in Shinyanga and two thirds of this is cultivated by oxen. In Arusha, Manyara, Singida and Rukwa more than half of the planted area was cultivated by oxen. In Tabora and Mwanza regions, about a half of the planted area was cultivated by oxen. Tractor ploughing is mostly used in Kilimanjaro region (22.1% of the total planted area in Kilimanjaro), followed by Manyara (22%), Arusha (17.7%), Morogoro (13.3%) and Zanzibar (12.8%) regions. In other regions tractor ploughing is virtually absent. Oxen ploughing is not used in Zanzibar, Dar es Salaam and Pwani regions and very little is used in Kigoma, Lindi, Ruvuma, Mtwara, Kagera, Kilimanjaro, Tanga and Morogoro regions (Chart 2.81 and Map 2.80 and 2.81).

### 2.6.3 Improved Seeds Use

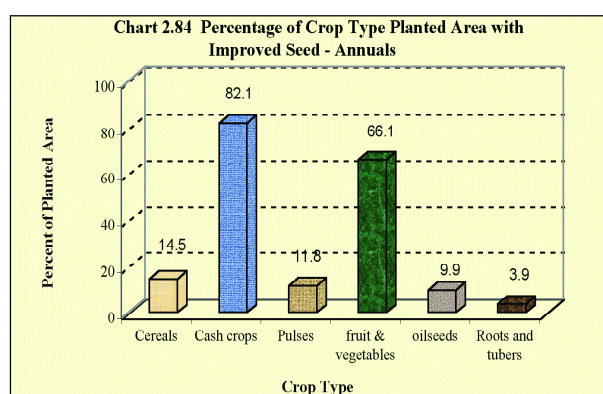
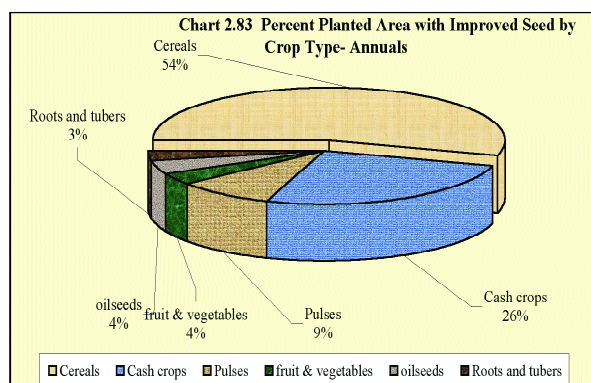
The planted area using improved seed is 1,281,892 hectares (1,267,844 ha on the Mainland and 14,047 in Zanzibar), representing 16 percent of the total planted area (Chart 2.82). There is little difference in the percent of planted area that used improved seed between the long and short rainy seasons.







Cereals have the largest planted area with improved seeds (693,817 ha, 54%), followed by cash crops (325,032 ha, 26%), Pulses (110,411 ha, 9%) fruit and vegetables (45,9336 ha, 4%), oilseeds (52,902 ha, 4%) and roots and tubers (39.750 ha, 3%) (Chart 2.84). However, the percent of improved seed use in cash crops and fruit is much greater than in other crop types (82% and 66% respectively). Only 11 percent of cereal crops use improved seed (Chart 2.85).

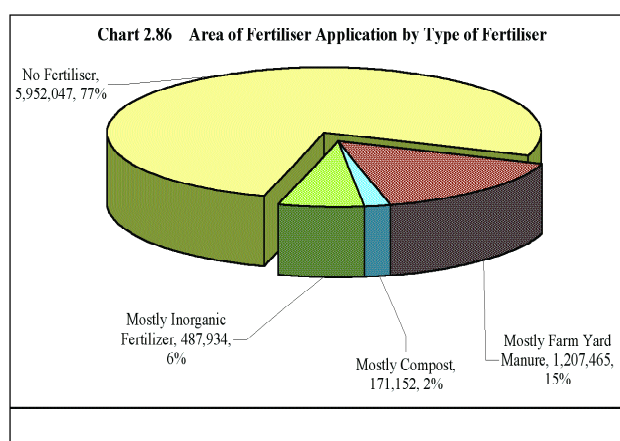
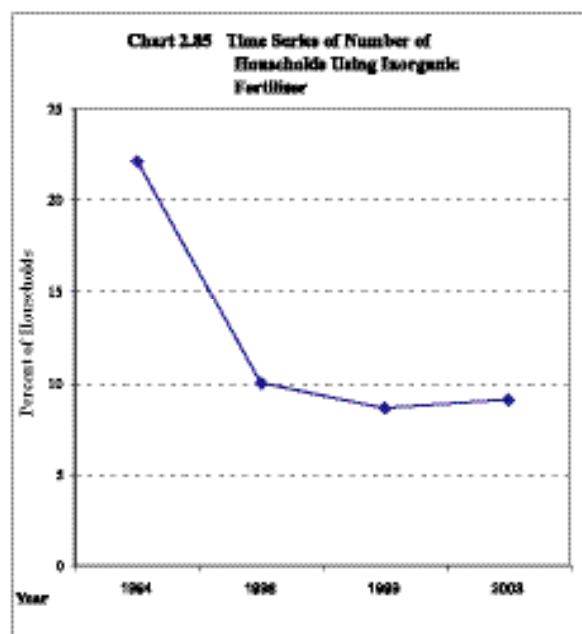


#### 2.6.4. Fertiliser Use

The results in this section are based on use and area of application and not on the quantity applied. Considering the comparatively large area of farm yard manure application compared to inorganic fertiliser application it is expected that rate of application is well below optimal.

Most annual crop growing households do not use any fertiliser (Map 2.82). The number of households using fertilisers has decreased dramatically since the last census and this is the case for both inorganic fertiliser and farm yard manure. Chart 2.85 shows that the reduction in the number of households using fertilisers happened during the period 1995 to 1998 with the number of households using fertilisers remaining constant at this very low level since then. The order magnitude of this decline is around 50 percent for both organic and inorganic fertiliser. Both decline has been with compost/manure as opposed to inorganic fertilisers, however the status of fertiliser use as of 2003 is that only 8 percent of crop growing households use inorganic fertiliser whereas 20 percent use farm yard manure.

The area planted without fertiliser for annual crops is 5,952,048 hectares (5,884,799 ha on the mainland and 59,396 ha in Zanzibar) representing 77 percent of the total planted area with annual crops. Of the planted area with fertiliser application (23%), Farm Yard Manure was applied to 1,207,465 ha which represents 15 percent of





the total planted area or 64 percent of the area planted with fertilisers. This is followed by inorganic fertiliser (487,934 ha, 6%). Compost is used on a very small area and represents only 2 percent of the total planted area (Chart 2.86 and Table 2.11).

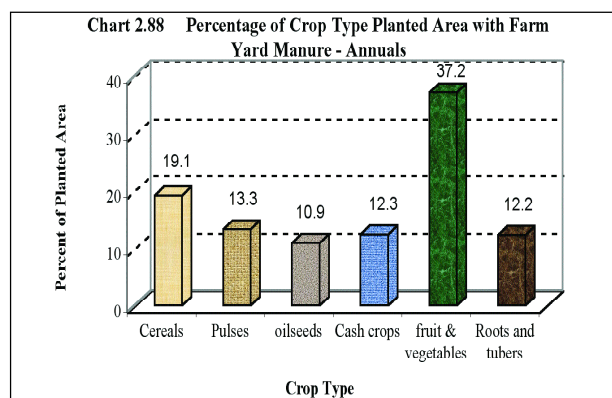
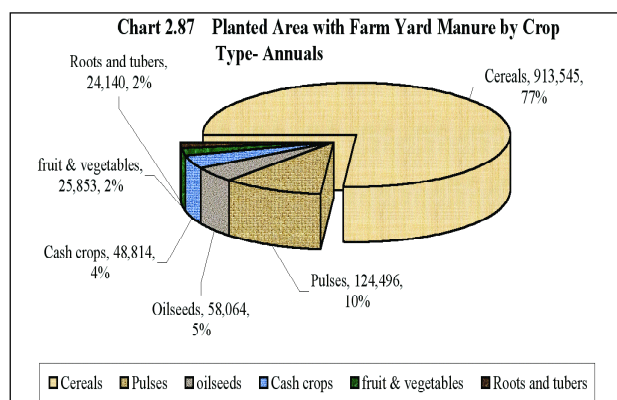
**Table 2.11 Number of Households and Area of Application by Fertiliser Type**

Type of Fertiliser	Type of Crop	Mainland			Zanzibar			Total		
		Number of Households	Area Applied	% of Total Planted Area	Number of Households	Area Applied	% of Total Planted Area	Number of Households	Area Applied	% of Total Planted Area
Farm Yard Manure	Annual Crops	979,007	1,202,766	15.54	10,418	4,699	6.00	989,425	1,207,465	15.51
	Permanent Crops		243,581	18.34	91,824		0.00	91,824	243,581	17.75
	Total		1,446,347	15.95	102,242	4,699	0.04	102,242	1,451,046	18.40
Compost	Annual Crops	164,400	169,993	2.20	2,805	1,159	11.54	167,205	171,152	2.30
	Permanent Crops		55,265	4.16			0.00	0	55,265	4.03
	Total		225,258	2.48		1,159	0.07	0	226,417	2.97
Inorganic Fertiliser	Annual Crops	443,099	482,786	6.24	9,782	5,149	6.58	452,881	487,935	6.27
	Permanent Crops		42,538	3.20			0.00	0	42,538	3.10
	Total		525,324	5.79		5,149	0.04	0	530,473	6.73
Total Applied Area	Annual Crops	1,586,506	1,855,545	23.97	23,005	11,007	24.12	1,609,511	1,866,552	24.08
	Permanent Crops	0	341,383	25.71	91,824	0	0.00	91,824	341,383	24.88
	Total	0	2,196,928	24.23	0	11,007	0.15	0	2,207,936	28.09
No Fertiliser	Annual Crops	4,008,611	5,884,799	76.03	78,318	67,270	75.88	4,086,929	5,952,068	76.36
	Permanent Crops		986,528	74.29			0.00	0	986,528	71.89
	Total		6,871,327	75.77		67,270	0.00	0	6,871,327	87.11

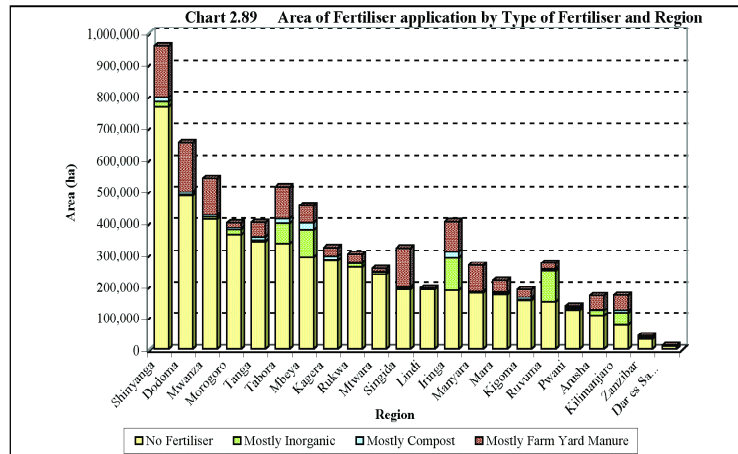
Most of the planted area with permanent crops are without fertiliser (986,528 ha, 75%). On the Mainland, the area of permanent crops with fertiliser follows the same trend as annual crops with only 341,383 ha with applied fertiliser representing 25.7 percent of the total area planted with permanent crops. This is followed by compost (55,265 ha, 4%) and then inorganic fertiliser (42,538 ha, 3%) (Table 2.10). Most of the fertiliser used in permanent crops is applied to bananas (34.6% of the total area using fertiliser), followed by coffee (29.8%), cassava (13.2%) and cashew nuts (5.3%) and most of this is organic fertiliser.

### Farm Yard Manure

The number of households using farm yard manure on their annual crops is 989,425 and it is applied to 1,207,465 ha representing 16 percent of the total area planted (Table 2.10). Use of farm yard manure on crop types is presented for the mainland only. Most of the farm yard manure is used on cereals (77%), followed by pulses (10%) and oil seeds (5%) (Chart 2.87). However, the proportion of fruit and vegetables with farm yard manure application is higher than other crop types (37%), followed by cereals (19%) and roots and tubers (16%) (Chart 2.88).

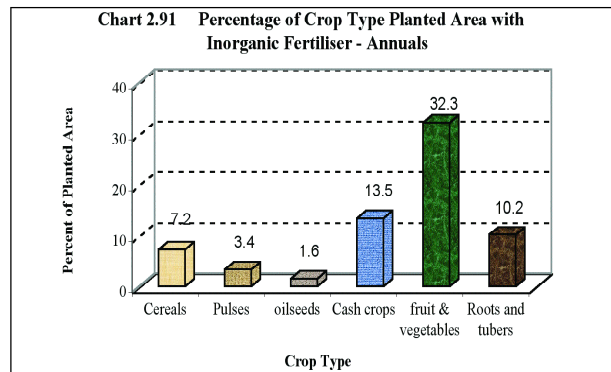
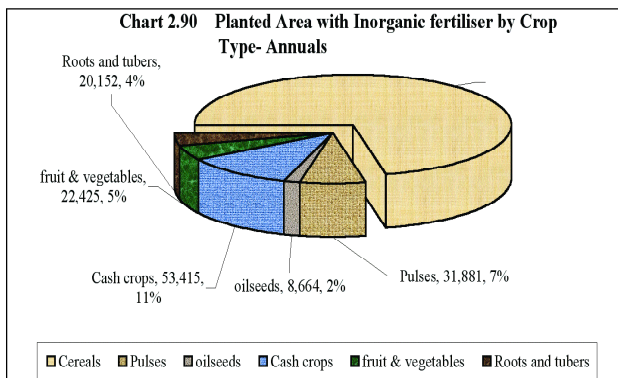


Farm yard manure is mostly used in Singida region (38% of the total planted area), followed by Manyara (31%), Kilimanjaro (30%), Arusha (28%), Dodoma (24%), Iringa (23%), Mwanza (21%), and Dar e Salaam (19%) regions. Very little farm yard manure is used in Lindi, Pwani, Mtwara and Morogoro regions (Chart 2.89, Map 2.83). As would be expected, with the exception of Arusha, more than 74 percent of the total area of applied farm yard manure are in regions with most livestock. For permanent crops most farm yard manure is used for the production of banana (37.9%), followed by coffee (29%) and cassava (14%).



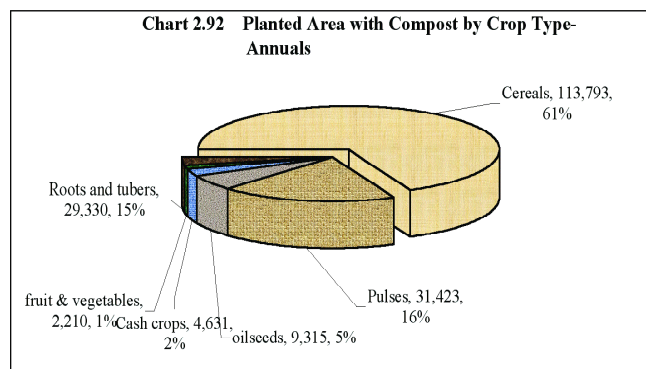
**Inorganic Fertiliser**

The number of households using inorganic fertiliser on annual crops is 452,881 (443,099 on the mainland and 9,782 in Zanzibar) and it is applied to 487,935 ha representing 6 percent of the total area planted (Table 2.10). Most of it is applied to cereals (71%), followed by cash crops (11%) and pulses (7%) (Chart 2.90). However, as is the case with farm yard manure, a higher proportion of inorganic fertiliser is applied to fruit and vegetables than other crop types (32% of the fruit and vegetables planted area). This is followed by cash crops (13%) and roots and tubers (9%) (Chart 2.91). Inorganic fertilisers are used mostly in Ruvuma (37% of the total planted area), followed by Iringa (26%), Kilimajaro (22%), Mbeya (18%) and Tabora (13%) regions. Most other regions use very little inorganic fertiliser (Chart 2.89 and Map 2.84). In permanent crops, inorganic fertiliser is mostly used on coffee (56.5%), followed by cashew nut (10.4%), cassava (8.24%), sugar cane (7.79%) and banana (6.28%).

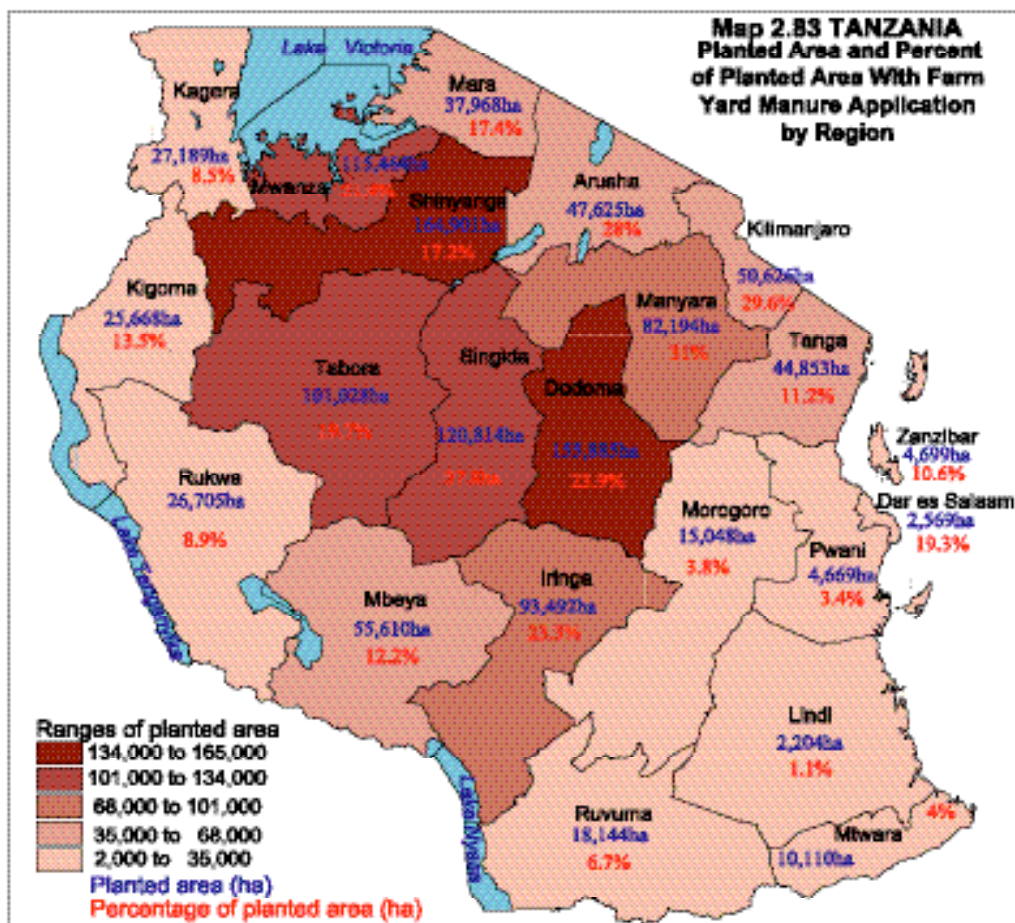
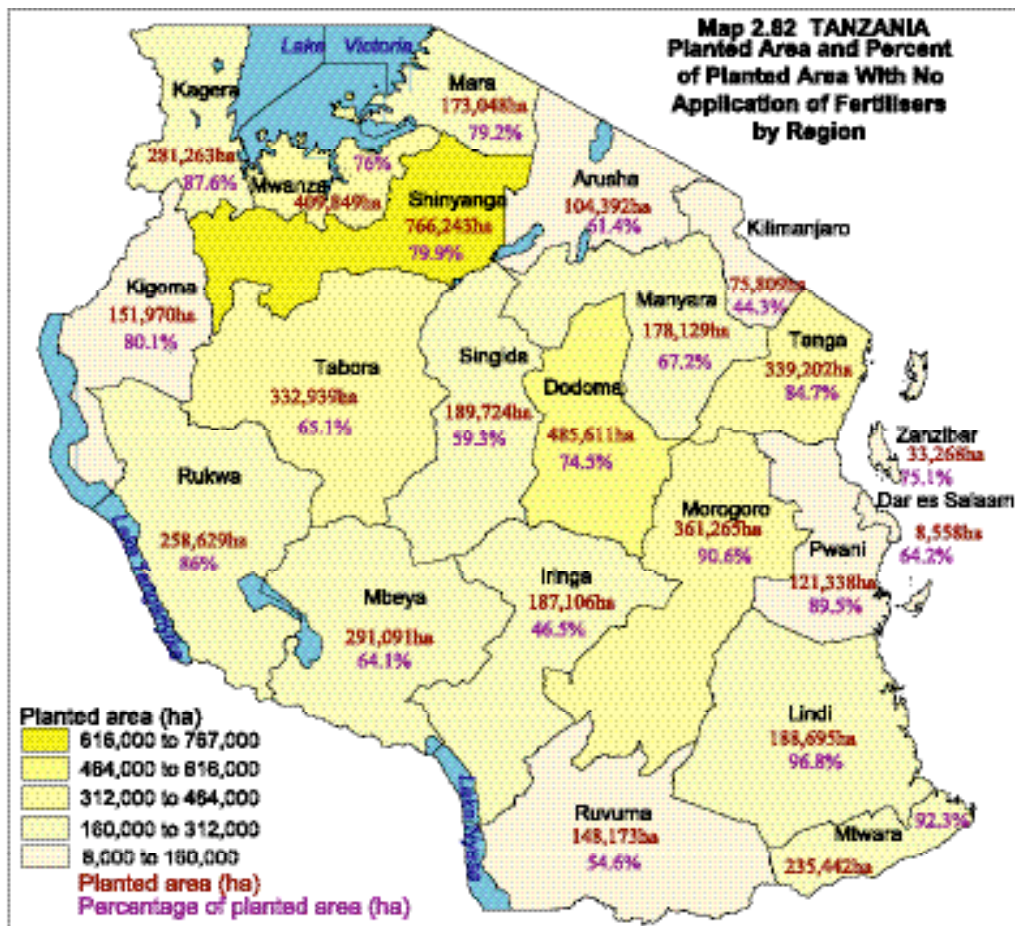


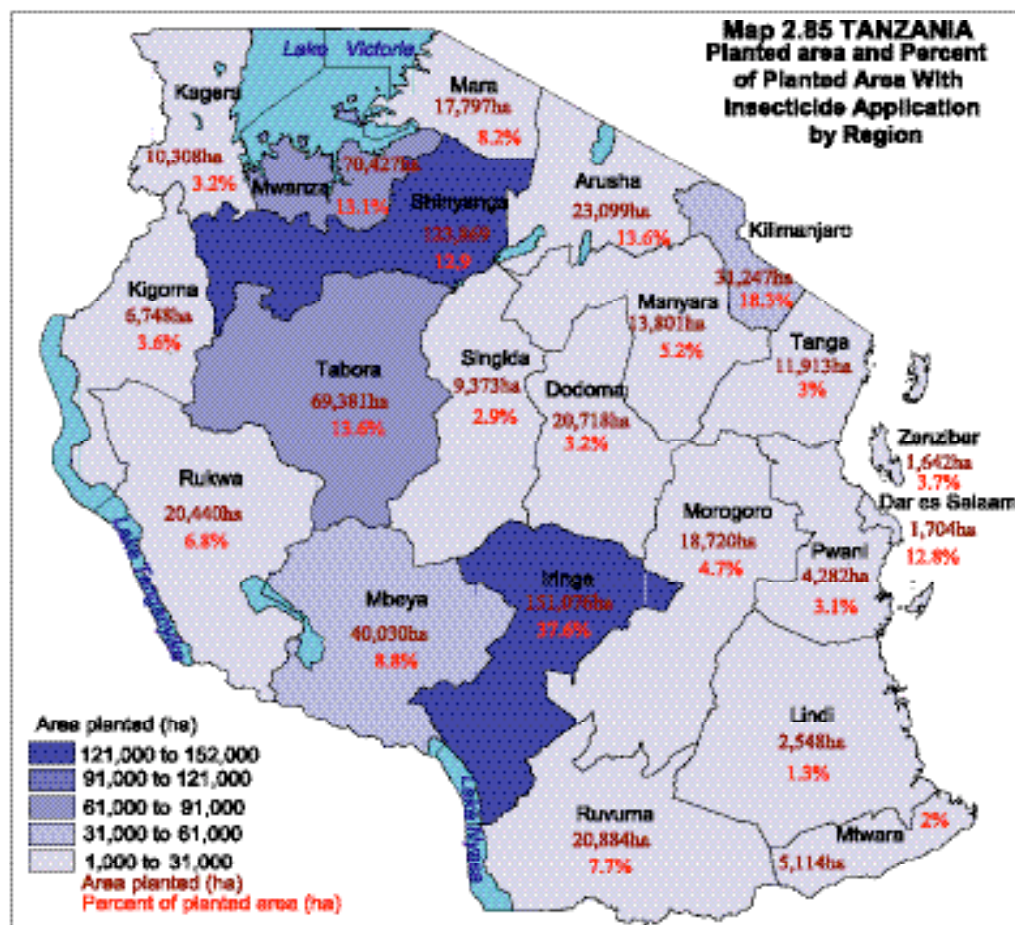
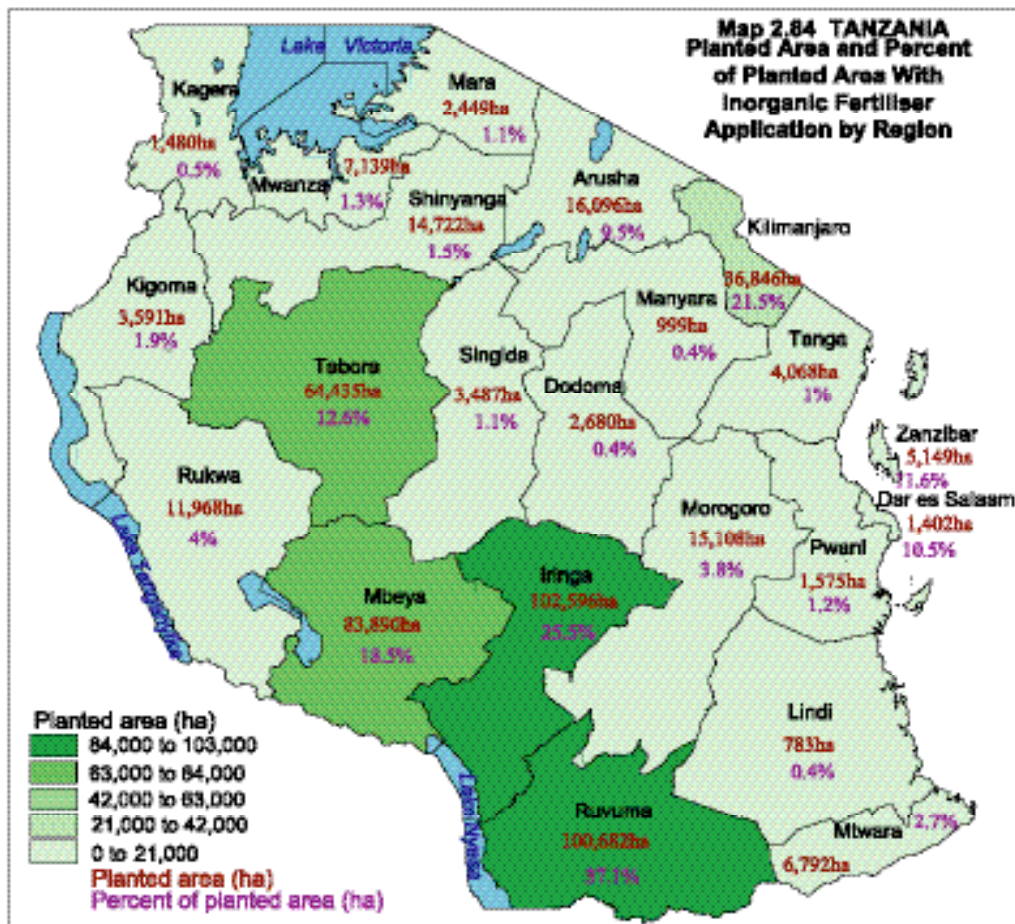
**Compost**

The number of households using compost is 167,205 and it is applied to 171,157 ha (169,993 on the Mainland and 1,159 in Zanzibar) representing 2 percent of the total area planted (Table 2.10). The area of application is very low for each type of crop (2 to 3%), however, the distribution of the total area using compost shows that 68 percent of this area is cultivated with cereals, followed pulses (19%) and oil seeds and oil nuts (6%).









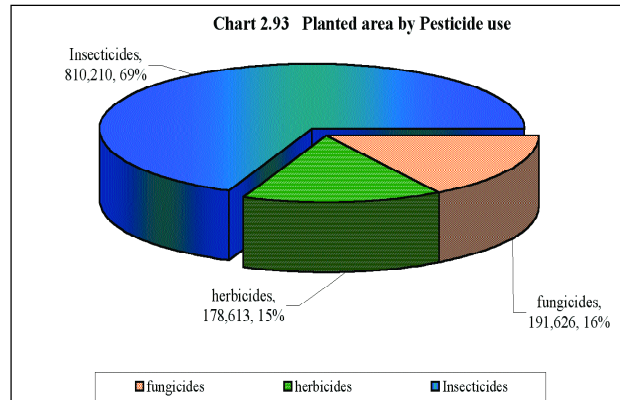


In permanent crops, compost is mostly used on banana 38.93%), cashew nut (15.5%), coffee (15.3%) and cassava (13.1%).

**2.6.5 Pesticide Use**

Pesticides are chemicals which are used for controlling insects, diseases and weeds on crops. This section analyses the use of these chemicals by smallholders on both annual and permanent crops in Tanzania.

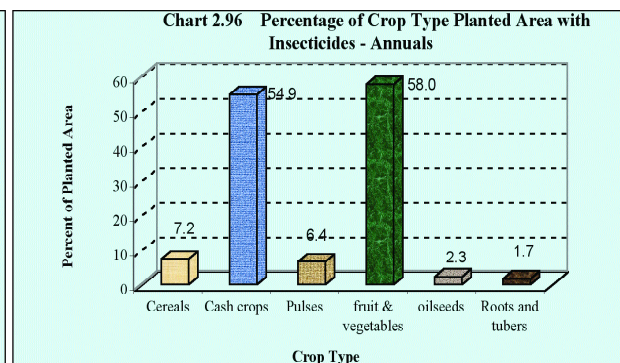
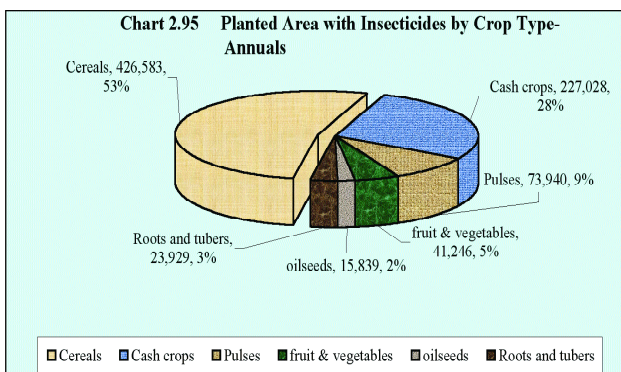
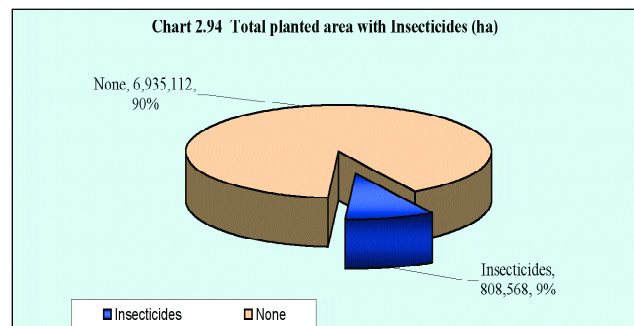
For Annual crops, pesticides are applied to 1,180,450 ha (1,176,694 ha on the Mainland and 3,756 ha in Zanzibar) (Note that this is application area. In some cases all three chemicals are applied to the same crop, so the planted area with pesticides will be much less than this figure).



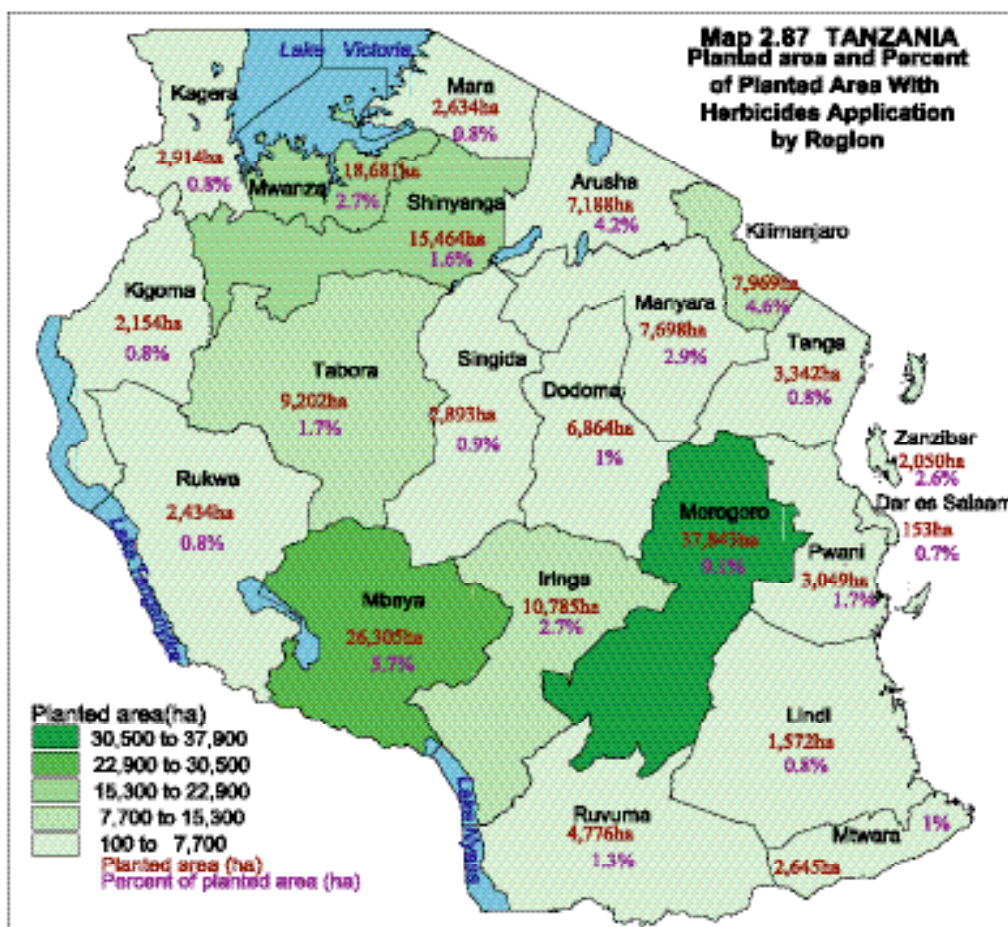
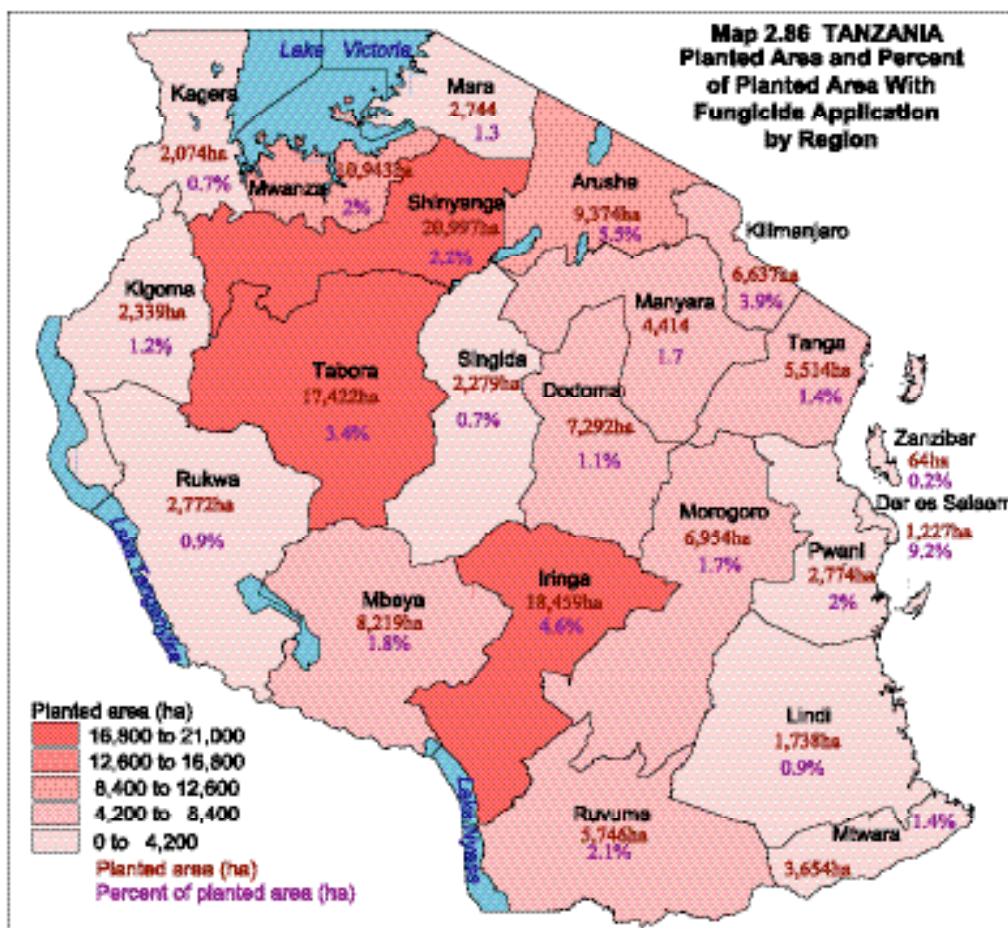
Insecticides are the most common pesticide used in Tanzania (72% of the total applied area with pesticides). This is followed by fungicides (15%) and herbicides (13%) (Chart 9.83).

**Insecticide**

Unless otherwise stated, the results in this section are presented for the mainland only. Insecticides are applied to 810,211 ha (only 9% of the total planted area) (808,569 on the Mainland and 1,642 in Zanzibar) (Chart 2.94). In terms of total planted area with insecticides application, more insecticides are used on cereals than other crop types (426,584 ha, 53%). This is followed by cash crops (227,029, 28%), pulses (73,940, 9%) and fruit and vegetables (41,247, 5%) (Chart 2.95). However, in terms of insecticide use by crop type, fruit and vegetables and cash crops receive a higher percent of insecticide than other crops. Of the total area planted with fruit and vegetables, 59 percent received insecticides and for cash crops is 57 percent.



Large regional differences exist. Iringa and Shinyanga have the greatest planted area with applied insecticide (175,130 ha, 43% of the total planted area in the region and 145,273 ha, 15% respectively), followed by Kilimanjaro (19%), Arusha (16%), Tabora (6%), Mwanza (12%), Mbeya (19%) and Rukwa (9%) (Map 2.85).

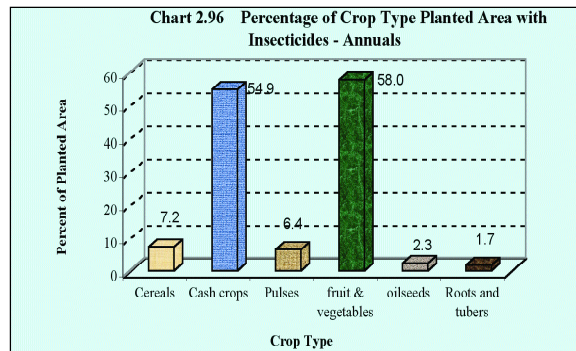
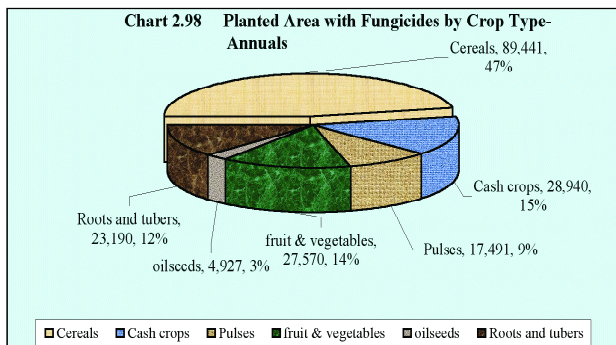
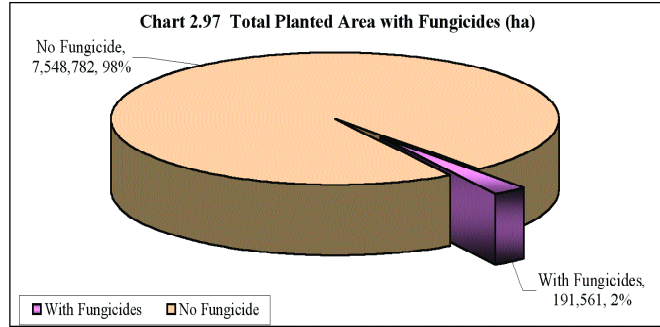




**Fungicide**

Fungicides are rarely used on annual crops in Tanzania with an applied planted area of only 191,626 hectares (191,562 ha on the Mainland and 64 in Zanzibar) representing 2 percent of the total planted area (Chart 2.98).

In terms of total planted area more fungicides are used on cereals than other crop types (89,441 ha, 47%). This is followed by cash crops (28,940 ha, 15%), fruit and vegetables (27,571 ha, 15%) and roots and tubers (23,191ha, 12%) (Chart 2.86). However, of the total area planted with fruit and vegetables 40 percent received insecticide applications (Chart 2.87). The percent planted area with fungicide

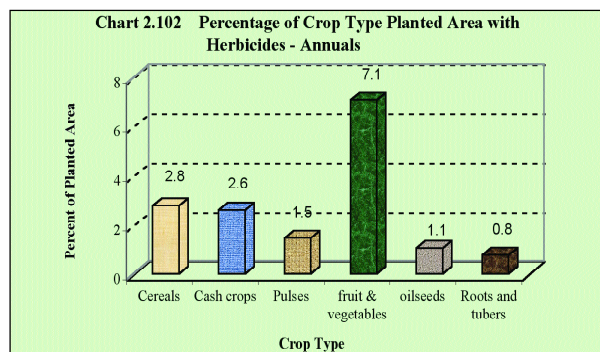
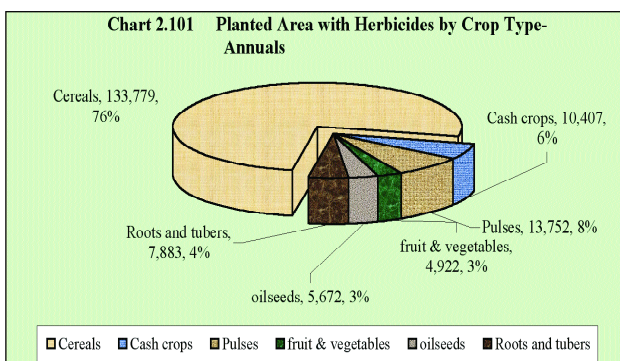
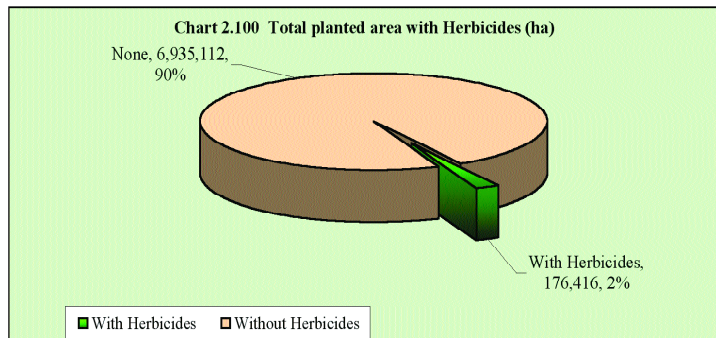


application for other crop types was very low.

The regions with the largest planted area with fungicides were Shinyanga (27,060 ha, 3% of the planted area in the region), Iringa (22,214 ha, 5%), Tabora (20,484 ha, 4%) and Mwanza (18,280 ha, 3%). Very little fungicide was applied in Zanzibar (Map 2.86).

**Herbicide**

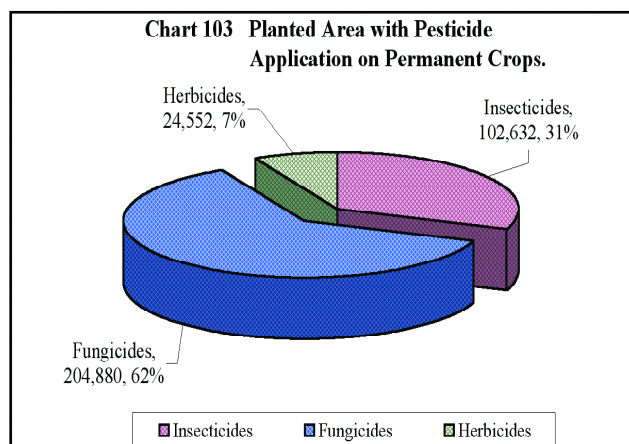
Herbicides were the least used pesticide in Tanzania with an applied planted area of only 178,613 ha (176,563 ha on the Mainland and 2,050 in Zanzibar) representing 2 percent of the total planted area (Map 2.87). In terms of total planted area more herbicides are used on cereals than other crop types (133,779 ha, 75% of the total planted area with herbicide application). This is followed



by pulses (13,752 ha, 8%) and cash crops (10,407, 6%) (Chart 2.86). Very little was applied to other crop types. Of the total area planted with fruit and vegetables only 7 percent received herbicide application (Chart 2.87) and the percent planted area with herbicide application for other crop types was very low.

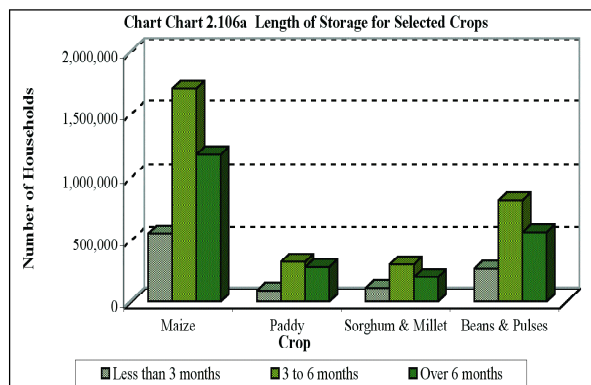
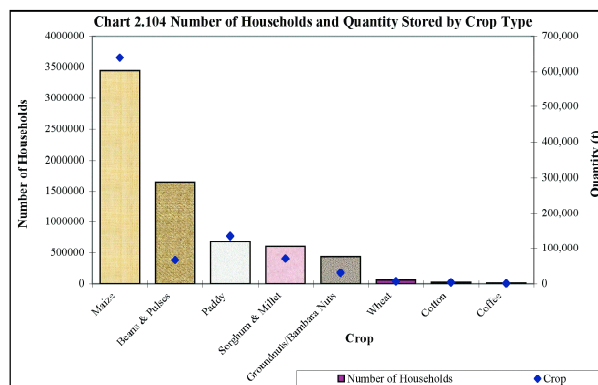
**Pesticide Use on Permanent Crops**

The use of fungicides, herbicides and insecticides on permanent crops is very low. However, smallholders that used pesticides applied more fungicides (204,880 ha, 62% of the total planted area with pesticides) than insecticides (102,632 ha, 31%) and herbicides (24,553 ha 7%) (Chart 103). Fungicides are mainly used on cashew nut (75% of the total area planted with permanent using pesticide). Herbicides are mostly used on coffee (45%), cashew nut (18%) and cassava (13%). Whilst insecticides are mostly used on coffee (61%) and cashew nut (24%).

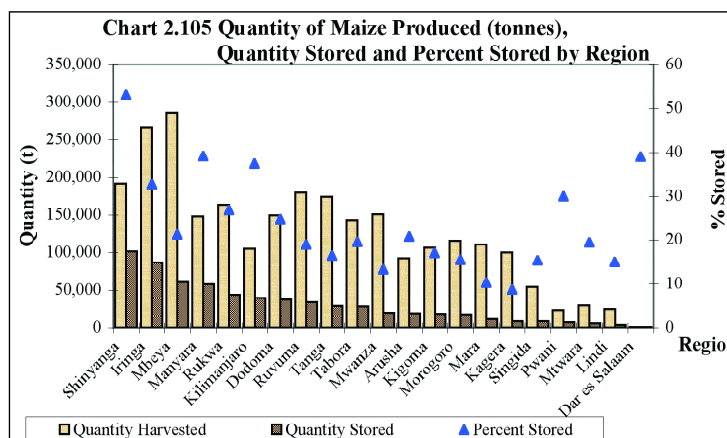


**2.7 Crop Storage**

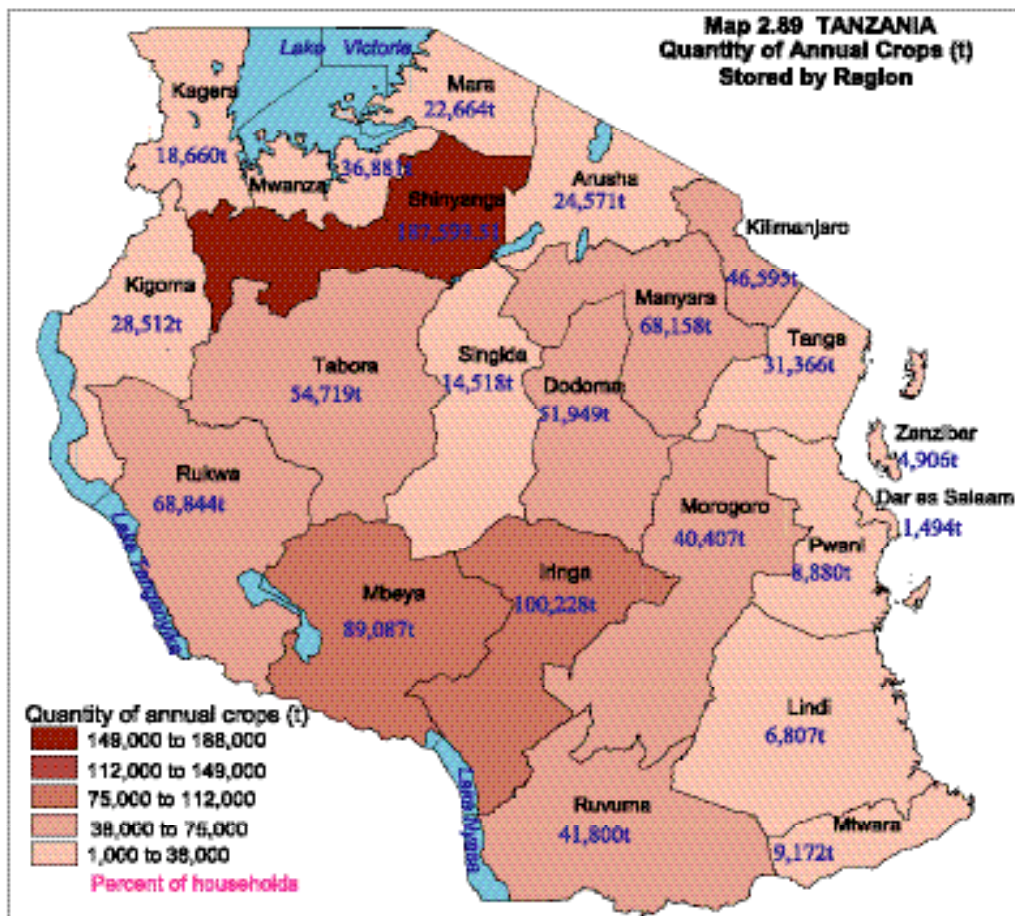
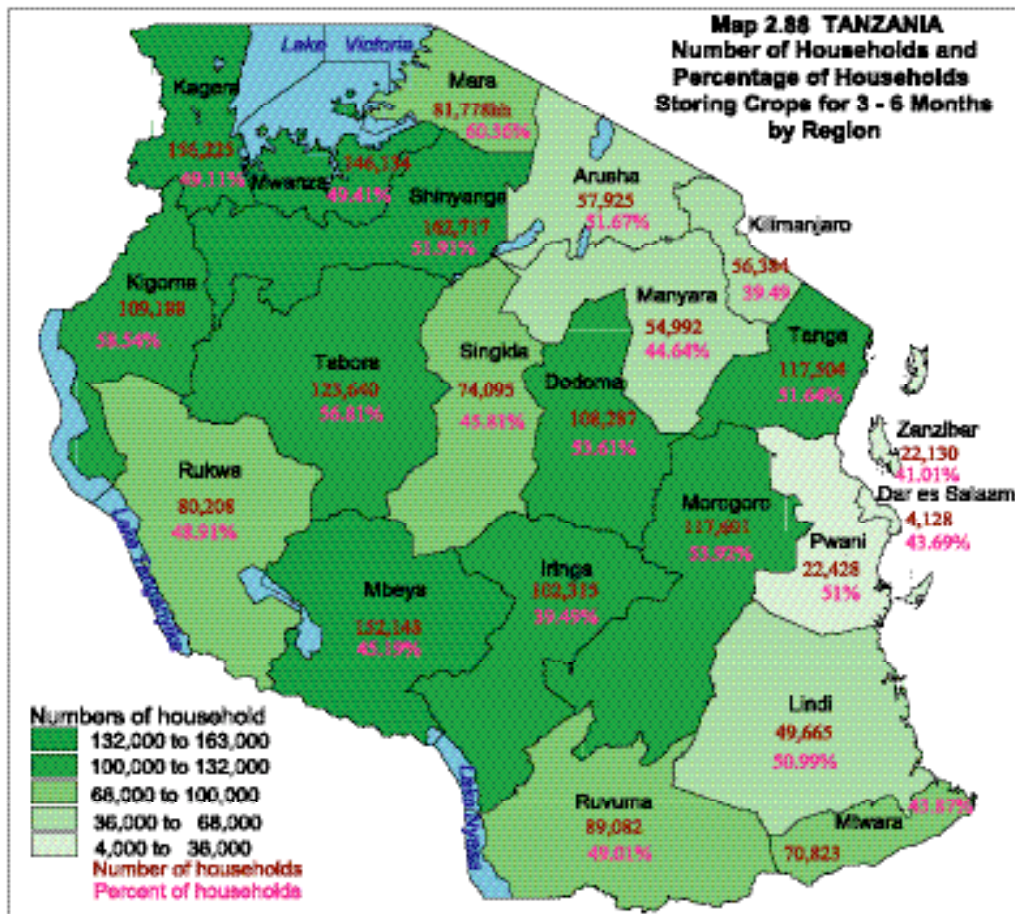
Crop growing households store crops for household food security and for seed for the following planting period. The number of households that store maize as of 1<sup>st</sup> October 2003 was 3,444,974 maize and had a stored quantity of 638,319 tonnes. This is followed by paddy (682 535 households and 135,614 tonnes), beans and pulses (1,647,082 households and 66,999 tonnes), sorghum and millet (606,496 households and 70,920 tonnes) and groundnuts with 440,029 households and 29,723 tonnes. Very minor amounts were stored for the remaining crops. Cash crops, cotton, tobacco, coffee and cashew nuts are mainly produced for direct sale and are not normally stored on farm(Chart 104).



In the following sections on storage the analysis will be based on the number of households storing maize only as it is the most stored crop in Tanzania.



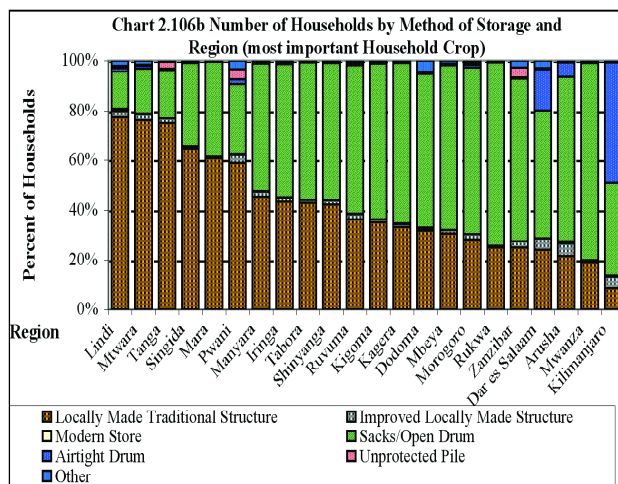




### 2.7.1 Storage Period

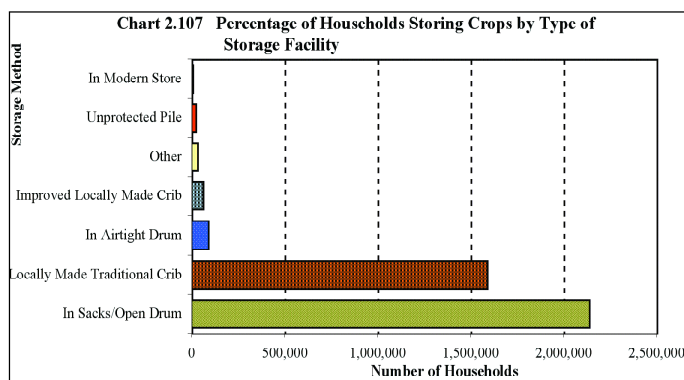
The most common storage period for crops is 3 to 6 months. This is closely followed by a storage period of over 6 months. The least common period of storage is less than 3 months. The pattern in terms of length of storage is more or less the same for both maize and pulses (Chart 2.105 and Map 2.88).

Regional comparison of duration of storage cannot be done for all crops combined. However, chart 2.106a provides details for maize and the analysis will be done for this crop only as it is the most commonly stored crop. In general, quantity stored is related to the quantity produced. Regions with greater production have a higher percent of their crop stored as on 1<sup>st</sup> October 2003, however some of these regions (Mbeya and Iringa) use proportionately more of the maize harvest than in regions with lower production indicating that the quantity stored is determined by the food and seed requirement of the household and not to sell during the "off-season" when the farm gate price of maize is higher (Chart 2.106b and Map 2.89).



### 2.7.2 Methods of Storage

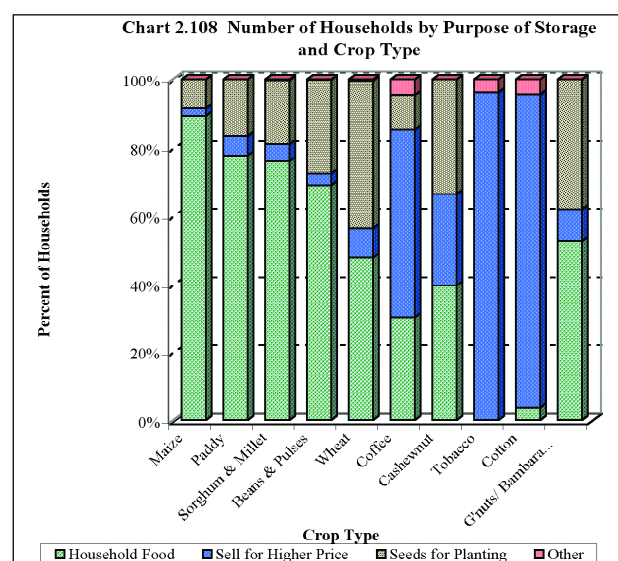
Most households store maize in sacks or in open drums (1,836,091 households). This is closely followed by those using locally made traditional structures (1,398,033). Other means of storage (airtight drums, improved locally made structures, unprotected pile and modern stores) are comparatively very small. However, there are large regional variations.



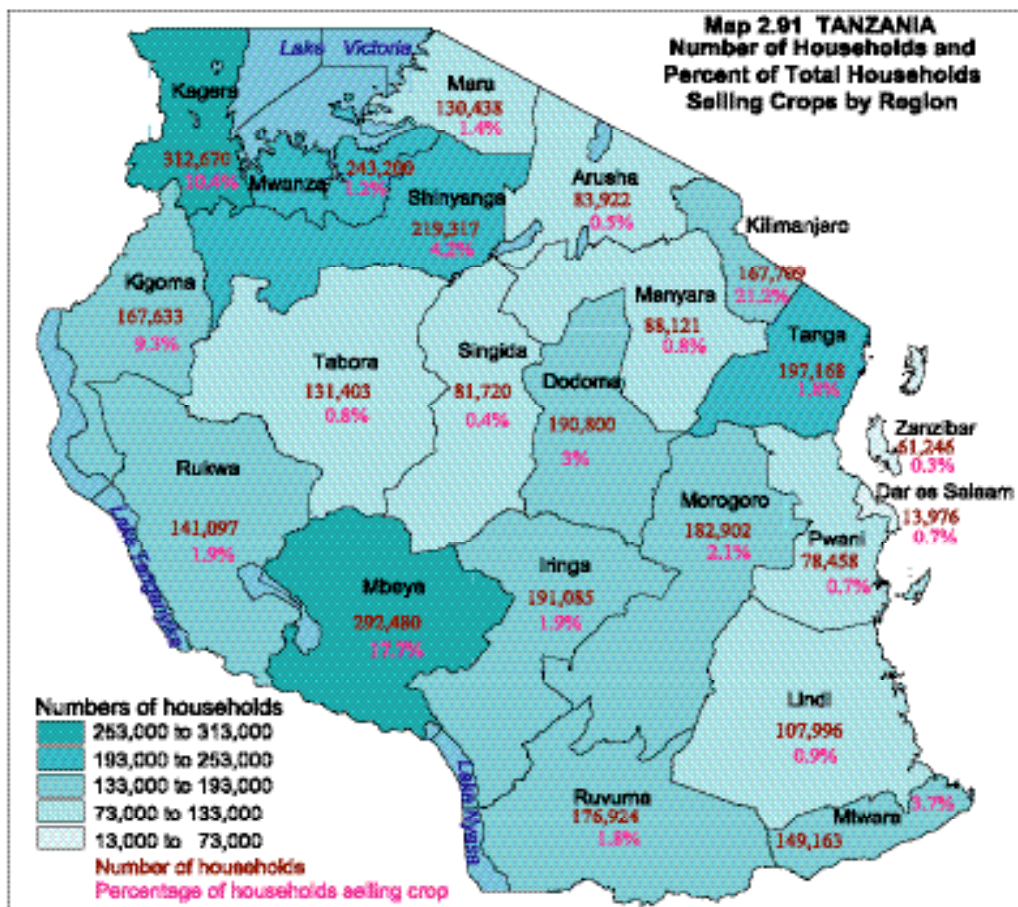
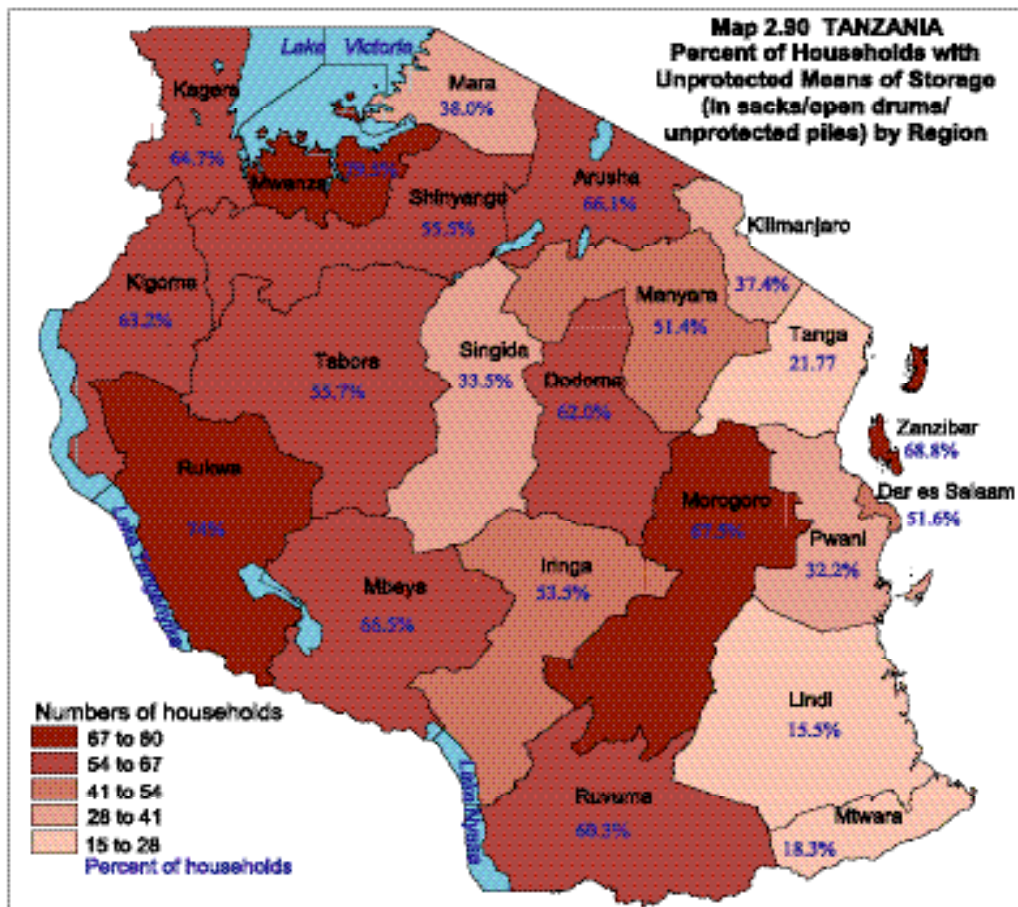
Most of the storage structures in Lindi, Mtwara, Tanga, Singida, Mera and Pwani are of the locally made traditional structure type (over 60%). The main storage structure in Kilimanjaro is in air tight drums (about 50%). Regions with the highest production of maize (Mbeya, Iringa, Ruvuma, Tanga, Rukwa, Mwanza, Tabora and Dodoma) mainly store crops in sacks/open drums. Other forms of storage (modern store and unprotected pile) are of minor importance (Chart 2.107 and Map 2.90).

### 2.7.3 Purpose of Storage

Subsistence food crops (maize, paddy, sorghum and millet, beans and pulses) are mainly stored for household consumption, with seed for planting being the second most important purpose. Practically all stored annual cash crops are





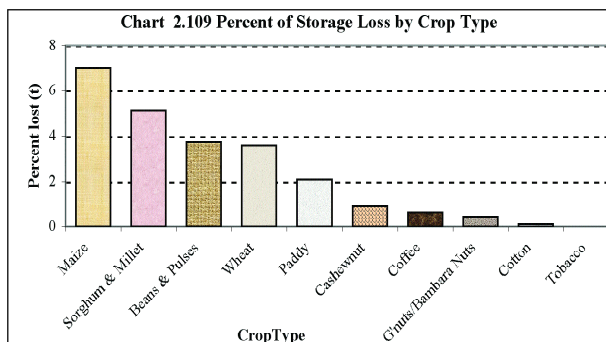


stored for selling for a higher price. Some of the stored permanent cash crops are for household consumption and seeds for planting in the case of cashew nuts. The percent of households that stored maize for household consumption as the main purpose of storage represent 89.5 percent. This is followed by seed for planting (8%) and selling for a higher price (2%).

**2.7.4 Storage Loss**

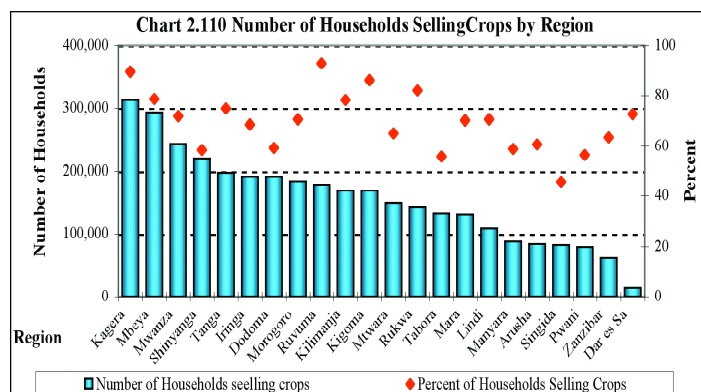
Over 80 percent of households that stored crops had little or no storage loss. Of the households that experienced storage loss, 75 percent reported loss of up to a quarter of the stored quantity.

The highest percentage of storage loss was reported for maize (7%), followed by sorghum (5%), beans (4%), wheat (4%) and paddy (2%). Other crops had little storage loss.



**2.8 Crop Marketing**

The number of households that reported selling crops in Tanzania was estimated at 3,409,427 which represents 70 percent of the total number of crop growing households. Kagera and Mbeya have the largest number of households selling crops. However the percent of households selling crops is highest in Ruvuma (93%), Kagera (89%), Kigoma (86%), Rukwa (82%), Mbeya (79%) and Kilimanjaro (78%). Singida, Tabora, Dodoma and Shinyanga have the smallest number of households selling crops (46%, 56%, 58% and 59% respectively) (Chart 2.110 and Map 2.91).

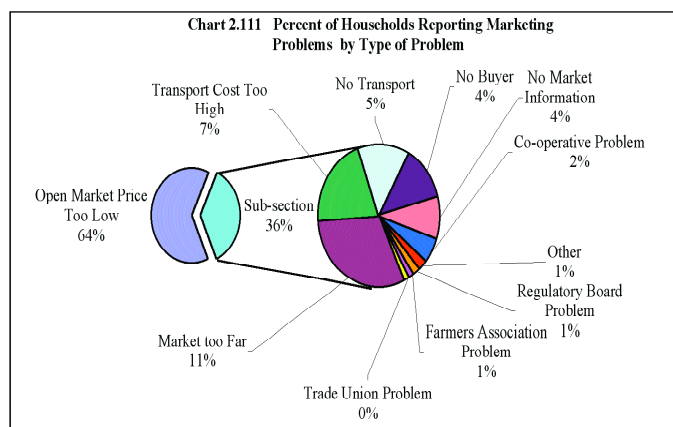


**2.8.1 Main Marketing Problems**

Low prices were the main problems reported by households (64% of households). However, because this response is considered obvious most of results presented in this section will be on other problems. Apart from low market prices the main marketing problems are related to access to markets. Either the market is too far, the transport cost too high or there is no transport or no buyer. Within the other problems, the problems relating to access to markets accounts for 75 percent of the crop marketing problems. Market information was reported to be the next problem. Other marketing problems are minor and each represent less than 5 percent of the total reported problems.

**2.8.2 Main Reason for Not Marketing**

The main reason for not selling crops was reported as "insufficient production to sell", representing





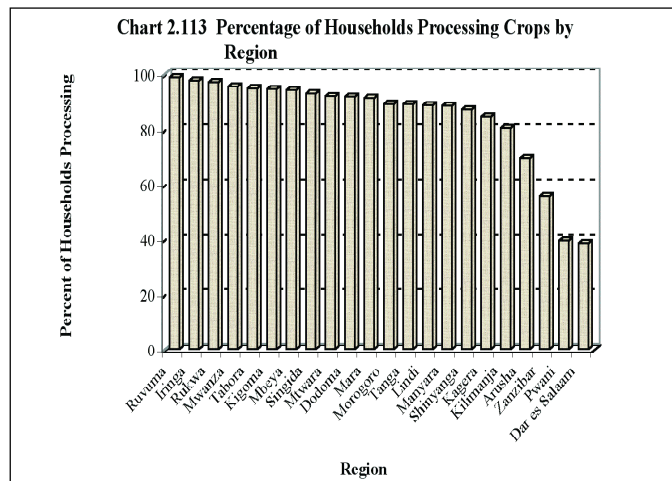
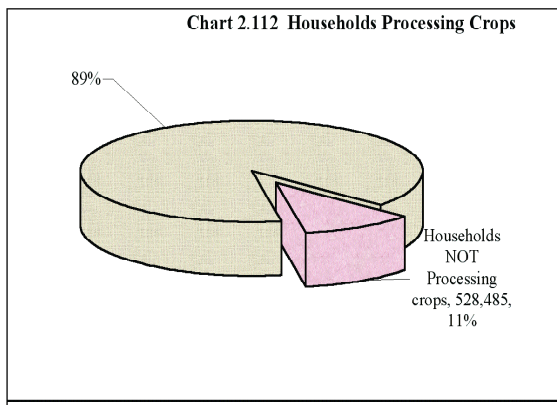
87 percent of smallholders. This may be a result of insufficient rain in some regions. The other reasons for not selling were reported by very few households and therefore insignificant.

This general trend applies to all regions except Pwani, Dar es Salaam and Lindi where the proportion of households reporting other reasons for not marketing their agricultural products is relatively high: 41 percent, 21 percent and 14 percent respectively.

Main reasons	Households number	%
Production Insufficient to Sell	1,637,937	87.2
Price Too Low	71,899	3.8
Trade Union Problems	17,136	0.9
Market Too Far	10,985	0.6
Co-operative Problems	8,850	0.5
Government Regulatory Board Problems	4,824	0.3
Farmers Association Problems	3,343	0.2
Other	122,721	6.5

**2.9 Agro-processing**

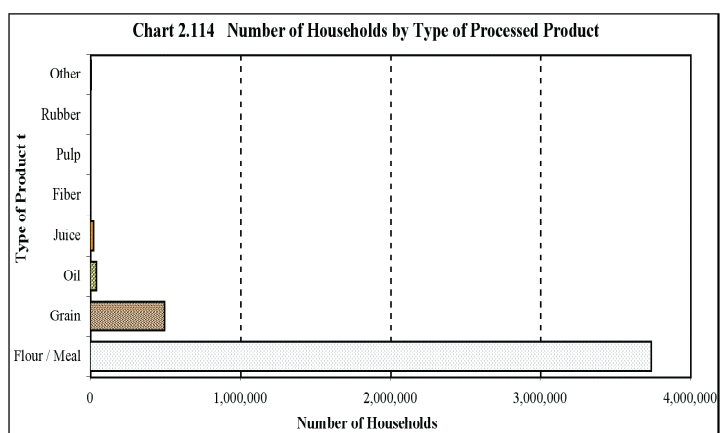
On farm agro-processing is practiced either to process crops into a consumable form or to increase the value of the harvested crop. Agro-processing is practiced in most crop growing households in Tanzania (4,330,325 households, 89% of the total crop growing households) (Chart 2.112).



The percent of households processing crops is very high in most regions (above 80%). The exceptions are Dar es Salaam (38% of crop growing households), Pwani (39%), Zanzibar (57%) and Arusha (64%) (Chart 2.113).

**2.9.1 Main Agro-processing Products**

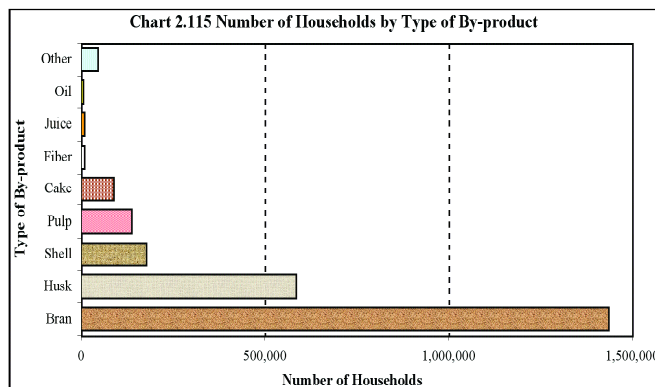
Two types of products are sometimes produced from agro-processing namely, the main product and the by-products. The main product is the major product after processing and the by-product is the secondary product after processing. For example the main product after processing maize is normally flour whilst the by-product is normally the bran.



The analysis on the type of processed product presented here is based on the main processed crop in the household. The main processed product produced by crop processing households is flour/meal with 3,740,875 households (86%) producing

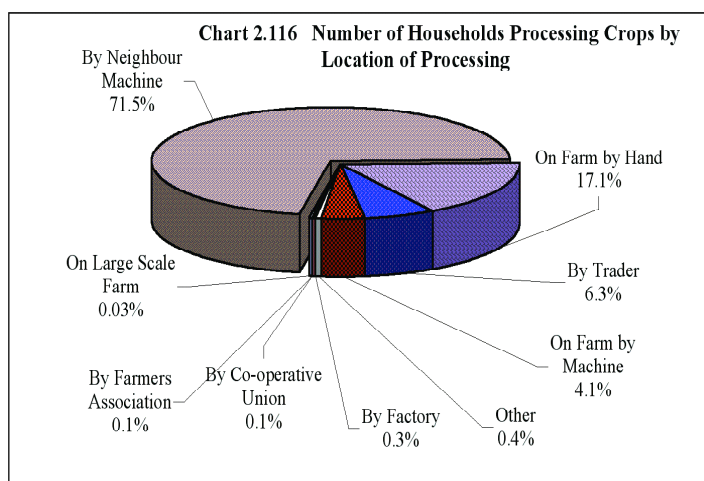
this product. This is followed by grain with 498,259 households (12%). The remaining products are produced by a small number of households.

The number of households producing by-products represents 46 percent of the households processing crops. The most common by-product produced by crop processing households is bran with 1,436,580 households followed by husks (586,043 households), shell (178,619), pulp (138,171) and cake (89,265). The remaining by-products are produced by a small number of households.

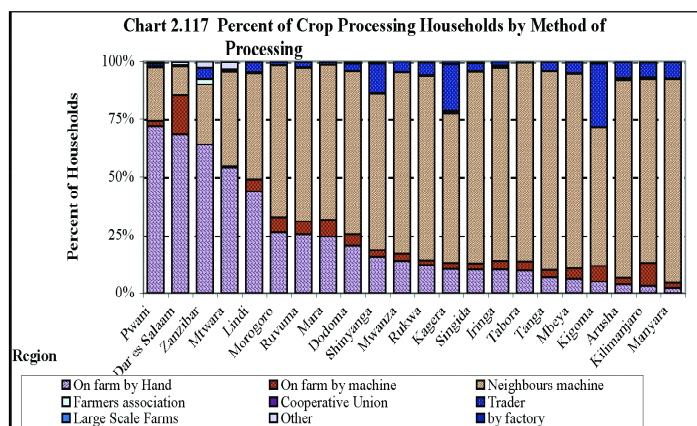


### 2.9.2 Crop Processing Methods

Most crop processing households process their crops using a neighbour's machine representing 71.5 percent. This is followed by those processing on-farm by hand (17%), trader (6%) and on-farm by machine (4%). The remaining methods of processing are used by very few households (less than 1%) (Chart 2.116).

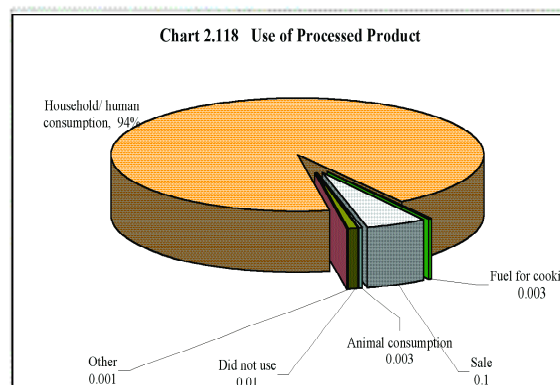


There are regional differences with more than 50 percent of the households in 18 out of the 21 regions in the country processing by neighbours machine. Pwani, Dar es Salaam, Zanzibar, Mtwara and Lindi have the highest percent of households processing on-farm by hand (72%, 68%, 63%, 54%, and 44% respectively). Processing by trader is more common in Kigoma, Kagera and Shinyanga (28%, 20% and 13% respectively) than in other regions. Processing on farm by machine is more prevalent in Dar es Salaam and Kilimanjaro (Chart 2.117).



### 2.9.3 Main Use of Processed Products

A large percent of households reported "home consumption" as the main use of processed products (94% of the total number of households processing crops). This is followed by selling as the second most common use of processed products (5%). The remaining uses, e.g. fuel for cooking, animal consumption, etc. are mainly for a small number of households (Chart 2.118). Out of 239,535 households that sell processed products, 76,600 households are in Mbeya (32% of the total number of





households selling processed products), followed by Kilimanjaro with 44,525 households (19%), Kagera with 33,641 households (14%) and Kigoma with 18,958 households (8%) (Chart 2.119 and MAP 2.92)

**2.9.4 Outlets for Sale of Processed Products**

The greatest number of households sell processed products to neighbours (184,033 households, 30%). This is followed by local market (126,285, 20%), trader on farm (97,577, 15% and farmer association 56,435, 9%). Very few smallholders sell their processed products to large scale farmers ( less than 1%).

However, there are large differences between regions. Between 50 and 60 percent of crop processing households in Rukwa, Singida and Mtwara sell processed produce to neighbours. In contrast, very little processed produce is sold to neighbours in Kilimanjaro, Manyara, Mbeya, Mwanza and Mara. In Kilimanjaro, the sale of processed produce to farmer associations is prominent followed by market cooperatives.

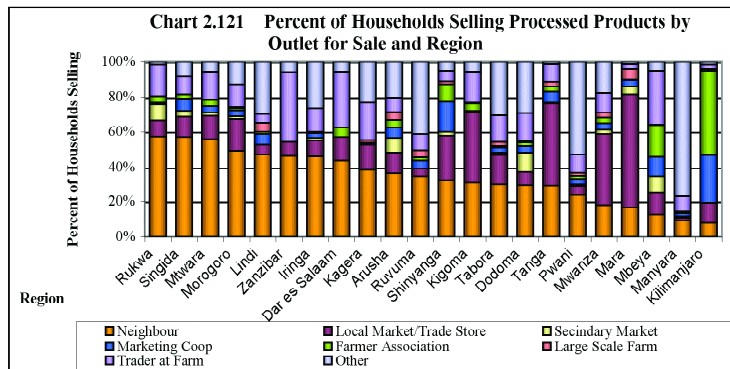
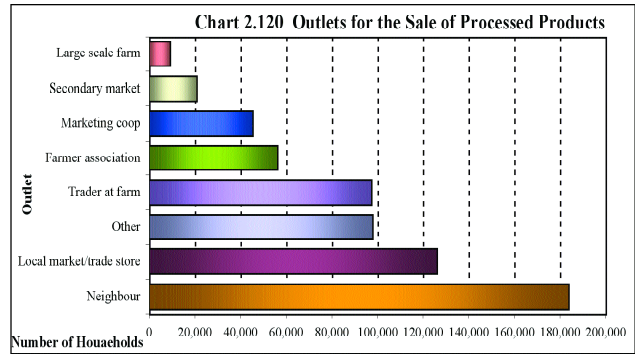
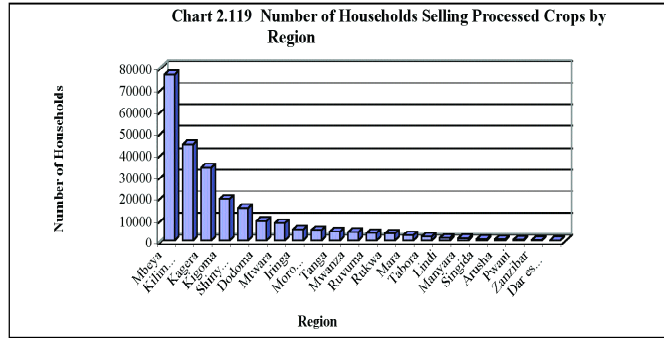
The regions with the highest percent of households selling processed products to local markets or trade store are in Mara, Tanga, Kigoma and Mwanza. The percentage of households selling processed products to traders on farm is highest in Zanzibar (38%), Dar es Salaam (32%) and Mbeya (31%).

Regions with the least percentages of households selling processed products to traders on farm are Kilimanjaro, Mara, Lindi and Shinyanga (between 2% and 6%) (Chart 2.121 and Map 2.93). At the time of analysis the large percent of "Other" outlets for sale, especially for Manyara was not identified.

**2.10 Crop Extension Services**

**2.10.1 Access to Extension Services**

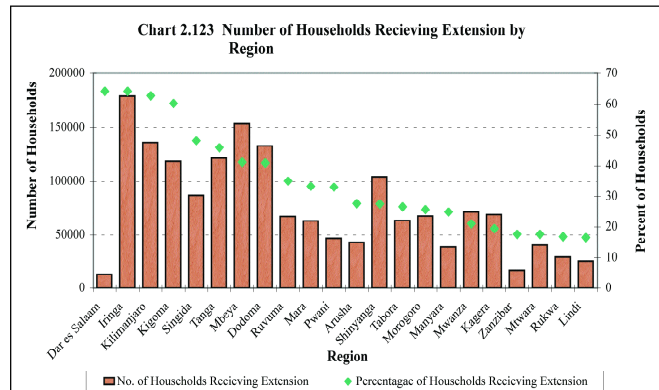
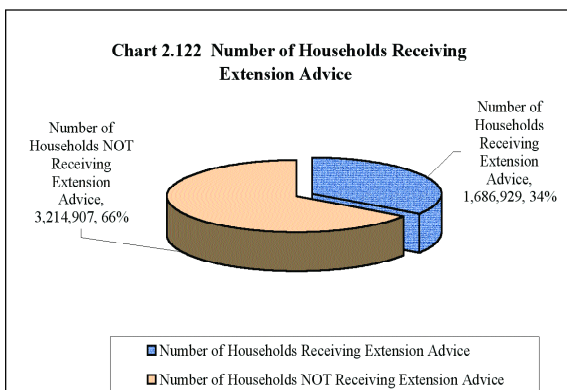
The number of households receiving crop extension advice in Tanzania is 1,686,929 (1,669,821 on the Mainland and

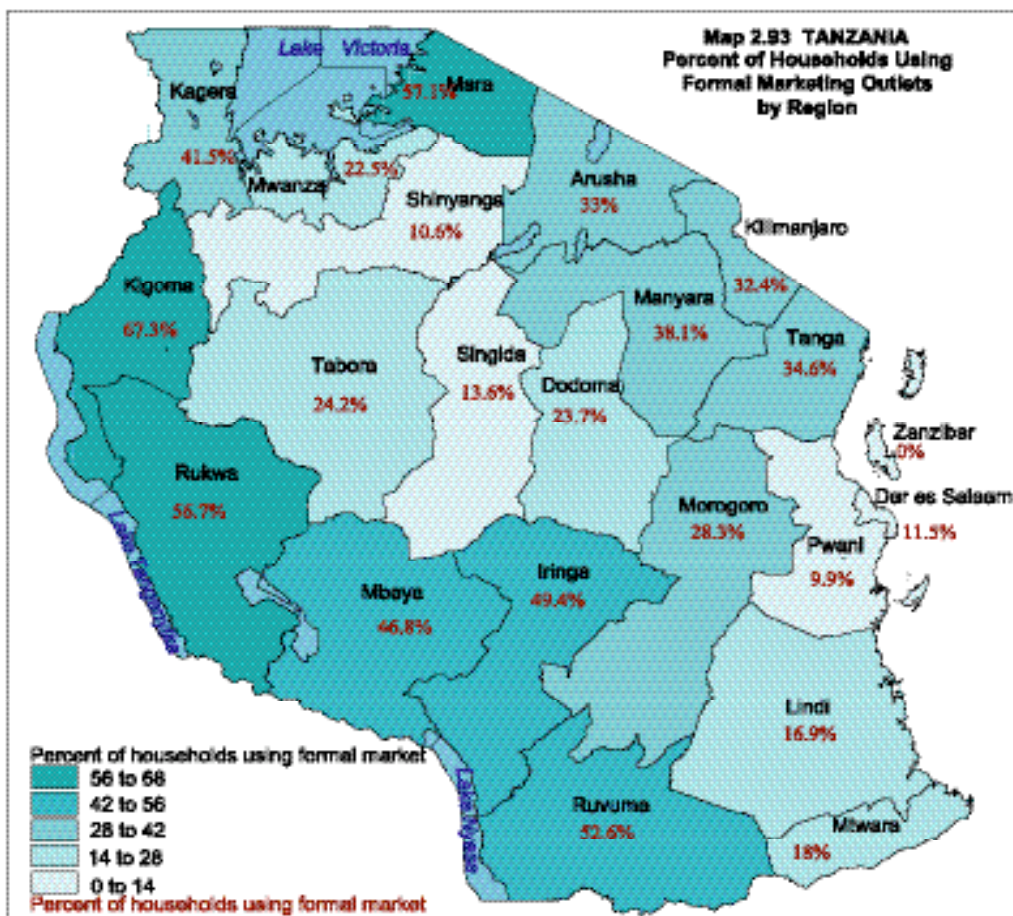
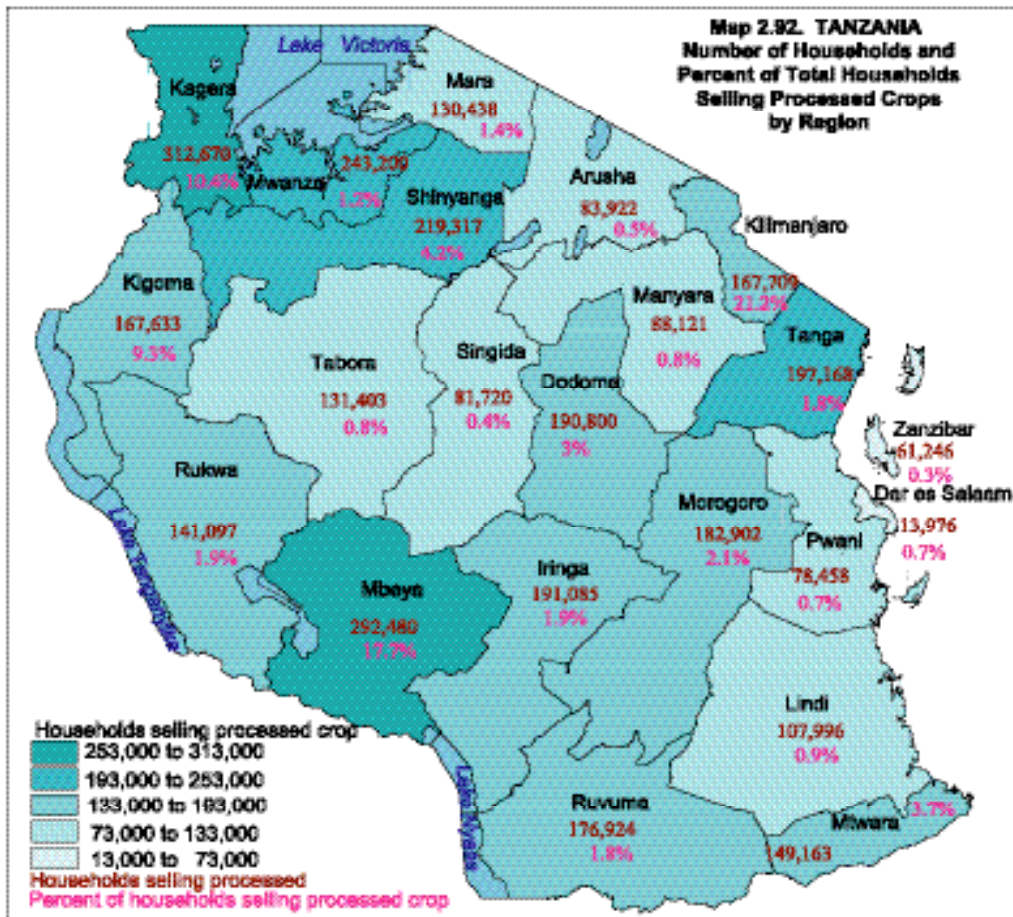


**2.10 Crop Extension Services**

**2.10.1 Access to Extension Services**

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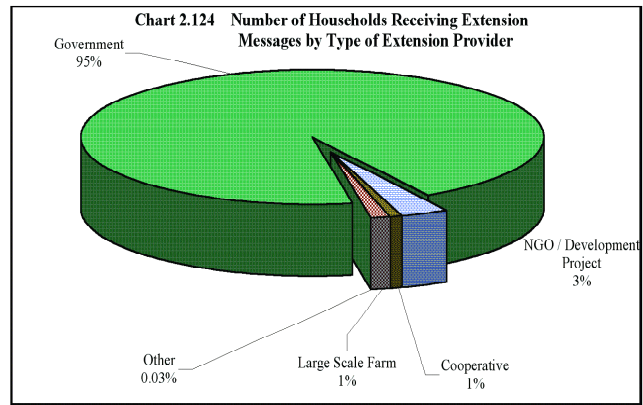


17,109 in Zanzibar) which represents only 34 percent of the total number of crop growing households. Some regions have better access to extension services than others.

The proportion of smallholder households receiving extension is highest in Dar es Salaam and Iringa (64% of the total number of smallholder households). This is followed by Kilimanjaro (63%), Kigoma (60%), Singida (48%) Tanga (46%), Mbeya (41%) and Dodoma (41%). In contrast the households receiving the least advice are found in Lindi (17%), Rukwa (17%), Mtwara (18%), Zanzibar (18%), Kagera (20%) and Mwanza (21%) (Chart 2.123 and Map 2.94).

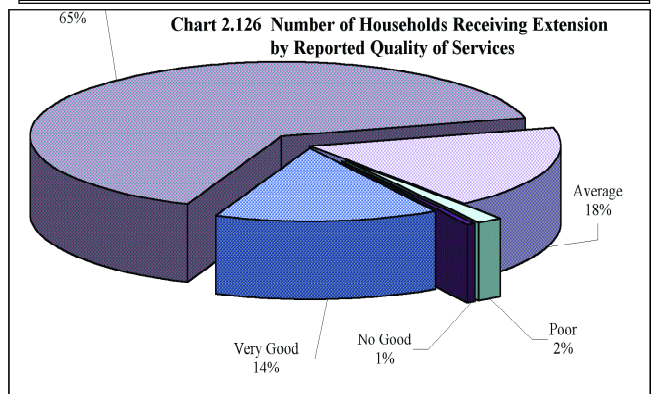
**2.10.2 Source of Extension**

The Government provides most of the extension advice given to households (95%), NGOs (3%), large scale farms and cooperatives only provide 1 percent each (Chart 2.124). This trend is similar for all regions except for Tabora, Rukwa, Mwanza & Kagera where the proportion of households receiving advice from NGOs/Development projects are much higher (14%, 10%, 10%, and 9% respectively) than in other regions (Map 2.95).



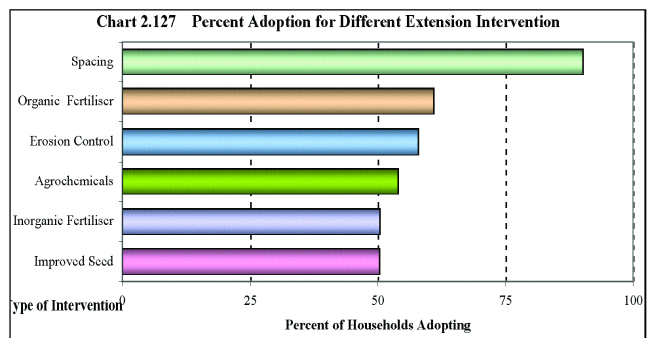
**2.10.3 Quality of Extension**

Care should be exercised when making decisions on quality of extension and also other variables in the extension part of the report as all the enumerators were extension agents and some degree of bias may be expected. Most households reported the quality of extension services to be good (65%), but only 14 percent reported the quality of services to be very good. Very few reported that the services to be either poor (2%) or no good (1%) (Chart 2.126).



**2.10.4 Extension Adoption Rate**

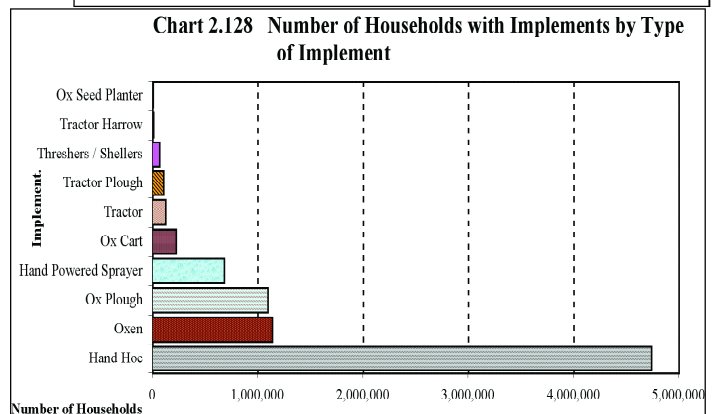
The overall extension adoption rate was 63 percent. Extension Adoption Rates are over exaggerated. The adoption rates presented here for the different inputs are much higher than the actual use of these inputs in Section 2.6. However it appears that the interventions that require no costs are the most adopted (Chart 2.127).

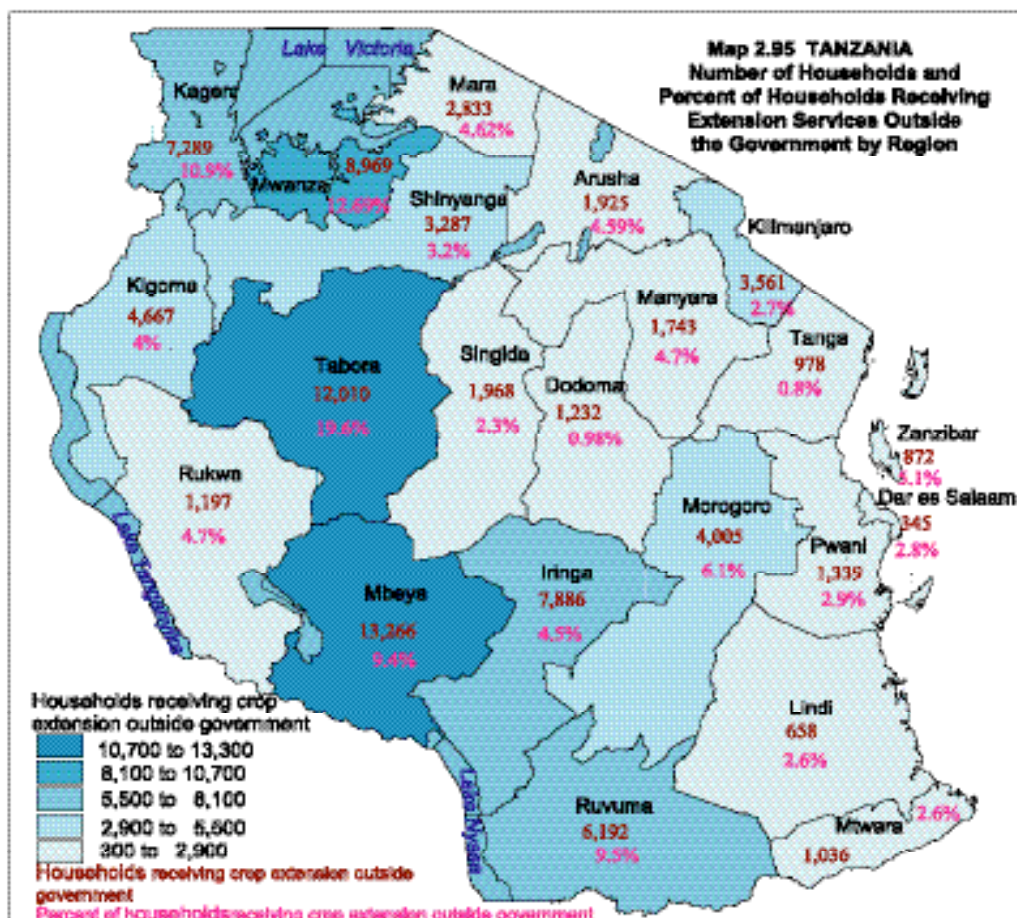
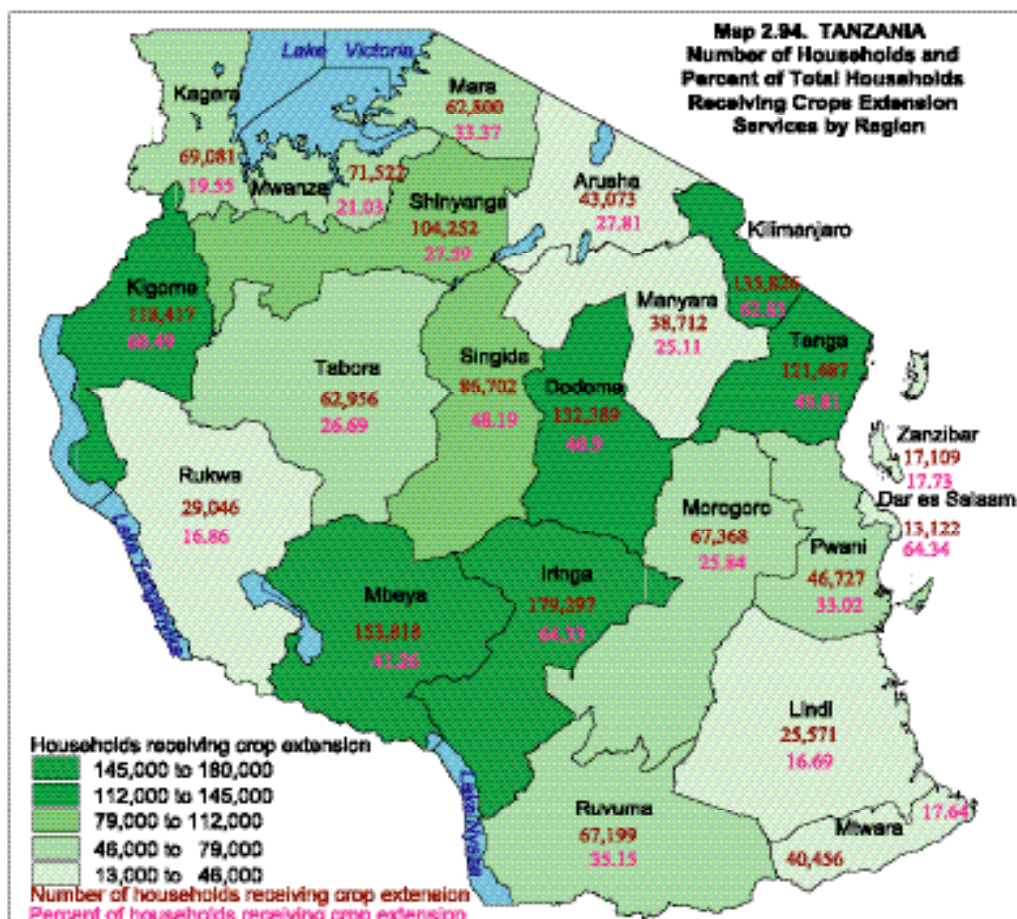


**2.11 Crop Implements**

**2.11.1 Access to Implements**

The majority of implements found on farms are hand held hoes (4,747,642 households, 97.7% of

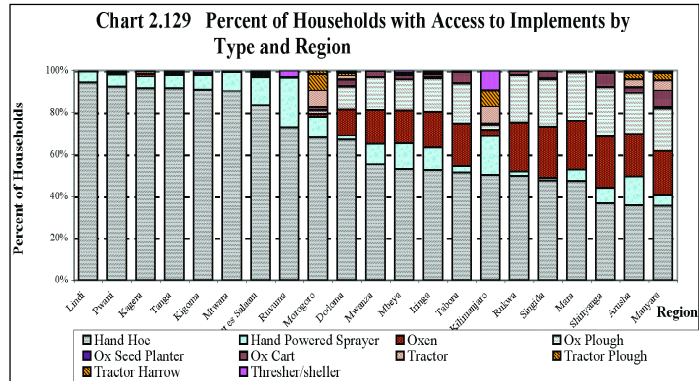






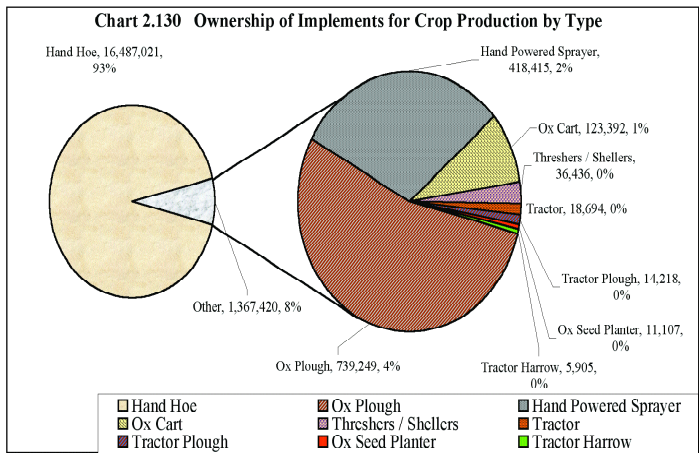
crop growing households in Tanzania). This is followed by those with oxen (1,144,099 households, 24%) and oxen plough (1,103,765 households, 23%). Only 5 percent of the crop growing households have ox carts whilst those with tractors represent only 3 percent. Households with threshers, tractor harrows and ox seed planter are very few (Chart 2.128).

Households in Lindi, Pwani, Kagera, Tanga, Kigoma, Mtwara and Dar es Salaam regions have access to hand held hoes and only a small number of hand powered sprayers. They have little or no access to other implements. The regions that have the greatest access to oxen and oxen ploughs are Shinyanga, Singida, Rukwa, Tabora, Manyara and Arusha. Shinyanga, Manyara and Tabora regions have the greatest access to ox carts, although comparatively small. There is very little access to tractors with the exception of Morogoro, Kilimanjaro, Manyara and Arusha (Chart 2.129 and Map 2.96).



**2.11.2 Ownership of Implements**

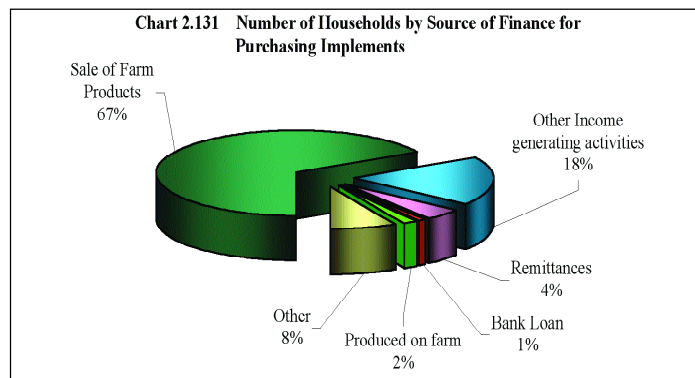
Of all the implements owned by households 93 percent (16,487,022) are hoes. Of the remaining implements owned (8%), ox ploughs constitute over 50 percent and hand powered sprayers over 25 percent. Ownership of the remaining implements is very small. Ownership tractors and tractor implements is extremely small (Chart 2.130).

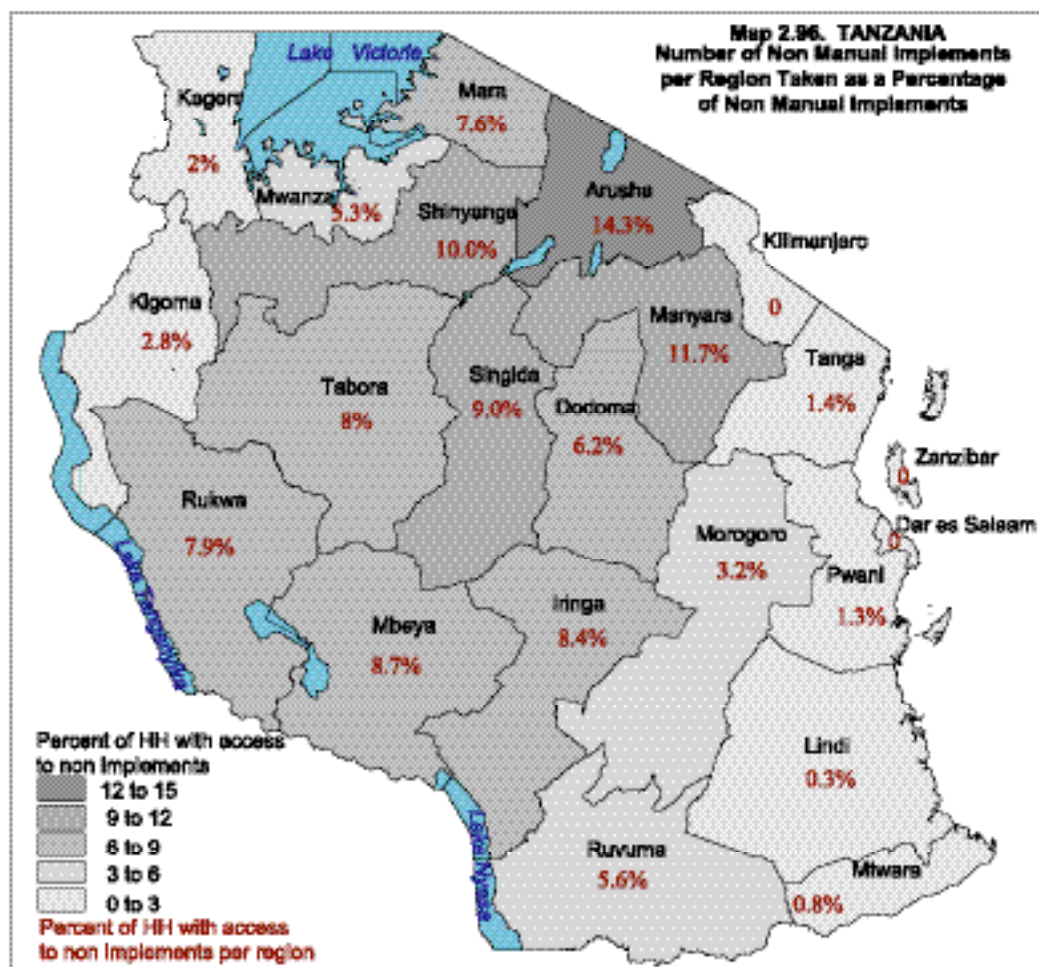


Ownership of the remaining implements is very small. Ownership tractors and tractor implements is extremely small (Chart 2.130).

**2.11.3 Source of Finance for Purchasing Implements**

Sale of farm products is the main source of funds for purchasing implements (67% of households). This is followed by other income generating activities (18%) and remittances (4%). Only less than 1 percent of households purchase implements using bank loans (Chart 2.131)







## 2.12 Use of Inputs

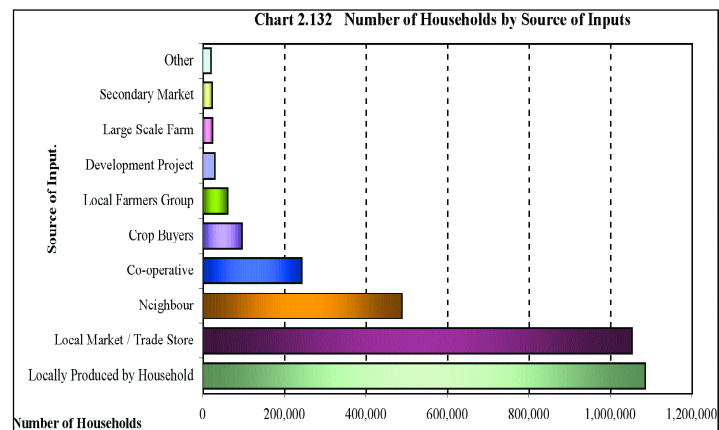
Access to inputs in this section refers to all crop growing households in Tanzania regardless of whether the household grew annual or permanent crops. In previous sections the reference was on annual crops only. Because of this the figures presented in this section may be different from the previous section on inputs (Section 2.6). Data on source of inputs is only found in this section and it applies to both annual and permanent crops.

Type of Input	Households With Access to Input		Households Without Access to Input	
	Number	%	Number	%
Farm yard manure	1,255,312	26	3,507,277	74
Improved seeds	877,308	18	3,885,281	82
Fungicide	794,372	17	3,968,217	83
Inorganic fertiliser	552,953	12	4,209,636	88
Compost	281,678	6	4,480,911	94
Herbicide	76,201	2	4,686,388	98

A small number of households use inputs and this is particularly true of inputs that are not produced on farm i.e. improved seed, fungicides, inorganic fertiliser and herbicides. On the Mainland farm yard manure is used by 1,255,312 households which represents 26 percent of the total number of crop growing households. This is followed by households using improved seeds (18%), fungicide (17%), agro-chemical fertiliser (12%), compost (6%) and herbicide (2%) (Table 2.12).

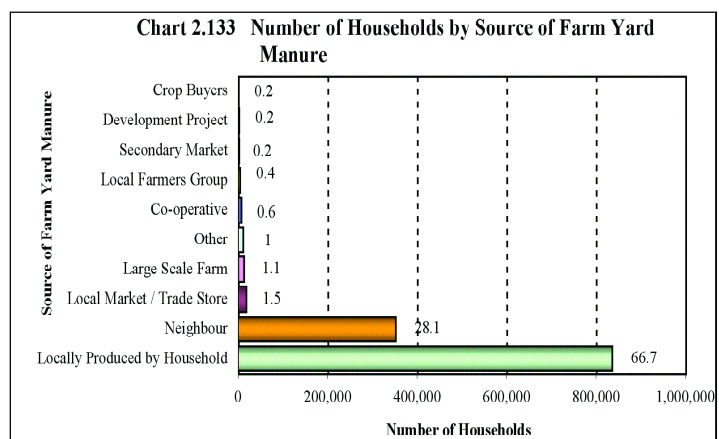
### 2.12.1 Source of Inputs

Most crop inputs are locally produced by the household (34%) (mainly referring to farm yard manure and compost), followed by local market/trade store (33%), Neighbours (16%) and Cooperatives (8%). Other sources are of minor importance with the smallest number of households obtaining crop inputs from secondary markets, large scale farms and development projects.



### Farm Yard Manure

For farmers that apply farm yard manure, the source is mostly from their own farm (67% of small holders applying farm yard manure). This is followed by neighbours (28%). A small number of households get farm yard manure from local markets (1.5%) and large scale farmers (1.1%). Other sources are of very minor importance (Chart 2.133). Farm yard manure is mostly used in the regions of Kilimanjaro with 75 percent of the total number of households, followed by Shinyanga (46%), Arusha (44%), Manyara (39%), Iringa (33%), Ruvuma (32%), Dar es Salaam (31%) and Mwanza (30%).



### Compost

Most smallholders using compost produce it on their own farms (80% of farmers using compost). This is followed by purchasing from neighbours (10.5%). Few households get their compost from cooperatives (3.9%), local markets (1.9%) or large scale farms (1%) (Chart 2.134).

Compost is mostly used in the regions of Dar es Salaam with 18 percent of the number of households using compost, followed by Mbeya (15%), Kagera (13%), Pwani (8%) and Kigoma (8%).

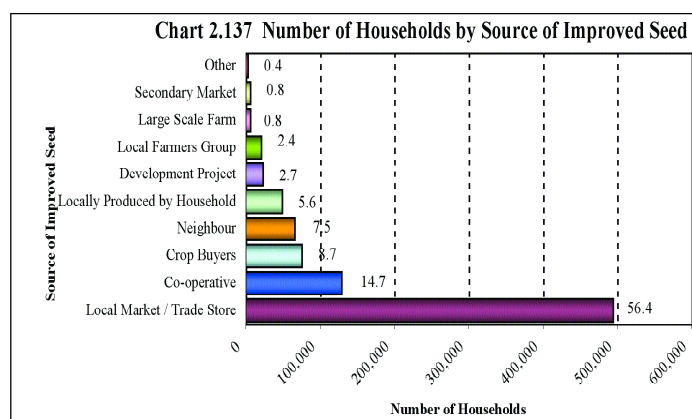
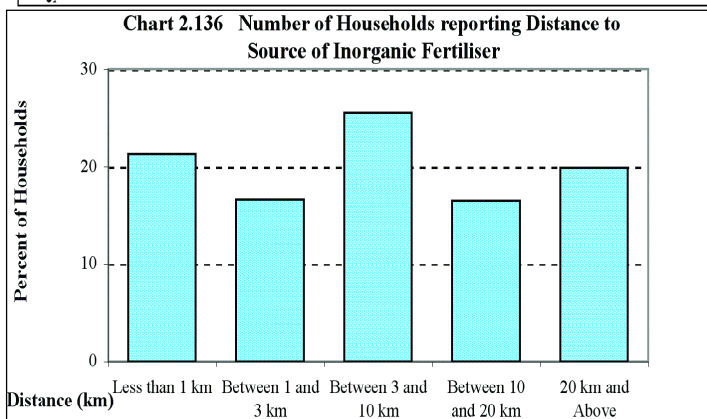
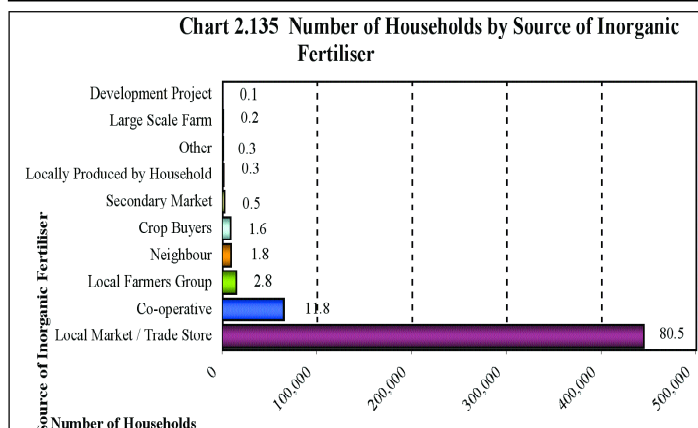
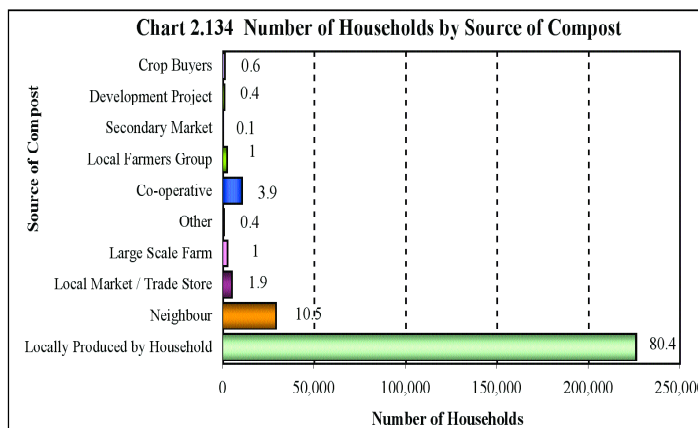
**Inorganic Fertilisers**

Smallholders that use inorganic fertiliser mostly purchase it from the local market/trade store (81% of the total number of inorganic fertiliser users). This is followed by cooperatives (12%). The remaining sources of inorganic fertilisers are minor (Chart 2.135).

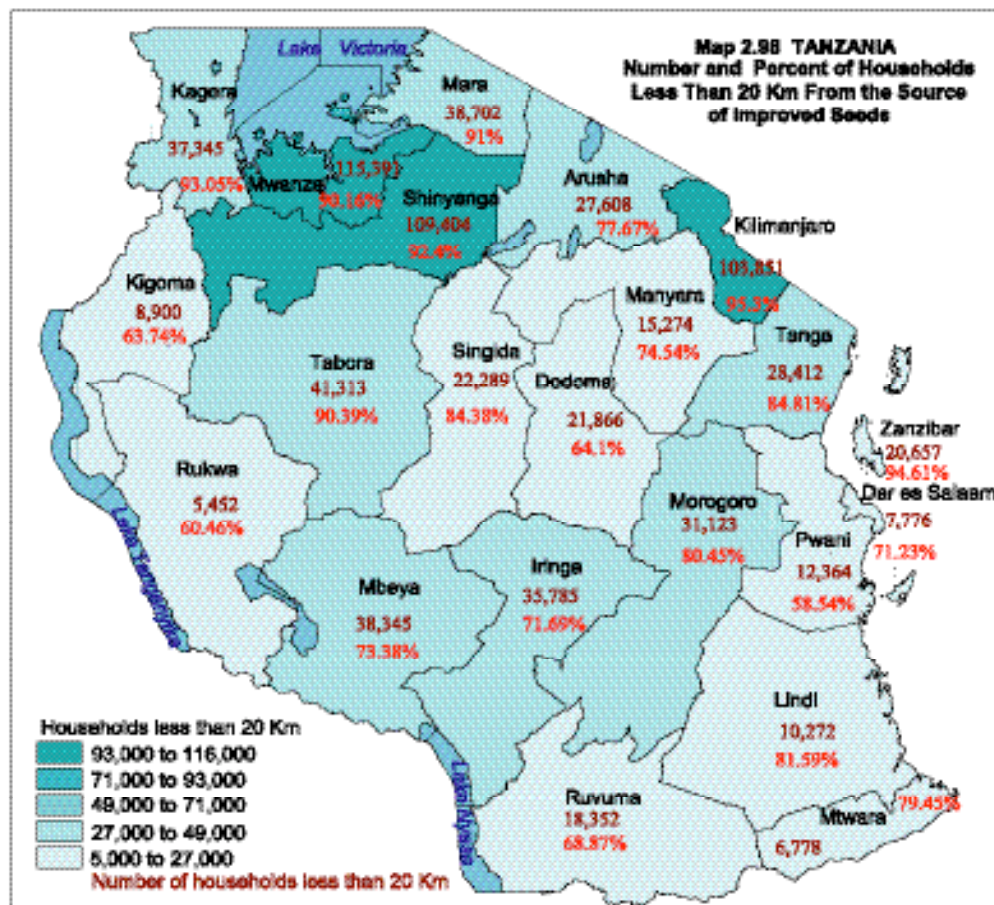
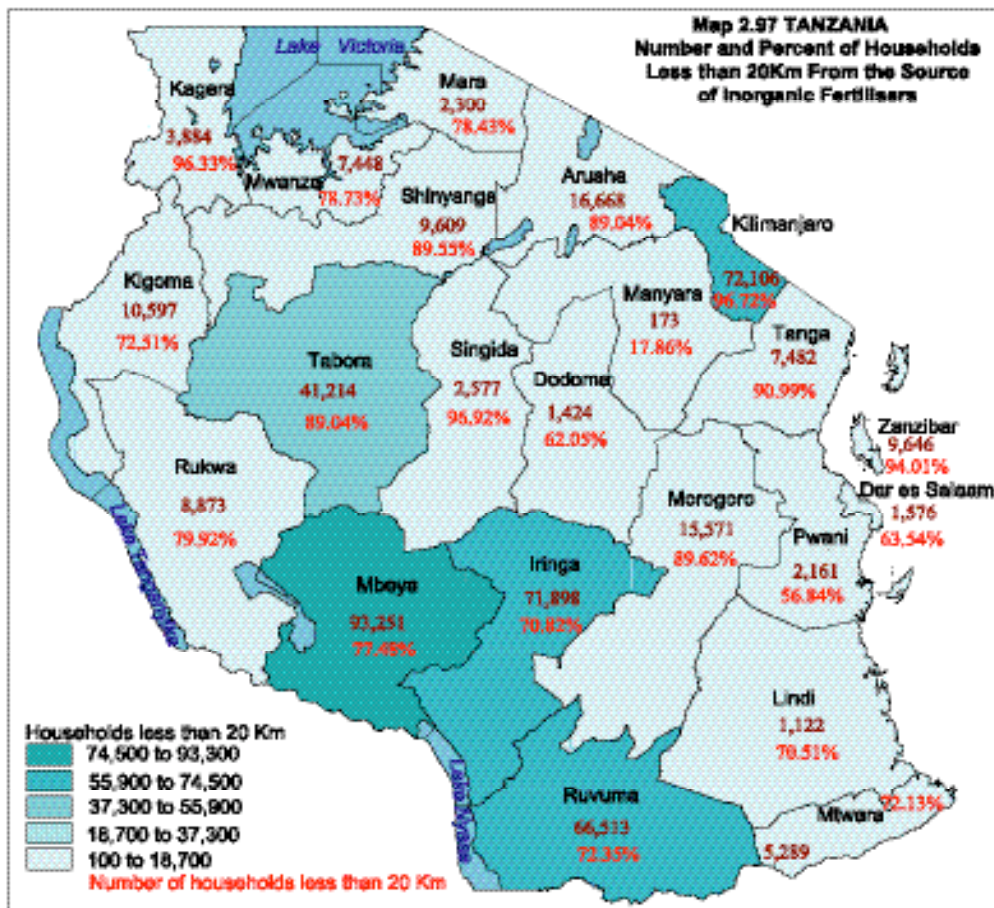
Access to inorganic fertiliser is variable with almost the same numbers of farmers reporting different distances to the fertiliser source (Chart 2.136). Due to the very small number of households using inorganic fertilisers coupled with the small number of households responding to “non available” (18%) as the reason for not using, it may be assumed that access to inorganic fertiliser is not the main reason for not using. Other reasons such as cost are more important with 57 percent of households responding to cost factors as the main reason for not using. In other words, it is assumed that if the cost was affordable the demand would be higher and access to inorganic fertiliser would be made more available. More smallholders use inorganic fertilisers in Ruvuma (48% of households using inorganic fertilisers), Iringa (36%), Kilimanjaro (35%), Mbeya (32%) and Tabora (20%) (Map 2.97).

**Improved Seeds**

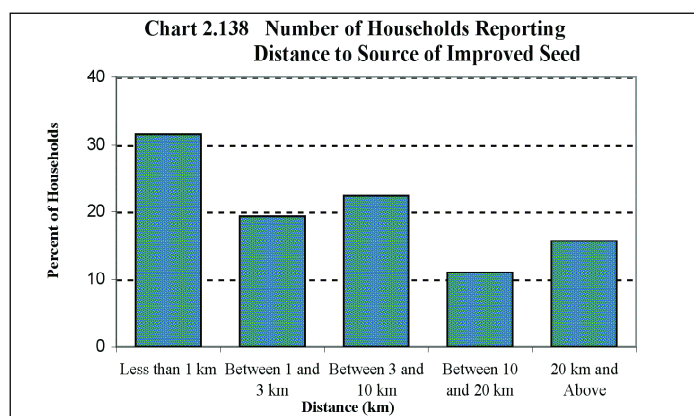
The percent of households that use improved seeds is 18 percent of the total number of crop growing households. Most of the improved seeds are from the local market and trade store 56.4 percent. Other less important sources of improved seed are from cooperatives (14.7%), crop buyers (8.7%) and neighbours (7.5%). Only 0.8 percent of households obtain improved seeds from large scale farms (Chart 2.137).







The access to improved seed is better than other improved inputs (improved seed and chemical inputs) with 32 percent of households obtaining this input within 1 km of the household (Chart 2.138). This is in line with the higher use of improved seed compared to other improved inputs, which further supports the concept that it is not the availability that is the main issue in the use of inputs but rather other factors such as cost.



The regions that mostly use improved seeds are Dar es Salaam with 57 percent of the total number of households using improved seeds, followed by Kilimanjaro with 51 percent, Mwanza with 38 percent, Arusha with 26 percent and Mara with 23 percent (Map 2.98).

### Insecticides and Fungicide

Most smallholder households using insecticides and fungicides mainly purchase them from local markets/trade stores (67% of the total number of fungicide users). Cooperatives are the next important source of fungicides/insecticides (16.7%). Other sources of fungicides/insecticides are crop buyers (3.6%), local farmers (3.6%), locally produced by household (3.3%) and neighbours (3.1%). Very few households receive insecticides/fungicides from large scale farms (Chart 2.139).

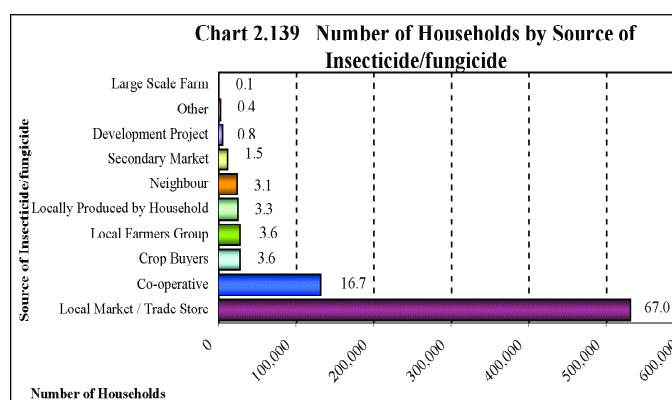
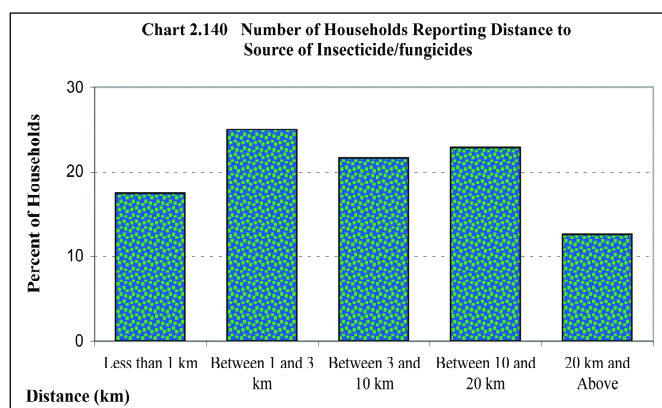


Chart 2.140 shows that there is no distinct pattern for the number of households with varying distances from the source of insecticide/fungicide.

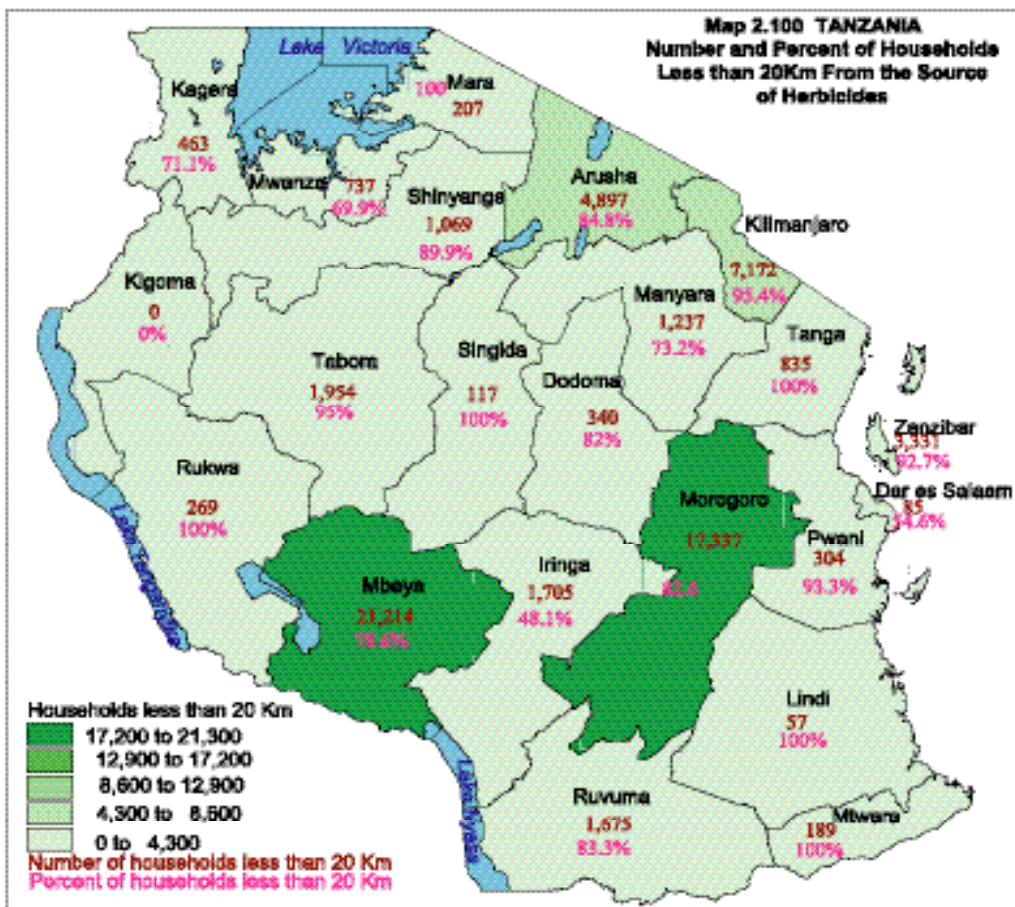
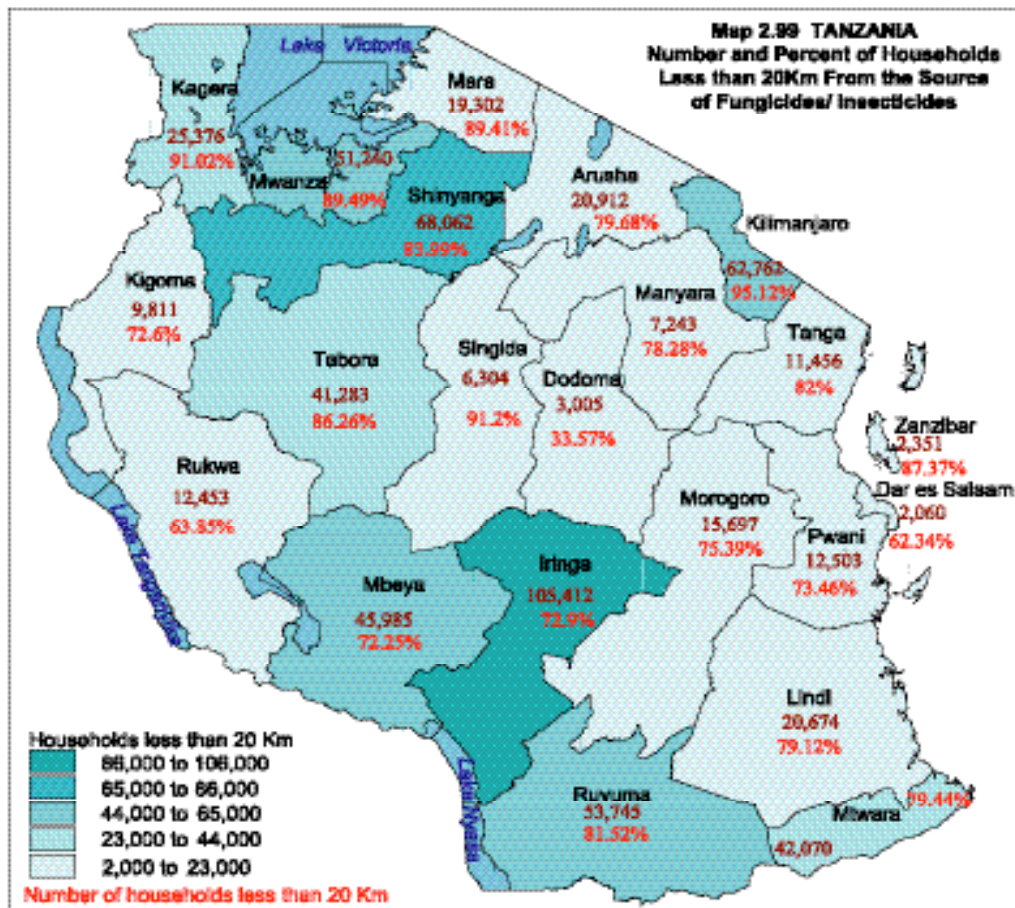
As was the case for inorganic fertiliser the small number of households using insecticides/fungicides coupled with the 10 percent of households responding to "non available" as the reason for not

using it may be assumed that access is not the main reason for not using. Other reasons such as cost are more important with 59 percent of households responding to cost factors as the main reason for not using. In other words, it is assumed that if the cost was affordable the demand would be higher and access to insecticides/fungicides would be made more available.



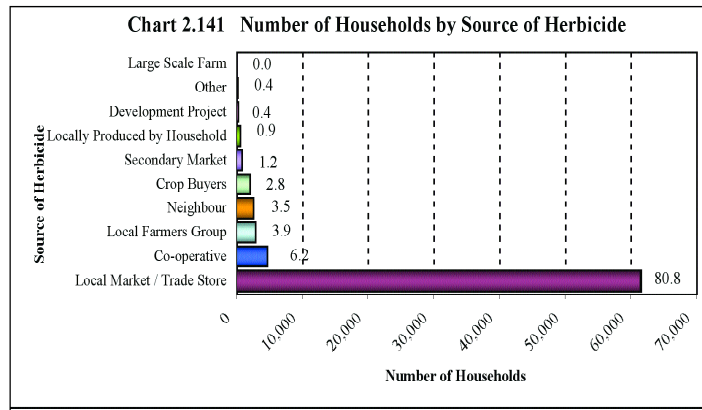
Fungicide is mostly used in Iringa with 52 percent of the total number of households using fungicide, followed by Ruvuma (35%), Kilimanjaro (31%), Mtwara (23%), Shinyanga (22%), Tabora (20%) and Arusha with 19 percent (Map 2.99).



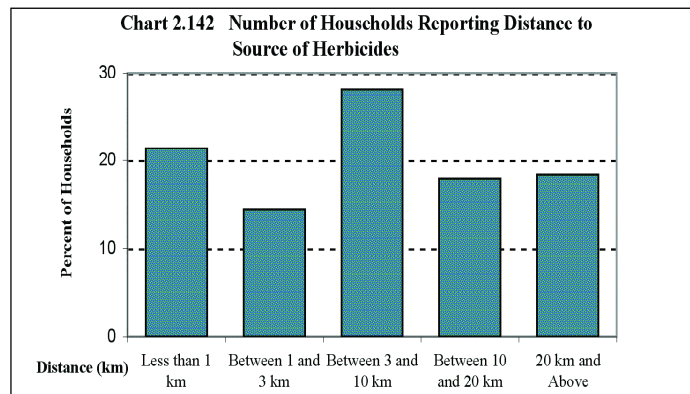


**Herbicides**

The number of households using herbicide is estimated at only 76,201 which represent 1.6 percent of the total number of crop growing households. Most of these households obtain herbicide from the local market and store 80.8 percent and a small amount from cooperatives (6.2%). Other sources of herbicides are minor (Chart 2.141).



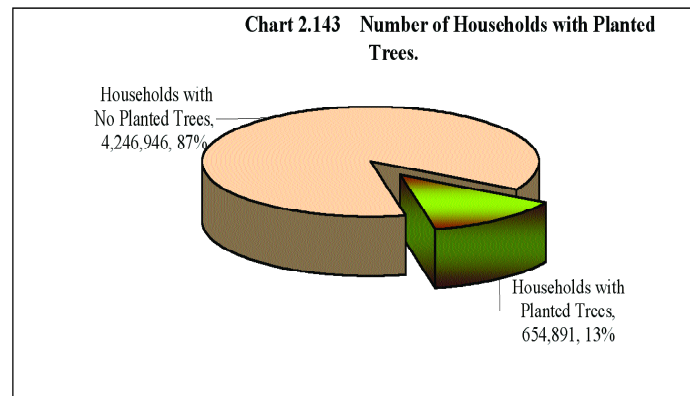
The majority of households are less than 10 km from a source of herbicides. As with the other improved inputs, it is not the accessibility that is the main factor for not using but cost related factors with 16 percent of households responding to "not available" against 58 percent responding to cost related issues as the main reason for not using (Chart 2.142).



The amount of households using herbicides is very small in all regions of Tanzania. The highest percent of smallholders using herbicides are in Morogoro (8% of smallholders in the region) and Mbeya (7%) (Map 2.100).

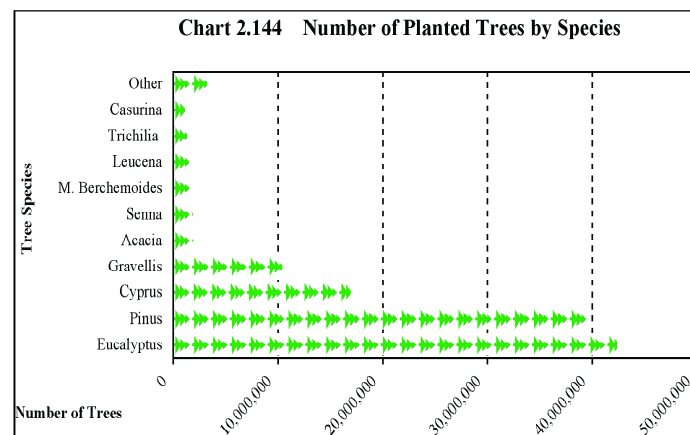
**2.13 Tree Planting**

The number of households involved in tree farming was 654,891 representing 13 percent of the total number of agriculture households (Chart 2.143).



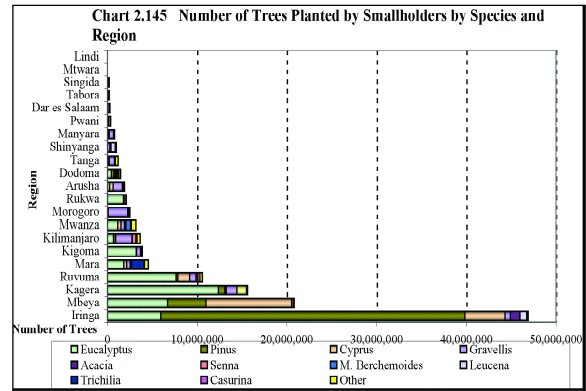
The number of trees planted by smallholders on their allotted land is 121,214,284 trees. The average number of trees planted per household that plants trees on their land is 185 trees.

The main species planted by smallholders is Eucalyptus (42,432,697 trees, 35%), closely followed by Pinus (39,509,176, 32%), then Cyprus (17,026,168, 14%) and Gravellis (10,498,098 trees, 9%). The remaining trees species are planted in comparatively small numbers (Chart 2.144). Iringa has much more smallholder planted trees than any other region (38.7%) and it is dominated by Pinus species. This is followed by Mbeya (17%) which is dominated by Cyprus and to a lesser extent



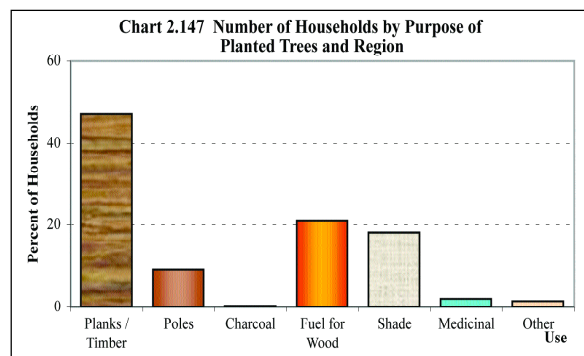
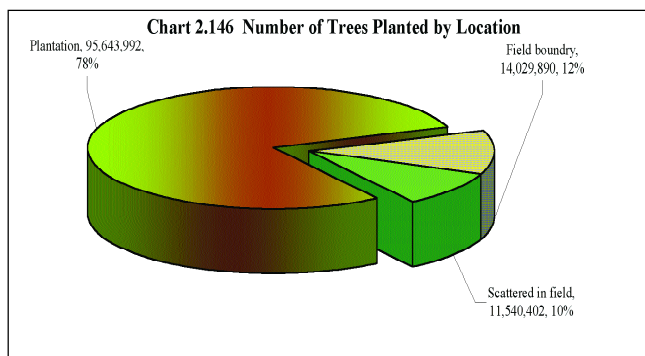


Eucalyptus, then Kagera (13%) and Ruvuma (9%) which is mainly planted with Eucalyptus (Chart 2.144 and 2.145; Maps 2.101 and 2.102).



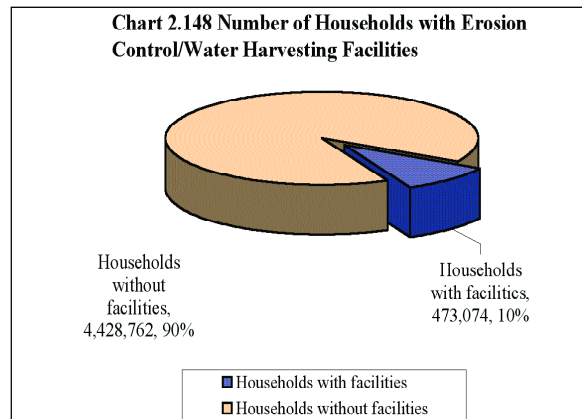
Smallholders mostly plant trees on the boundary of fields. The proportion of households that plant on field boundaries is 46 percent, followed by scattered around fields (31%) and then trees planted in a plantation or coppice (23%) (Chart 2.146).

The main purpose of planting trees is to obtain planks/timber (45%). This is followed by wood for fuel (20%), shade (19%) and poles (9%). Very little is used for the production of charcoal (Chart 2.147).



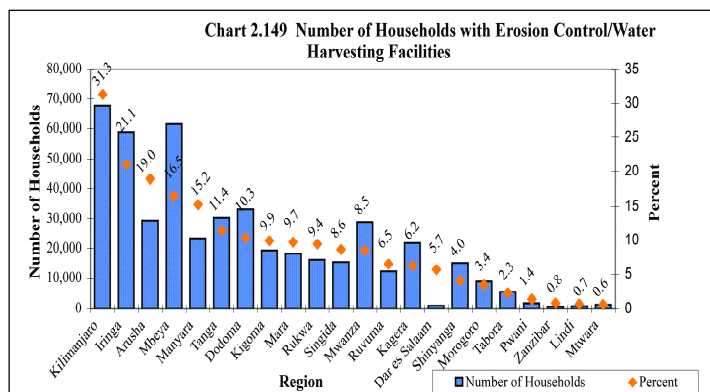
**2.14 Erosion Control and Water Harvesting Facilities**

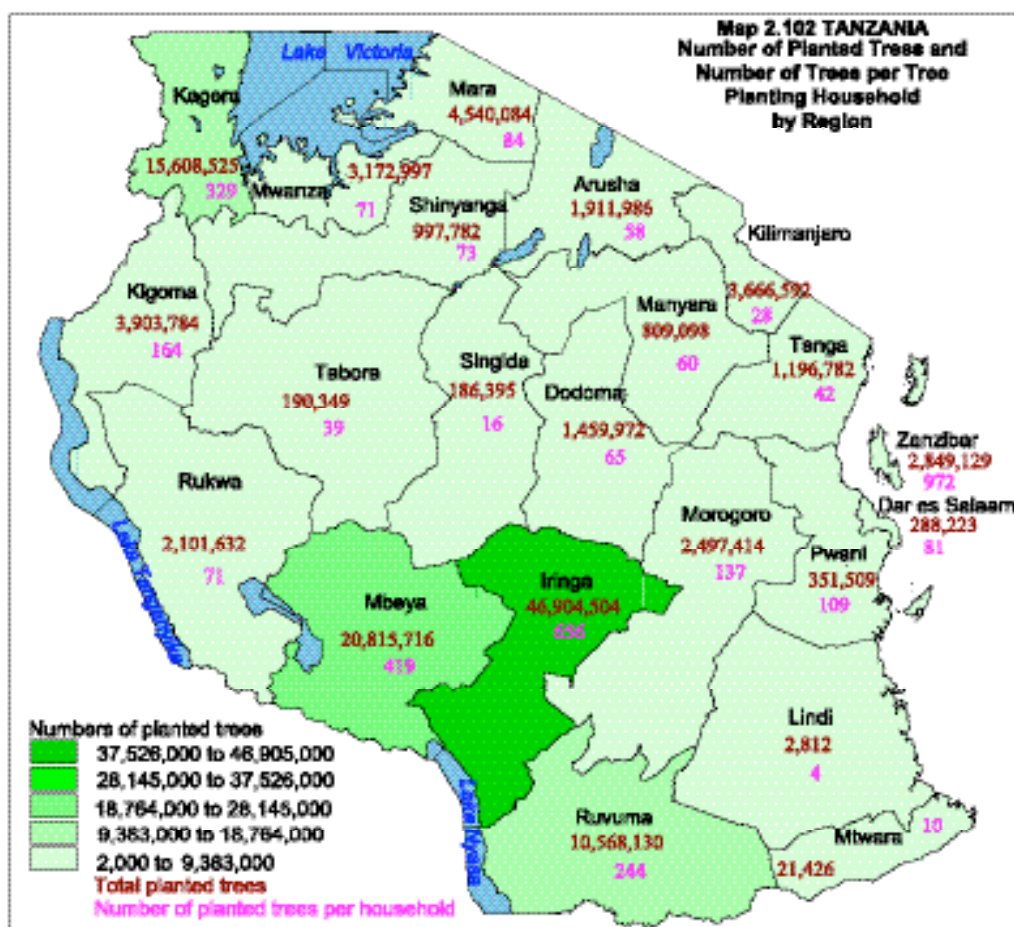
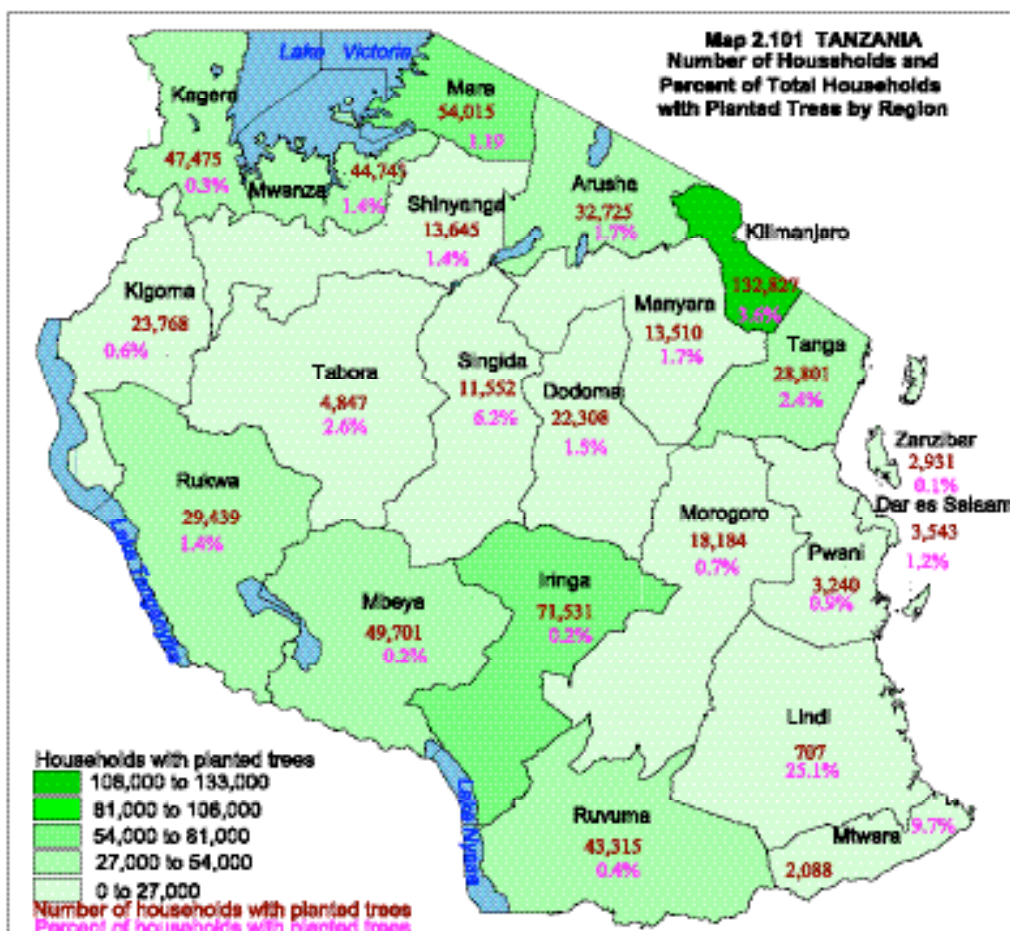
Erosion control and water harvesting facilities are grouped together as they normally have the dual purposes of reducing erosion and increasing the amount of water available for crop production.



The number of households with erosion control or water harvesting facilities on their farm is 473,075 (472 313 households on the Mainland and 762 in Zanzibar) which represents 10 percent of the total number of agriculture households Chart 2.148).

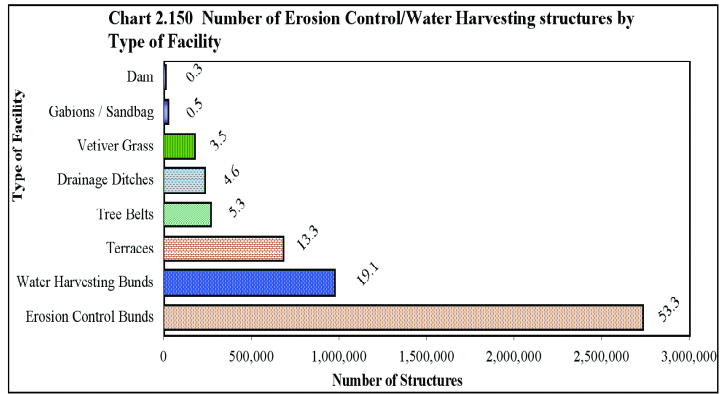
Kilimanjaro has the highest percent of households with these facilities (31% of the total agriculture households) followed by Iringa (21%), Arusha (19%) and Mbeya (17%). Pwani, Zanzibar, Lindi and Mtwara have the lowest number and percent of households with these facilities (less than 1%). Some of the main crop producing regions (Shinyanga, Morogoro and Tabora) has the lowest percent of households with these facilities (Chart 2.149 and Map 2.103).



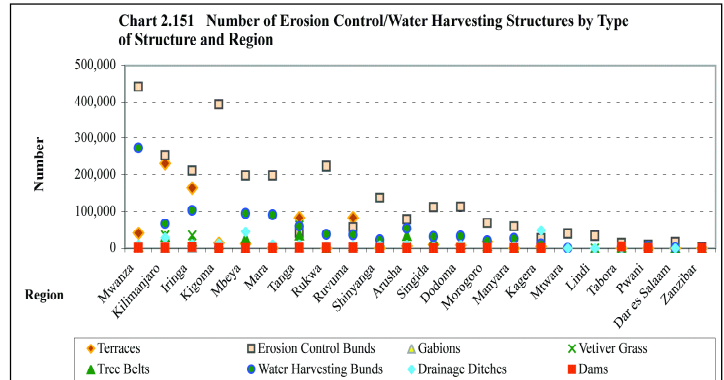


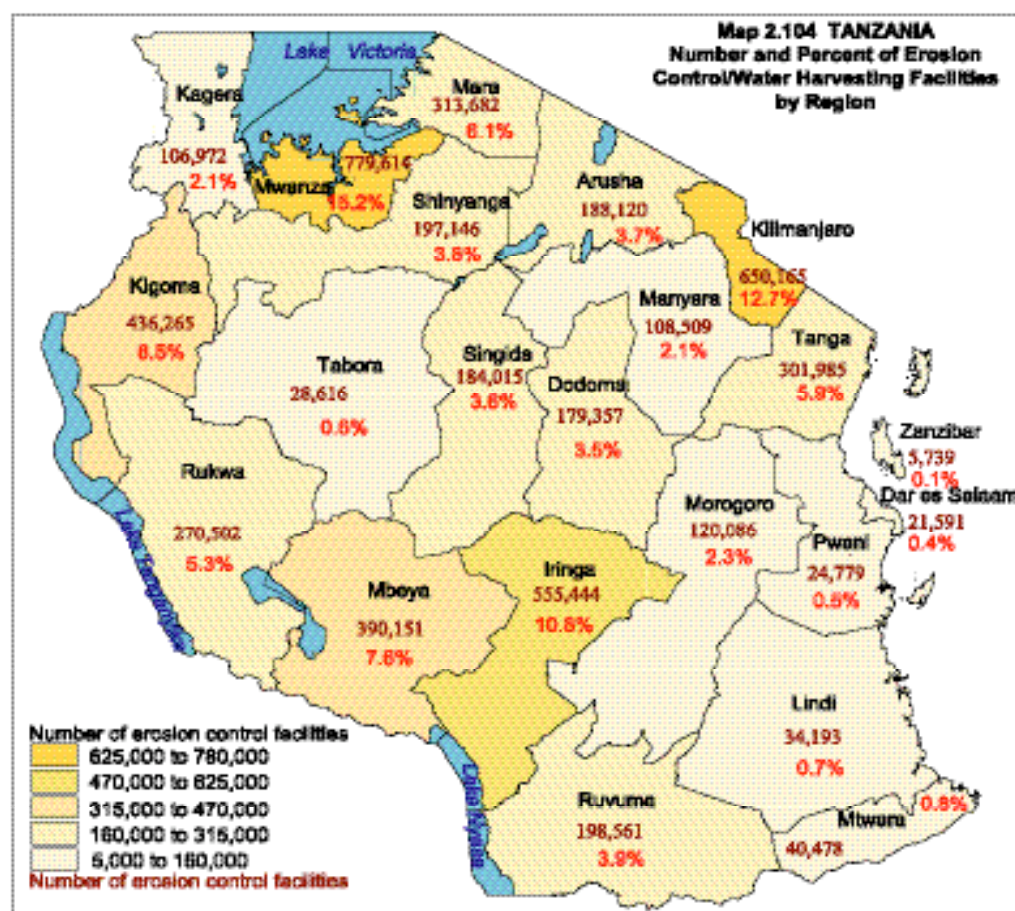
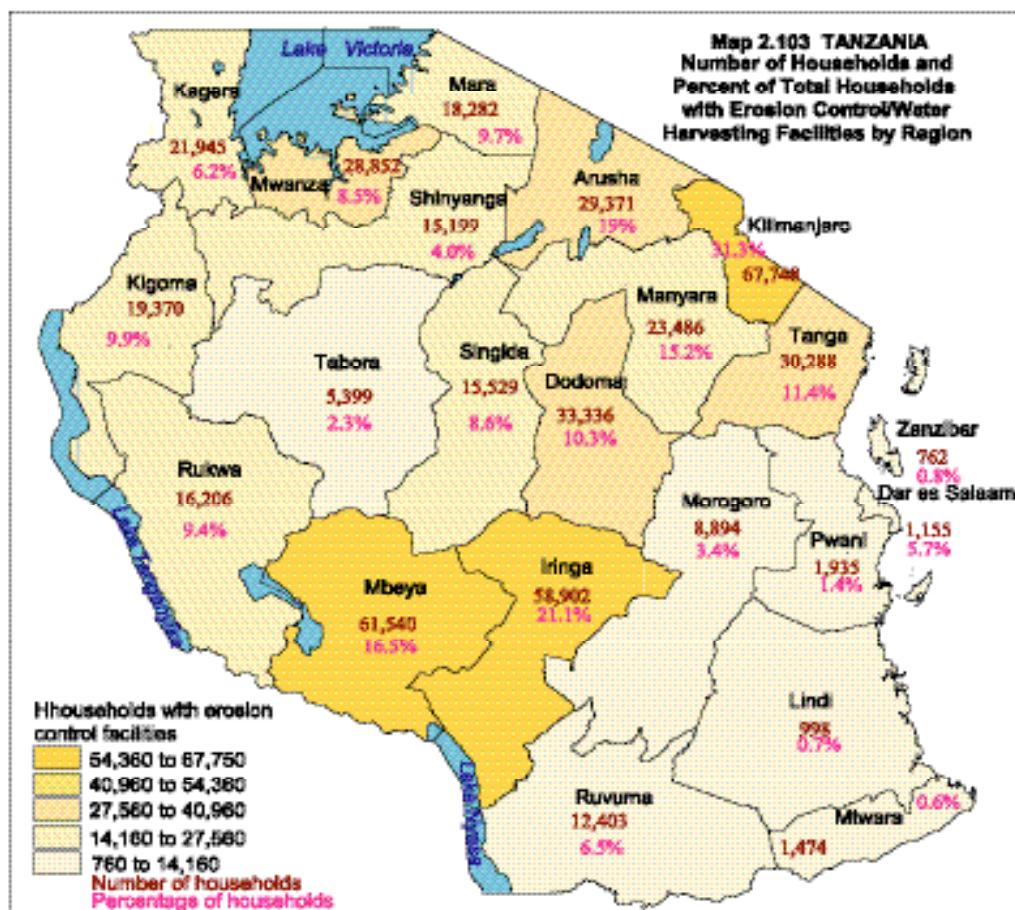


Erosion control bunds are the most common structure (2,734,828 structures or 53% of the total number of erosion control/water harvesting structures) and are almost three times greater in number than the next most common structure. This is followed by water harvesting bunds (19%), Terraces (13%) and Tree belts (5%) (Chart 2.150).



Mwanza has the highest number of bunds (450,000) followed by Kigoma (400,000). Kilimanjaro, Iringa, Mbeya and Mara regions have the highest number of terraces, whilst coastal regions (with the exception of Tanga), have very little water harvesting/erosion control bunds. Tree belts are more common in Tanga and Arusha than in other regions. Vetiver grass is also mostly used in Tanga and Manyara regions (Chart 2.151 and Map 2.104)







### 3.0 CONCLUSIONS AND RECOMMENDATIONS

The Agriculture Census collected a large amount of data on crop and livestock production and planted area, input use, agro-processing and storage, marketing, farmer access to support services, natural resources and infrastructure, rural demographics, poverty and livelihood. The analysis of the crop sector contained in this report mainly focuses on production, area under production and productivity. Data on crops are compared with those of previous censuses and surveys at national level to identify structural changes that occurred between the census periods.

The conclusions chapter has three main sections: The first section describes the current status of agriculture in Tanzania, the second section discusses the main findings of the Agriculture Sample Census in relation to poverty reduction and household food security issues and the last section gives regional crop production profiles.

#### 3.1 Current Status of Agriculture in Tanzania

The crop sector plays an important role in the Tanzania economy providing jobs, sustenance and income to 4,858,810 rural households growing crops (representing 99% of the total number of farming households in the rural areas and 95 percent of the total rural households). The number of crop growing households has increased by 32.2 percent since the last census.

The total planted area with annual crops was 7,818,620 hectares and 1,234,999 hectares for permanent crops giving a total planted area of 9,053,619 hectares. The planted area more than doubled since the last census and most of this increase was over the period 1996 to 1998. (Issues relating to land area, declining productivity and land pressure are presented in section 3.3). There is a wide variety of crops grown in the country (over 95 types), however, small holder crop production is very much dominated by maize. Other important food crops are cassava, bananas, paddy, beans and groundnuts. The rest of the crops are grown in small amounts, however some have significant importance in certain areas where the climate may be more suitable for their production for example tea and coffee. Similarly, in terms of area planted, production and number of farmers that grow cash crops like cotton and tobacco, they are of minor importance at national level (occupying only 5% of the total planted area) when compared to other crops, but they are important in the few regions that grow them (e.g. 22% of the planted area of annual crops in Shinyanga is planted with cash crops).

Maize is grown extensively and in every region of the country. With the exception of seed, there is virtually no investment in crop production. With minor amounts of fertilizer being applied and pesticide use virtually absent especially on food crops, crop yields are very low. The planted area more than doubled since the last census and most of this increase was over the period 1996 to 1998. The average planted area of 1.61 hectares per household for annual crops is low to support an average size smallholder household and is insufficient to allow smallholders to move beyond subsistence existence. This is especially true in the less productive areas of Tanzania. It is also important to note that the best crop producing areas in Tanzania have less available land for cultivation. In regions like Kilimanjaro the average land area per household is only one hectare (land access is discussed in more detail in the next section). Land ownership through formal titles/deeds is at a very low level and little change has taken place since the last census with most of the land under customary rights.

For most regions trees are not widely planted by smallholder households, however they are especially important in Iringa, but also in Mbeya, Kagera and Ruvuma. Less than fifty percent of the regions in the country receive a significant short rainy season. However the short rainy season is important for some of the regions that receive them. Among the root and tuber crops cassava is the most important with about a quarter of the crop growing households growing cassava. Beans are also relatively important and are predominantly grown in the long rainy season.

Over fifty percent of the oilseeds are planted in four regions (Dodoma, Kilimanjaro, Arusha and Singida). There has been a steady increase in the production of beans and groundnuts since the last agriculture census. In most regions cash crops are unimportant. Permanent crops are less important than annual crops as they occupy around one seventh of the total planted area. Cashew nuts and coconuts are important crops in coastal regions whilst coffee and bananas are important in the highland regions of Tanzania.

Capital investment in smallholder agriculture is virtually absent with only very small areas with the irrigated area being very low and there has been no improvement in the last 10 years. Extension services have a relatively high coverage however this has not resulted in an increase in production. Some of the highest crop producing regions receive less extension than other regions. Hand cultivation is the predominant means of cultivation, however there are also substantial areas cultivated using oxen especially in the high cattle producing regions in the north of Tanzania.

There are practically no credit facilities and most households purchase implements through the sale of crop products. Large scale farms provide very little services to smallholders. Whilst most storage is unprotected smallholders only reported a small storage loss, possibly due to the short storage period. Apart from the price of produce, accesses to markets/transport costs are the main marketing problems reported by smallholders. Agro-processing is mainly done by neighbours machines and to a lesser extent on farm by hand. The sale of processed products is almost non existent with most products being consumed by the household.

The majority of crop growing households in Tanzania are subsistent farmers and are at the low end of moving to self supporting, profit making entities. A large amount of support is required to transform these subsistence farms into profit making entities and the following section presents some of the key constraints to poverty alleviation for smallholders in the crop production sector in Tanzania.

### 3.2 Important Issues

Many interesting issues have emerged as a result of the analysis of this census and these have an impact on poverty reduction, household food security and the modernization of smallholder agriculture. This section discusses some of the main findings in relation to these issues. The discussion is based on both static data produced by this census and time series data from other censuses and surveys (District Integrated Agricultural Survey 1998/99, Integrated Agriculture Survey 1997/98 Expanded Survey of Agriculture 1995/96, National Sample Census of Agriculture 1994/95 and Agriculture Sample Survey 1998/90 ) Nevertheless, the opinions in this section of the conclusions may not represent the opinion of the government or other stakeholders and the main purpose is to raise interest and stimulate discussion and come up with concrete strategies to resolve these important issues. These issues are in relation to:

- Reduction in productivity and fertilizer use,
- Access to fertilizers and chemical inputs
- Access to land,
- Increase in the number of smallholder households and land consolidation,
- Irrigation and lack of growth since the last census,
- Organic farming
- Tree farming as a substitute to food crop production
- Support of large scale farms to smallholder agriculture,
- Distribution of support services,



### 3.2.1 Reduction in Productivity and Fertiliser Use

One of the most important findings of the Agriculture Census is that a large increase in planted area has been offset by a reduction in productivity resulting in only a comparatively small increase in the quantity produced. This is particularly true for cereal crops which are the dominant crop type in the country. In contrast, pulses and groundnuts have experienced a large increase in production. The large increase in groundnuts and pulse production was also a result of an increase in planted area similar to that of maize, however the yield of these crops remained constant resulting in a much greater increase in production than that of Maize and other cereal crops. The main difference between cereals and pulses/groundnuts in relation to production is that cereals require high levels of nitrogen, whilst pulses and groundnuts manufacture their own nitrogen. This comparison strongly indicates that the reason for the reduction in productivity, especially in cereals is due to lack of fertiliser use. This is further backed up by the results in the fertiliser section which shows a low level of fertiliser use and a negative time series trend in the use of fertilisers over the same period as the reduction in productivity of cereals.

*Recommendation:* Steps should be taken to encourage the use of fertilisers and increase the productivity of the crop production sector in the country. Failure to address this issue will result in continuing stagnation of productivity and poverty in the rural areas of Tanzania.

### 3.2.2 Access to Fertilisers and Chemical Inputs

Very little inputs outside that produced on farm (farm yard manure and compost) are used. Of the improved inputs, improved seeds are the most used and most households have easy access to improved seed (32% of households within one km). Access to chemical inputs varied with some households having easy access and other households not. However, the high response of "cost" as opposed to the low response to "proximity of source" as the main reason for not using chemical inputs leads to the deduction that it is not the availability of inputs that is the main reason for the limited use. Rather it is cost related constraints that prevent the smallholders from using improved inputs. The response to cost does not vary much between region. As with improved seeds, it may be that if there was high demand for chemical inputs there would be high availability.

The response to smallholders ability to use the input was low suggesting that the extension services may in fact have been doing their job and, as with the last finding, it is the lack of other support to smallholders in the form of subsidy and credit that is limiting the use of inputs and thus productivity.

*Recommendation:* Without chemicals, especially inorganic fertilisers, the transformation from subsistence to profit making farms will not take place. They must be made available to the smallholders at affordable prices and they should be subsidised to ensure their use and thus increase the productivity and profitability of smallholder farms.

### 3.2.3 Access to land

It is generally said that there is an abundance of land in Tanzania however the analysis contained in this report suggests that smallholders do not have access to sufficient land to meet their needs not only in terms of non subsistence but also subsistence needs. The analysis presented in this document does not give direct evidence of this; however, the following observations from the results provide a strong indication that this is the case:

- 1 The average land area per household is only 2 hectares. This means that there are small holders that have access to areas much larger than 2 hectares but more importantly there are smallholders that have access to areas much less than 2 hectares.
- 2 The total planted area has leveled off since 1998 after a large increase over the period 1995 to 1998 despite the increase in the rural population at a rate of 2.8 percent per year.
- 3 The percent of utilised land compared to available land is high and in some regions all available land is utilised. Given the fact that semi drought conditions prevailed during the year of the census one would have expected land utilisation to be less.
4. The total amount of land allocated to smallholders has not changed since the last census in 1994 when the area was 12,278,840 hectares. However, at that time the planted land area was only 2,574,000 ha. The current census results show that the planted area is 10,211,076 ha.

*Recommendation:* A discrete study is required to determine the minimum area of land that is required for a smallholder household to meet its subsistence needs and the area required to have self sustaining profit making farms in the different agro-ecological zones of the country. This should then be used to promote adequate sized profit making farms through the provision of startup capital and credit for inputs.

### **3.2.4 Increase in the Number of Smallholder Households and Land Consolidation**

The impact of the large increase in farming households and increasing land area under production coupled with the small planted area per household is likely to prevent reductions in rural poverty in the near future. Land consolidation is required to increase the area under production per household to a level whereby smallholder farms can be self sustaining economic entities. This would involve reducing the number of households involved in farming by promoting non farming activities and education in the rural areas. Land reform and the issuance of land titles are required in order to allow these farmers to purchase and consolidate other farmers land. This process has taken place in most developed country and it is one of the phases that has to be done to move from subsistence based poor farming society to a thriving profit making rural community.

*Recommendation:* Land reform policies should promote land consolidation and without further expansion into virgin areas. The issuance of official land certificates should be fast tracked and non farming economic activities should be promoted in the rural areas.

### **3.2.5 Irrigation and Lack of Growth since the Last Census**

Water is the limiting factor to crop production in many areas of Tanzania and without irrigation any other intervention to increase production and productivity is limited in these areas. There was zero growth in the number of households with access to irrigation over the last intercensal period (1994 to 2003).

*Recommendation:* Efforts must be made to ensure that irrigation schemes become a reality and they should be supported with startup capital to ensure rapid expansion in areas suitable for irrigation development.



### 3.2.6 Organic Farming

Whilst it is important to encourage the use of chemical inputs in many areas of the country in order to improve productivity, there are areas in Tanzania that are suitable for organic farming, especially those with high levels of livestock, suitable soils, available water (rain fed or irrigated) and access to markets.

*Recommendation:* Areas suitable for organic farming should be identified and officially registered as chemical input free. Initiatives should be put in place to encourage farmers to adopt this method of farming in these areas. Research institutions should investigate the potentials of these areas and carry out adaptive research to support this initiative. Organic Certification is required to make sure the land is free from manufactured chemical input before produce on the land can be sold as organically grown. The Bureau of Standards in Ethiopia is responsible for issuing these certificates and the government needs to make contact to fast track this. Markets for the sale of these products should be identified to maximize farm gate prices.

### 3.2.7 Tree Farming as a Substitute to Food Crop Production

The value of trees is growing at an exponential rate, especially for indigenous trees which are declining in numbers through deforestation activities. One of the best ways of conserving this valuable resource and maintain the genetic diversity of tree species in Africa is by promoting tree planting by smallholders. In certain areas trees can totally substitute food crop production and, whilst establishment may take some time, the value of the end product is currently high and increasing. This scheme has many advantages in relation to erosion control, soil water retention, wood for fuel, availability of building material, flora and fauna conservation, eco-tourism, etc.

*Recommendation:* A study is required which includes the identification of suitable indigenous tree species, silviculture techniques, world market prices, internal and international restrictions and methods of incorporating tree farming into the current food production farming system.

### 3.2.8 Support of Large Scale Farms to Smallholder Agriculture

Caution must be taken in depending on large scale farms for providing services to smallholders as a policy to relieve poverty. Due to the fact that large scale farms in the country are few (1,254) and they are usually sited in the highly productive areas of the country, they would only be able to provide services to a very small portion of the rural population which may not be the poorest. In addition to this distance of outreach is limited to some kilometers from the farm. Furthermore the census data indicates that currently there are few services provided by large scale farms to smallholders. All these factors suggest that whilst large scale farms are important in providing services to attached out-growers they are not going to resolve the problems faced by the majority of smallholders in the country.

### 3.2.9 Distribution of Support Services

Apart from extension, services to support smallholder crop production are at a very low level. Even though the census used extension agents to enumerate the smallholder questionnaire, one should not necessarily discount the quality of the extension services presented in the results due to bias during the enumeration. Extension agents are the front line staff between the government and the farmer and they often have a high contact rate as they live in the village. Extension agents can only teach the improved technologies. These technologies often require other support services or policies for the farmer to adopt them e.g. access to affordable fertiliser, credit, etc.

*Recommendation:* Inputs and services should be provided to smallholders at affordable rates. Subsidies/grants should be given to help smallholders change from a subsistence base to a profit making economic entities. European agriculture did not develop without this type of assistance and Tanzania requires the same.

### **3.2.10 Reinstating Frequent Surveys, Previously Carried out by the Ministry of Agriculture and Cooperatives.**

Many of these issues discussed in this section stem from trend analysis from previous agriculture surveys which were undertaken in frequent intervals. They have proved to be extremely useful and will continue to be used in trend analysis for many years to come. The questionnaire used for these quick surveys require slight modification but should remain simple and the analysis should be minimal. It is during the years of the census that an extensive analytical document will be prepared.

*Recommendation:* Agriculture surveys should be repeated every two years.

### **3.2.11 Transformation of the Extension Services from a Package Driven System to an Advisory Service**

The census results show that the extension services have a relatively high contact rate, however this has not resulted in a concomitant increase in productivity and indicates that the package system does not work especially when the package only comes with the advice and not with the support to use the improved technology. With decentralization of extension services to region and district levels, the National Sector Ministries of Agriculture, especially the Department of Extension Services need to change from planning and supporting a package driven system to an advisory service. This advisory service would support extension agents by providing specialist advice to crop production problems and in the dissemination of new interventions. To support this, information systems are required such as:

- Diagnostic Databases
- Subject Matter Specialist Database
- Access to Library Documentation
- Crop and animal husbandry tools
- Farmer decision making tools
- Market Information Systems

Many of these systems are either available at FAO, Commonwealth Agriculture Bureau of Information (CABI), USDA and other organisations or are existing databases, however they require adapting to suit the needs of the extension services. CABI has a comprehensive pest and disease database that was originally designed for scientists in the field of entomology. International funding is required to build a front end to this application in order to make it suitable for extension agent use. The Subject Matter Specialist database can be developed in Tanzania. FAO has a comprehensive database on textual documents which can be accessed over the internet or on CD. FAO also has a market information system and this needs to be assessed to determine its appropriateness.

*Recommendation:* Systems that can be developed in Tanzania should be designed and developed. Off the shelf applications require evaluation to determine their suitability and specialist applications held by international organisations that require modifications to suit this initiative should be given support from International Development Partners.



### 3.3 Regional Profiles

The following profiles summarises the status of crop production in each region and are presented in order of importance in relation to the land area in each region. It must be noted that some regions have a higher planted area due to double cropping (in long season and short season) as is the case Tanga which has one of the highest planted areas of maize, yet only a moderate physical land area.

#### 3.3.1 Shinyanga

Shinyanga has the largest area of land under cultivation (over 1,250,000 ha) and has the highest land utilisation per household (over 2.6 hectares for annual crops). Virtually no permanent crops are grown and it has the largest area of pasture to supports the high population of cattle in the region. A large proportion of smallholder households in the region felt that they did not have sufficient land. The region has the largest planted area of maize and second largest for paddy and sorghum than other regions in Tanzania, however it had one of the lowest yields for maize during the census year. During the Census year planting was largely during the long rainy season.

The region is not important for cassava, beans and fruit and vegetable production but, it has the third largest planted area of groundnuts in the Tanzania. In terms of cash crops, Shinyanga is the most important region for cotton production.

Considering Shinyanga has the largest planted area of crops, it has one of the smallest areas of irrigation. It also has the largest planted area cleared by hand but most soil preparation is done by oxen. Most of the planted area is without fertiliser and the small area that has, it is with farm yard manure. Low fertiliser use and lack of irrigation facilities may have contributed to the low yields for this region. Although small, it has the largest planted area with insecticide and fungicide application. Over half of the crops stored are in sacks or open drums with the remainder in locally made traditional structures. Crop processing is predominantly done by neighbours' machines and the processed production is for home consumption.

Considering Shinyanga is one of the most important crop growing regions, it only has moderate contact with extension services. The region relies more on animal draft than most other regions. The region has one of the smallest areas of planted trees per household and lowest percent of erosion control facilities in Tanzania.

#### 3.3.2 Dodoma

Dodoma has the second largest land area under cultivation (750,000 ha) with over two thirds under annual crops and most of the remaining under annual mixed crops. Very little permanent crops are grown by smallholders in the region. Almost all land area allocated to smallholders in the region is utilised indicating the possibility of land pressure, however only 37 percent of smallholders reported that they have insufficient land. Whilst Dodoma does not have a short rainy season, it has the second largest planted area of maize in the country and one of the largest areas planted per household, however the yield during the census year was amongst the lowest in the country. Paddy is not important in the region, however it has the third largest planted area of sorghum in the country. The region as a whole is not important for cassava or bean production however, the households that do grow cassava and beans grow more than households in most other regions. Dodoma has the largest planted area and one of the highest production of groundnuts in the country. The region is not important for smallholder vegetable production and annual cash crops, however it has the second largest planted area of pigeon peas in the country.

Dodoma has one of the smallest areas of irrigation in the country. The region has the highest percent of land clearing by burning in the country and the largest area of land cultivated by hand. Land cultivated by oxen is moderate and, although small, has one of the largest areas cultivated by tractor. Compared to other regions, it has the second largest area without fertiliser in the country. Approximately one sixth of the planted area was applied with farm yard manure. Chemical inputs are used in very small quantities.

Approximately 70 percent of stored crops are in sacks or open drums, with the remainder in traditional cribs. Most processing is done by neighbours' machines and the region has the fifth largest number of households selling processed produce in the country. Smallholders in Dodoma have above average access to extension advice. The most common implement is the hand hoe although some oxen and other implements are also available.

Dodoma has a small amount of trees planted by smallholders and has a comparatively moderate amount of erosion control facilities.

### 3.3.3 Mwanza

Mwanza has the third largest utilised land area (approximately 700,000 ha) most of which is planted with annual crops, however permanent crops are also grown mainly as mixed crops with annuals but also small amounts of permanent mono-crop stands exist. The percent of land available to smallholders that was utilised during the census year was average compared to other regions, however the response to insufficiency of land was high (57%). Mwanza has two planting seasons and the short rainy season had a greater planted area than the long rainy season during the census year, however the area planted per household was greater in the long rainy season than in the short rainy season.

The region has the largest planted area of maize and paddy per square kilometre and the largest planted areas under cassava in the country. It also has the second largest planted areas of cotton in the country. Compared to other regions, the area under sorghum and bean production is moderate to low. Vegetable production in Mwanza is moderate. Of the permanent crops mangos and oranges are the most important.

The region has the fourth largest planted area under irrigation, however the number of households practicing irrigation has remained unchanged over the last 10 years. As with most regions, most land clearing is done by hand slashing. The region has the third largest planted area cultivated by oxen, however around 60 percent is cultivated by hand. Eighty percent of the planted area had no fertiliser, the remaining area was applied with farm yard manure and virtually no chemical fertiliser was used.

Mwanza has the highest percent of unprotected storage in Tanzania with approximately 80 percent of households using sacks or open drums for storage. Most processing was done by neighbours machines and of the small amount of processed products sold, most was to the local market/trade store. The region had one of the lowest percent of households receiving extension services in the country.

It has low to moderate number of trees planted by smallholders and a moderate number of households with erosion control/water harvesting structures, however it has the largest number of erosion control and water harvesting bunds in the country.



### 3.3.4 Tabora

Tabora has a land area of around 600,000 hectares under cultivation. It is characterised by annual cropping with a very small amount of permanent crops. The percent of land available to smallholders that was utilised during the census year is one of the lowest in the country. This, coupled with its having one of the lowest number of crop growing households per square kilometre in Tanzania may indicate that there is more than sufficient accessible land in the region to satisfy the needs of the smallholder households. This is reflected by the low number of households responding to insufficiency of land. The region has only one planting season (the long rainy season).

Tabora has the fourth largest planted area of maize and rice in the country, however the yields during the census year were low. Although not the largest sorghum producing region, it has one of the largest area planted per household. It is a predominant tobacco growing region and has the second largest planted areas of groundnuts and onions in the country. Cassava and beans are of moderate to low importance in the region. Permanent crops consist of small areas of mangos and oil palm.

Although small, the region has a moderate planted area under irrigation and the number of households using irrigation has remained stable over a 10 year period. Wells and dams are the most common source of water for irrigation. Land clearing is predominantly by hand, however around half of the households use oxen for cultivation while the other half cultivates by hand. Tabora is one of the four regions in the country that uses noticeable quantities of inorganic fertilisers however, as with all other regions most of the planted area has no fertiliser application. Small amounts of insecticides and fungicides were used and the region is placed second in the use of these inputs. Crops are either stored unprotected or in traditional cribs. Compared to other regions, the percent of households selling crops was low. Practically all crop processing was done on neighbours machines, with small amounts sold to neighbours. A low percent of households received extension services in Tabora compared to other regions. Smallholders do not plant trees in Tabora and there are virtually no erosion control/water harvesting structures in the region.

### 3.3.5 Mbeya

Mbeya has a land area under crop production of 575,000 hectares. It is dominated by annual crops but it has some mono and mixed permanent crops. The land area per household is below average for the country and the percentage utilisation of available land is high suggesting insufficient land. This is confirmed by a 49 percent of smallholders responding to insufficiency of land. Although Mbeya has a short rainy season it is not very important and has only a very small planted area.

Mbeya is one of the important cereal production regions in the country and it has the sixth largest planted area of maize, with one of the highest yields of maize in Tanzania which results in the region being the second highest producer. It has the fifth largest planted area of paddy and the second highest production. Moderate amounts of sorghum are grown.

Although it has the fourth largest planted areas of beans, it has the highest production in the country. Groundnuts are grown in moderate quantities and are moderately important for the production of vegetables. Tobacco is grown in relatively small quantities but has the fourth largest planted area in the country. Cassava is not important in the region.

Mbeya has the largest planted area of coffee, second for oil palm and third for bananas. It has moderate quantities of mango, oranges and some sugar cane is produced.

The region has the largest planted area of annual crops under irrigation in Tanzania and the number of households using irrigation has not changed in the last 10 years. It has the highest number of households using rivers as a source of irrigation water and it has one of the highest number of households where gravity is used as a method of obtaining irrigation water. It also has the second highest number of households using flood irrigation. Land clearing and preparation is mostly done by hand, however a third of the land clearing is done by oxen.

Although no fertiliser is applied to most of the planted area in Mbeya, it has one of the highest area of inorganic fertiliser application. A small amount of farm yard manure is used. Although small, it has a moderate to high application of pesticides compared to other regions.

Mbeya had one of the largest utilisation of maize in the country during the census year and it had the third largest quantity stored. Most storage is in sacks/open drums and locally made traditional structures. It has the second highest number of households selling crops. Most processing in the region is done by neighbours' machines and it has the highest percent of households selling processed products. The region has one lowest percent of households selling to neighbours. Instead, smallholders sell to traders at farm and farmer associations. Mbeya has the second largest number of households in the country receiving extension services.

Mbeya is the second most important region for tree planting in the country, with over 20,000,000 trees planted by smallholders. The main species are Cyprus, eucalyptus and pinus. It has the second largest number of households practicing erosion/water harvesting control, however it does not have the highest number of facilities. Most of them are erosion control and water harvesting bunds.

### **3.3.6 Ruvuma**

Ruvuma has a land area of 575,000 hectares under crop production. Although it has a moderate number of crop farming households compared to other regions, it has one of the lowest number of crop growing households per square kilometre. The available land area per household is 3.6 hectares. Of the total available land in the region, it has one of the lowest land utilisation percentages in Tanzania and this is reflected by the lowest number of households responding to insufficient land.

Ruvuma has no short rainy season. Compared to other regions, the average planted area of annual crops per household is above average.

Cereal production in the region is moderate and is mostly maize and paddy production with one of the smallest areas of sorghum in the country. Cassava is an important crop in the region and the planted area of tobacco is the second largest in the country. Beans and groundnuts are produced in moderate to low quantities, however the region is important for vegetables production.

Ruvuma is the second most important region for the production of cashew nuts, fourth for coffee and fifth for oranges. Sugar cane and pigeon peas are also grown in the region.

The region has a small but moderate level of irrigation compared to other regions. There has been no change in the number of households with irrigation over the last 10 years. The main source of water for irrigation is from rivers and the method of obtaining irrigation water is mostly by buckets/watering cans, however this is closely followed by gravity. Buckets/watering cans are also the most common methods of applying irrigation water. Practically all land is cultivated by hand.



Almost 50 percent of the planted area in Ruvuma has an application of fertiliser and it has the highest percent of inorganic fertiliser application in the country. It has a low to moderate application of pesticides compared to other regions in the country.

Most storage is in sacks/open drums and this is closely followed by locally made traditional structures. The region has the highest percent of households selling crops in the country. Most processing is done by neighbours machine and very little of the processed crops is sold.

The number of households receiving extension is moderate to low. The predominant implement used in the region is the hand hoe, however it has the highest percent of hand powered sprayers and the second highest percent of threshers/shellers. Ruvuma is the fourth region with largest number of planted trees mostly eucalyptus. The number of households with erosion control/water harvesting structures is low, however it has a moderate number of terraces compared to other regions.

### 3.3.7 Iringa

Iringa has a land area of 500,000 hectares under crop production and the large majority of this land is planted with annual crops and it has a higher than average number of crop farmers compared to other regions. It has a moderate to low number of crop growing households per square kilometre compared to other regions. The available land area per household is 2.4 hectares, however the area of land utilised per household was less than the national average of 2.0 ha. Although the region receives only the long rainy season, Iringa is considered to be one of the more productive regions in Tanzania.

In terms of planted area, the region has a moderate planted area of cereals which is almost entirely with maize and virtually no paddy or sorghum production. Whilst the region has the fourth largest planted area of maize, it is characterized by having the highest production in the country due to higher yield than other regions with a larger planted area. It has a moderate to high planted area of beans, however it has the second largest quantity produced. During the census year it had the highest production of Irish potatoes, tomatoes, cabbage and peas than any other region in the country. Very little cassava and groundnuts are grown and virtually no traditional annual cash crops are grown in the region.

The planted area of permanent crops is small, however some bananas, coffee and tea are grown by smallholders.

Iringa has the second largest planted area with irrigation in Tanzania, however it only has a moderate percent of total planted area under irrigation. Rivers and canals are the most common sources of irrigation water, but wells are also used. Over fifty percent of households use buckets/watering cans for obtaining water, whilst the remaining households use the gravity method and the water is applied by buckets/watering cans and gravity. Most land preparation is done by hand, however approximately one third is by oxen.

Iringa has the highest percent of planted area with fertiliser (about 50% of the planted area). Of the area with fertilizer, half of it is applied with inorganic fertiliser and the other half with farm yard manure. It has the largest planted area with inorganic fertiliser. The region also has the largest planted area with pesticide application compared to other regions.

Iringa had the second highest quantity of maize stored in Tanzania however half was in sacks or open drums and the remainder in locally made traditional cribs. The region has one of the highest percentages of households processing crops and the vast majority is processed by neighbours machines. Most of the processed produce was sold to neighbours with small amounts to traders at the farm.

The region has the highest number of households receiving extension services and also the highest in terms of percent of number of households per region. It has the highest number of trees planted by smallholder households in the country (over 45,000,000) with Pinus being the dominant species. Some eucalyptus and cyprus are also grown. The region has the second highest number of households with erosion control/water harvesting bunds in Tanzania with erosion control bunds and terraces being the most common.

### **3.3.8 Kagera**

Kagera has a land area under crop production of 490,000 hectares. The region is characterised by having less than fifty percent of its land area with annual crops, whilst the remaining is either pure or mixed permanent crops or permanent – annual mix. Kagera has 1.0 hectares of land per household and almost all available land is utilized. The region has two seasons, with the short rainy season being more important

Cereal production is not important and the region has one of the smallest planted areas of maize, paddy, sorghum and cassava. It has a highest planted area of beans. Vegetable production is moderate and small amounts of cotton and tobacco are grown as cash crops. It has the highest production of coco yams and is the second highest producer of yams and sweet potatoes in the country.

Kagera has the second highest percent of planted area under permanent crops in the country and this is dominated by bananas (highest planted area in the country) and coffee (second highest). The region also has small areas of sugar cane.

The region has a small area under irrigation and the number of households with irrigation has remained unchanged over the last 10 years. Kagera has one of the smallest percent of planted area with fertilisers and virtually no inorganic fertiliser is applied. Similarly virtually no pesticides are used.

Kagera has the largest number and percent of households selling crops in the country. However, it has a moderate to high percent of households processing crops and most processing is done by neighbours machines. The region has the second highest percent of households processing crops by trader and the highest percent of households selling processed products to traders.

The percent of households receiving extension is one of the smallest in the country. Virtually all crop husbandry is done by hand and hand hoe.

Kagera region has the third highest number of trees planted by smallholders in the country, mostly with eucalyptus. Few households have erosion control or water harvesting structures, however it has the highest number of drainage ditches in the country.

### **3.3.9 Tanga**

Tanga region has a land area of around 470,000 hectares under crop production and it has a relatively large number of crop growing households compared to other regions. It has the fifth largest number of crop growing households per square kilometer. The available land area per household is low (1.8 ha/household) with a utilized land area of 1.5 ha per crop growing households. Whilst most of the region is under annual crop production, it has significant areas of permanent crops mainly planted as a mixture with annual crops. It has the sixth largest planted area of cereals with maize having the third largest planted area in the country. The region has the third largest planted area of beans in the country and vegetable



production is important with the exception of onions. Paddy and cassava production are low and sorghum is almost absent in the region.

Important permanent crops are oranges having the largest planted area in the country and coconuts and sugar cane having the second largest planted area. Small quantities of bananas, cashew nut, mangoes, coffee and pigeon peas are produced.

Compared to other regions, Tanga has a moderate planted area with irrigation and the number of households practicing irrigation has remained more or less unchanged over the a period of 10 years prior to the census. The source of irrigation water is equally split between rivers and canals. Gravity is the most common method of obtaining irrigation water closely followed by buckets/watering cans. Irrigation application is equally split between buckets/watering cans and flood.

The method of cultivation in Tanga is almost entirely by hand. A very small quantity of fertilizer is used and is mostly farm yard manure and compost to a lesser extent. Virtually no pesticides are used. Compared to other regions, smallholder households in Tanga store moderate quantities of maize. Most of the storage is mostly in locally made traditional cribs, with small amounts stored in sacks or open drums.

A relatively high number of households sell crops compared to other regions. The large majority of households process their crops by neighbours machines and very few households sell their processed produce.

Compared to other regions, the number of smallholders in Tanga receiving extension services is moderate to high.

Tanga has a small number of planted trees by smallholders and the species is mainly *gravellis*. Compared to other regions, the percent of households with erosion control/water harvesting facilities is moderate to high with terraces being one of the most prominent.

### 3.3.10 Mtwara

Mtwara has around 460,000 hectares for crop production and the number of crop farming households is moderate compared to other regions, however, due to the small land area, the region has one of the largest number of crop growing households per square kilometer in the country and this is reflected by the high percent of available land that is utilized. The region is characterized by having the highest percent of its total planted area under permanent crops, most of which are in monocrop stands. The region gets the long rainy season only.

Cassava is one of the most important crops in Mtwara and it has the third highest planted area in the country. In terms of planted area, the region is not important for cereal production and the yield for maize was one of the lowest in the country during the census year. Comparatively moderate quantities of sorghum and paddy are grown. Moderate quantities of groundnuts are grown and relatively small amounts of beans. Vegetables are not important in the region and traditional annual cash crops are virtually absent. The main crop in Mtwara is cashew nuts with 55 percent of the total planted area with cashew nuts in the country. Some mangoes and coconuts are also grown.

Mtwara has virtually no irrigation. Soil preparation is 100 percent by hand and apart from Lindi it has the least pesticide application in the country. It has one of the smallest storage of maize in the country and is mostly stored in locally made traditional cribs. A moderate number of households sell crops. The majority of processing is done on farm by hand and a comparative moderate number of households sell processed crops and most of this is to neighbours. Extension services are provided to a very small number of smallholder households in Mtwara.

No tree planting by smallholders is carried out in Mtwara and the number of households with erosion control/water harvesting facilities is almost non-existent.

### **3.3.11 Morogoro**

Morogoro has a land area of 450,000 hectares under crop production. Although it has a moderate to high number of crop farming households compared to other regions, it has a low to moderate number of crop growing households per square kilometre. Compared to the total area under permanent crops in Tanzania, Morogoro has very little smallholder planted area, however the region is very important for certain permanent crops. Most of the crop growing households do not have livestock. Compared to overall average planted area per crop growing household with annual crops (1.61ha), the region's is above average at 2.0 hectares. The region has a moderate level of land utilisation and this is reflected by the average number of households responding to insufficient land.

Morogoro has both long and short rainy seasons. The planted area during the short rainy season is half of that in the long rainy season. In terms of planted area, Morogoro is the fourth most important region for cereals in Tanzania. It has a moderate planted area of maize but the largest planted area of paddy in the country. However, the production of maize was very low during the census year and as a result had one of the lowest yields in the country. The yield of paddy was average. Sorghum, cassava, beans and groundnuts are grown in small quantities and cash crops are not important in the region.

Morogoro is an important region for the production of vegetables and it has the largest planted areas of tomatoes, cabbage, cucumber and cauliflower and the third largest for onions. During the census year, the yield of most vegetables in Morogoro was less than that of Iringa.

The region has the largest planted area under sugar cane and is the third for oranges. Coconuts, oil palm and mangoes are also grown in small quantities.

Although small, Morogoro has the sixth largest planted area with irrigation. There has been a sharp increase in the number of households with irrigation (almost 300%) over the last 10 years. The source of water for irrigation is mostly from rivers and is mostly gravity fed. The method of water application is split equally between flood and buckets/watering cans.

Land cultivation is almost 100 percent by hand. However, even though minor, it has one of the largest areas cultivated by tractor. Virtually no fertiliser or pesticides are used.

Very little maize was stored during the census year and it has one of the lowest percent of maize stored. Storage is predominantly in sacks or open drums followed by locally made traditional cribs. A moderate number of households sell crops compared to other regions. Most of the households process crops by neighbours machine, however on farm hand processing is higher than in many other regions. Very few households sell processed crops and those who process, sell mostly to neighbours. The number of households receiving extension services is low.

The region has relatively few planted trees by smallholder households and they are mostly *gravellis* species. It has one of the smallest numbers of households with erosion control/water harvesting facilities in the country.

### **3.3.12 Rukwa**

Rukwa has over 340,000 hectares of land under crops and is dominated by annual cropping. It has one a moderate to high available land area per crop growing household and the smallest percent utilized. Of the 3.0 ha per crop growing household



land available only 2 ha was utilized. The number of crop growing households is moderate to low. The region has no short rainy season.

Rukwa has a moderate planted area of cereals the majority of which is maize, however it is the fifth most important region in terms of the quantity produced. Beans and groundnuts are planted in moderate amounts and the region is the fourth most important in terms of quantity produced. Paddy is produced in moderate to small amounts compared to other regions and a small amount of sorghum is also produced. Cassava is produced in moderate to low amounts. Rukwa is not important for vegetable production, however a small amount of tobacco is grown. Rukwa has the smallest percentage of the total planted area of permanent crops in the country.

The area under irrigation in Rukwa is moderate to low compared to other regions and the number of households with irrigation has not changed for 10 years. For the small number of households with irrigation, the source of irrigation water is mostly from rivers, the method of obtaining water is largely by gravity and application of the irrigation water is mostly by flood. More than half of the land cultivation is done by oxen and the region is one of the few regions using non manual cultivation methods. Fertiliser application is almost non existent and little pesticides are used.

Rukwa stores a relatively large amount of maize mostly in sacks/open drums. A high percent of households in the region sells crops. Most processing is by neighbours machine and it also has one of the highest percentages of processing done by traders. Few households sell their processed crops, mostly to neighbours. Rukwa receives the second least amount of extension services per household.

The region has a small number of planted trees by smallholder households, and most of these are eucalyptus. It has a moderate number of households with erosion control/water harvesting facilities and most of them are for erosion control.

### **3.3.13 Singida**

Singida has a land area of around 360,000 hectares under smallholder crop production and the region is characterized by having virtually no permanent crops. The land area utilized per crop growing household is 2 ha and a high percent of the land area available is utilized. The number of households per square kilometer is relatively low. The region only has a long rainy season. In terms of planted area, the region is moderately important for cereals and whilst maize has a higher planted area than other cereals in the region, Singida is the most important region for the production of sorghum. The production of millets is also relatively important. Virtually no paddy or cassava is grown in the region, however beans, groundnuts and tobacco are produced in small quantities. With the exception of onions, vegetable production is not important.

Virtually no irrigation is practiced in Singida and the number of households practicing irrigation has not changed for 10 years. Cultivation is mostly by oxen and the region has one of the largest land area cultivated using non manual methods.

After Kilimanjaro and Iringa, Singida has the largest area of fertilizer application in the country and this is mostly with farm yard manure. Singida had very little maize stored during the census year. Most storage was in locally made traditional cribs. Very few households sell crops and it has the lowest percent of crop selling households in the country. Processing of crops is almost entirely by neighbours machine and there is virtually no sale of the processed produce. The number of households receiving extension services is relatively high.

There is no smallholder tree planting in the Singida. However the number of households with erosion control/water harvesting facilities is moderate to low and is mainly erosion control bunds.

### 3.3.14 Mara

Mara has a land area of 330,000 hectares under crop production and the number of crop growing households is small compared to other regions, however it has a relatively high number of crops and livestock growing households. The region has a moderate to high number of smallholder households per square kilometer. The land area available per household is moderate to high, however the utilized land area is below the average for the country resulting in one of the lowest land utilization rates in the country. The region has one of the highest areas of permanent mono-crops in the country. It has two seasons and the planted area in the short rainy season is around half that of the long rainy season. The average area planted per crop growing household in the long rainy season is 1.7ha and 0.9 ha in the short rainy season.

The region has a moderate to low planted area of cereals. Although maize has the largest planted area, the area of sorghum is fourth largest in the country and it has the highest production. The region has the second largest planted area of cassava, however beans and groundnuts are produced in very small quantities. The region has a moderate to low importance in tomato and cabbage production with minor quantities of onions. A small amount of cotton is grown in the region. Minor quantities of coffee, mangoes, sugar cane and oranges are also produced.

Moderate to low planted areas of irrigation exist in the region. Very few households practice irrigation and the number of households with irrigation has not changed significantly for 10 years. Most cultivation is done by using oxen. A small amount of farm yard manure is applied and virtually no pesticides are used.

Normally, storage is in locally made traditional cribs. The percentage of households selling crops is average for the country. Most processing is done using neighbours machines and only small amounts of the processed crops are sold and mostly to local markets/trade store (the highest percent using this marketing outlet in the country). The receipt of extension per household is moderate.

Mara has the fifth largest number of trees in the country and the dominant species are trichillia and eucalyptus. A moderate number of households have erosion control/water harvesting facilities and erosion control bunds is the most common followed by water harvesting bunds.

### 3.3.15 Manyara

Manyara has a land area of 325,000 hectares under crop production and has a low number of crop growing households compared to other regions. More than 50 percent of the crop growing households have livestock. The region has one of the lowest number of crop growing households per square kilometer, however the percent utilization of the available land is high, which suggests land pressure in certain areas. The area utilized per crop growing household is 2.1 ha. Very small areas are under permanent crops.

Manyara has a moderate planted area of maize compared to other regions. Paddy, sorghum, cassava and groundnuts are not grown in the region. The region has a moderate planted area of beans. Vegetables are not important in the region apart from a moderate to small planted area of onions. Manyara has the highest planted areas of pigeon peas in the country.

Very little irrigation is practiced in the region and time series data suggests that there has been a decline in the number of households with irrigation in the region over a period of 10 years. Half of the planted area is done by oxen. Compared to other regions, Manyara has a high percent of land cultivated by tractor and apart from Arusha, it has the smallest area cultivated by hand in the country. Approximately one third of the planted area has an application of fertilizer and is practically all farm yard manure. Small quantities of pesticides are used.



Relatively high quantities of maize were stored and storage is split equally between sacks/open drums and locally made traditional structures. A small number of households sell crops. Practically all processing is done on neighbours machines and the processed produce is not sold. The number of households receiving extension is small.

Manyara has a small number of trees planted by smallholder households and they are most pinus. The region has a relatively high percent of households with erosion/control and water harvesting facilities and the most commonly used is the erosion control bunds.

#### **3.3.16 Lindi**

Lindi has a land area of 272,000 hectares under crop production and has one of the lowest numbers of annual crop growing households in Tanzania. Almost all smallholder households grow crops only and very few of them have livestock. The land area per crop growing household is 1.8 ha and it has a high percent of allocated land that is utilized. The region has a relatively high percent of permanent crops, some of which are in monocrop stands and the remainder in mixed annual/permanent crop. Lindi only has a long rainy season.

Cereal production is relatively unimportant in Lindi and it has one of the lowest planted areas and yields of maize in the country. Small quantities of rice is produced, however it has the sixth largest planted area of sorghum. Lindi also has a moderate production of cassava and its low planted area per household suggests that most households grow small amounts. Beans are not grown in the region and only small amounts of groundnuts and vegetables are grown. Traditional annual cash crops are also not grown.

Lindi has the third largest planted area of cashew nut, coconut and pigeon peas in the country and it has a moderate area under oranges compared to other regions.

Lindi has virtually no planted area under irrigation, however there may have been a small increase in the number of households with irrigation over the period of 10 years.

A relatively high percent of land clearing is done by burning and all cultivation by smallholders in the region is done by hand. No fertilizer or pesticides are applied. Storage of maize is practically zero. Lindi has the highest percent of storage in locally made traditional cribs. Compared to the other regions of Tanzania, the percent of smallholders selling crops in Lindi is average. Most processing of crops is done by hand and almost all the processed products are for home consumption.

Lindi has the lowest contact with extension services in the country. It also has the lowest number of smallholder planted trees and very little erosion control/water harvesting facilities.

#### **3.3.17 Kigoma**

Kigoma has a land area of 265,000 hectares under crop production and it has an average number of crop growing households compared to other regions with the majority being crop only growing households. The land area under crop production per crop growing household is 1.3 ha and it has a low rate of utilization compared to the total land available to smallholders. The number of crop growing households per square kilometer is low to moderate. The region has a moderate area planted with permanent crops. It has two rainy seasons with the same planted area in each.

Kigoma is one of the least important regions for cereal production even though the yield is higher than many other regions with larger planted areas. Very small areas of paddy and sorghum are grown. The most important annual crop in Kigoma is beans and it has one of the highest productions. The region also has the fourth largest planted area of cassava in Tanzania. Small to moderate quantities of groundnuts are also grown. The production of vegetables and cash crops is relatively unimportant compared to other regions.

The major permanent crop in Kigoma is oil palm and it has 60 percent of the total planted area of the crop in Tanzania. It also has the fourth largest planted areas of bananas and oranges.

In relative terms, Kigoma has a moderate planted area with irrigation compared to other regions and it appears that there has been a large increase in the number of households with irrigation over a period of 10 years. Most of the irrigation water is obtained from rivers and the method of obtaining water is equally split between buckets/watering cans and gravity. Field application of irrigation water is mainly by bucket/watering cans and this is closely followed by flood.

All land preparation is by hand and only a small proportion of the planted area has farm yard manure. Very little pesticides are used. Storage is normally in sacks or open drum. The region has one of the highest percent of households selling crops. Most processing was done by neighbours machine, however the region has the highest percent of processing done by traders. A large number of the households in Kigoma sell their processed crop, mostly in the local market or trade store. The percentage of smallholder households receiving extension services is one of the highest in the country.

Moderate numbers of eucalyptus is planted in the region and most of the erosion control facilities are bunds.

### 3.3.18 Pwani

Pwani has a land area of 250,000 hectares under crop production and it has a small number of crop growing households and very few with livestock. It has a land area per household with crops of 1,8 ha and the percent land utilization is relatively high, however the number of crop growing households per square kilometre is low. The region has two rainy seasons with the long rainy season being more important.

Cereal production in Pwani is not important and it has one of the smallest planted areas of maize in the country, however paddy production may be relatively important. Sorghum is grown in small quantities. Cassava is moderately important. Beans or groundnuts are not produced in the region and vegetable production is small.

Pwani has the fourth largest planted area of cashew nuts and it has the largest planted areas of coconuts. It has the second largest area planted with oranges in the country.

There is a very small planted area with irrigation in the region. All cultivation is done by hand and virtually no fertilizer or pesticides are used. Storage is predominantly in locality made traditional cribs. Pwani has little available crop produce to sell and the percent of households selling is also low. The region has one of the lowest percent of households processing crops, however it has the highest percent of households processing crops by hand. Pwani is also among the regions selling the least processed produce. Smallholders in Pwani receive moderate extension advice in terms of percent of households receiving advice.

Very few trees are planted by smallholder households in Pwani and it has one of the smallest numbers of households with erosion control/water harvesting facilities.



### 3.3.19 Kilimanjaro

Kilimanjaro has a land area of 230,000 hectares under crop production and has a relatively high number of crop growing households compared to other regions. Most of the crop growing households have livestock. The number of crop growing household per square kilometer is the second highest in the country. The region has a land area per crop growing household of 1.0 ha and almost all available land is utilized. The region has short and long rainy seasons with the long rainy season being slightly more important. Kilimanjaro has a relatively high percent of permanent crops, some of which are in mono-crop stands and the remainder in mixed annual/permanent crop.

Cereal production in Kilimanjaro is not important and it has one of the smallest planted areas of maize. Paddy, sorghum, cassava and groundnuts are almost absent in the region. There is moderate to low cultivation of beans and vegetables. The region has the second largest planted area of bananas, third for coffee and mangoes. Small amounts of oranges and sugar canes are also grown in the region.

Kilimanjaro has the fourth largest planted area with irrigation in Tanzania and it has the second highest percent of total planted area under irrigation. The region has faced the greatest decline in the number of households with irrigation in 10 years (around 30%). Canals are the most common source of irrigation water and the region has the highest percent of households using canals. Rivers are also used. Practically all irrigation water is obtained by gravity and very few households use buckets/watering cans. Similarly, flood irrigation in the region is the highest in the country and almost all field application of irrigation water is by flood, with very few households applying irrigation water by buckets/watering cans.

Most cultivation is done by hand with very few households using oxen. However, it is one of the six regions in the country that has some cultivation by tractor. Kilimanjaro has one of the highest percent of the total planted area with fertilizer application and slightly more farm yard manure than inorganic fertilizer is applied. It has the second highest percentage of total planted area with insecticide application and the fourth highest for fungicides. The region has the highest percent of households using air tight drums for storage and it is the most common method in the region, however this is closely followed by sacks/open drums. Very little storage is done in locally made traditional structures.

Although Kilimanjaro has only a moderate number of households selling crops, it has the highest percent of households processing crops. Though small, the region has the second largest number households processing crops on farm by machine, however most processing in the region is done by neighbours machine. It has the second highest number of households selling processed crop and this is mostly to farmers associations (higher than any other region) and the marketing cooperatives (also the highest in the country). Kilimanjaro has one of the highest number and percent of smallholder households receiving extension advice in the country.

Kilimanjaro region has a moderate number of planted trees by smallholders in the country with gravellis being the dominant species. Some eucalyptus and casurina are also grown. It has the largest number of households with erosion control/water harvesting bunds in Tanzania with terraces and erosion control bunds being the most common.

### 3.3.20 Arusha

Arusha has a land area of 222,000 hectares under crop production and has a relatively small number of crop growing households compared to other regions and most of them have livestock. The number of crop growing household per square kilometer is low and it has a crop land area per household of 1.4 ha. Almost all land made available to smallholders is

utilized. The region has short and long rainy seasons, however the short rainy season has only a small planted area. In Arusha region, annual cropping is the most important, however it has also a small amount of perennial crops all planted as a mixture with annuals.

Arusha has one of the smallest planted areas of maize, paddy, cassava, sorghum and groundnuts in Tanzania. The region has a moderate planted area of beans. Arusha region is important for vegetables, with the largest planted area of onions and has the fifth largest planted area of cabbage with a moderate planted area of tomatoes.

Permanent crops are not important in Arusha, only small amounts of coffee and mangoes are grown. Although small, it has the third largest planted area with irrigation in Tanzania and it has the highest percent of total planted area under irrigation. The number of households with irrigation has remained more or less constant over a period of 10 years. Rivers and canals are the most common source of irrigation water and almost all households use gravity for obtaining irrigation water. Practically all field application of irrigation water is by flood.

The region has the largest percent of planted area cultivated by oxen and some tractors are used with very small areas cultivated by hand. Compared to most other regions, Arusha has a high percent of fertilizer use and is mostly farm yard manure, however there is also a small amount of inorganic fertilizer used. The region has one of the highest percent of planted area with pesticide application. Storage is mainly in sacks/open drums and a small amount of storage in locally made traditional structures and in air tight drums. The region has the highest percent of households with improved locally made storage cribs.

Arusha has one of the lowest numbers of households selling crops. The region has one of the smallest numbers of households practicing crop processing in Tanzania and is predominantly done by neighbour machines. Practically all processed products are used by the household. The region has low to moderate extension contact.

Small number of gravellis are planted by smallholder households and the region has the third highest percent of households with erosion control/water harvesting facilities in the country and most of these are erosion control and water harvesting bunds. It also has the highest number of tree belts in the country.

### 3.3.21 Dar es Salaam

Dar es Salaam has a land area of 32,000 hectares under crop production and has the smallest number of crop growing households in the country and most of them do not have livestock. The number of crop growing household per square kilometer is one of the highest and it has a crop land area per household of 1.5 ha. Almost all land made available to smallholders is utilized. The region has short and long rainy seasons, however the long rainy season is more important. In Dar es Salaam region, both annual and permanent crops are important.

Dar es Salaam is not important for cereal production and has one of the smallest planted areas of maize, paddy and cassava in the country. Sorghum, beans and groundnuts are virtually not grown in the region. Dar es Salaam region is not important for vegetables, although some small amount of tomatoes is grown. With the exception of coconuts and oranges, permanent crops are not important in Dar es Salaam.

Dar es Salaam has the smallest irrigation in Tanzania and time series data shows that the number of households with irrigation has not changed for a period of 10 years. Further details on irrigation in Dar es Salaam are inappropriate due to



small numbers. The region has the lowest percent of households processing crops. Although most of the processing is mostly on farm by hand, the region has the highest percent of households processing crops on farm by machine. Although the region has the smallest number of households receiving extension services, in terms of percentages it has the highest percent of households receiving extension services in the country. Tree planting is almost absent in Dar es Salaam.

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**2.1 TYPE OF AGRICULTURE HOUSEHOLD: Number of Households by type of Household and Region during 2002/03 Agriculture Year**

Region	Agriculture, Non Agriculture and Urban Households								Total Number of Households (from 2002 Pop. Census)
	Rural Households Involved in Agriculture		% of Total Rural Households		Rural Households NOT Involved in Agriculture		% of Total Households		
	Number	%	Number	%	Number	%	Number	%	
Dodoma	323,719	97.8	7,418	2.2	331,138	88.1	44,866	11.9	376,006
Arusha	154,857	84.6	28,327	15.5	183,184	84.0	103,066	36.0	286,242
Kilimanjaro	216,173	94.1	13,493	5.9	229,666	76.7	69,617	23.3	299,283
Tanga	265,198	94.4	15,999	5.8	281,067	79.0	74,848	21.0	355,713
Morogoro	260,746	95.1	13,410	4.9	274,156	71.9	107,010	28.1	381,166
Pwani	141,530	80.7	16,182	10.3	157,711	78.4	43,429	21.6	201,140
Dar es Salaam	20,394	55.0	16,882	45.0	37,076	6.3	565,135	93.7	592,211
Lindi	153,173	96.2	6,011	3.8	159,185	82.8	32,916	17.1	192,103
Mtwara	229,314	96.5	6,210	3.5	237,524	80.3	58,362	19.7	295,816
Ruvuma	191,175	98.1	3,739	1.9	194,914	84.0	37,110	16.0	232,024
Iringa	278,717	97.6	6,792	2.4	285,509	82.3	61,210	17.7	346,719
Mbeya	372,844	95.3	18,457	4.7	391,301	79.7	99,968	20.3	491,269
Singida	179,915	96.8	5,969	3.2	185,884	85.5	31,466	14.5	217,350
Tabora	235,917	96.4	8,906	3.8	244,824	84.4	45,085	15.6	289,909
Rukwa	172,261	95.3	8,469	4.7	180,730	81.1	42,065	18.9	222,815
Kigoma	195,785	97.2	5,802	2.8	201,587	83.0	41,249	17.0	242,816
Shinyanga	377,857	96.4	14,205	3.8	392,062	88.3	51,848	11.7	443,910
Kagera	353,277	96.3	13,501	3.7	366,778	84.0	23,252	6.0	390,030
Mwanza	340,085	92.3	28,202	7.7	368,286	65.4	195,107	34.6	563,393
Mara	188,203	96.2	7,465	3.8	195,668	78.9	52,222	21.1	247,890
Manyara	154,194	92.3	12,931	7.7	167,125	83.8	32,414	16.2	199,539
Mainland	4,805,315	94.0	289,840	5.1	5,095,154	73.8	1,602,090	26.2	6,697,244
Zanzibar	96,522								184,949
National	4,901,837								7,052,193

Data source: Number of rural households involved in agriculture - Small holder questionnaire. Number of rural households not involved in Agriculture - Household listing. Total Number of households - 2002 population Census. Number of Urban households is calculated by subtracting total rural households from Total number of households from the population census

**2.2 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agriculture Households by Type of Holding by Region during 2002/03 Agriculture Year**

Region	Crops Only		Livestock Only		Pastoralist		Crops & Livestock		Total Number of Agriculture Households	Total Number of Households Growing Crops	Total Number of Households Rearing Livestock
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%			
Dodoma	293,709	72.2	606	0.2	0	0.0	89,402	27.8	323,719	323,112	90,010
Arusha	30,513	19.7	15,709	10.1	670	0.4	107,968	69.7	154,857	138,479	124,344
Kilimanjaro	57,719	26.7	1,951	0.9	35	0.0	166,467	72.4	216,173	214,187	158,453
Tanga	178,406	87.3	1,477	0.6	194	0.1	85,121	32.1	265,198	263,528	86,792
Morogoro	224,222	88.0	1,500	0.6	0	0.0	35,024	13.4	260,746	259,248	36,524
Pwani	129,349	91.4	2,066	1.5	0	0.0	10,094	7.1	141,530	139,444	12,180
Dar es Salaam	15,844	77.7	1,130	5.5	0	0.0	3,420	16.8	20,394	19,284	4,550
Lindi	138,034	90.1	159	0.1	0	0.0	14,981	9.8	153,173	153,015	15,139
Mtwara	204,241	89.1	112	0.0	0	0.0	24,961	10.9	229,314	229,202	25,073
Ruvuma	141,819	74.1	132	0.1	0	0.0	49,424	25.9	191,175	191,043	49,556
Iringa	205,903	73.9	0	0.0	0	0.0	72,814	26.1	278,717	278,717	72,814
Mbeya	232,200	52.3	1,195	0.3	0	0.0	139,441	37.4	372,844	371,890	140,838
Singida	90,837	53.8	516	0.3	0	0.0	82,563	45.9	179,915	179,400	83,079
Tabora	140,046	52.8	296	0.1	0	0.0	87,878	37.1	235,917	235,621	87,871
Rukwa	114,069	66.2	416	0.2	0	0.0	57,776	33.5	172,261	171,845	58,192
Kigoma	135,855	69.3	911	0.5	160	0.1	69,040	30.2	195,785	194,895	60,110
Shinyanga	200,778	53.1	2,310	0.6	0	0.0	174,789	46.3	377,857	375,847	177,079
Kagera	253,817	71.8	3,049	0.9	628	0.2	95,763	27.1	353,277	349,800	99,460
Mwanza	197,780	58.2	1,156	0.3	0	0.0	141,149	41.5	340,085	338,929	142,305
Mara	103,309	54.9	2,412	1.3	0	0.0	82,462	43.8	188,203	185,791	84,894
Manyara	53,923	35.0	3,776	2.4	141	0.1	96,384	62.5	134,194	130,278	100,271
Mainland	3,085,863	64.4	40,898	0.8	1,828	0.0	1,666,606	34.7	4,805,315	4,782,589	1,709,331
Zanzibar	60,077	62	301	0	0	0	38,164	37	96,522	96,221	38,446
National	3,168,080	64.4	41,199	0.8	1,828	0.0	1,702,750	34.7	4,901,837	4,858,810	1,745,778

**2.3 TYPE OF AGRICULTURE HOUSEHOLD: Rank of Importance of different Livelihood activities by Region during 2002/03 Agriculture Year**

Region	Livelihood activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Dodoma	1	7	5	6	3	4	2
Arusha	1	7	4	5	2	6	3
Kilimanjaro	1	8	2	5	3	7	4
Tanga	1	8	3	7	4	5	2
Morogoro	1	7	4	6	3	5	2
Pwani	1	5	2	7	4	6	3
Dar es Salaam	1	5	3	7	4	6	2
Lindi	1	8	3	7	4	5	2
Mtwara	1	5	2	7	4	6	3
Ruvuma	1	5	2	6	4	7	3
Iringa	1	7	4	6	3	5	2
Mbeya	1	7	3	6	4	5	2
Singida	1	7	6	5	3	4	2
Tabora	1	7	4	6	3	5	2
Rufuwa	1	7	4	6	3	5	2
Kigoma	1	5	2	7	4	6	3
Shinyanga	1	7	4	5	2	6	3
Kagera	1	5	2	6	3	7	4
Mwanza	1	5	3	7	4	6	2
Mara	1	5	2	7	4	6	3
Manyara	1	7	6	4	2	5	3
Total	1	7	3	6	4	5	2



**LAND SUFFICIENCY**

**4.4 LAND SUFFICIENCY: Number of Agriculture Households by Whether All Land Available to the Household Was Used during 2002/03 Agriculture Year and Region**

Region	Was all Land Available to the Hh Used During 2002/03?				
	Yes	%	No	%	Total
Dodoma	242,727	75	80,385	25	323,112
Arusha	113,483	82	25,015	18	138,479
Kilimanjaro	183,891	86	30,266	14	214,187
Tanga	175,773	67	87,754	33	263,528
Morogoro	182,114	70	77,132	30	259,246
Pwani	92,412	66	47,032	34	139,444
Dar es Salaam	14,748	77	4,518	23	19,264
Lindi	104,891	68	48,323	32	153,015
Mtwara	171,795	75	57,407	25	229,202
Ruvuma	59,442	31	131,801	69	191,043
Iringa	147,079	53	131,638	47	278,717
Mbeya	289,627	78	82,023	22	371,650
Singida	115,556	64	63,844	36	179,400
Tabora	106,559	45	129,061	55	235,621
Rukwa	83,550	37	108,295	63	171,845
Kigoma	97,680	50	97,015	50	194,695
Shinyanga	231,463	62	144,084	38	375,547
Kagera	206,185	59	143,415	41	349,600
Mwanza	214,868	63	124,080	37	338,929
Mara	84,273	45	101,519	55	185,791
Manyara	114,404	78	35,873	24	150,278
Mainland	3,012,298	63	1,750,281	37	4,762,589
Zanzibar	85,431	89	11,091	11	96,221
National	3,097,729	64	1,761,382	36	4,858,810

**4.5 LAND SUFFICIENCY: Number of Agriculture Households by Whether they thought they had Sufficient Land for the Household and Region during 2002/03 Agriculture Year**

Region	Do you Consider That You Have Sufficient Land for the Household?				
	Yes	%	No	%	Total
Dodoma	202,235	62	121,485	38	323,719
Arusha	36,209	23	118,648	77	154,857
Kilimanjaro	65,932	30	150,241	70	216,173
Tanga	146,353	55	118,846	45	265,199
Morogoro	148,678	57	112,067	43	260,746
Pwani	88,856	63	52,673	37	141,530
Dar es Salaam	8,529	42	11,866	58	20,394
Lindi	110,875	72	42,298	28	153,173
Mtwara	156,787	68	72,527	32	229,314
Ruvuma	144,421	76	46,753	24	191,175
Iringa	174,551	63	104,166	37	278,717
Mbeya	201,722	54	171,122	46	372,844
Singida	94,820	53	85,296	47	179,915
Tabora	147,147	62	88,770	38	235,917
Rukwa	108,922	63	63,339	37	172,261
Kigoma	96,761	49	99,004	51	195,765
Shinyanga	167,533	44	210,324	56	377,857
Kagera	177,877	50	175,400	50	353,277
Mwanza	147,356	43	192,729	57	340,085
Mara	72,573	39	115,630	61	188,203
Manyara	62,879	41	91,318	59	154,197
Mainland	2,560,816	53	2,244,499	47	4,805,315
Zanzibar	57,774	60	38,748	40	96,522
National	2,618,590	53	2,283,247	47	4,901,837

**4.6 LAND ACCESS/OWNERSHIP/TENURE: Number of Agriculture Households By Whether Female Members of the Household Own or Have Customary Right to Land By Region during 2002/03 Agriculture Year**

Region	Do any Female Members of the Hh own or have Customary Right to Land?				
	Yes	%	No	%	Total
Dodoma	71,136	22	251,976	78	323,112
Arusha	21,242	15	117,236	85	138,479
Kilimanjaro	30,474	14	183,713	86	214,187
Tanga	62,574	24	200,954	76	263,528
Morogoro	75,200	29	184,047	71	259,246
Pwani	38,799	28	102,644	74	139,444
Dar es Salaam	5,174	27	14,090	73	19,264
Lindi	34,283	22	118,732	78	153,015
Mtwara	69,703	30	159,499	70	229,202
Ruvuma	29,192	15	161,851	85	191,043
Iringa	74,726	27	203,990	73	278,717
Mbeya	78,216	21	293,433	79	371,650
Singida	37,854	21	141,546	79	179,400
Tabora	24,688	10	210,933	90	235,621
Rukwa	22,647	13	149,198	87	171,845
Kigoma	44,639	23	150,056	77	194,695
Shinyanga	40,758	11	334,789	89	375,547
Kagera	53,155	15	296,445	85	349,600
Mwanza	52,593	16	286,306	84	338,929
Mara	40,879	22	144,912	78	185,791
Manyara	18,442	12	131,836	88	150,278
Mainland	924,325	19	3,838,264	81	4,762,589
Zanzibar	87,686	91	8,835	9	96,221
National	1,012,012	20.8	3,847,099	78.2	4,858,810



**LAND USE**

5.1 LAND USE: Number of Agriculture Households by Type of Land Use and Region for the 2002/03 Agriculture Year

Regions	Type of Land Use : Households with Land :											Number of crop growing households		
	Under Temporary Mono Crops	Under Temporary Mixed Crops	Under Permanent Mono Crops	Under Permanent Mixed Crops	Under Permanent/ Annual Mix	Under Pasture	Under Fallow	Under Natural Bush	Under Planted Trees	Remitted to Others	Unusable		Of Uncultivated Usable Land	Area of land utilized by the household (ha)
Dodoma	253,570	131,502	9,324	11,705	13,593	4,435	30,243	1,589	11,000	3,531	7,417	31,707	749,841	323,719
Arusha	53,973	92,863	9,937	20,894	11,596	25,803	8,354	2,585	29,030	2,411	6,485	12,243	222,157	154,857
Kilimanjaro	119,239	119,239	19,457	103,463	50,164	14,862	11,945	1,144	67,004	6,021	11,214	11,980	231,901	216,173
Tanga	150,120	88,312	57,423	42,241	78,275	2,509	35,758	1,542	18,854	4,728	7,899	41,911	400,869	285,198
Morogoro	224,838	52,799	59,451	25,185	26,801	2,205	10,929	2,356	7,793	9,591	9,210	55,028	446,676	260,746
Pwani	64,131	35,902	36,452	32,444	49,813	2,014	11,069	2,190	1,951	1,051	4,425	25,003	249,899	141,530
Dar es Salaam	8,121	3,234	2,847	5,533	11,187	1,318	1,420	118	1,817	290	490	1,933	31,583	20,394
Lindi	51,448	89,220	36,664	12,526	53,932	268	16,021	1,872	234	1,733	5,864	27,096	272,953	153,173
Mtwara	89,448	134,887	90,115	11,036	61,186	641	11,874	3,354	1,097	1,976	2,871	31,202	417,322	229,314
Ruvuma	169,022	54,671	110,342	48,308	55,836	10,463	54,835	39,594	40,366	9,933	15,224	72,165	497,667	191,175
Iringa	208,330	136,019	20,200	12,803	23,821	10,505	30,705	16,307	74,488	11,432	24,142	95,595	483,550	279,717
Mbeya	328,095	100,839	83,942	73,790	31,899	5,270	38,376	6,906	48,944	9,827	12,303	34,283	572,591	372,844
Shinyanga	162,843	33,891	4,382	2,623	3,996	6,888	28,201	5,511	4,094	3,229	5,855	30,503	357,225	179,815
Tabora	186,102	137,130	33,871	6,831	21,819	14,147	42,690	20,088	2,955	5,927	17,288	78,155	606,844	235,817
Rukwa	141,825	70,239	12,714	9,212	10,832	3,140	32,328	10,071	15,306	6,562	10,978	77,028	343,291	172,261
Kigoma	120,595	104,727	122,861	20,056	82,595	1,254	31,806	1,171	11,652	2,949	3,092	64,740	263,982	195,765
Sinyanga	337,630	153,976	7,971	6,794	20,277	39,309	51,062	13,859	7,509	11,427	16,191	67,218	1,172,442	377,857
Kagera	147,855	144,239	71,585	55,614	231,786	12,034	46,843	8,583	38,289	4,808	15,170	66,796	441,324	353,277
Mwanza	242,740	131,090	85,472	19,520	136,599	11,950	6,060	5,845	42,153	11,594	17,448	101,350	677,447	340,085
Mara	144,089	42,515	115,753	5,672	28,114	7,885	18,372	5,139	32,312	6,022	11,594	81,956	332,949	188,203
Manyara	62,624	103,155	1,772	2,004	5,205	19,047	7,574	1,987	8,232	3,733	5,092	15,047	325,964	154,194
Mtandarid	3,224,425	1,969,850	597,455	532,054	1,007,795	157,607	535,411	153,596	459,933	118,454	215,472	1,020,930	9,101,156	4,803,319
Zanzibar	69,236	11,949	54,332	36,771	16,713	84	4,578	154	2,785	402	1,302	4,699	106,724	96,522
National	3,293,553	1,991,595	1,051,787	569,935	1,024,471	197,701	539,959	153,749	462,518	118,866	216,775	1,025,948	9,207,890	4,901,637



Regions	Land Use Areas												Total Area (ha)
	Area under Temporary Mono Crops	Area under Temporary Mixed Crops	Area under Permanent Mono Crops	Area under Permanent Mixed Crops	Area under Permanent Annual Mts	Area under Pasture	Area under Fallow	Area under Natural Bush	Area under Natural Trees	Area under Planted Trees	Area Rented to Others	Area Unusable	
Dodoma	487,443	218,871	3,342	11,498	13,161	7,871	39,437	8,852	4,431	5,533	10,443	46,104	865,264
Arusha	45,312	112,730	2,567	9,556	5,398	42,336	12,348	1,194	3,281	1,059	3,028	16,931	257,827
Kilimanjaro	49,296	88,838	7,106	52,249	28,868	18,086	27,873	357	9,858	4,897	2,888	8,484	278,325
Tanga	187,875	78,350	33,108	40,398	81,938	1,852	43,928	2,171	3,859	4,236	9,597	57,353	524,461
Morogoro	328,894	54,759	27,285	11,366	18,487	2,856	12,206	4,290	2,891	11,497	8,558	83,452	587,782
Pwani	59,489	33,898	41,042	43,439	66,332	5,932	14,787	5,318	722	1,818	7,702	33,871	312,868
Dar es Salaam	5,417	2,716	2,474	8,180	13,408	1,059	1,391	123	330	392	533	2,550	38,551
Lindi	36,448	96,833	46,617	14,214	79,704	79	18,096	3,283	67	1,783	7,892	36,754	318,484
Mtween	63,873	138,887	50,477	11,853	88,209	1,027	11,536	8,356	403	2,286	4,543	34,158	478,188
Ruvuma	204,099	45,471	120,484	39,451	66,045	9,228	71,887	79,522	10,991	10,766	24,297	115,091	790,230
Iringa	253,966	144,871	8,711	6,890	15,714	13,023	29,220	25,366	40,484	12,813	28,316	111,484	681,830
Mbeya	382,807	71,330	40,812	40,478	18,111	8,372	32,723	11,628	13,078	8,818	9,854	38,518	672,237
Singida	273,871	48,982	2,605	3,458	8,782	18,756	37,800	14,301	1,209	5,944	11,246	87,134	483,150
Tabora	336,318	182,793	18,178	10,136	25,817	33,264	82,078	83,072	3,237	10,553	33,783	122,877	888,228
Rubwa	228,718	78,412	4,897	8,164	12,823	8,441	58,734	17,243	8,038	10,572	12,736	134,711	574,281
Kigoma	82,089	58,608	60,037	9,885	80,873	688	24,996	648	2,744	2,078	1,738	80,144	373,578
Schynge	753,816	230,347	8,046	11,896	42,888	121,381	106,287	94,118	3,454	21,284	28,428	108,572	1,488,142
Kagera	67,505	93,256	30,980	40,512	182,555	14,831	38,150	7,718	11,883	5,213	13,778	51,048	587,228
Mwanza	392,823	140,721	98,371	11,071	129,262	18,382	7,068	5,720	14,218	15,846	19,238	139,478	864,583
Mara	157,427	34,874	86,423	8,373	27,813	12,382	20,348	4,720	7,958	7,838	11,987	109,828	487,543
Mwanza	118,503	196,314	387	1,588	4,636	30,547	13,818	3,782	2,977	7,473	7,482	28,918	387,420
Mtandar	4,498,571	2,103,942	930,173	390,342	887,757	368,881	880,888	298,427	144,180	152,892	287,842	1,383,848	11,888,132
%	37.1	17.7	5.9	3.3	8.5	3.1	5.7	2.5	1.2	1.3	2.2	11.7	100.0
Zanzibar	31,028	5,888	32,312	26,348	10,940	55	1,802	48	1,054	322	561	2,282	111,808
National	4,438,177	2,100,810	733,095	418,881	987,797	369,040	882,758	298,475	145,273	153,224	288,503	1,396,231	11,997,070

**TOTAL ANNUAL CROP & VEGETABLE PRODUCTION –  
LONG & SHORT RAINY SEASON**

**7.0.1 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Area Planted with Annual Crops (hectare) by Season and Region, 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Region	Short Rainy Season			Long Rainy Season			Total area planted (ha)	% Area planted in short rainy season
	Number of Household	Planted Area (ha)	% of Total Planted Area	Number of Household	Planted Area (ha)	% of Total Planted Area		
Dodoma	851	980	0.07	322,651	659,045	10.47	659,024	0.19
Arusha	48,021	28,671	1.97	128,738	141,305	2.25	189,878	16.87
Kilimanjaro	116,006	69,259	4.75	163,110	104,142	1.66	173,401	39.94
Tanga	196,502	160,820	11.03	233,801	267,714	4.26	428,536	37.53
Morogoro	131,666	127,604	8.75	224,310	286,579	4.56	414,183	30.81
Pwani	96,222	68,141	4.67	70,400	108,533	1.74	177,674	38.35
Dar es Salaam	7,484	3,507	0.24	14,896	17,614	0.28	21,121	16.60
Lindi	0	0	0.00	151,164	195,375	3.11	195,375	0.00
Mtwara	286	481	0.03	226,624	255,923	4.07	256,405	0.19
Ruvuma	72	110	0.01	187,149	358,162	5.70	358,272	0.03
Iringa	123	25	0.00	277,863	405,936	6.48	405,960	0.01
Mbeya	60,786	41,640	2.66	343,685	417,596	6.65	459,226	9.07
Shigda	1,333	2,292	0.16	179,359	319,143	5.06	321,434	0.71
Tabora	0	0	0.00	235,456	532,615	8.48	532,615	0.00
Rukwa	233	1,049	0.07	171,116	302,345	4.81	303,394	0.36
Kigoma	183,763	145,143	9.96	118,953	119,831	1.91	264,974	54.78
Shinyanga	1,561	2,826	0.19	374,699	957,423	15.24	960,250	0.29
Kagera	322,485	242,812	16.66	156,840	117,709	1.87	360,521	67.35
Mwanza	322,248	438,177	30.06	119,525	240,930	3.83	679,107	64.52
Mara	127,507	120,297	8.25	124,788	213,341	3.40	333,637	36.06
Manyara	5,897	4,020	0.28	149,363	261,239	4.16	265,260	1.52
Mainland	1,623,026	1,457,855	99	3,972,089	6,282,489	89	7,740,344	19
Zanzibar	29,982	11,058	0.75	71,341	67,218	1.06	78,276	14
National	1,653,010	1,468,913	100	4,043,430	6,349,707	100	7,818,621	14

**7.0.2 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households Planting Crops by Season and Region, 2002/03 Agriculture Year**

Region	Short Rainy Season			Long Rainy Season			Total Number of Crop Growing households*
	Number of households Growing Crops	Number of households NOT Growing Crops	% of Households Growing Crops	Number of households Growing Crops	Number of households NOT Growing Crops	% of Households Growing Crops	
Dodoma	851	322,260	0.28	322,851	481	99.88	323,112
Arusha	48,021	90,456	34.68	126,736	11,743	91.52	138,479
Kilimanjaro	116,006	98,181	54.16	163,110	51,077	78.15	214,187
Tanga	196,502	67,026	74.57	233,801	29,927	88.64	263,528
Morogoro	131,666	127,580	50.79	224,310	34,936	86.52	258,246
Pwani	96,222	43,221	69.00	70,400	69,043	50.49	139,444
Dar es Salaam	7,484	11,799	38.75	14,896	4,568	76.28	19,264
Lindi	0	153,015	0.00	151,164	1,860	98.78	153,015
Mtwara	286	228,916	0.12	226,624	2,578	98.88	229,202
Ruvuma	72	190,971	0.04	187,149	3,894	97.96	191,043
Iringa	123	278,593	0.04	277,863	854	99.89	278,717
Mbeya	60,786	310,863	16.36	343,685	27,965	92.48	371,650
Shigda	1,333	178,067	0.74	179,359	41	99.98	179,400
Tabora	0	235,621	0.00	235,456	166	99.93	235,621
Rukwa	233	171,812	0.14	171,116	730	99.58	171,845
Kigoma	183,763	10,932	94.39	118,953	75,741	61.10	194,695
Shinyanga	1,561	373,986	0.42	374,699	848	99.77	375,547
Kagera	322,485	27,115	92.24	156,840	182,759	44.86	349,600
Mwanza	322,248	18,881	95.08	119,525	218,404	35.27	338,929
Mara	127,507	58,284	68.63	124,788	60,983	67.17	185,791
Manyara	5,897	144,380	3.92	149,363	814	99.39	150,278
Mainland	1,623,026	3,139,561	34.08	3,972,089	790,500	83.40	4,762,589
Zanzibar	29,982	66,540	31.16	71,341	24,880	74.14	96,221
National	1,653,010	3,206,101	34.02	4,043,430	815,380	83.22	4,858,810

\* Total Number of households growing crops is not the sum of households growing in the short season plus long season as a household may grow crops in both the Long and short season



7.0.3 ANNUAL CROP AND VEGETABLE PRODUCTION: Area Planted (ha), Quantity Harvested (tonnes) and Yield (t/ha) on the Mainland and Zanzibar by Season and Crop, 2002/03 Agriculture Year - LONG and SHORT Rainy Season

Crop	Area Planted (ha)					Quantity Harvested (t)					Yield (t/ha)					Area Planted (ha)	Quantity Harvested (t)	Yield (t/ha)
	Area Planted (ha)	Zanzibar Area Planted (ha)	Total Area Planted (ha)	Quantity Harvested (t)	Mainland Quantity Harvested (t)	Zanzibar Quantity Harvested (t)	Total Quantity Harvested (t)	Yield (t/ha)	Zanzibar Yield (t/ha)	Mainland Yield (t/ha)	Zanzibar Yield (t/ha)	Total Yield (t/ha)						
<b>Cereals</b>	662,758	1,222	663,980	183,874	18,544	202,418	753,500	11,284	2,002,832	4,772,864	25,937	4,798,801	13,293	4,798,801	13,293	3,827,689		
Maize	709,131	664	709,795	811,624	1,208	812,832	852,737	11,884	2,002,832	3,462,524	2,850	3,465,374	13,293	3,465,374	13,293	2,817,119		
Sorghum	182,384	540	182,924	61,284	282	61,566	61,284	10,117	612,916	604,481	3,328	607,809	3,328	607,809	3,328	594,877		
Wheat	12,350	31	12,381	43,223	41	43,264	43,264	3,511	173,576	442,827	362	443,289	362	443,289	362	314,632		
Other Cereals	1,000	182	1,182	2,105	65	2,170	2,170	34	38,547	124,521	312	124,833	312	124,833	312	163,754		
<b>Vegetables</b>	10,384	-	10,384	4,684	-	4,684	4,684	84,484	33,321	84,484	-	84,484	33,321	84,484	33,321	163,754		
<b>Other Crops</b>	79,877	3,074	82,951	112,079	4,128	116,207	116,207	1,074	1,074	3,074	-	3,074	1,074	3,074	1,074	24,287		
<b>Oilseeds</b>	11,742	1,488	13,230	49,242	2,208	51,450	51,450	47,849	2,666,811	41,794	42,272	42,272	42,272	42,272	42,272	3,454,188		
Sesame	11,742	1,488	13,230	49,242	2,208	51,450	51,450	47,849	2,666,811	41,794	42,272	42,272	42,272	42,272	42,272	3,454,188		
<b>Other Crops</b>	14,462	1,488	15,950	30,791	1,418	32,209	32,209	688	4,986	1,418	-	1,418	1,418	1,418	1,418	7,469		
<b>Other Crops</b>	3,434	520	3,954	4,442	604	5,046	5,046	2,526	7,572	2,526	-	2,526	2,526	2,526	2,526	18,827		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,188	248	138,436	138,436	794	288,520	688,718	3,118	691,836	3,118	691,836	3,118	482,523		
<b>Other Crops</b>	254,442	2,484	256,926	138,														

**7.0.4 ANNUAL CROP AND VEGETABLE PRODUCTION: Area Planted with Annual Crops (hectare) by Season and Crop, 2002/03 Agriculture Year - LONG and SHORT Rainy Season**

Crop	Short Rainy Season		Long Rainy Season		Total Area Planted Short & Long Rainy Season (ha)	% Area Planted of Short Rainy Season
	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)		
<b>CEREALS</b>		<b>892,786</b>		<b>3,880,178</b>	<b>4,772,964</b>	<b>18.7</b>
Maize	1,424,672	726,131	3096707	2,736,403	3,462,534	21.0
Paddy	154,458	102,184	756634	518,653	620,837	16.5
Sorghum	120,878	52,009	580925	397,619	449,627	11.6
Bulrush Millet	1,785	1,808	180020	122,303	124,211	1.5
Finger Millet	26,665	10,364	154491	73,120	83,485	12.4
Wheat	-	-	85298	31,224	31,224	0.0
Barley	374	190	1529	856	1,046	18.2
<b>ROOTS &amp; TUBERS</b>		<b>78,937</b>		<b>950,388</b>	<b>1,029,325</b>	<b>18.2</b>
Cassava	36,935	11,702	425856	820,130	831,832	5.0
Sweet Potatoes	233,151	47,755	343958	87,712	135,468	35.3
Irish Potatoes	50,948	14,402	100280	36,888	51,290	28.1
Yams	7,667	1,140	11979	2,513	3,653	31.2
Cocoyam	21,433	3,938	16428	3,144	7,082	55.8
<b>PULSES</b>		<b>304,944</b>		<b>633,776</b>	<b>938,719</b>	<b>6.0</b>
Mung Beans	595	185	1717	794	979	99.7
Beans	829,291	259,461	1263368	486,452	745,913	5.8
Cowpeas	118,595	30,000	181994	44,119	74,119	20.4
Green Gram	40,430	11,331	25499	7,451	18,782	0.1
Chick Peas	1,243	629	42364	62,398	63,647	2.1
Bambara nuts	10,429	1,328	100604	23,445	24,772	7.9
Field Peas	7,798	2,006	28698	8,715	10,720	97.2
Other Pulses	27	6	1394	401	406	97.2
<b>OIL SEEDS &amp; OIL NUTS</b>		<b>45,670</b>		<b>488,335</b>	<b>534,005</b>	<b>8.6</b>
Sunflower	17,282	4,004	188541	111,579	115,583	3.5
Sisal	7,820	2,910	131308	85,104	88,014	4.3
Groundnuts	140,848	38,534	732624	309,806	348,339	11.1
Soya Beans	667	179	3915	1,640	1,819	9.9
Castor Seed	172	42	843	208	251	16.8
<b>FRUITS &amp; VEGETABLES</b>		<b>22,091</b>		<b>47,395</b>	<b>69,486</b>	<b>31.8</b>
Okra	1,042	327	3061	897	1,163	28.1
Radish	14	4	957	1,425	1,429	0.3
Turmeric	-	-	95	19	19	0.0
Bitter Aubergine	1,008	137	1853	412	549	25.0
Garlic	132	27	0	-	27	100.0
Onions	10,301	2,723	29619	8,072	10,796	25.2
Ginger	2,146	651	439	117	789	64.8
Cabbage	11,787	2,397	37748	8,278	8,875	27.8
Tomatoes	42,687	9,821	91966	19,922	29,543	32.6
Spinach	4,310	589	12758	1,349	1,938	30.4
Carrot	2,531	863	2119	543	1,428	61.9
Chillies	5,062	1,107	6094	1,195	2,302	48.1
Amaranths	11,257	1,175	21503	2,795	3,970	29.6
Pumpkins	4,206	560	17449	2,290	2,650	19.6
Cucumber	2,888	488	2530	410	875	53.2
Egg Plant	1,787	396	3630	742	1,138	34.8
Water Melon	2,690	969	2067	839	1,802	53.8
Cauliflower	312	61	369	155	215	28.2
<b>CASH CROPS</b>		<b>113,427</b>		<b>282,418</b>	<b>395,845</b>	<b>28.7</b>
Seaweed	339	173	316	183	356	48.5
Cotton	116,294	110,154	172072	226,905	337,058	32.7
Tobacco	7,978	2,820	84622	54,566	57,408	4.9
Pyrethrum	1,018	280	1538	711	992	28.3
Jute	-	-	296	32	32	0.0
<b>Mainland</b>		<b>1,457,855</b>		<b>5,282,488</b>	<b>7,740,344</b>	
Zanzibar		11,058		67,218	78,276	
<b>National</b>		<b>1,468,913</b>		<b>5,349,707</b>	<b>7,818,620</b>	

7.0.5 ANNUAL CROP AND VEGETABLE PRODUCTION: Planted Area with Irrigation by Season and Crop, 2002/03 Agriculture Year - LONG and SHORT Rainy Season

Crop	Short Rainy Season						Long Rainy Season						Total Area Planted (Double + Vals)				
	Area Under Irrigation (Ha)	%	Planted Area (Ha)	%	Total (Ha)	%	Area Under Irrigation (Ha)	%	Planted Area (Ha)	%	Total (Ha)	%	Total Irrigated Area (Ha)	%	Total Planted Area (Ha)	%	Total Area (Ha)
Cereals	24,897	62	399,195	62	399,799	67	26,907	62	4,753,917	62	7,595,478	62	19,699	62	4,884,299	62	4,773,899
Maize	14,709	59.31	709,344	59.39	709,191	49.81	35,874	33.74	2,897,599	44.09	5,736,478	49.09	66,699	62.3	4,109,179	75.1	4,462,699
Wheat	7,109	19.09	36,299	9.21	36,199	9.31	14,999	14.09	179,999	2.79	179,999	1.59	179,999	1.69	369,199	7.2	369,199
Sorghum	474	1.19	41,999	10.49	42,099	10.51	1,799	1.09	369,999	5.47	369,999	3.17	3,147	0.03	447,499	9.1	447,499
Sweet Maize	0	0.00	1,999	0.51	1,999	0.51	979	0.36	197,999	2.96	197,999	1.69	1,999	0.02	199,999	4.1	199,999
Wheat	299	0.75	499	0.12	499	0.12	0	0.00	369,999	5.47	369,999	3.17	369,999	3.49	739,999	15.1	739,999
Finger Millet	0	0.00	11,999	2.99	11,999	3.01	99	0.04	79,999	1.19	79,999	0.69	0	0.00	89,999	1.8	89,999
Barley	0	0.00	199	0.05	199	0.05	0	0.00	999	0.01	999	0.01	0	0.00	1,199	0.02	1,199
Grain & Beans	1,999	5	77,999	19.51	79,999	20.21	21,999	19	419,999	6.37	441,999	3.79	35,999	0.33	477,999	9.8	477,999
Common	199	0.51	11,999	3.01	12,199	3.09	39,999	17.49	79,999	1.19	119,999	1.01	119,999	1.11	239,999	4.9	239,999
Bean	299	0.75	47,999	12.01	48,199	12.21	199	0.18	49,999	0.73	50,199	0.43	50,199	0.47	100,399	2.1	100,399
Jackfruit	999	2.51	14,999	3.74	15,999	4.14	9,999	0.91	36,999	0.57	37,999	0.33	5,199	0.05	43,199	0.9	43,199
Yam	0	0.00	1,199	0.30	1,149	0.29	199	0.17	2,999	0.04	2,919	0.02	199	0.02	3,119	0.06	3,119
Cassava	99	0.25	3,999	1.01	3,999	1.01	79	0.07	3,999	0.05	3,999	0.03	3,999	0.04	7,999	0.16	7,999
Plantain	4,999	12.69	299,999	75.19	304,999	77.19	14,999	13.69	419,999	6.37	434,999	3.69	19,999	0.18	454,999	9.4	454,999
Mung Beans	0	0.00	199	0.05	199	0.05	99	0.09	711	0.01	799	0.01	99	0.00	899	0.02	899
Beans	4,099	10.49	299,499	75.19	303,499	76.19	14,999	13.69	419,999	6.37	434,999	3.69	19,999	0.18	454,999	9.4	454,999
Cowpeas	299	0.75	29,999	7.51	30,199	7.61	299	0.27	49,999	0.73	50,199	0.43	44,199	0.41	94,399	1.9	94,399
Green Bean	19	0.05	11,999	3.01	12,019	3.03	19	0.01	7,499	0.12	7,519	0.06	19	0.00	18,019	0.37	18,019
Other Pulse	0	0.00	0	0.00	0	0.00	0	0.00	49	0.00	49	0.00	0	0.00	49	0.00	49
Onion/Potato	0	0.00	499	0.12	499	0.12	99	0.09	49,999	0.69	50,999	0.43	99	0.00	51,999	0.11	51,999
Tomatoes	24	0.06	1,399	0.35	1,399	0.35	174	0.16	29,999	0.39	30,699	0.27	299	0.00	31,699	0.66	31,699
Plant Peas	99	0.25	1,999	0.51	2,099	0.54	199	0.18	3,199	0.12	3,299	0.28	99	0.00	3,399	0.07	3,399
Grain & Oil seeds	999	2.51	49,999	12.51	50,999	13.01	1,999	1.89	499,999	7.37	501,999	4.29	2,799	0.02	504,799	10.3	504,799
Sunflower	99	0.25	3,499	0.89	3,599	0.91	419	0.39	119,999	1.81	120,599	1.01	99	0.00	120,699	2.5	120,699
Maize	1	0.01	2,999	0.75	2,999	0.75	199	0.17	59,999	0.89	60,999	0.51	19	0.00	61,999	1.29	61,999
Groundnut	499	1.26	29,999	7.51	30,499	7.61	1,999	1.89	369,999	5.47	371,999	3.17	499	0.00	372,499	7.6	372,499
Bean Beans	0	0.00	199	0.05	199	0.05	0	0.00	1,999	0.03	1,999	0.02	0	0.00	1,999	0.04	1,999
Cowpea Seed	0	0.00	49	0.01	49	0.01	19	0.01	199	0.00	209	0.00	19	0.00	229	0.00	229
Grain & Vegetables	14,999	38	7,999	2	22,999	5	24,999	19	29,999	0	49,999	0	49,999	0	74,999	1.5	74,999
Onion	99	0.25	399	0.10	399	0.10	399	0.36	99	0.00	399	0.00	99	0.00	499	0.01	499
Peas	0	0.00	4	0.00	4	0.00	19	0.01	1,499	0.02	1,503	0.01	19	0.00	1,523	0.03	1,523
Tomatoes	0	0.00	0	0.00	0	0.00	0	0.00	19	0.00	19	0.00	0	0.00	19	0.00	19
Other Substrate	99	0.25	79	0.02	179	0.04	79	0.07	99	0.01	179	0.01	179	0.02	359	0.07	359
Onion	0	0.00	99	0.02	99	0.02	0	0.00	0	0.00	0	0.00	0	0.00	99	0.00	99
Onion	2,999	7.51	499	0.12	3,499	0.89	4,999	4.69	4,999	0.07	9,999	0.12	4,999	0.04	14,999	0.31	14,999
Wheat	399	1.01	299	0.07	699	0.18	0	0.00	119	0.00	399	0.00	399	0.00	799	0.01	799
Onion	1,949	5.01	699	0.18	2,649	0.68	4,999	4.69	2,199	0.02	7,199	0.12	1,949	0.01	9,149	0.19	9,149
Tomatoes	3,799	9.79	2,999	0.77	6,799	1.74	11,799	11.11	3,299	0.12	15,099	0.39	19,199	0.49	11,299	0.24	26,399
Spinach	999	2.51	399	0.10	1,399	0.36	999	0.92	499	0.01	1,499	0.01	1,499	0.01	2,999	0.06	2,999
Onion	399	1.01	499	0.12	899	0.23	179	0.17	399	0.01	849	0.01	499	0.00	1,349	0.03	1,349
Onion	199	0.51	299	0.07	499	0.13	799	0.74	1,999	0.02	2,799	0.03	1,999	0.02	4,799	0.1	4,799
Amorpha	399	1.01	299	0.07	699	0.18	1,999	1.89	99	0.00	2,099	0.01	399	0.00	2,499	0.05	2,499
Pumpkin	99	0.25	499	0.12	599	0.15	299	0.28	1,099	0.01	1,399	0.01	99	0.00	1,499	0.03	1,499
Onion	399	1.01	299	0.07	699	0.18	1,999	1.89	99	0.00	2,099	0.01	399	0.00	2,499	0.05	2,499
Egg Plant	149	0.39	299	0.07	449	0.11	399	0.37	174	0.01	624	0.01	149	0.00	774	0.02	774
Water Melon	699	1.81	299	0.07	999	0.26	979	0.91	199	0.00	1,179	0.01	699	0.00	1,879	0.04	1,879
Cauliflower	19	0.05	49	0.01	69	0.02	29	0.02	199	0.00	229	0.00	19	0.00	249	0.00	249
Cash Crops	1,999	5	119,999	30.19	121,999	30.69	2,499	2.39	379,999	5.47	382,499	3.17	4,499	0.04	387,499	7.9	387,499
Sweetpot	0	0.00	199	0.05	199	0.05	0	0.00	199	0.00	199	0.00	0	0.00	399	0.01	399
Cotton	779	1.99	109,199	27.51	110,199	27.91	1,999	1.89	229,999	3.37	231,999	1.91	2,799	0.02	234,799	4.8	234,799
Tabacco	247	0.62	2,979	0.75	3,227	0.82	1,999	1.89	62,799	0.89	64,799	0.54	2,199	0.02	66,999	1.4	66,999
Pepper	0	0.00	399	0.10	399	0.10	0	0.00	711	0.01	711	0.00	0	0.00	1,422	0.03	1,422
Other Cash Crops	0	0.00	0	0.00	0	0.00	0	0.00	99	0.00	99	0.00	0	0.00	99	0.00	99
Maize	47,999	121.9	1,419,999	354.9	1,467,999	389.9	194,479	186.6	5,217,979	79.9	6,635,479	56.9	21,679	0.2	5,619,879	115.9	5,641,349
Sorghum	1,997	5.01	3,799	0.95	5,799	1.45	69,499	64.9	67,219	1.01	136,719	1.11	2,197	0.02	70,419	1.4	72,619
Wheat	48,919	123.9	1,429,299	357.9	1,478,219	377.9	194,479	186.6	5,217,979	67.4	6,412,479	54.9	21,679	0.2	5,390,879	111.9	5,412,549



7.3.6 TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Number of Agriculture Households, Area Planted (ha) and Quantity Harvested (tonnes) by Region; Agricultural Year 2002/03- LONG & SHORT RAINY SEASON.

Region	Males				Females				Total			
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Coast	284,184	3,453,897	158,482	45.6	47,138	63,853	23,022	356.8	108,696	70,486	23,798	339.1
Arusha	131,373	85,086	82,116	62.5	4,088	1,282	3,200	248.5	135,461	86,368	35,998	262.8
Chang'anya	238,757	54,655	100,222	420.0	1,423	263	149	566.6	240,180	54,918	100,371	356.6
Tanga	379,628	287,478	175,422	610.0	387	118	348	294.9	767,256	399,596	523,660	662.3
Morogoro	289,844	183,290	115,290	629.0	27,576	14,650	6,544	446.7	317,420	198,140	121,834	614.5
Dar es Salaam	112,112	72,216	23,921	213.4	8,223	4,472	1,282	289.1	120,324	76,688	25,203	334.8
Dar es Salaam	8,879	3,885	608	68.5	48	38	11	229.0	8,927	3,923	619	70.4
Lind	129,529	71,472	34,364	265.5	76,000	34,872	9,739	279.3	205,529	106,744	44,478	353.1
Mtwara	183,757	32,015	28,227	154.2	65,810	22,888	3,548	53.9	249,567	55,706	26,286	104.9
Mwanza	171,608	139,541	176,312	124.9	7,711	2,179	591	271.4	179,319	141,720	176,903	124.9
Shinyanga	271,879	283,887	286,181	1054.0	8,141	2,586	1,228	150.0	279,020	291,473	287,409	1028.8
Mwanza	342,226	231,443	286,273	123.4	26,190	25,853	21,214	82.0	368,416	254,396	307,423	120.8
Shinyanga	133,420	137,277	64,389	469.0	82,202	68,626	31,702	372.6	215,622	207,252	93,404	426.6
Tabora	289,841	283,883	145,122	500.8	28,827	16,829	11,648	412.8	318,668	300,712	156,756	521.2
Shinyanga	159,389	190,253	165,422	1038.0	32,152	25,528	46,922	1456.8	191,541	215,780	212,378	1030.0
Shinyanga	187,842	82,626	100,176	533.6	13,628	4,858	7,383	533.6	201,464	87,484	107,561	493.6
Shinyanga	382,513	493,219	181,428	475.6	68,810	65,817	11,288	163.4	451,323	451,634	192,715	426.8
Shinyanga	384,828	193,242	100,319	260.8	16,815	6,927	7,346	436.0	398,643	200,169	107,661	269.8
Mwanza	307,423	239,212	100,804	326.1	27,882	12,888	6,271	223.2	335,305	252,100	106,872	316.8
Mwanza	181,588	81,664	112,682	621.0	113,221	52,546	24,226	460.8	294,816	135,192	78,452	279.8
Mwanza	149,328	187,283	147,773	1054.0	16,382	6,171	4,278	322.4	165,710	193,454	152,050	1023.6
Total	4,271,882	3,462,824	2,813,870	663.4	273,822	469,227	218,182	796.8	4,545,704	4,161,454	3,032,052	678.8

Region	Males				Females				Total			
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Coast	2,243	2,147	1,706	794.8	1,088	828	381	363.1	3,331	3,975	2,087	525.1
Arusha	628	256	87	139.2	4,658	1,073	1,323	243.0	5,286	1,329	1,410	266.8
Tanga	653	236	223	341.4	4,222	1,728	1,428	826.4	4,875	3,456	2,856	588.0
Morogoro	11,471	4,289	4,428	386.3	23,219	4,827	8,623	353.4	34,690	9,656	13,246	380.1
Dar es Salaam	148	29	14	161.5	4,222	2,224	2,222	528.4	4,470	2,246	2,236	501.4
Dar es Salaam	8,228	4,228	1,622	383.8	1,228	286	197	156.1	9,456	4,514	1,829	383.1
Mwanza	28,228	18,228	7,221	401.8	4,228	849	4,228	983.2	32,456	19,077	11,459	344.3
Mwanza	11,471	4,289	4,428	386.3	23,219	4,827	8,623	353.4	34,690	9,656	13,246	380.1
Shinyanga	148	29	14	161.5	4,222	2,224	2,222	528.4	4,470	2,246	2,236	501.4
Shinyanga	287	89	16	313.5	31,828	8,179	15,281	479.4	32,705	8,268	15,297	464.8
Shinyanga	2,337	1,079	1,011	458.3	4,899	2,881	4,899	1,000.0	7,236	3,960	5,890	804.0
Shinyanga	8,228	4,228	1,622	383.8	1,228	286	197	156.1	9,456	4,514	1,829	383.1
Tabora	287	89	16	313.5	31,828	8,179	15,281	479.4	32,705	8,268	15,297	464.8
Mwanza	11,471	4,289	4,428	386.3	23,219	4,827	8,623	353.4	34,690	9,656	13,246	380.1
Mwanza	148	29	14	161.5	4,222	2,224	2,222	528.4	4,470	2,246	2,236	501.4
Total	62,228	81,224	22,221	355.5	482,711	136,453	208,211	521.2	545,039	267,675	316,482	578.7

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Region	Year				Crop Year				Ming Season				Dawn				Evening			
	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)
Arusha	618	56	10	0	0	0	0	0	54	0	0	0	25,252	5,020	2,855	0	14,924	3,717	1,392	0
Geita	665	235	4	0	0	0	0	216	107	110	0	113,269	91,481	33,283	1	1,148	366	381	0	
Kilimanjaro	3,162	569	241	0	0	0	0	670	247	101	0	176,491	44,294	17,622	1	11,962	5,819	681	0	
Manyara	865	159	86	0	0	0	0	353	94	86	0	195,193	51,059	24,024	1	13,037	3,674	3,674	0	
Morogoro	865	77	322	0	0	0	0	122	40	84	0	44,718	23,427	8,817	1	25,287	6,263	1,948	0	
Pwani	165	47	29	0	0	0	0	39	13	3	0	264	19	3	0	16,822	4,192	2,300	0	
Dar es Salaam	53	14	4	0	0	0	0	24	2	0	0	148	21	0	0	10,259	2,121	484	0	
Zanzibar	362	331	34	0	0	0	0	134	0	0	0	322	182	87	0	17,243	684	1,226	0	
Mt. Meru	916	78	78	1	1	1	1	180	29	28	0	691	282	177	1	23,230	4,243	1,226	0	
Ruvuma	862	86	173	2	4,582	446	0	140	73	34	0	81,059	34,237	15,029	0	12,029	2,434	621	0	
Shinyanga	704	227	413	2	240	48	0	12	4	0	0	162,191	59,951	22,479	0	13,820	4,712	664	0	
Mwanza	1,544	309	530	6	5,894	662	0	196,422	62,965	29,616	1	196,422	62,965	29,616	1	1,332	309	971	0	
Shigda	33	3	2	0	0	0	0	43	2	0	0	13,813	6,228	1,845	0	2,675	643	328	0	
Tabora	653	248	389	1	0	0	0	165	46	14	0	96,189	18,351	7,144	0	7,782	1,823	844	0	
Tanga	33	13	127	0	34	7	0	27	0	0	0	78,482	37,326	17,206	1	195	66	47	0	
Mt. Kilimanjaro	728	114	283	0	1,289	248	0	0	0	0	0	259,881	77,496	46,304	1	772	244	158	0	
Shinyanga	2,859	641	424	1	1,632	41	62	0	0	0	0	46,520	18,267	8,429	1	13,787	3,379	861	0	
Kagera	9,479	317	1,717	4	14,324	2,430	4,713	108	17	26	0	403,385	100,347	62,700	0	2,028	370	174	0	
Mwanza	867	341	483	3	133	88	0	131	82	1	0	131,823	39,614	18,211	1	29,849	4,849	1,606	0	
Mara	432	100	277	4	213	108	71	133	106	240	0	44,811	11,725	7,812	1	1,652	278	282	0	
Mt. Kenya	75	15	1	0	0	0	0	0	0	0	0	84,129	43,851	18,377	1	971	458	62	0	
Total	18,644	3,893	5,896	0	40,890	7,282	12,046	878	878	819	2	2,392,258	746,913	333,208	1	287,682	74,718	17,171	0	

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Region	Green Grass				Ripped Grass				Crop Year				Semi-arid				Flood Plain			
	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)	Number of Households	Planted Area (%)	Yield (t/ha)	Yield (t/ha)
Arusha	618	56	10	0	0	0	0	0	140	0	0	0	25,270	4,026	1,323	0	198	191	70	0
Geita	665	235	4	0	0	0	0	3,351	2,284	640	0	135	76	42	0	117	33	89	0	
Kilimanjaro	3,162	569	241	0	0	0	0	27	2	0	0	20	2	1	0	248	82	102	0	
Manyara	865	159	86	0	0	0	0	248	86	8	0	891	62	6	0	2,261	347	816	0	
Morogoro	865	77	322	0	0	0	0	82	12	2	0	72	16	1	0	0	0	0	0	
Pwani	165	47	29	0	0	0	0	0	0	0	0	0	0	0	0	26	3	0	0	
Dar es Salaam	53	14	4	0	0	0	0	0	0	0	0	1,207	246	79	0	189	25	2	0	
Zanzibar	362	331	34	0	0	0	0	0	0	0	0	28,204	7,340	3,280	0	0	0	0	0	
Mt. Meru	916	78	78	1	1	1	1	131	40	0	0	16,914	2,670	1,129	0	711	196	164	0	
Ruvuma	862	86	173	2	4,582	446	0	0	0	0	0	1,682	844	284	0	19,277	3,731	6,265	0	
Shinyanga	704	227	413	2	240	48	0	0	0	0	0	3,675	665	342	0	0	0	0	0	
Mwanza	1,544	309	530	6	5,894	662	0	0	0	0	0	12,282	5,020	1,825	0	5,816	1,544	781	0	
Shigda	33	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tabora	653	248	389	1	0	0	0	0	0	0	0	286	128	62	1	112	25	11	0	
Tanga	33	13	127	0	34	7	0	0	0	0	0	282	26	19	0	281	111	70	0	
Mt. Kilimanjaro	728	114	283	0	1,289	248	0	0	0	0	0	5,626	1,982	1,264	1	0	0	0	0	
Shinyanga	2,859	641	424	1	1,632	41	62	0	0	0	0	5,891	675	309	1	6,722	1,728	551	0	
Kagera	9,479	317	1,717	4	14,324	2,430	4,713	108	17	26	0	8,510	652	470	1	228	131	14	0	
Mwanza	867	341	483	3	133	88	0	0	0	0	0	1,882	2,270	1,073	0	0	0	0	0	
Mara	432	100	277	4	213	108	71	0	0	0	0	1,028	630	286	0	146	37	29	0	
Mt. Kenya	75	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	66,829	15,762	4,627	1	1,421	406	270	21	49,608	83,027	23,863	311,023	24,772	9,717	1	26,893	10,720	3,497	0	

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Region	Sub-town				Town				District				County				City				Urban								
	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	
Coast	31,717	21,274	5,582	7,123	27,184	20,700	7,123	0	144,426	78,271	33,249	0	143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arusha	5,877	1,698	441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MB Waigato	38,484	8,283	3,794	19	820	94	0	0	14,478	3,413	1,688	0	178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tanga	66	0	0	0	1,286	632	207	0	6,046	1,646	1,124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Morogoro	1,203	483	133	0	22,668	8,291	2,752	0	6,198	2,227	1,152	0	243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pwani	94	31	10	0	6,168	3,883	380	0	1,667	343	198	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dar es Salaam	133	10	0	0	123	47	0	0	327	26	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Urban	0	0	0	0	28,142	13,928	3,143	0	18,122	4,278	1,251	0	543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mtwara	0	0	0	0	10,880	3,819	879	0	48,844	18,008	6,137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mwanza	3,237	795	300	0	21,427	6,270	2,278	0	38,971	13,261	4,732	0	1,285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Shinyanga	37,696	15,874	7,268	0	1,276	1,293	622	0	14,001	7,822	2,285	0	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mbeya	10,841	3,814	1,608	0	1,719	5,184	3,064	0	82,648	21,364	12,754	0	444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Shigda	42,882	40,882	21,237	2	3,788	2,283	387	0	28,824	10,145	2,482	0	127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tabora	1,222	510	149	0	878	248	94	0	142,482	68,739	31,818	0	183	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sukuma	25,119	11,788	4,128	0	387	88	38	0	46,118	18,070	11,038	0	628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Aliporia	330	27	15	0	482	103	203	0	44,257	10,072	8,288	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Shinyanga	2,273	1,434	635	0	794	368	194	0	136,139	64,135	33,267	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mogoro	426	243	102	0	0	0	0	0	44,862	10,120	6,286	0	368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtoto	310	85	28	0	1,206	626	207	0	58,121	10,284	8,288	0	327	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mwan	133	21	7	0	714	176	43	0	5,272	1,227	1,262	0	270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	12,332	11,282	3,288	103	482	381	103	0	2,498	1,288	822	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	265,828	115,283	55,070	25,048	138,138	68,914	25,048	0	875,472	348,238	128,271	0	4,582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

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Region	City				Rural				District				County				Urban												
	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Married Area (%)	County Harvested (tonnes)	Yield (tonnes/ha)	
Coast	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arusha	138	52	190	4	0	0	0	0	0	0	0	0	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MB Waigato	387	40	74	0	0	0	0	0	0	0	0	0	841	178	288	12	0	0	0	0	0	0	0	0	0	0	0	0	
Tanga	896	193	108	0	14	4	0	0	0	0	0	0	467	97	264	12	0	0	0	0	0	0	0	0	0	0	0	0	
Morogoro	322	278	96	0	34	101	0	0	0	0	0	0	307	45	27	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pwani	1,189	388	823	0	0	0	0	0	0	0	0	0	149	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dar es Salaam	279	178	104	0	0	0	0	0	0	0	0	0	43	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Urban	327	62	278	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mtwara	27	2	44	16	78	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sukuma	86	21	15	0	96	785	319	0	0	0	0	0	27	4	62	21	0	0	0	0	0	0	0	0	0	0	0	0	
Mbeya	138	28	8	0	0	0	0	0	0	0	0	0	84	18	14	0	0	0	0	0	0	0	0	0	0	0	0	0	
Shigda	76	21	31	0	228	283	410	0	0	0	0	0	340	97	85	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tabora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sukuma	138	28	13	0	0	0	0	0	0	0	0	0	319	48	82	0	0	0	0	0	0	0	0	0	0	0	0	0	
Aliporia	0	0	0	0	151	158	121	0	0	0	0	0	303	41	82	0	0	0	0	0	0	0	0	0	0	0	0	0	
Shinyanga	0	0	0	0	188	15	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mogoro	57	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mwanza	26	7	24	0	0	0	0	0	0	0	0	0	82	18	16	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mwanza	3,281	827	1,283	837	867	1,422	837	0	88	18	8	0	1,883	412	252	16	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1,647	377	373	2	14	4	2	0	0	0	0	0	1,288	137	407	0	0	0	0	0	0	0	0	0	0	0	0	0	



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Region	Cotton				Cabbage				Tomatoes				Spinach			
	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)
Dodoma	700	304	811	1.7	245	95	57	1.4	6,481	1,543	1,682	1.7	327	80	128	1.8
Arusha	5,361	2,558	13,858	8.3	2,540	710	2,815	7.7	4,481	1,594	7,348	16.2	2,851	207	811	8.2
Shinyanga	1,796	344	3,751	17.0	3,433	417	1,455	7.5	8,201	1,332	11,253	17.7	2,880	206	481	3.3
Tanga	802	110	584	7.6	381	86	347	8.2	11,880	2,889	10,885	8.3	3,885	107	5	0.3
Morogoro	2,808	585	4,887	8.2	8,471	1,289	12,274	11.3	18,792	8,152	21,747	7.1	12,213	164	547	3.8
Dar es Salaam	178	24	19	2.7	280	38	19	1.8	3,271	686	1,441	3.8	280	30	8	0.8
LIJIF	5,172	181	495	3.1	0	0	0	0.2	1,522	830	2,738	6.2	32	2	2	0.8
Mwanza	440	75	71	0.8	148	35	6	0.2	3,953	821	1,358	2.5	0	0	0.5	0.5
Narara	4,275	285	1,704	2.8	18,272	1,277	4,175	4.8	18,008	1,827	7,338	3.8	4,287	485	854	1.8
Singu	1,875	380	1,371	3.6	7,479	1,040	8,096	6.6	11,798	3,276	18,094	8.8	2,898	164	264	1.7
Mtanga	3,654	858	3,787	14.8	3,275	315	1,291	18.8	8,151	1,213	8,213	8.8	3,002	137	228	2.7
Skyline	1,828	778	688	1.1	821	82	188	3.4	2,482	856	681	3.7	361	36	81	1.8
Tubiti	3,282	1,827	2,820	1.7	27	1.1	88	1.1	2,882	245	2,882	3.2	0	0	0.2	0.2
Mulani	1,718	281	1,158	4.3	1,530	178	788	4.2	3,488	685	2,118	3.7	480	95	86	1.8
Ngwenya	2,841	238	588	4.4	1,783	237	1,288	18.7	5,782	780	3,203	8.2	188	8	28	3.7
Shinyanga	5,472	287	652	2.2	778	108	481	6.4	2,717	826	1,877	3.8	0	0	0.5	0.5
Ngwenya	2,871	663	861	3.1	488	76	331	9.4	4,881	1,872	4,488	6.8	412	87	78	0.3
Mwanza	1,884	318	1,884	18.9	3,488	820	1,847	8.8	12,418	1,877	12,714	11.1	876	88	228	8.2
Mtanga	1,844	247	827	7.4	138	64	188	3.8	3,888	381	3,881	7.8	387	11	17	1.7
Morogoro	833	363	1,838	4.8	38	7	188	8.8	638	142	882	8.2	117	12	6	0.4
Total	33,870	10,798	38,588	7.1	2,584	9,875	41,486	9.2	134,881	28,653	128,107	8.4	11,888	1,888	2,880	3.8

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Region	Cassava				Peanut				Cassava				Cassava			
	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)	Number of Households	Planted Area (Ha)	QUBRY Harvested (Tons)	Yield (t/ha)
Dodoma	180	11	38	4	1,284	103	152	2	0	0	0	0	0	0	0	0
Arusha	828	21	182	18	8,412	823	1,828	8	0	0	0	0	328	88	228	5
Shinyanga	1,128	383	3,278	13	6,888	480	1,881	4	212	38	11	11	188	78	448	11
Tanga	873	184	828	8	1,513	131	188	3	871	73	288	18	273	30	888	7
Morogoro	788	478	828	8	3,848	887	848	6	8,888	847	1,871	3	788	188	212	4
Dar es Salaam	0	0	0	0	828	130	118	2	1,443	284	228	2	382	86	88	2
LIJIF	0	0	0	0	478	14	388	10	178	32	38	3	830	18	38	3
Mwanza	0	0	0	0	382	47	88	6	2,848	283	282	2	116	18	18	0
Mtanga	0	0	0	0	88	25	25	0	788	188	288	2	38	12	2	0
Narara	0	0	0	0	4,888	888	888	4	4,888	448	1,888	3	381	38	27	0
Singu	88	8	8	8	878	38	148	3	1,288	111	88	0	0	0	0	0
Mtanga	188	18	47	8	2,748	488	488	2	1,884	388	881	2	8	8	8	8
Skyline	0	0	0	0	388	38	88	2	1,828	18	10	1	288	38	88	2
Tubiti	0	0	0	0	88	42	88	6	478	34	53	5	88	8	8	8
LIJIF	0	0	0	0	148	35	88	3	2,848	283	282	2	116	18	18	0
Mwanza	0	0	0	0	88	25	25	0	788	188	288	2	38	12	2	0
Mtanga	0	0	0	0	88	25	25	0	1,131	125	110	1	215	22	12	0
Narara	34	3	7	7	1,448	878	888	3	0	0	0	0	0	0	0	0
Ngwenya	133	8	48	2	88	7	48	12	387	28	148	2	182	28	48	2
Shinyanga	0	0	0	0	101	10	14	14	887	74	148	2	182	24	3	0
Ngwenya	888	134	881	8	888	108	182	8	888	182	182	3	188	18	18	18
Mwanza	488	181	117	178	142	151	151	10	1,841	142	151	10	188	43	88	18
Mtanga	0	0	0	0	1,878	118	278	8	282	34	34	3	282	24	24	2
Morogoro	0	0	0	0	117	12	12	4	117	12	12	4	188	18	18	2
Total	4,848	1,488	4,131	8	11,138	2,383	8,320	8	21,888	2,883	4,888	8	3,218	878	2,881	7

Region	East Coast				West Coast				Central				South			
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Dodoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	239	38	52	0.22	489	364	623	1.27	811	62	10	0.01	0	0	0	0
MB Morogoro	189	19	83	0.44	496	146	229	0.46	196	30	19	0.09	0	0	0	0
Tanga	282	32	31	0.11	441	215	311	0.70	32	2	7	0.22	0	0	0	0
Morogoro	1,095	194	193	0.18	389	131	92	0.70	342	74	43	0.13	0	0	0	0
Pwani	62	12	37	0.60	1,042	207	1,126	1.18	832	354	369	0.44	0	0	0	0
Dar es Salaam	205	41	194	0.95	523	489	1,309	2.56	0	0	0	0	0	0	0	0
Lindi	26	12	6	0.23	66	18	20	0.30	0	0	0	0	0	0	0	0
Mtwara	387	63	94	0.24	139	22	63	0.45	0	0	0	0	0	0	0	0
Manjeri	137	12	48	0.35	0	0	0	0	0	0	0	0	0	0	0	0
Iringa	12	1	1	0.08	82	2	1	0.01	0	0	0	0	0	0	0	0
Mbeya	283	18	3	0.11	0	0	0	0	129	82	10	0.08	0	0	0	0
Shinyanga	189	42	115	0.61	0	0	0	0	0	0	0	0	0	0	0	0
Tabora	169	12	11	0.06	0	0	0	0	0	0	0	0	0	0	0	0
Ruaha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngara	288	70	108	0.38	0	0	0	0	0	0	0	0	0	0	0	0
Shinyanga	214	205	93	0.43	0	0	0	0	0	0	0	0	0	0	0	0
Ngara	739	323	409	0.55	119	24	108	0.45	0	0	0	0	0	0	0	0
Mwanza	641	74	144	0.21	489	64	715	1.10	0	0	0	0	0	0	0	0
Mara	0	0	0	0	194	52	37	0.19	0	0	0	0	0	0	0	0
Mtanga	0	0	0	0	123	19	41	0.33	0	0	0	0	0	0	0	0
TOTAL	5,417	1,138	1,548	0.14	4,738	1,892	5,312	1.12	681	215	81	0.12	853	358	375	0.11

Region	Tabora				Pwani				Zanz			
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Dodoma	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	1,482	304	240	0.16	189	73	19	0.26	0	0	0	0
MB Morogoro	238	22	13	0.59	0	0	0	0	0	0	0	0
Tanga	739	185	73	0.40	0	0	0	0	81	19	12	0.63
Morogoro	441	78	36	0.46	0	0	0	0	0	0	0	0
Pwani	0	0	0	0	0	0	0	0	0	0	0	0
Dar es Salaam	0	0	0	0	0	0	0	0	0	0	0	0
Lindi	62	42	21	0.50	0	0	0	0	162	14	62	0.39
Mtwara	434	251	94	0.38	0	0	0	0	0	0	0	0
Mwanza	63,739	7,169	4,271	0.59	0	0	0	0	0	0	0	0
Ngara	116	61	0	0	0	0	0	0	0	0	0	0
Mbeya	4,118	3,799	3,898	1.03	0	0	0	0	0	0	0	0
Shinyanga	1,243	1,287	1,283	1.03	128	182	13	0.07	0	0	0	0
Tabora	30,446	39,449	26,613	0.67	46	44	66	1.50	34	6	1	0.17
Dar es Salaam	4,913	3,200	3,203	0.66	0	0	0	0	0	0	0	0
Ngara	2,664	643	476	0.74	0	0	0	0	0	0	0	0
Shinyanga	5,148	5,630	5,392	0.95	0	0	0	0	0	0	0	0
Ngara	4,026	1,463	782	0.54	343	197	92	0.46	0	0	0	0
Mwanza	863	462	100	0.22	134	3	1	0.01	0	0	0	0
Mara	623	244	93	0.38	132	27	16	0.12	0	0	0	0
Mtanga	123	30	28	0.23	0	0	0	0	0	0	0	0
TOTAL	78,888	87,438	48,281	0.55	2,646	882	138	0.16	268	32	26	0.08

**7.6.6 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Means of Soil Preparation and Region - 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Region	Soil Preparation								Planted area with no soil preparation
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total Number		
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Crop Growing Household	Planted Area (ha)	
Dodoma	13,136	59,221	60,170	157,765	241,197	435,107	323,112	652,093	6,932
Arusha	17,864	30,077	102,806	110,840	54,085	28,985	136,479	169,902	74
Kilimanjaro	51,175	37,797	21,870	18,536	206,071	116,960	214,187	171,295	2,106
Tanga	2,843	3,509	14,101	17,519	413,159	370,283	263,381	400,310	28,224
Morogoro	34,898	52,833	19,168	35,941	301,911	309,887	258,246	398,661	15,523
Pwani	3,177	2,964	4,958	3,868	158,484	128,688	139,444	135,620	42,053
Dar es Salaam	336	330	993	1,003	20,788	11,988	19,264	13,320	7,601
Lindi	2,395	2,142	4,244	5,531	144,515	187,334	163,015	195,006	369
Mtwara	4,204	3,665	8,287	10,069	214,324	241,083	229,202	254,637	1,568
Ruvuma	3,931	4,715	8,903	9,472	176,387	257,091	181,043	271,278	86,993
Iringa	5,993	12,425	86,361	143,236	165,633	246,373	278,717	402,034	3,926
Mbeya	4,899	9,510	106,480	159,544	291,093	285,015	371,650	454,069	5,157
Singida	706	2,542	88,881	204,475	81,104	112,960	178,400	319,977	1,457
Tabora	2,650	4,970	63,901	268,560	148,905	248,136	236,621	511,665	20,960
Ruwa	318	683	78,130	181,141	81,803	118,086	171,845	300,820	2,574
Kigoma	1,746	1,197	8,484	5,481	294,466	182,960	184,665	189,637	75,337
Shinyanga	8,753	28,798	217,825	626,622	148,683	302,189	375,010	858,806	1,443
Kagera	2,246	934	11,492	11,366	465,585	308,941	349,600	321,241	39,280
Mwanza	2,895	3,362	114,499	235,868	324,379	300,310	338,929	539,539	139,568
Mara	2,946	1,711	139,066	144,920	110,294	71,848	185,721	218,479	115,158
Manyara	20,073	58,440	88,679	134,466	46,506	72,333	150,278	265,260	-
Mainland		322,710		2,474,554		4,346,576	4,761,835	7,143,840	596,504
%		4.5		34.6		60.8	66.7	100.0	
Zanzibar	10,896	5,634	77	21	80,350	38,599	96,221	44,274	34,002
National		328,365		2,474,575		4,385,175	4,858,056	7,188,114	630,506

Note: the planted area with no soil preparation is for cassava that was recorded as a permanent crop and later was switched to an annual crop. Method of Land preparation and land clearing were not recorded for permanent crops.

**7.6.7 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Type of Fertiliser Use and Region - 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Regions	Fertiliser Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Crop Growing Household	Planted Area (ha)
Dodoma	90,057	155,885	3,801	7916	1,023	2,680	226,431	492,543	323,112	699,024
Arusha	54,396	47,825	1,897	1789	20,518	16,096	61,666	104,466	136,479	169,978
Kilimanjaro	98,841	50,626	11,018	6006	71,774	36,846	32,554	77,915	214,187	173,382
Tanga	48,984	44,853	13,904	12187	6,491	4,068	164,403	367,427	263,381	428,535
Morogoro	12,007	15,048	9,042	7240	12,441	15,108	225,755	376,788	258,246	414,183
Pwani	8,007	4,699	8,837	8040	2,639	1,575	121,840	163,390	139,444	177,674
Dar es Salaam	4,145	2,869	1,706	800	1,933	1,402	11,460	16,349	19,264	21,121
Lindi	1,914	2,204	3,092	3,325	682	783	147,327	189,063	163,015	195,375
Mtwara	7,459	10,110	2,552	2983	4,338	6,792	214,854	236,819	229,202	256,405
Ruvuma	14,828	18,144	2,919	4268	73,788	100,682	99,730	235,167	181,043	368,260
Iringa	83,678	93,492	14,779	18840	78,112	102,596	122,160	191,032	278,717	405,960
Mbeya	81,980	55,610	19,000	23477	99,714	83,890	190,358	296,249	371,650	499,226
Singida	77,385	120,814	3,412	5952	1,651	3,487	96,952	191,181	179,400	321,434
Tabora	54,867	101,028	7,913	13,255	33,588	64,435	136,272	353,899	236,621	532,615
Ruwa	15,532	26,705	3,131	3516	8,412	11,968	144,771	261,203	171,845	303,394
Kigoma	37,961	25,658	10,507	8406	7,312	3,501	138,815	227,307	184,665	264,974
Shinyanga	70,563	164,901	8,888	12940	6,441	14,722	280,118	767,687	375,010	960,250
Kagera	41,810	27,189	23,949	11309	1,665	1,480	282,075	320,543	349,600	360,521
Mwanza	90,257	115,464	7,182	7067	5,584	7,130	226,507	549,417	338,929	679,107
Mara	48,006	37,959	5,336	5015	4,412	2,449	127,968	288,206	185,721	333,637
Manyara	60,432	82,194	1,538	3938	585	999	67,725	178,129	150,278	265,260
Mainland		1,202,766		169,993		482,786			4,761,835	7,740,324
%		15.5		2.2		6.2				
Zanzibar	10,418	4,699	2,805	1,159	9,782	5,148	73,215	67,270	96,221	78,276
National		1,207,465		171,152		487,935		5,952,048	4,858,056	7,818,600

The number of households in this table can only be used as a guide as it is based on a per crop basis and includes both long and short season so some double counting exists



**7.0.8 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Irrigation Use and Region - 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Region	Irrigation Use				TOTAL Number of crop growing Households	TOTAL Planted Area (ha)	% of area planted under irrigation in long rainy season
	Number of Households using Irrigation	Planted Area (ha) with Irrigation	Number of Households NOT using Irrigation	Planted Area (ha) with no irrigation			
Dodoma	1,550	2,857	321,562	646,595	323,112	659,024	0.4
Arusha	26,946	21,096	109,532	146,460	138,479	169,976	12.4
Kilimanjaro	36,410	20,226	178,777	146,121	214,187	173,401	11.7
Tanga	13,555	11,350	249,973	388,794	283,381	428,535	2.6
Morogoro	18,481	12,840	240,765	381,328	259,246	414,183	3.1
Pwani	3,815	4,274	135,629	132,465	139,444	177,674	2.4
Dar es Salaam	1,480	1,103	17,804	12,299	19,264	21,121	5.2
Lindi	2,312	1,902	150,703	192,201	153,015	195,375	1.0
Mwera	2,304	2,140	226,898	252,499	229,202	256,405	0.8
Ruvuma	3,042	10,782	187,101	262,160	191,043	358,272	3.0
Idaga	27,629	23,617	250,887	356,689	278,717	405,960	5.8
Mbeya	32,133	30,648	338,516	413,017	371,650	459,226	6.7
Singida	3,183	3,443	178,217	315,371	179,400	321,434	1.1
Tabora	5,438	9,782	230,183	496,322	235,621	532,615	1.8
Rukwa	6,581	6,405	185,284	288,249	171,845	303,394	2.1
Kigoma	11,610	9,021	183,085	181,906	194,895	264,974	3.4
Shinyanga	4,852	6,358	370,695	949,765	375,010	960,250	0.7
Kagera	9,088	5,920	340,534	314,837	349,600	360,521	1.6
Mwanza	13,366	15,380	325,562	526,749	338,929	679,107	2.3
Mara	6,731	8,655	179,060	214,951	185,721	333,637	2.6
Manyara	6,088	4,255	144,182	258,524	150,278	265,260	1.6
Mainland		211,872		6,877,404	4,761,835	7,740,344	2.7
%		2.7		69	100	100	
Zanzibar		2,181		42,093	96,221	78,278	
National		214,054		6,919,497	4,858,056	7,818,621	

**7.0.9 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Herbicide Use and Region - 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Regions	Herbicide Use				TOTAL Number of crop growing Households	TOTAL Planted Area (ha)	% of Planted area using Herbicide
	Number of Households using Herbicide Use	Planted Area (ha) Herbicide Use Used	Number of Households NOT using Herbicide Uses	Planted Area (ha) Herbicide Use not Used			
Dodoma	3,315	8,864	318,786	645,229	323,112	659,024	1.04
Arusha	6,282	7,188	132,187	162,616	138,479	169,976	4.23
Kilimanjaro	9,047	7,969	205,140	162,665	214,187	173,401	4.60
Tanga	3,235	3,342	260,146	396,689	283,381	428,535	0.76
Morogoro	24,337	37,843	234,909	360,760	259,246	414,183	9.14
Pwani	3,817	3,049	135,826	133,402	139,444	177,674	1.72
Dar es Salaam	344	153	18,920	13,166	19,264	21,121	0.72
Lindi	1,748	1,572	151,266	192,130	153,015	195,375	0.80
Mwera	1,013	2,645	228,189	252,072	229,202	256,405	1.03
Ruvuma	3,183	4,776	187,861	266,473	191,043	358,272	1.33
Idaga	7,281	10,785	271,435	390,796	278,717	405,960	2.66
Mbeya	24,905	26,305	346,655	427,699	371,650	459,226	5.73
Singida	1,423	2,893	177,977	316,728	179,400	321,434	0.90
Tabora	4,242	9,202	231,378	485,668	235,621	532,615	1.73
Rukwa	997	2,434	170,840	296,434	171,845	303,394	0.80
Kigoma	2,722	2,154	181,872	187,498	194,895	264,974	0.81
Shinyanga	6,625	15,464	368,385	943,256	375,010	960,250	1.61
Kagera	3,733	2,914	345,867	316,310	349,600	360,521	0.81
Mwanza	8,872	18,881	329,058	520,704	338,929	679,107	2.75
Mara	4,881	2,834	181,030	216,292	185,721	333,637	0.79
Manyara	3,280	7,598	146,888	257,405	150,278	265,260	2.80
Mainland		176,564		6,958,416	4,761,835	7,740,344	2.26
%		2.3		89.9	100.0	100.0	
Zanzibar	3351	2,050	82,870	74,925	96,221	78,278	
National		178,613		7,033,341	4,858,056	7,818,621	

Number of households is an over estimate due to the double counting of households growing crops in both long and short seasons. To compare previous surveys use Number of Long Season planters only.

**7.0.10 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Fungicide Use and Region - 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Regions	Fungicide Use						% of Planted area using Fungicide
	Number of Households using Fungicide	Planted Area (ha) Fungicide Used	Number of Households NOT using Fungicide	Planted Area (ha) Fungicide not Used	TOTAL Number of crop growing Households	Total Planted Area (ha)	
Dodoma	3,670	8,213	319,241	649,811	323,112	659,024	1.4
Arusha	9,312	8,906	129,167	160,070	138,479	169,976	5.8
Kilimanjaro	12,529	7,957	201,658	163,444	214,187	173,401	4.6
Tanga	6,713	7,282	256,666	421,253	283,381	428,535	1.7
Morogoro	7,763	8,759	251,483	405,424	259,248	414,183	2.1
Pwani	5,021	4,084	134,423	173,559	139,444	177,674	2.3
Dar es Salaam	1,677	1,009	17,587	19,512	19,284	21,121	7.6
Lindi	2,669	2,500	150,346	192,810	153,015	195,375	1.3
Mwara	3,672	5,200	225,330	251,204	229,202	259,405	2.0
Ruvuma	4,926	7,673	186,117	350,598	191,043	358,272	2.1
Iringa	6,434	22,363	270,283	383,997	278,717	405,960	5.5
Mbeya	6,153	12,013	363,486	447,214	371,650	459,226	2.6
Singida	1,993	3,487	177,407	317,948	179,400	321,434	1.1
Tabora	9,045	20,553	226,576	512,082	235,621	532,615	3.9
Rukwa	2,569	3,782	169,276	299,612	171,845	303,394	1.2
Kigoma	5,672	3,319	189,023	261,655	194,696	264,974	1.3
Shinyanga	11,703	27,060	363,307	933,189	375,010	960,250	2.8
Kagera	6,495	3,687	343,104	359,834	349,800	360,521	1.0
Mwanza	10,684	18,537	328,245	660,570	338,929	679,107	2.7
Mara	6,665	4,705	179,036	328,933	185,721	333,637	1.4
Manyara	3,583	7,807	146,695	257,453	150,278	265,260	2.9
Mainland		191,582		7,548,782	4,781,835	7,740,344	2.5
%		2.5		97.5	100.0	100.0	
Zanzibar	258	64	101,066	78,212	96,221	78,276	
National		191,826		7,626,994	4,858,056	7,818,621	

Number of households is an over estimate due to the double counting of households growing crops in both long and short seasons. To compare previous surveys use Number of Long Season planters only.

**7.0.11 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Insecticide Use and Region - 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Regions	Insecticide Use						% of Planted area using insecticide
	Number of Households using Insecticide	Planted Area (ha) Insecticide Used	Number of Households Not using Insecticide	Planted Area (ha) Insecticide not Used	TOTAL Number of crop growing Households	Total Planted Area (ha)	
Dodoma	3,315	24,481	319,796	634,533	323,112	659,024	4
Arusha	13,698	26,502	124,781	143,474	138,479	169,976	16
Kilimanjaro	39,174	33,676	175,013	139,725	214,187	173,401	19
Tanga	6,530	14,131	256,997	414,404	283,381	428,535	3
Morogoro	21,305	22,552	237,941	391,631	259,248	414,183	5
Pwani	5,146	5,560	134,296	172,113	139,444	177,674	3
Dar es Salaam	1,413	2,025	17,650	19,098	19,284	21,121	10
Lindi	1,748	3,495	151,266	191,880	153,015	195,375	2
Mwara	1,013	6,207	228,189	250,199	229,202	259,405	2
Ruvuma	3,183	25,353	187,861	332,919	191,043	358,272	7
Iringa	7,281	175,229	271,435	230,731	278,717	405,960	43
Mbeya	27,530	46,308	344,119	409,918	371,650	459,226	11
Singida	1,423	13,783	177,977	307,672	179,400	321,434	4
Tabora	4,242	84,807	231,376	447,608	235,621	532,615	16
Rukwa	1,031	27,676	170,614	275,716	171,845	303,394	9
Kigoma	8,914	8,740	185,781	286,234	194,696	264,974	3
Shinyanga	6,625	145,309	368,922	814,940	375,010	960,250	15
Kagera	13,962	15,209	335,636	345,312	349,800	360,521	4
Mwanza	33,228	63,759	306,700	593,348	338,929	679,107	12
Mara	13,613	20,760	172,176	312,887	185,721	333,637	6
Manyara	3,603	20,025	146,474	243,234	150,278	265,260	6
Total		808,589		6,931,776	4,781,835	7,740,344	10.4
%		10.4		69.6	100.0	100.0	
Zanzibar	2,609	1,642	93,412	76,634	96,221	78,276	2
National		810,211		7,008,410	4,858,056	7,818,621	

**7.0.12 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Improved Seed Use and Region - 2002/03 Agriculture Year- LONG and SHORT Rainy Season**

Regions	Improved Seed Use						% of Planted area using Improved seed	Planted area with no seed use record
	Number of Households using Improved Seed	Planted Area (ha) Improved Seed Used	Number of Households NOT using Improved Seeds	Planted Area (ha) Improved Seed not Used	Total Number of Households Planting in TOTAL	Total Planted Area (ha) in TOTAL		
Dodoma	47,828	67,930	275,573	566,598	323,502	652,093	6.6	6,932
Arusha	80,131	36,611	114,626	126,681	174,757	169,902	3.5	74
Kilimanjaro	163,991	74,505	115,008	86,705	278,999	171,295	7.2	2,106
Tanga	64,107	40,075	365,996	348,070	430,102	400,310	3.9	28,224
Morogoro	61,834	46,508	294,142	343,338	355,976	398,661	4.5	15,523
Pwani	31,358	15,403	135,280	114,829	166,618	135,620	1.5	42,053
Dar es Salaam	15,273	8,784	8,644	5,630	22,117	13,320	0.7	7,801
Lindi	16,433	12,322	134,722	179,044	151,154	195,006	1.2	369
Mtwara	10,898	5,949	215,917	247,004	226,616	254,837	0.8	1,588
Ruvuma	38,120	22,958	149,101	242,204	187,221	271,278	2.2	86,993
Iringa	71,305	60,790	206,681	315,704	277,966	402,034	5.9	3,926
Mbeya	73,596	48,663	330,676	393,797	404,471	454,069	4.7	5,157
Singida	41,648	38,660	139,043	258,636	160,691	318,977	3.8	1,467
Tabora	56,842	68,376	178,616	433,667	235,466	511,655	6.6	20,660
Rufawa	19,885	26,354	151,465	270,603	171,349	300,820	2.5	2,574
Kigoma	24,618	7,349	278,098	178,315	302,716	189,637	0.7	75,337
Shinyanga	145,836	203,470	230,424	727,768	378,261	958,806	19.7	1,443
Kagera	78,253	33,705	401,072	272,390	479,325	321,241	3.3	39,280
Mwanza	185,199	143,062	278,574	369,874	441,773	539,539	13.8	139,668
Mara	74,518	45,246	177,788	167,603	252,305	218,479	4.4	115,158
Mtanyara	26,727	28,643	128,534	223,232	155,261	263,260	2.8	-
Mainland		1,034,364		5,873,112		7,143,840	100.0	586,504
%		14.5		82.2		100.0		
Zanzibar		14,047		30,220		44,267		34,002
National		1,048,611		5,903,332		7,188,107		630,506

Note: the planted area with no improved Seed is for cassava that was recorded as a permanent crop and later was switched to an annual crop. Method of improved Seed use was not recorded for permanent crops.



**7.0.13 TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area and Number of Crop Growing Households by Insecticide Use and Crop - 2002/03 Agriculture Year - LONG & SHORT RAINY SEASON**

Crop	Insecticide Use					
	Households Using Insecticide		Households Not Using Insecticide		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
<b>CEREALS</b>	<b>480,675</b>	<b>428,584</b>	<b>6,065,762</b>	<b>4,346,380</b>	<b>6,548,437</b>	<b>4,772,964</b>
Maize	422,911	383,490	4,096,469	3,079,044	4,621,380	3,482,634
Paddy	29,066	24,287	882,007	596,570	911,093	820,837
Sorghum	15,563	9,920	686,240	439,708	701,803	449,827
Bulrush Millet	4,750	4,204	157,066	120,008	181,805	124,211
Finger Millet	4,322	1,849	178,834	81,635	183,158	83,485
Wheat	3,669	2,611	61,429	28,613	65,298	31,224
Barley	174	243	1,726	803	1,903	1,046
<b>ROOTS &amp; TUBERS</b>	<b>42,951</b>	<b>23,930</b>	<b>1,208,682</b>	<b>412,428</b>	<b>1,251,633</b>	<b>433,823</b>
Cassava	7,829	8,261	455,163	230,604	482,791	235,530
Sweet Potatoes	9,439	2,234	567,670	133,234	577,110	135,468
Irish Potatoes	25,458	13,302	125,767	37,988	151,225	51,250
Yams	381	128	19,265	3,526	19,646	3,653
Cocoyam	44	4	40,817	7,076	40,860	7,082
<b>PULSES</b>	<b>170,812</b>	<b>73,940</b>	<b>2,463,433</b>	<b>864,779</b>	<b>2,634,245</b>	<b>938,719</b>
Mung Beans	288	78	2,043	901	2,312	979
Beans	139,627	57,236	1,953,131	688,677	2,092,058	745,913
Cowpeas	17,763	4,650	262,626	69,469	290,580	74,119
Green Gram	3,668	901	62,261	17,882	65,029	16,762
Pigeon Peas	-	-	1,421	406	1,421	406
Chick Peas	3,946	9,032	39,662	53,995	43,608	63,027
Bambara nuts	1,742	424	109,291	24,348	111,033	24,772
Field Peas	3,897	1,620	32,796	9,100	36,695	10,720
<b>OIL SEEDS &amp; OIL NUTS</b>	<b>30,813</b>	<b>15,839</b>	<b>1,193,296</b>	<b>518,166</b>	<b>1,224,021</b>	<b>534,005</b>
Sunflower	6,877	3,135	196,946	112,447	205,823	115,583
Simsim	5,816	5,234	133,312	62,780	139,129	68,014
Groundnuts	17,802	7,217	855,871	341,122	873,472	348,339
Soya Beans	270	219	4,312	1,601	4,582	1,819
Castor Seed	248	35	767	215	1,015	251
<b>FRUITS &amp; VEGETABLES</b>	<b>178,747</b>	<b>41,246</b>	<b>159,747</b>	<b>28,239</b>	<b>338,494</b>	<b>88,486</b>
Okra	1,363	389	2,740	774	4,103	1,163
Redish	318	271	653	1,158	971	1,428
Tumeric	-	-	85	19	85	19
Bitter Aubergine	1,060	130	1,801	419	2,881	549
Garlic	-	-	132	27	132	27
Onions	19,106	6,566	20,812	4,229	39,920	10,798
Ginger	178	29	2,408	739	2,584	768
Cabbage	34,345	6,726	15,190	1,949	49,534	8,675
Tomatoes	88,787	20,111	47,676	9,432	134,663	29,543
Spinnaoh	8,110	1,049	8,957	889	17,066	1,938
Carrot	2,245	739	2,404	667	4,049	1,420
Chillies	6,580	1,529	4,597	773	11,158	2,302
Amaranths	8,483	1,113	24,276	2,857	32,761	3,970
Pumpkins	755	103	20,900	2,746	21,655	2,850
Cucumber	3,510	626	2,008	290	5,518	875
Egg Plant	2,225	331	3,192	807	5,417	1,138
Water Melon	3,512	1,522	1,215	280	4,728	1,802
Cauliflower	181	12	480	204	681	215
<b>CASH CROPS</b>	<b>188,927</b>	<b>227,028</b>	<b>176,444</b>	<b>168,816</b>	<b>364,471</b>	<b>395,845</b>
Seaweed	-	-	655	356	655	356
Cotton	147,667	186,494	140,700	150,564	288,368	337,058
Tobacco	40,282	40,525	32,318	18,881	72,598	57,408
Pyrethrum	-	-	2,558	992	2,558	992
Jute	79	10	218	23	206	32

808,560

**7.0.14 TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area and Number of Crop Growing Households by Fungicide Use and Crop - 2002/03 Agriculture Year - LONG & SHORT RAINY SEASON**

Crop	Fungicide Use					
	Households Using Fungicide		Households Not Using Fungicide		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
<b>CEREALS</b>	<b>104,677</b>	<b>89,441</b>	<b>6,441,860</b>	<b>4,883,522</b>	<b>6,546,437</b>	<b>4,772,964</b>
Maize	73,237	87,749	4,448,143	3,394,785	4,821,390	3,462,534
Paddy	16,819	11,100	896,474	609,737	911,093	820,837
Sorghum	9,079	5,640	892,724	443,987	701,803	449,827
Burush Millet	2,307	1,745	199,498	122,465	181,805	124,211
Finger Millet	1,903	1,018	181,253	82,467	183,159	83,495
Wheat	2,302	1,766	62,096	29,458	65,298	31,224
Barley	132	423	1,771	623	1,903	1,046
<b>ROOTS &amp; TUBERS</b>	<b>42,479</b>	<b>23,191</b>	<b>1,209,154</b>	<b>412,560</b>	<b>1,251,633</b>	<b>433,023</b>
Cassava	5,737	6,098	467,064	232,159	462,791	235,530
Sweet Potatoes	6,040	1,552	571,070	133,916	577,110	135,488
Irish Potatoes	30,364	15,506	120,861	35,783	151,225	51,290
Yams	132	13	19,515	3,640	19,646	3,653
Cocoyam	206	21	40,655	7,061	40,860	7,082
<b>PULSES</b>	<b>42,046</b>	<b>17,491</b>	<b>2,592,199</b>	<b>921,228</b>	<b>2,634,245</b>	<b>938,719</b>
Mung Beans	12	2	2,300	977	2,312	979
Beans	33,339	13,512	2,059,320	732,401	2,092,658	745,813
Cowpeas	4,285	1,030	276,324	73,088	280,589	74,119
Green Gram	909	419	65,020	18,363	65,829	18,782
Pigeon Peas	-	-	1,421	406	1,421	406
Chick Peas	487	1,580	43,121	61,447	43,608	63,027
Bambara nuts	1,016	267	110,016	24,505	111,033	24,772
Field Peas	2,018	681	34,677	10,039	36,695	10,720
<b>OIL SEEDS &amp; OIL NUTS</b>	<b>13,669</b>	<b>4,827</b>	<b>1,210,352</b>	<b>529,078</b>	<b>1,224,021</b>	<b>534,905</b>
Sunflower	1,398	962	204,425	115,021	208,823	115,583
Simsim	1,575	807	137,554	67,207	139,129	88,014
Groundnuts	10,361	3,515	863,121	344,824	673,472	348,339
Soya Beans	-	-	4,582	1,819	4,582	1,819
Caster Seed	346	43	669	208	1,015	291
<b>FRUITS &amp; VEGETABLES</b>	<b>114,674</b>	<b>27,571</b>	<b>223,820</b>	<b>41,915</b>	<b>338,494</b>	<b>69,486</b>
Okra	573	224	3,530	940	4,103	1,193
Radiash	149	261	822	1,168	971	1,429
Tumari	-	-	95	19	95	19
Bitter Aubergine	475	54	2,386	485	2,661	549
Garlic	-	-	132	27	132	27
Onions	8,666	2,673	31,254	8,122	39,920	10,796
Ginger	176	29	2,408	739	2,554	768
Cabbage	10,921	1,963	38,613	6,712	49,534	6,675
Tomatoes	75,843	18,197	58,820	11,347	134,663	29,543
Spinnsch	2,401	343	14,885	1,595	17,098	1,938
Carrot	2,058	640	2,591	788	4,649	1,426
Chilies	4,099	898	7,057	1,404	11,159	2,302
Amarantha	2,141	264	30,620	3,706	32,781	3,870
Pumpkins	438	87	21,219	2,783	21,655	2,850
Cucumber	2,831	486	2,867	389	5,518	875
Egg Plant	1,240	213	4,177	925	5,417	1,138
Water Melon	2,865	1,248	1,863	554	4,728	1,802
Cauliflower	-	-	681	215	681	215
<b>CASH CROPS</b>	<b>26,768</b>	<b>28,940</b>	<b>337,703</b>	<b>366,805</b>	<b>364,471</b>	<b>395,845</b>
Seafood	-	-	858	356	655	356
Cotton	11,064	14,396	277,302	322,662	288,366	337,058
Tobacco	16,704	14,544	58,894	42,862	72,599	67,408
Pyrethrum	-	-	2,558	992	2,558	992
Jute	-	-	296	32	296	32

181,562

**7.0.15 TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area and Number of Crop Growing Households by Herbicide Use and Crop - 2002/03 Agriculture Year - LONG & SHORT RAINY SEASON**

Crop	Herbicide Use					
	Households Using Herbicide		Households Not Using Herbicide		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
<b>CEREALS</b>	<b>138,468</b>	<b>133,779</b>	<b>6,467,989</b>	<b>4,839,184</b>	<b>6,546,437</b>	<b>4,772,964</b>
Mtize	73,041	68,174	4,448,339	3,394,359	4,521,380	3,462,534
Paddy	50,451	56,055	860,642	964,782	811,063	620,837
Sorghum	7,770	4,403	694,033	445,225	701,803	449,627
Burush Millet	2,047	1,430	199,758	122,781	181,805	124,211
Finger Millet	1,616	781	181,540	82,704	183,156	83,485
Wheat	3,341	2,465	81,958	28,740	86,296	31,224
Barley	203	451	1,700	595	1,803	1,046
<b>ROOTS &amp; TUBERS</b>	<b>14,988</b>	<b>8,030</b>	<b>1,236,646</b>	<b>427,189</b>	<b>1,261,833</b>	<b>433,023</b>
Cassava	2,958	4,104	480,233	233,823	462,791	235,530
Sweet Potatoes	7,689	1,914	599,421	133,554	577,110	135,468
Irish Potatoes	4,066	1,946	147,159	49,344	151,225	51,290
Yams	451	32	19,195	3,821	19,846	3,853
Cooyam	224	34	40,636	7,048	40,660	7,062
<b>PULSEB</b>	<b>31,820</b>	<b>13,752</b>	<b>2,603,225</b>	<b>924,967</b>	<b>2,834,245</b>	<b>938,719</b>
Mung Beans	-	-	2,312	979	2,312	979
Beans	25,045	10,161	2,067,613	735,752	2,062,658	745,913
Cowpeas	3,050	991	277,538	73,127	280,589	74,119
Green Gram	820	416	55,109	18,366	65,929	18,782
Pigeon Peas	-	-	1,421	405	1,421	406
Chick Peas	738	1,950	42,870	81,077	43,606	63,027
Bambara nuts	988	155	110,045	24,818	111,033	24,772
Field Peas	378	79	38,317	10,842	36,895	10,720
<b>OIL SEEDS &amp; OIL NUTS</b>	<b>12,883</b>	<b>5,672</b>	<b>1,211,657</b>	<b>528,332</b>	<b>1,224,821</b>	<b>534,905</b>
Sunflower	2,642	1,463	203,181	114,119	205,823	115,583
Simsim	1,190	524	137,839	87,489	139,129	68,014
Groundnuts	9,132	3,685	864,340	344,854	873,472	348,339
Soye Beans	-	-	4,582	1,819	4,582	1,819
Castor Seed	-	-	1,015	251	1,015	251
<b>FRUITS &amp; VEGETABLES</b>	<b>17,271</b>	<b>4,922</b>	<b>321,223</b>	<b>64,564</b>	<b>338,484</b>	<b>69,486</b>
Okra	147	27	3,986	1,138	4,103	1,163
Radish	-	-	971	1,429	971	1,429
Turmeric	-	-	95	19	95	19
Bitar Aubergine	-	-	2,801	549	2,801	549
Garlic	-	-	132	27	132	27
Onions	2,097	1,186	37,823	9,910	39,920	10,796
Ginger	-	-	2,584	798	2,584	768
Cabbage	2,097	450	47,437	8,225	49,534	8,675
Tomatoes	8,836	2,255	125,827	27,288	134,663	29,543
Spinnaeh	676	110	15,390	1,829	17,066	1,936
Carrot	894	367	3,755	1,059	4,649	1,426
Chilies	471	91	10,595	2,211	11,156	2,302
Amarantha	711	92	32,050	3,878	32,761	3,970
Pumpkins	-	-	21,655	2,850	21,655	2,850
Cucumber	591	115	4,927	751	5,518	875
Egg Plant	236	50	5,181	1,088	5,417	1,136
Water Melon	517	180	4,210	1,822	4,728	1,802
Cauliflower	-	-	681	215	681	215
<b>CASH CROPS</b>	<b>10,408</b>	<b>10,407</b>	<b>354,883</b>	<b>385,438</b>	<b>384,471</b>	<b>385,845</b>
Seaweed	-	-	655	358	655	358
Cotton	6,582	6,608	281,784	330,250	288,366	337,058
Tobacco	3,825	3,699	58,773	53,807	72,596	57,406
Pyrethrum	-	-	2,536	992	2,566	962
Jute	-	-	296	32	296	32

176,563



**ANNUAL CROP & VEGETABLE PRODUCTION –  
SHORT RAINY SEASON**

7.1.1 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Agriculture Households, Area Planted (ha) and Quantity Harvested (tonnes) during Short Rainy Season and Region; Agricultural Year 2002/03-SHORT RAINY SEASON

Region	Mwanza				Pwani				Shinyanga				Sichuan Mkoa				Morogoro Mkoa				
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	
Dodoma	562	601	1,663	2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arusha	33,020	14,076	14,594	1.0	1,220	542	5,543	2.9	305	66	21	0.5	145	58	58	0.2	60	26	26	5.2	
Silvansigori	90,041	38,275	33,390	0.9	3,699	1,443	4,569	3.2	889	116	16	0.7	0	0	0	0	123	139	36	0.3	
Tanga	186,116	91,043	81,910	0.9	4,347	1,726	3,488	2.0	325	87	33	3.5	0	0	0	0	0	0	0	0	
Morogoro	193,266	76,864	66,262	0.7	25,596	27,276	25,114	0.8	8,868	3,853	999	0.3	128	38	39	0.5	0	0	0	0	
Manjeri	7,363	36,016	11,691	0.3	18,196	9,837	2,326	0.2	3,443	793	426	0.5	911	41	2	0.1	76	30	16	0.6	
Dar es Salaam (Ind)	4,462	1,979	219	0.1	416	196	38	0.2	0	0	0	0	0	0	0	0	0	0	0	0	
Mtambwe	194	272	14	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Susungu	72	37	26	0.3	72	20	4	0.1	0	0	0	0	0	0	0	0	0	0	0	0	
Franga	61	13	6	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mbeya	68,228	28,417	41,333	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Shinyanga	728	1,793	340	0.2	0	0	0	0	198	21	11	0.8	0	0	0	0	0	0	0	0	
Tabora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sukuma	233	437	153	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mpigi	163,662	77,767	66,382	1.3	91,239	4,256	6,623	1.8	91,055	3,286	2,882	0.8	132	53	71	1.5	5,446	1,034	782	0.7	
Sihaya	1,276	1,541	817	0.4	415	244	639	1.8	199	85	14	0.2	33	26	39	1.5	0	0	0	0	
Ngara	562,526	86,737	60,368	1.0	4,727	2,247	3,498	1.5	10,713	3,237	2,694	0.8	0	0	0	0	7,258	2,687	895	0.5	
Mwanza	368,918	198,558	142,665	0.7	77,664	91,293	42,904	0.6	23,181	10,559	8,046	0.8	1,233	1,583	568	0.5	4,137	2,468	1,202	0.5	
Mara	94,033	48,117	56,939	1.2	4,897	2,271	2,368	1.0	65,432	28,852	26,342	1.9	0	0	0	0	6,776	4,246	3,776	0.8	
Mnyara	4,882	2,329	2,628	1.2	0	0	0	0	734	276	333	1.2	0	0	0	0	423	97	26	0.3	
Total	1,484,876	728,131	611,823	0.8	594,438	102,184	81,094	0.8	182,878	32,209	43,233	0.8	1,793	1,399	854	0.8	23,853	10,354	8,088	0.7	
Cont.....																					
Region	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	
Dodoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arusha	0	0	0	0	0	0	0	0	287	10	17	1.7	365	63	178	2.1	1,071	289	1,448	6.4	
Silvansigori	0	0	0	0	0	0	0	0	4,006	822	987	0.8	3,772	606	982	1.6	4,464	1,076	3,204	2.7	
Tanga	0	0	0	0	0	0	0	0	6,166	1,736	3,191	1.3	2,941	490	697	1.1	9,075	2,798	11,075	1.4	
Morogoro	0	0	0	0	122	62	887	1.3	3,278	632	887	1.3	1,237	428	702	1.6	52	62	283	4.1	
Mwanza	0	0	0	0	182	114	4,897	1.9	5,968	4,071	4,897	1.9	1,849	691	697	1.9	0	0	0	0	
Dar es Salaam (Ind)	0	0	0	0	0	0	0	0	142	26	0	0.2	704	242	182	0.8	0	0	0	0	
Mtambwe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Susungu	0	0	0	0	0	0	0	0	122	61	82	0.8	0	0	0	0	0	0	0	0	
Sichuan Mkoa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Franga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mbeya	0	0	0	0	116	26	361	4.9	3,167	665	1,115	1.7	3,193	686	644	0.9	7,818	2,452	8,264	3.4	
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tabora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sukuma	0	0	0	0	0	0	0	0	1,043	178	183	0.8	6,103	1,133	3,103	2.6	673	46	96	1.8	
Mpigi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sihaya	0	0	0	0	0	0	0	0	8,224	945	1,683	1.1	78,206	19,202	23,652	1.6	5,698	1,082	1,716	1.6	
Mwanza	0	0	0	0	0	0	0	0	3,815	1,446	2,288	1.8	96,078	23,491	31,276	1.4	695	384	319	1.6	
Mara	0	0	0	0	0	0	0	0	1,067	327	502	1.8	54,182	7,714	23,806	2.7	882	282	1,375	4.8	
Mnyara	0	0	0	0	87	16	18	0.2	87	16	18	0.2	247	52	43	0.6	0	0	0	0	
Total	0	0	0	0	234	162	15,267	1.2	36,883	11,702	15,267	1.2	333,151	47,726	83,646	1.7	30,443	14,423	33,791	2.3	

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Region	Vines				Cucumbers				Mung Beans				Beans				Complex			
	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)
Dodoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	1,086	281	172	0.17	4,266	888	488	0.8	187	88	87	0.8	24,038	9,272	6,026	0.5	126	37	0	0.2
Mtwarapa	2,175	81	0	0.0	1,086	156	574	0.3	87	18	3	0.1	79,082	17,201	8,818	0.4	6,884	874	388	0.4
Tanga	1,581	58	286	0.5	1,686	1,286	786	0.7	122	48	36	0.3	16,338	7,247	2,688	0.4	25,241	8,276	2,122	0.2
Morogoro	1,086	58	52	4.2	0	0	0	0	36	16	0	0.0	204	19	3	0.2	12,681	2,881	803	0.3
Pwani	11	6	3	0.3	0	0	0	0	12	2	2	2.8	28	1	1	0.1	58,454	11,038	1,881	0.2
Dar es Salaam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,822	785	75	0.1
Lindi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtwara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mpigi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtanga	116	23	97	4.1	2,887	627	1,248	2.8	0	0	0	0	25,719	3,655	2,127	0.5	245	16	0	0.3
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tandahani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruvuma	382	87	225	2.3	1,275	225	175	0.7	0	0	0	0	388	278	44	0.3	688	214	121	0.6
Albany	0	0	0	0	0	0	0	0	0	0	0	0	158,882	48,725	24,288	0.3	688	0	0	0.6
Mt Kenya	0	0	0	0	0	0	0	0	0	0	0	0	197	101	25	0.2	0	0	0	0.6
Ngara	3,875	414	687	1.4	8,686	1,284	1,687	1.8	188	17	25	1.8	884,882	118,818	87,483	0.5	1,787	817	143	0.5
Mwanza	387	241	482	1.9	0	0	0	0	0	0	0	0	134,888	28,288	12,878	0.4	28,287	4,378	1,088	0.3
Mara	118	28	14	0.8	77	84	3	0.8	0	0	0	0	21,887	6,388	4,188	0.8	888	87	25	0.2
Morogoro	0	0	0	0	0	0	0	0	0	0	0	0	3,877	287	828	0.8	38	6	0	0.0
Total	7,887	1,142	1,827	1.8	27,483	3,828	4,687	1.8	688	188	127	0.7	688,881	288,481	128,728	0.3	11,888	28,288	8,488	0.2

Cont.....

Region	Green Onions				Cilantro				Barramundi				Field Peas			
	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tonnes)	Yield (Tonnes/Ha)
Dodoma	141	17	3	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtwarapa	2,175	388	188	0.5	0	0	0	0	0	0	0	0	0	0	0	0
Tanga	3,788	1,188	288	0.3	25	2	2	0.2	28	2	2	0.3	288	28	288	2.2
Morogoro	1,871	818	88	0.1	348	88	8	0.1	0	0	0	0	1,871	411	487	1.2
Pwani	3,428	82	88	0.1	27	8	8	0.3	82	18	18	0.1	0	0	0	0
Dar es Salaam	43	18	3	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Lindi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtwara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruvuma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mpigi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morogoro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	48,428	11,251	2,242	0.3	1,242	82	225	0.5	11,428	1,228	488	0.5	7,728	27,888	1,582	0.7



Region	Succowet				Sivaka				Grongron				Soye Beans				Cedar Seed			
	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)
Dodoma	161	34	17	0.1	0	0	0	0	141	34	18	0.5	0	0	0	0	0	0	0	0
Arusha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kilimanjaro	10,200	2,400	1,646	0.6	130	14	0	0	7,376	1,471	330	0.4	0	0	0	0	0	0	0	0
Tanga	0	0	0	0	30	0	0	0	3,206	813	252	0.3	0	0	0	0	0	0	0	0
Morogoro	0	0	0	0	4,744	2,159	332	0.3	1,281	307	188	0.2	11	0	2	0	0	0	0	0
Pwani	0	0	0	0	814	198	18	0.1	1,048	252	96	0.5	0	0	0	0	0	0	0	0
Dar es Salaam	52	12	0	0.0	0	0	0	0	304	55	12	0.4	0	0	0	0	0	0	0	0
Lindi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruvuma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shika	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtanga	280	80	27	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singida	136	378	330	5.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ndava	153	285	148	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sagaya	380	97	19	0.0	187	140	183	1.2	33,879	7,787	5,875	0.7	0	0	0	0	0	0	0	0
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kagera	626	243	122	0.4	0	0	0	0	200	187	32	0.2	0	0	0	0	0	0	0	0
Mwanza	316	86	26	0.4	1,646	380	181	0.7	21,860	7,646	4,080	0.6	119	0	1	0.1	0	0	0	0
Mara	103	21	7	0.3	552	71	21	0.3	97,858	18,267	8,228	0.5	307	142	8	0.6	124	23	286	12.6
Morogoro	73	30	19	0.8	0	0	0	0	1,078	74	187	1.0	135	55	27	1.5	0	0	0	0
Total	17,282	4,024	2,146	0.9	7,680	2,870	961	0.3	140,948	38,524	21,227	0.6	487	178	35	0.2	173	48	284	7.0

Region	Cass				Kushin				Turmeric				Silver Ashgale				Garis			
	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)	Number of Households	Planted Area (Ha)	Yield Harvested (Tons)	Yield (Ton/ha)
Dodoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	150	22	198	3.9	0	0	0	0	0	0	0	0	112	11	19	1.4	0	0	0	0
Kilimanjaro	156	14	67	4.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanga	53	0	15	5.4	54	4	2	0.5	0	0	0	0	96	16	218	13.0	0	0	0	0
Morogoro	206	48	9	0.3	0	0	0	0	282	44	87	2.3	0	0	0	0	0	0	0	0
Pwani	232	18	26	0.4	0	0	0	0	0	0	0	0	43	6	3	0.4	0	0	0	0
Dar es Salaam	166	31	66	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lindi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruvuma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shika	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ndava	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sagaya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kagera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	97	6	1	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morogoro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,524	347	373	1.1	54	4	2	0.3	1,058	174	401	1.8	1,068	174	401	1.8	132	27	6	3.2

Region	Chikwa				Chitipa				Ching'chi				Trompsburg				Spirch			
	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)
Chikwa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chitipa	3,665	1,434	3,043	4.3	1,200	464	1,403	2.1	146	146	16	0.3	3,865	1,580	4,592	4.8	3,867	1,644	4,286	4.4
Ching'chi	1,415	506	1,255	0.1	1,200	464	1,403	2.1	1,855	413	1,599	4.8	1,718	604	5,071	3.9	1,718	604	5,071	3.9
Trompsburg	203	10	35	4.7	281	60	30	0.7	805	91	445	4.9	805	91	445	4.9	805	91	445	4.9
Spirch	844	305	1,059	3.5	681	244	840	2.7	1,885	687	3,065	5.9	1,885	687	3,065	5.9	1,885	687	3,065	5.9
Dar es Salaam	131	22	15	0.7	0	0	0	0	47	13	0	0	5,915	404	642	2.1	182	24	2	0.1
Unif	0	0	0	0	0	0	0	0	0	0	0	0	187	75	205	2.6	0	0	0	0
Mwanza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geita	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manyara	110	10	30	0.4	0	0	0	0	309	180	438	2.7	309	180	438	2.7	309	180	438	2.7
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtwara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morogoro	1,284	179	372	2.1	0	0	0	0	1,010	122	440	3.7	2,895	354	1,286	3.8	2,895	354	1,286	3.8
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geita	1,442	240	430	1.5	483	76	107	1.4	1,704	252	413	1.5	5,131	787	2,173	2.6	412	87	26	0.3
Mwanza	1,287	305	980	4.8	165	21	19	0.6	1,289	186	880	4.8	6,078	1,587	6,008	5.6	1,289	186	880	4.8
Mara	538	95	382	3.5	0	0	0	0	1,006	123	333	2.7	2,770	476	1,933	3.5	2,770	476	1,933	3.5
Manyara	35	28	55	1.9	0	0	0	0	259	0	0	0	259	0	0	0	117	12	5	0.4
Total	10,321	2,703	10,781	4.2	2,140	657	1,838	2.6	11,787	2,287	10,258	4.3	42,287	3,221	42,228	4.2	42,287	3,221	42,228	4.2

Region	Central				CBMBA				Arusha				Mwanza				Countryside			
	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	QUBBY Harvested (tonnes)	Yield (tonnes/ha)
Chikwa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chitipa	170	7	2	0.2	471	123	1,337	6.7	1,842	180	798	4.3	0	0	0	0	323	65	230	4.8
Ching'chi	688	220	1,146	5.2	862	144	431	3.0	2,844	289	1,131	4.3	145	23	10	0.4	445	36	225	5.8
Trompsburg	283	21	193	3.8	1,897	414	1,254	2.5	680	65	143	2.2	90	13	24	0.7	284	17	24	0.8
Spirch	623	448	481	1.1	664	276	443	1.8	1,828	90	273	3.5	2,295	237	262	1.2	346	91	279	3.1
Dar es Salaam	0	0	0	0	70	0	1	0.2	739	84	75	0.9	1,287	195	90	0.5	237	67	45	0.8
Unif	0	0	0	0	37	11	1	0.1	210	26	281	0.3	85	8	9	0.4	346	70	125	1.8
Mwanza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geita	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manyara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morogoro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtwara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shinyanga	133	6	16	2.3	34	4	29	7.2	1,027	109	372	3.4	0	0	0	0	128	38	6	0.2
Geita	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manyara	441	104	536	5.1	485	30	13	0.4	581	81	35	0.4	119	0	3	0	165	12	13	1.1
Mwanza	194	45	46	1.5	333	66	68	1.0	798	66	230	7.7	105	42	30	1.2	297	54	42	0.8
Mara	0	0	0	0	0	0	0	0	684	57	51	0.9	116	12	1	0.1	231	24	24	0.8
Manyara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2,681	882	2,441	2.3	6,052	1,107	3,379	2.1	11,287	1,176	3,749	3.2	4,228	600	622	1.2	2,288	492	1,264	2.2





**7.1.2 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) by Means Used for Soil Preparation and Region during 2002/03 agriculture year - SHORT RAINY SEASON**

Region	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)
Dodoma	0		481	886	390	94	861	880
Arusha	3,809	3,052	24,885	18,783	19,327	8,387	48,021	28,071
Kilimanjaro	3,863	3,113	7,082	3,796	105,061	82,351	118,006	89,258
Tanga	1,544	1,355	6,107	4,878	185,850	154,467	198,502	160,820
Morogoro	8,088	9,788	8,271	14,583	117,328	103,242	131,888	127,804
Pwani	1,421	1,048	2,732	1,753	82,070	85,338	96,222	86,141
Dar es Salaam	100	92	313	232	7,046	3,184	7,464	3,507
Mtwara	0		0	81	288	421	288	481
Ruvuma	0		0		72	110	72	110
Iringa	0		0		123	26	123	26
Mbeya	207	232	2,971	1,858	87,808	39,748	80,788	41,840
Singida	120	12	690	1,404	622	876	1,333	2,292
Ruaha	0		233	1,048	0		233	1,048
Kigoma	229	307	3,045	3,707	180,480	141,128	183,768	145,143
Shinyanga	83	87	338	485	1,142	2,274	1,561	2,828
Kagera	1,362	788	5,837	7,536	315,286	234,688	322,485	242,812
Mwanza	1,797	2,847	79,865	180,835	240,696	264,399	322,248	438,177
Mara	1,335	732	69,527	75,903	58,846	43,862	127,507	120,287
Manyara	889	813	1,373	1,687	3,636	2,320	6,897	4,020
Mainland	24,833	24,864	211,617	318,718	1,388,478	1,118,533	1,823,028	1,457,855
%	2	2	13	22	85	77	100	100
Zanzibar		380		10,698		11,058		16,875
National		24,864		327,418		1,127,591		1,474,730

Total hh figures are indicative as a household may use more than one type of Land preparation method for different crops

**7.1.3 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) by Fertilizer Use and Region during 2002/03 agriculture year - SHORT RAINY SEASON**

Regions	Fertilizer Use								Total	
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Number of Household planting in Vuli	Area Planted during Vuli
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)		
Dodoma	238	68	0		0		615	682	851	960
Arusha	17,538	8,083	448	226	7,873	6,528	22,162	13,833	48,021	28,871
Kilimanjaro	59,567	29,028	3,573	2,934	18,530	6,008	36,315	28,391	116,006	89,258
Tanga	22,959	20,089	8,686	4,537	4,005	2,363	162,852	123,811	198,502	160,820
Morogoro	4,418	6,054	4,138	2,780	4,271	5,890	118,838	113,088	131,888	127,804
Pwani	3,857	2,588	4,560	2,893	1,935	1,013	85,881	81,847	96,222	86,141
Dar es Salaam	1,641	770	502	307	448	248	4,873	2,184	7,464	3,507
Mtwara	0		0		0		288	481	288	481
Ruvuma	0		0		72	37	0	72	72	110
Iringa	0		0		0		123	26	123	26
Mbeya	19,350	12,607	3,680	1,871	10,042	7,307	27,515	18,858	80,788	41,840
Singida	572	1,233	0		0		761	1,069	1,333	2,292
Ruaha	0				0		233	1,048	233	1,048
Kigoma	25,829	21,830	8,899	8,740	3,806	2,505	144,229	115,065	183,768	145,143
Shinyanga	383	370	227	219	0	48	881	2,189	1,561	2,828
Kagera	33,278	21,606	17,661	9,511	1,487	1,433	268,848	210,262	322,485	242,812
Mwanza	79,483	98,075	4,838	5,266	2,863	5,667	234,983	328,147	322,248	438,177
Mara	25,350	26,965	2,444	2,516	1,522	871	88,183	98,003	127,507	120,287
Manyara	3,378	2,249	87	93	0	50	2,433	1,629	5,897	4,020
Mainland	305,847	245,581	58,145	38,896	54,984	42,708	1,211,072	1,130,870	1,823,028	1,457,855
%	19	17	3	3	3	3	75	78	100	100
Zanzibar	4,943	1,816	1,430	511	1,277	458	22,332	8,179	28,962	11,058
National	305,790	247,600	57,575	39,409	56,261	43,166	1,233,404	1,138,839	1,853,010	1,468,913

Total hh figures are indicative as a household may use more than one type of Land preparation method for different crops

**7.1.4 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) by Irrigation Use and Region during 2002/03 agriculture year -SHORT RAINY SEASON**

Region	Irrigation use						% of planted area (ha) under irrigation in short rainy season
	Number of Households using Irrigation	Planted Area (ha) with Irrigation	Number of Households NOT using Irrigation	Planted Area (ha) with no Irrigation	Total Number of Households Planting in VULI	Total Planted Area (ha) in VULI	
Dodoma	145	16	707	965	851	980	1.5
Arusha	13,475	9,187	34,548	19,484	48,021	28,671	32.0
Kilimanjaro	15,602	10,758	97,404	58,501	115,006	69,259	15.5
Tanga	5,306	5,088	188,196	162,732	196,502	180,820	5.0
Morogoro	8,258	6,835	123,408	120,789	131,888	127,804	5.4
Pwani	2,385	1,038	93,827	66,513	98,222	95,141	2.4
Dar es Salaam	604	372	6,850	3,185	7,464	3,507	10.9
Mtwara	0	0	288	481	288	481	0.0
Ruvuma	0	15	72	85	72	110	13.3
Iringa	0	0	123	25	123	25	0.0
Mbeya	5,406	3,229	55,380	39,411	60,786	41,643	7.8
Singida	600	197	733	2,085	1,333	2,292	8.0
Rukwa	0	0	233	1,049	233	1,049	0.0
Kigoma	5,081	5,268	177,662	138,875	183,763	145,143	3.8
Shinyanga	0	24	1,661	2,802	1,681	2,628	0.9
Kagera	4,078	3,778	318,407	238,833	322,465	242,812	1.8
Mwanza	7,150	10,137	315,098	428,943	322,346	438,177	2.3
Mara	3,287	2,412	124,220	117,884	127,507	120,297	2.0
Manyara	1,206	755	4,891	3,255	5,897	4,020	19.0
<b>Mainland</b>	<b>79,694</b>	<b>62,710</b>	<b>1,643,434</b>	<b>1,395,145</b>	<b>1,623,028</b>	<b>1,467,858</b>	<b>4.3</b>
<b>%</b>	<b>5</b>	<b>4</b>	<b>95</b>	<b>96</b>	<b>100</b>	<b>100</b>	
<b>Zanzibar</b>		<b>1,359</b>		<b>5,701</b>	<b>29,982</b>	<b>11,058</b>	
<b>National</b>		<b>64,069</b>		<b>1,404,845</b>	<b>1,653,010</b>	<b>1,478,913</b>	

**7.1.5 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) by Improved Seed Use and Region during 2002/03 agriculture year - Short Rainy Season**

Regions	Improved Seed						% of Planted area (ha) using Improved seed
	Number of Households using Improved Seed	Planted Area (ha) Improved Seed Used	Number of Households NOT using Improved Seeds	Planted Area (ha) Improved Seed not Used	Total Number of Households Planting in VULI	Total Planted Area (ha) in VULI	
Dodoma	145	15	707	965	851	980	1.5
Arusha	15,142	11,380	39,679	17,282	48,021	28,671	35.7
Kilimanjaro	61,210	30,726	54,798	38,533	115,006	69,259	44.4
Tanga	23,945	21,588	172,598	138,221	196,502	180,820	13.4
Morogoro	19,208	17,521	112,460	110,583	131,888	127,804	13.7
Pwani	16,542	10,081	78,580	58,060	98,222	95,141	14.5
Dar es Salaam	5,388	2,324	2,077	1,183	7,464	3,507	85.3
Mtwara	0	0	288	481	288	481	0.0
Ruvuma	0	15	72	85	72	110	13.3
Iringa	0	0	123	25	123	25	0.0
Mbeya	11,807	8,268	48,980	33,372	60,786	41,643	19.9
Singida	724	288	808	1,864	1,333	2,292	13.0
Rukwa	118	853	115	186	233	1,049	82.3
Kigoma	9,089	8,855	174,174	136,335	183,763	145,143	6.1
Shinyanga	888	1,864	894	1,862	1,681	2,628	58.9
Kagera	48,749	38,050	273,738	203,782	322,465	242,812	19.1
Mwanza	101,387	146,968	220,861	291,100	322,346	438,177	33.5
Mara	30,389	32,639	97,119	87,787	127,507	120,297	27.0
Manyara	1,594	878	4,353	3,045	5,897	4,020	24.3
<b>Mainland</b>	<b>349,802</b>	<b>333,121</b>	<b>1,273,128</b>	<b>1,124,734</b>	<b>1,623,028</b>	<b>1,467,855</b>	<b>22.9</b>
<b>%</b>	<b>22</b>	<b>23</b>	<b>75</b>	<b>77</b>	<b>100</b>	<b>100</b>	
<b>Zanzibar</b>		<b>3,321</b>		<b>7,737</b>	<b>29,982</b>	<b>11,058.39</b>	
<b>National</b>		<b>358,442</b>		<b>1,132,472</b>	<b>1,653,010</b>	<b>1,478,913</b>	

**7.1.6 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectares) by Herbicide Use and Region during 2002/03 agriculture year - Short Rainy Season**

Regions	Herbicide Use						% of Planted area using Herbicide
	Number of Households using Herbicide	Planted Area (ha) Using Herbicide	Number of Households NOT using Herbicide	Planted Area (ha) not using Herbicide	Total Number of Households Planting in VULI	Total Planted Area (ha) in VULI	
Dodoma	0	0	851	980	851	980	0.0
Arusha	1,951	2,005	46,070	26,823	48,021	28,671	7.0
Kilimanjaro	4,284	3,024	111,741	66,053	116,006	69,299	4.4
Tanga	1,811	1,427	194,690	159,385	196,502	160,820	0.9
Morogoro	7,664	10,839	124,002	116,857	131,666	127,604	8.5
Pwani	2,278	1,494	93,944	68,865	96,222	68,141	2.2
Dar es Salaam	84	22	7,381	3,479	7,464	3,507	0.6
Mtwara	0	0	286	290	286	481	0.0
Ruvuma	0	0	72	110	72	110	0.0
Iringa	0	0	123	25	123	25	0.0
Mbeya	719	285	60,067	41,513	60,786	41,640	0.6
Singida	120	24	1,213	2,267	1,333	2,292	1.1
Rukwa	0	0	233	1,049	233	1,049	0.0
Kigoma	1,665	1,675	182,098	143,441	183,763	145,143	1.2
Shinyanga	0	0	1,561	2,826	1,561	2,826	0.0
Kagera	3,014	2,485	319,471	240,272	322,485	242,812	1.0
Mwanza	7,015	15,117	315,233	422,577	322,248	438,177	3.5
Mara	2,418	1,203	125,091	118,941	127,507	120,297	1.0
Manyara	292	225	5,605	3,800	5,897	4,020	5.8
Mainland	33,293	39,806	1,589,735	1,417,552	1,623,028	1,457,855	2.7
%	2	3	96	97	100	100	
Zanzibar		21		11,037	29,982	11,058	
National		39,827		1,428,589	1,653,010	1,468,913	

**7.1.7 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectares) by Insecticide Use by Region during 2002/03 agriculture year - SHORT RAINY SEASON**

Regions	Insecticide Use						% of Planted area using Insecticide
	Number of Households using Insecticide	Planted Area (ha) Using Insecticide	Number of Households NOT using Insecticide	Planted Area (ha) not using Insecticide	Total Number of Households Planting in VULI	Total Planted Area (ha) in VULI	
Dodoma	0		851	980	851	980	0.0
Arusha	1,951	6,598	46,070	22,126	48,021	28,671	23.0
Kilimanjaro	4,284	18,295	111,741	50,948	116,006	69,299	26.4
Tanga	1,811	5,771	194,690	154,025	196,502	160,820	4.2
Morogoro	7,664	5,324	124,002	122,421	131,666	127,604	4.2
Pwani	2,278	3,079	93,944	65,270	96,222	68,141	4.5
Dar es Salaam	84	675	7,381	2,832	7,464	3,507	19.2
Mtwara	0		286	290	286	481	0.0
Ruvuma	0		72	110	72	110	0.0
Iringa	0		123	25	123	25	0.0
Mbeya	719	2,987	60,067	38,759	60,786	41,640	7.2
Singida	120	49	1,213	2,243	1,333	2,292	2.1
Rukwa	0	42	233	1,007	233	1,049	4.0
Kigoma	1,665	5,181	182,098	138,935	183,763	145,143	4.3
Shinyanga	0	114	1,561	2,712	1,561	2,826	4.0
Kagera	3,014	12,702	319,471	229,922	322,485	242,812	5.2
Mwanza	7,015	72,842	315,233	364,812	322,248	438,177	16.6
Mara	2,418	18,745	125,091	103,357	127,507	120,297	13.9
Manyara	292	581	5,605	3,444	5,897	4,020	14.4
Mainland	33,293	152,984	1,589,735	1,304,219	1,623,028	1,457,855	10.5
%	2	10	98	89	5867	100	
Zanzibar		628		10,431	29,982	11,058	
National		153,612		1,314,650	1,653,010	1,468,913	



**7.1.8 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Crop growing Households and Planted Area (hectare) by Fungicide Use and Region during the 2002/03 agriculture year - Short Rainy Season**

Regions	Fungicide Use						% of Planted area using Fungicide
	Number of Households using Fungicide	Planted Area (ha) using Fungicide	Number of Households NDT using Fungicide	Planted Area (ha) not Using Fungicide	Total Number of Households Planting in VULI	Total Planted Area (ha) in VULI	
Dodoma	0	0	851	980	851	980	0.0
Arusha	4,021	2,690	44,000	26,049	48,021	28,739	9.4
Kilimanjaro	6,135	3,744	109,871	65,446	116,006	69,290	5.4
Tanga	3,798	4,012	192,708	156,799	196,502	160,820	2.5
Morogoro	2,680	3,610	128,988	123,828	131,668	127,604	2.8
Pwani	3,149	2,363	93,073	65,990	96,222	68,141	3.5
Dar es Salaam	628	455	6,837	3,052	7,464	3,507	13.0
Mtwara	92	149	194	141	286	481	30.8
Ruvuma	0	0	72	110	72	110	0.0
Iringa	0	0	123	25	123	25	0.0
Mbeya	742	1,239	60,044	40,396	60,786	41,640	3.0
Singida	120	24	1,213	2,267	1,333	2,292	1.1
Rukwa	0	0	233	1,049	233	1,049	0.0
Kigoma	2,656	1,975	181,107	143,125	183,763	145,143	1.4
Shinyanga	83	371	1,478	2,455	1,561	2,826	13.1
Kagera	3,258	2,510	319,227	240,215	322,485	242,812	1.0
Mwanza	6,719	14,932	315,529	422,971	322,248	438,177	3.4
Mara	3,655	2,231	123,853	118,131	127,507	120,297	1.8
Manyara	322	230	5,575	3,794	5,897	4,020	5.7
Mainland	38,058	40,536	1,584,972	1,416,822	1,623,028	1,457,856	2.8
%	2.3	2.8	97.7	97.2	100.0	100.0	
Zanzibar		12		11,047	29,982	11,058	
National		40,548		1,427,869	1,653,010	1,468,913	

7.1.9 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop growing Households by Method of Land Clearing by Crop during 2002/03 agriculture year - SHORT RAINY SEASON

Crop	Land Clearing														Total	
	Mostly Bush Clearing		Mostly Hand Clearing		Mostly Tractor Clearing		Mostly Burning		No Land Clearing		Other					
	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household		
<b>CEREALS</b>	<b>26,754</b>		<b>721,634</b>		<b>5,189</b>		<b>19,271</b>		<b>193,643</b>		<b>4,479</b>		<b>895,269</b>			
Maize	23,647	40,148	591,709	1,114,148	2,423	6,901	14,282	27,637	87,748	210,478	4,274	21,942	723,138	1,419,274		
Paddy	2,719	4,213	64,288	120,214	442	602	4,233	8,251	5,883	11,117	626	437	163,841	163,894		
Borghani	1,809	3,095	44,686	104,808	228	383	317	1,289	4,472	6,666	28	142	51,732	130,733		
Burush Millet		0	1,207	1,428	0	0	0	0	603	286	0	0	1,808	1,735		
Finger Millet	662	1,120	8,025	22,027	0	0	41	187	633	2,762	0	0	10,264	28,695		
Wheat		0	0	0	0	0	0	0	0	0	0	0	0	0		
Bahar		0	125	316	85	66	0	0	0	0	0	0	182	274		
<b>ROOTS &amp; TUBERS</b>	<b>2,014</b>		<b>62,622</b>		<b>292</b>		<b>889</b>		<b>8,892</b>		<b>18</b>		<b>73,889</b>			
Cassava	918	1,025	10,223	30,285	24	26	323	622	699	4,238	0	0	11,824	30,612		
Sweet Potatoes	1,378	3,884	26,727	121,378	188	1,198	328	3,884	8,027	22,422	18	842	47,848	232,147		
Irish Potatoes	148	225	12,989	44,273	152	456	0	0	1,111	2,412	0	0	14,388	62,664		
Yams		0	612	6,488	0	0	0	0	228	2,182	0	0	1,142	7,667		
Cassipon	173	273	2,670	14,243	15	122	12	134	693	6,576	0	0	3,631	21,263		
<b>LEGUMES</b>	<b>7,679</b>		<b>224,192</b>		<b>627</b>		<b>7,221</b>		<b>46,134</b>		<b>2,162</b>		<b>263,199</b>			
Mung Beans	64	121	2	12	0	0	0	0	118	422	0	0	182	646		
Beans	5,841	17,291	196,228	622,262	768	2,726	6,201	18,827	43,888	166,228	3,166	9,724	257,720	624,028		
Common	1,623	4,292	24,287	95,062	126	628	292	1,572	3,212	12,062	0	0	28,874	116,198		
Green Gram	132	632	8,221	24,228	80	367	624	770	1,224	4,421	0	0	11,921	42,432		
Pigeon Peas		0	6	27	0	0	0	0	0	0	0	0	3	27		
Chick Peas		0	420	961	0	0	0	0	199	242	0	0	629	1,348		
Bambara Beans	0	232	665	7,468	7	146	0	32	325	2,421	0	108	1,228	12,428		
Field Peas	122	224	1,788	7,114	0	0	0	0	117	422	0	0	2,028	7,728		
<b>OLEAGINOUS &amp; OIL SEEDS</b>	<b>4,482</b>		<b>26,226</b>		<b>227</b>		<b>5,682</b>		<b>6,272</b>				<b>45,172</b>			
Sunflower	12	122	1,022	6,522	12	126	0	0	2,072	11,114	0	0	3,622	18,221		
Soybean	164	612	2,412	8,221	0	0	146	187	194	716	0	0	2,612	7,622		
Groundnuts	1,248	4,012	22,228	116,146	164	868	1,412	4,881	3,226	14,062	0	0	38,421	142,112		
Other Beans		0	188	682	0	0	0	0	0	0	0	0	188	682		
Castor Seed		0	42	172	0	0	0	0	0	0	0	0	42	172		
<b>FRUITS &amp; VEGETABLES</b>	<b>626</b>		<b>12,412</b>		<b>266</b>		<b>274</b>		<b>3,062</b>		<b>128</b>		<b>21,689</b>			
Onion	61	247	162	484	0	26	0	0	88	226	0	0	324	1,032		
Radish		0	4	14	0	0	0	0	0	0	0	0	4	14		
Turnip		0	0	0	0	0	0	0	0	0	0	0	0	0		
Other Aubergine		0	127	1,008	0	0	0	0	0	0	0	0	127	1,008		
Garlic		0	27	122	0	0	0	0	0	0	0	0	27	122		
Green		0	2,072	7,448	188	247	22	382	228	1,724	0	0	2,664	8,728		
Ginger		0	682	1,768	0	0	0	0	2	43	0	0	588	1,699		
Cabbage	121	427	1,628	6,778	57	252	96	264	487	1,674	0	0	2,262	11,084		
Tomatoes	286	1,484	7,847	24,788	8	111	48	478	1,188	8,112	67	262	9,562	42,247		
Spinach		0	28	282	0	0	22	121	166	1,482	0	0	679	4,187		
Carrot		0	647	2,118	0	0	0	0	36	412	0	0	683	2,631		
Chilies	12	117	788	2,607	0	0	0	0	227	1,488	0	0	1,107	5,082		
Amaranth		0	682	7,467	18	111	0	0	261	2,262	28	127	1,188	11,198		
Pumpkin	27	227	474	2,502	0	0	1	12	32	218	0	0	224	4,081		
Cucumber	14	142	261	2,287	0	0	1	12	87	618	0	0	484	2,672		
Egg Plant	2	16	267	1,482	0	0	0	0	47	268	0	0	326	1,767		
Water Melon	11	22	82	2,272	0	0	0	0	60	222	0	0	242	2,682		
Cauliflower		0	0	0	0	0	48	121	12	121	0	0	61	212		
<b>GUM CROPS</b>	<b>4,422</b>		<b>87,222</b>		<b>792</b>		<b>778</b>		<b>8,884</b>		<b>86</b>		<b>112,772</b>			
Banana		0	3	22	0	0	0	0	107	182	61	122	172	322		
Cotton	4,222	4,821	92,222	92,212	142	472	722	1,244	8,226	2,742	0	0	100,444	112,666		
Tobacco	122	221	2,842	7,128	0	0	28	188	18	121	0	0	2,822	7,828		
Pyrethrum	87	126	72	121	22	148	0	0	100	424	0	0	222	1,012		
Jute		0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>WATERMELON</b>	<b>45,627</b>		<b>1,122,282</b>		<b>6,222</b>		<b>26,628</b>		<b>177,627</b>		<b>6,128</b>		<b>1,422,822</b>			
<b>Other</b>	<b>2,422</b>		<b>42,621</b>		<b>122</b>		<b>1,221</b>		<b>4,221</b>		<b>122</b>		<b>52,621</b>			
<b>National</b>	<b>48,071</b>		<b>1,224,794</b>		<b>6,322</b>		<b>27,847</b>		<b>181,822</b>		<b>6,228</b>		<b>1,524,473</b>			

**7.1.10 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectares) & Number of Crop Growing Households by Method of Soil Preparation during 2002/03 agriculture year - SHORT RAINY SEASON**

Crop	Soil Preparation						Total	
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation			
	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household
<b>CEREALS</b>	<b>18,950</b>		<b>218,693</b>		<b>605,134</b>		<b>892,796</b>	
Maize	11,370	17,949	144,931	171,991	989,829	1,234,783	726,131	1,424,672
Paddy	7,019	8,507	42,178	47,931	52,989	90,970	102,184	154,459
Sorghum	491	1,447	28,971	54,694	24,547	64,737	52,009	120,676
Bulrush Millet	-	0	1,020	990	888	1,189	1,908	1,785
Finger Millet	79	261	3,509	7,243	6,776	21,182	10,564	28,665
Barley	-	0	65	56	105	319	190	274
<b>ROOTS &amp; TUBERS</b>	<b>333</b>		<b>6,347</b>		<b>71,856</b>		<b>78,637</b>	
Cassava	29	171	905	2,328	10,770	34,439	11,702	36,935
Sweet Potatoes	212	1,047	4,934	20,098	42,806	212,606	47,765	233,151
Irish Potatoes	40	132	627	1,886	13,936	48,928	14,402	50,948
Yams	-	0	110	543	1,030	7,125	1,140	7,667
Cocoyam	53	235	172	654	3,713	20,344	3,938	21,433
<b>PULSES</b>	<b>2,678</b>		<b>30,798</b>		<b>271,471</b>		<b>304,948</b>	
Mung Beans	49	122	88	167	48	305	185	595
Beans	2,252	5,914	21,025	54,381	236,184	769,597	269,461	829,291
Cowpeas	308	1,544	2,454	6,601	27,238	167,450	30,900	118,969
Green Gram	46	196	5,296	17,079	4,989	23,151	11,331	40,430
Pigeon Peas	-	0	0	0	6	27	5	27
Chick Peas	-	0	521	819	106	424	629	1,243
Bambara nuts	21	69	213	1,111	1,093	9,230	1,328	10,429
Field Peas	-	0	262	296	1,604	7,502	2,006	7,796
<b>OIL SEEDS &amp; OIL NUTS</b>	<b>652</b>		<b>8,859</b>		<b>34,961</b>		<b>45,679</b>	
Sunflower	337	1,037	571	1,532	3,067	14,712	4,004	17,982
Simam	290	128	263	1,285	2,387	8,407	2,910	7,820
Groundnuts	256	862	8,877	21,383	29,401	118,503	38,534	140,948
Soya Beans	-	0	145	287	34	303	179	667
Caster Seed	-	0	0	0	42	172	42	172
<b>FRUITS &amp; VEGETABLES</b>	<b>696</b>		<b>3,320</b>		<b>17,919</b>		<b>22,091</b>	
Okra	6	36	110	242	211	763	327	1,042
Radiih	-	0	0	0	4	14	4	14
Turmeric	-	0	0	0	0	0	0	0
Bitter Aubergine	-	0	0	0	137	1,009	137	1,006
Garlic	-	0	0	0	27	132	27	132
Onions	627	338	764	2,034	1,443	7,631	2,729	10,301
Ginger	-	0	80	71	571	2,674	651	2,145
Cabbage	11	144	193	1,325	2,194	10,319	2,397	11,787
Tomatoes	178	730	1,436	5,109	8,006	38,866	9,621	42,697
Spinach	7	101	111	996	471	3,322	589	4,310
Carrot	-	0	11	132	872	2,398	683	2,531
Chilies	74	231	169	399	674	4,442	1,107	5,662
Amaranth	-	0	149	1,209	1,026	10,648	1,175	11,257
Pumpkins	-	0	12	117	548	4,689	500	4,206
Cucumber	33	361	78	286	365	2,342	498	2,986
Egg Plant	-	0	17	34	378	1,753	396	1,707
Water Melon	19	79	197	397	753	2,184	969	2,860
Cauliflower	-	0	12	191	49	121	61	312
<b>CASH CROPS</b>	<b>828</b>		<b>47,703</b>		<b>85,399</b>		<b>113,427</b>	
Seaweed	-	-	-	-	173	339	173	339
Cotton	841	800	48,947	43,462	62,366	75,032	110,154	116,294
Tobacco	-	-	130	533	2,690	7,443	2,820	7,976
Pyrethrum	87	195	27	132	167	691	280	1,018
Jute	-	-	-	-	-	-	-	-
<b>Mulberry</b>	<b>24,804</b>		<b>318,718</b>		<b>1,116,633</b>		<b>1,457,866</b>	
<b>Zanzibar</b>	<b>1,098</b>		<b>52,512</b>		<b>53,650</b>		<b>16,675</b>	
<b>National</b>	<b>25,702</b>		<b>580,230</b>		<b>1,170,142</b>		<b>1,474,730</b>	



**7.1.11 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop Growing Households by Insecticide use by Crop during 2002/03 agriculture year - SHORT RAINY SEASON**

Regions	Insecticide Use						% of Planted area using Pesticide
	Number of Households using Pesticide	Planted Area (ha) Using Pesticide	Number of Households NOT using Pesticide	Planted Area (ha) not using Pesticide	Total Number of Households Planting in VULLI	Total Planted Area (ha) in VULLI	
<b>CEREALS</b>		<b>50,554</b>		<b>842,232</b>		<b>882,786</b>	<b>5.7</b>
Maize	81,833	44,214	1,342,839	681,917	1,424,672	726,131	6.1
Paddy	7,107	4,299	147,351	97,825	154,458	102,184	4.2
Sorghum	3,235	1,802	117,843	90,207	120,878	52,008	3.5
Burush Millet	0	0	1,785	1,908	1,785	1,908	0.0
Finger Millet	552	255	28,113	10,109	28,665	10,364	2.5
Wheat	0	0	0	0	0	0	0.0
Barley	114	23	280	167	374	190	12.2
<b>ROOTS &amp; TUBERS</b>		<b>4,238</b>		<b>74,699</b>		<b>78,937</b>	<b>5.4</b>
Cassava	1,114	330	35,821	11,372	36,935	11,702	2.8
Sweet Potatoes	3,669	965	229,482	46,790	233,151	47,755	2.0
Irish Potatoes	7,014	2,936	43,931	11,488	50,946	14,402	20.4
Yams	117	7	7,550	1,133	7,667	1,140	0.8
Cocoyam	0	0	21,433	3,938	21,433	3,938	0.0
<b>PULSES</b>		<b>15,152</b>		<b>289,792</b>		<b>304,945</b>	<b>5.0</b>
Mung Beans	12	2	583	183	595	185	1.0
Beans	36,247	12,308	793,044	247,153	829,291	259,481	4.7
Cowpeas	8,950	1,705	111,845	28,294	118,595	30,000	5.7
Green Gram	2,033	570	38,387	10,761	40,430	11,331	5.0
Pigeon Peas	0	0	27	8	27	8	0.0
Chick Peas	129	209	1,114	420	1,243	629	33.2
Bambara nuts	163	33	10,266	1,295	10,429	1,328	2.5
Field Peas	774	324	7,023	1,682	7,798	2,008	18.2
<b>OIL SEEDS &amp; OIL NUTS</b>							
Sunflower	6,291	1,734	160,499	43,936	166,790	45,670	3.8
Simsim	1,479	395	15,803	3,609	17,282	4,004	9.9
Simsim	96	24	7,724	2,886	7,820	2,910	0.8
Groundnuts	4,440	1,189	136,408	37,365	140,848	38,534	3.0
Soya Beans	152	123	515	56	667	179	68.7
Castor Seed	124	23	48	20	172	42	53.5
<b>FRUITS &amp; VEGETABLES</b>		<b>14,157</b>		<b>7,935</b>		<b>22,091</b>	<b>64.1</b>
Okra	611	218	431	111	1,042	327	66.1
Radish	0	0	14	4	14	4	0.0
Turmeric	0	0	0	0	0	0	0.0
Bitter Aubergine	301	30	707	107	1,008	137	22.2
Garlic	0	0	132	27	132	27	0.0
Onions	5,509	1,851	4,792	873	10,301	2,723	68.0
Ginger	149	24	1,996	627	2,145	651	3.6
Cabbage	8,836	1,859	2,951	538	11,787	2,397	77.8
Tomatoes	30,440	7,065	12,257	2,566	42,697	8,621	73.4
Spinnaash	2,075	307	2,235	282	4,310	589	52.1
Carrot	1,244	418	1,287	465	2,531	893	47.4
Chilies	3,085	704	1,067	403	5,062	1,107	63.6
Amaranth	3,157	379	8,101	798	11,257	1,175	32.3
Pumpkins	167	24	4,039	536	4,206	580	4.2
Cucumber	1,750	317	1,238	149	2,998	486	68.0
Egg Plant	1,064	191	703	205	1,787	396	48.2
Water Mellon	1,863	761	798	208	2,680	969	78.5
Cauliflower	181	12	121	49	312	61	19.1
<b>CASH CROPS</b>		<b>67,149</b>		<b>48,278</b>		<b>113,427</b>	<b>59.2</b>
Seaweed	-	-	339	173	339	173	0.0
Cotton	63,361	56,312	52,933	43,842	116,294	110,154	60.2
Tobacco	1,511	838	6,464	1,982	7,978	2,820	29.7
Pyrethrum	-	-	1,018	280	1,018	280	0.0
Jute	-	-	-	-	-	-	0.0
<b>Mainland</b>		<b>152,984</b>		<b>1,304,871</b>		<b>1,457,855</b>	<b>10.5</b>
Zanzibar		629		10,431		11,058	
<b>National</b>		<b>153,612</b>		<b>1,315,302</b>		<b>1,468,913</b>	

7.1.12 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Households by Fungicide Use by Crop during 2002/03 agriculture year - SHORT RAINY SEASON							
Regions	Fungicide Use						% of Planted area using Fungicide
	Number of Households using Fungicide	Planted Area (ha) Fungicide Used	Number of Households NOT using Fungicide	Planted Area (ha) Fungicide not Used	Total Number of Households Planting in VULI	Total Planted Area (ha) in VULI	
<b>CEREALS</b>		<b>16,822</b>		<b>875,863</b>		<b>892,786</b>	<b>1.9</b>
Maine	19,590	13,296	1,406,123	712,834	1,424,672	726,131	1.8
Paddy	3,324	2,250	151,134	99,834	154,458	102,184	2.2
Sorghum	2,347	1,088	118,631	50,923	120,878	52,009	2.1
Burush Millet	-	-	1,785	1,908	1,785	1,908	0.0
Finger Millet	449	190	28,216	10,174	28,665	10,364	1.8
Wheat	-	-	-	-	-	-	0.0
Barley	-	-	374	180	374	190	0.0
<b>ROOTS &amp; TUBERS</b>		<b>2,949</b>		<b>75,988</b>		<b>78,937</b>	<b>3.7</b>
Cassava	384	73	36,551	11,829	36,935	11,702	0.6
Sweet Potatoes	2,121	628	231,030	47,128	233,151	47,755	1.3
Irish Potatoes	4,821	2,237	46,125	12,165	50,946	14,402	15.5
Yams	-	-	7,867	1,140	7,867	1,140	0.0
Cocoyam	119	12	21,313	3,926	21,433	3,938	0.3
<b>PULSES</b>		<b>4,844</b>		<b>390,100</b>		<b>304,945</b>	<b>1.8</b>
Mung Beans	12	2	583	183	585	188	1.0
Beans	10,949	3,954	818,342	255,507	829,291	259,461	1.5
Cowpeas	1,851	427	118,944	29,573	118,985	30,000	1.4
Green Gram	787	385	38,843	10,948	40,430	11,331	3.4
Pigeon Peas	-	-	27	6	27	6	0.0
Chick Peas	-	-	1,243	629	1,243	629	0.0
Sambaranut	-	-	10,429	1,328	10,429	1,328	0.0
Field Peas	375	78	7,422	1,930	7,786	2,006	3.8
<b>OIL SEEDS &amp; OIL NUTS</b>		<b>666</b>		<b>45,003</b>		<b>45,670</b>	<b>1.5</b>
Sunflower	234	40	17,048	3,964	17,282	4,004	1.0
Simsim	244	54	7,576	2,858	7,820	2,910	1.9
Groundnuts	2,164	550	138,685	37,984	140,848	38,534	1.4
Soya Beans	-	-	667	179	667	179	0.0
Castor Seed	124	23	48	20	172	42	53.5
<b>FRUITS &amp; VEGETABLES</b>		<b>10,443</b>		<b>11,648</b>		<b>22,091</b>	<b>47.3</b>
Okra	223	116	819	208	1,042	327	38.2
Radish	-	-	14	4	14	4	0.0
Turmeric	-	-	-	-	-	-	0.0
Bitter Aubergine	141	14	887	123	1,008	137	10.4
Garlic	-	-	132	27	132	27	0.0
Onions	2,820	566	7,481	2,157	10,301	2,723	20.8
Onion	149	24	1,906	827	2,145	651	3.8
Cabbage	4,821	758	8,988	1,841	11,787	2,397	31.5
Tomatoes	28,751	8,871	13,946	2,750	42,897	9,621	71.4
Spinach	855	96	3,454	491	4,310	589	16.7
Carrot	1,230	404	1,300	478	2,531	883	45.7
Chilies	1,931	430	3,131	877	5,082	1,107	38.8
Amaranth	1,320	165	9,937	1,010	11,257	1,175	14.0
Pumpkins	140	21	4,066	539	4,206	560	3.7
Cucumber	1,647	297	1,341	188	2,988	468	63.9
Egg Plant	702	138	1,086	257	1,787	396	35.0
Water Melon	1,389	540	1,271	429	2,660	969	55.7
Cauliflower	-	-	312	61	312	61	0.0
<b>CASH CROPS</b>		<b>4,811</b>		<b>108,616</b>		<b>113,427</b>	<b>4.2</b>
Sawood	-	-	339	173	339	173	0.0
Cotton	3,949	4,205	112,345	105,948	116,294	110,154	3.8
Tobacco	792	608	7,184	2,214	7,976	2,820	21.5
Pyrethrum	-	-	1,018	280	1,018	280	0.0
Jute	-	-	-	-	-	-	0.0
Mainland		<b>40,536</b>		<b>1,417,319</b>		<b>1,437,855</b>	<b>2.8</b>
Zanzibar		12		11,047		11,058	
National		<b>40,548</b>		<b>1,428,366</b>		<b>1,448,913</b>	

**7.1.13 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop Growing Households by Herbicide Use by Crop during 2002/03 agriculture year - SHORT RAINY SEASON**

Region	Herbicide use						% of area planted under Herbicide in SHORT rainy season
	Number of Households using Herbicide	Planted Area (ha) with Herbicide	Number of Households NOT using Herbicide	Planted Area (ha) with no Herbicide	Total Number of Households Planting In VULI	Total Planted Area (ha) in VULI	
<b>CEREALS</b>		<b>27,347</b>		<b>885,439</b>		<b>892,785.71</b>	<b>3.1</b>
Maize	20,410	14,539	1,404,283	711,891	1,424,672	726,131	2.0
Paddy	10,865	11,916	143,574	90,298	154,456	102,184	11.7
Sorghum	1,566	752	119,262	51,257	120,876	52,009	1.4
Bulrush Millet	-	-	1,785	1,908	1,785	1,908	0.0
Finger Millet	535	140	28,130	10,224	28,665	10,364	1.4
Wheat	-	-	-	-	-	-	0.0
Barley	-	-	374	190	374	190	0.0
<b>ROOTS &amp; TUBERS</b>		<b>1,323</b>		<b>77,614</b>		<b>78,937</b>	<b>1.7</b>
Cassava	173	61	36,762	11,640	36,935	11,702	0.5
Sweet Potatoes	2,245	545	230,906	47,210	233,151	47,755	1.1
Irish Potatoes	1,625	666	48,320	13,735	50,946	14,402	4.6
Yams	170	17	7,497	1,123	7,667	1,140	1.5
Cocoyam	224	34	21,206	3,904	21,433	3,938	0.9
<b>PULSES</b>		<b>4,485</b>		<b>300,459</b>		<b>304,945</b>	<b>1.5</b>
Mung Beans	-	-	595	185	595	185	0.0
Beans	8,022	3,539	820,269	255,921	829,291	259,481	1.4
Cowpeas	1,496	554	117,096	29,446	118,596	30,000	1.8
Green Gram	672	390	39,756	10,951	40,430	11,331	3.4
Pigeon Peas	-	-	27	6	27	6	0.0
Chick Peas	-	-	1,243	629	1,243	629	0.0
Bambara nuts	116	12	10,313	1,318	10,429	1,328	0.9
Field Peas	-	-	7,798	2,008	7,798	2,008	0.0
<b>OIL SEEDS &amp; OIL NUTS</b>		<b>986</b>		<b>44,683</b>		<b>45,670</b>	<b>2.2</b>
Sunflower	547	114	16,636	3,890	17,262	4,004	2.9
Slimsims	-	-	7,820	2,910	7,820	2,910	0.0
Groundnuts	2,869	672	137,980	37,882	140,846	38,534	2.3
Soya Beans	-	-	667	179	667	179	0.0
Caster Seed	-	-	172	42	172	42	0.0
<b>FRUITS &amp; VEGETABLES</b>		<b>2,485</b>		<b>19,606</b>		<b>22,091</b>	<b>11.3</b>
Okra	-	-	1,042	327	1,042	327	0.0
Radish	-	-	14	4	14	4	0.0
Turmeric	-	-	-	-	-	-	0.0
Bitter Aubergine	-	-	1,008	137	1,008	137	0.0
Garlic	-	-	132	27	132	27	0.0
Onions	789	654	9,512	2,060	10,301	2,723	24.4
Ginger	-	-	2,145	651	2,145	651	0.0
Cabbage	771	142	11,016	2,255	11,787	2,397	5.9
Tomatoes	3,727	998	38,970	8,623	42,697	9,621	10.4
Spinnaech	543	75	3,767	514	4,310	589	12.7
Carrot	514	208	2,017	675	2,631	883	29.5
Chillies	226	29	4,895	1,078	5,062	1,107	2.6
Amaranths	506	88	10,751	1,108	11,257	1,175	5.8
Pumpkins	-	-	4,206	560	4,206	560	0.0
Cucumber	520	100	2,468	365	2,866	456	21.5
Egg Plant	163	41	1,634	354	1,787	395	10.5
Water Melon	415	161	2,245	608	2,660	969	17
Cauliflower	-	-	312	61	312	61	0
<b>CASH CROPS</b>		<b>3,179</b>		<b>110,248</b>		<b>113,427</b>	<b>3</b>
Seaweed	-	-	339	173	339	173	0
Cotton	3,650	3,058	112,644	107,095	118,294	110,154	3
Tobacco	395	120	7,581	2,699	7,976	2,820	4
Pyrethrum	-	-	1,016	280	1,016	280	0
Jute	-	-	-	-	-	-	0
<b>Mainland</b>		<b>39,806</b>		<b>1,418,049</b>		<b>1,457,856</b>	<b>3</b>
Zanzibar		<b>21</b>		<b>11,037</b>		<b>11,058</b>	
<b>National</b>		<b>39,827</b>		<b>1,429,086</b>		<b>1,468,913</b>	



**7.1.14 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop Growing Households by Improved Seeds Use by Crop during 2002/03 agriculture year - SHORT RAINY SEASON**

Regions	Improved Seed						% of area planted using improved seed
	Number of Households using Improved Seed	Planted Area (ha) Using Improved Seed	Number of Households NOT Using Improved Seeds	Planted Area (ha) Not Using Improved Seed	Total Number of Households Planting in MASIKA	Total Planted Area (ha) In MASIKA	
<b>CEREALS</b>		<b>161,827</b>		<b>730,999</b>		<b>892,786</b>	<b>18.1</b>
Maize	274,382	144,280	1,150,291	581,871	1,424,672	726,131	19.9
Paddy	22,227	12,179	132,231	90,005	154,458	102,184	11.9
Sorghum	9,463	4,729	111,415	47,281	120,878	62,009	9.1
Bulrush Millet	124	100	1,061	1,808	1,785	1,908	5.3
Finger Millet	1,271	537	27,394	9,828	28,665	10,364	5.2
Wheat	0	0	0	0	0	0	0.0
Barley	114	23	280	167	374	190	12.2
<b>ROOTS &amp; TUBERS</b>		<b>11,319</b>		<b>67,617</b>		<b>78,937</b>	<b>14.3</b>
Cassava	3,308	1,459	33,828	10,248	30,935	11,702	12.4
Sweet Potatoes	25,345	5,331	207,908	42,424	233,151	47,755	11.2
Irish Potatoes	13,178	4,175	37,770	10,228	50,948	14,402	29.0
Yams	1,306	152	6,361	688	7,667	1,140	13.3
Cocoyam	1,829	206	19,803	3,733	21,433	3,936	5.2
<b>PULSES</b>		<b>35,398</b>		<b>269,546</b>		<b>304,945</b>	<b>11.6</b>
Mung Beans	0	0	585	185	595	185	0.0
Beans	88,746	29,810	740,545	229,851	829,291	259,461	11.4
Cowpeas	12,727	3,061	105,867	28,939	118,595	30,000	10.2
Green Gram	4,102	2,170	36,328	9,181	40,430	11,331	19.1
Pigeon Peas	0	0	27	6	27	6	0.0
Chick Peas	409	130	834	498	1,243	829	20.7
Bambara nuts	1,225	134	9,204	1,193	10,429	1,328	10.1
Field Peas	824	292	6,873	1,713	7,798	2,006	14.6
<b>OIL SEEDS &amp; OIL NUTS</b>		<b>4,657</b>		<b>40,813</b>		<b>45,670</b>	<b>10.6</b>
Sunflower	4,011	1,285	13,271	2,719	17,282	4,004	32.1
Simsim	1,138	424	6,684	2,485	7,820	2,910	14.6
Groundnuts	11,518	2,979	129,332	35,555	140,848	38,534	7.7
Soya Beans	287	145	380	34	667	179	80.9
Castor Seed	124	23	46	20	172	42	53.5
<b>FRUITS &amp; VEGETABLES</b>		<b>16,359</b>		<b>5,732</b>		<b>22,091</b>	<b>74.1</b>
Okra	380	111	882	218	1,042	327	33.9
Radish	0	0	14	4	14	4	0.0
Turnerite	0	0	0	0	0	0	0.0
Bitter Aubergine	43	6	965	131	1,008	137	4.2
Garlic	0	0	132	27	132	27	0.0
Onions	7,002	2,038	3,299	686	10,301	2,723	74.8
Ginger	1,065	408	1,080	243	2,145	651	62.6
Cabbage	10,176	2,082	1,611	315	11,707	2,397	86.8
Tomatoes	31,693	7,204	11,006	2,417	42,697	9,621	74.9
Spinach	3,931	534	378	55	4,310	589	90.7
Carrot	2,280	576	250	307	2,531	883	65.2
Chilies	4,418	981	844	146	5,092	1,107	86.8
Amaranth	6,924	757	4,333	418	11,257	1,175	64.4
Pumpkins	633	130	3,573	429	4,206	560	23.3
Cucumber	2,081	330	907	136	2,988	468	70.8
Egg Plant	1,012	280	775	135	1,787	388	65.8
Water Melon	2,312	903	349	67	2,660	988	93.1
Cauliflower	312	61	-	-	312	61	100.0
<b>CASH CROPS</b>		<b>103,380</b>		<b>10,067</b>		<b>113,427</b>	<b>91.1</b>
Seaweed	316	171	23	2	339	173	98.7
Cotton	105,190	101,563	11,104	8,591	116,294	110,154	92.2
Tobacco	4,302	1,607	3,674	1,213	7,978	2,820	57.0
Pyrethrum	148	20	670	260	1,018	280	7.3
Jute	-	-	-	-	-	-	0.0
<b>Mainland</b>		<b>333,121</b>		<b>1,124,734</b>		<b>1,457,855</b>	<b>22.9</b>
Zanzibar		<b>3,321</b>		<b>7,737</b>		<b>11,059</b>	
<b>National</b>		<b>336,442</b>		<b>1,132,472</b>		<b>1,468,913</b>	

**7.1.15 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectares) & Number of Crop Growing Households by Irrigation Use by Crop during 2002/03 agriculture year - SHORT RAINY SEASON**

Crop	Irrigation use						% of Planted area using Irrigation
	Number of Households using Irrigation	Planted Area (ha) Using Irrigation	Number of Households NOT using Irrigation	Planted Area (ha) not Using Irrigation	Total Number of Households Planting in VULI	Total Planted Area (ha) in VULI	
<b>CEREALS</b>		<b>33,404</b>		<b>859,381</b>		<b>892,785</b>	<b>3.7</b>
Maize	48,478	24,558	1,376,164	701,572	1,424,672	726,131	3.4
Paddy	16,940	7,798	137,518	94,386	154,458	102,184	7.6
Sorghum	1,701	785	119,177	51,244	120,678	52,008	1.5
Bulrush Millet	0	0	1,785	1,908	1,785	1,908	0.0
Finger Millet	579	282	28,086	10,082	28,685	10,384	2.7
Wheat	0	0	0	0	0	0	0.0
Barley	0	0	374	190	374	190	0.0
<b>ROOTS &amp; TUBERS</b>		<b>2,713</b>		<b>78,224</b>		<b>78,937</b>	<b>3.4</b>
Cassava	1,148	380	36,786	11,321	36,935	11,702	3.3
Sweet Potatoes	4,713	841	228,438	46,915	233,151	47,755	1.8
Irish Potatoes	6,308	1,410	44,637	12,982	50,946	14,402	9.8
Yams	106	8	7,361	1,131	7,667	1,140	0.8
Cocoyam	617	74	20,816	3,864	21,433	3,936	1.9
<b>PULSES</b>		<b>7,687</b>		<b>297,258</b>		<b>304,945</b>	<b>2.6</b>
Mung Beans	12	2	583	183	595	185	1.0
Beans	23,534	7,032	805,756	252,426	829,291	259,461	2.7
Cowpeas	2,302	490	116,282	29,509	118,595	30,000	1.6
Green Gram	296	48	40,134	11,283	40,430	11,331	0.4
Pigeon Peas	0	0	27	6	27	6	0.0
Chick Peas	0	0	1,243	629	1,243	629	0.0
Bambara nuts	377	38	10,052	1,289	10,429	1,326	2.9
Field Peas	375	76	7,422	1,930	7,798	2,006	3.8
<b>OIL SEEDS &amp; OIL NUTS</b>		<b>664</b>		<b>45,005</b>		<b>45,670</b>	<b>1.5</b>
Sunflower	494	108	16,786	3,898	17,282	4,004	2.7
Simsim	128	26	7,693	2,884	7,620	2,910	0.9
Groundnuts	2,062	532	139,797	38,002	140,648	38,534	1.4
Soya Beans	0	0	667	179	667	179	0.0
Castor Seed	0	0	172	42	172	42	0.0
<b>FRUITS &amp; VEGETABLES</b>		<b>16,354</b>		<b>5,737</b>		<b>22,091</b>	<b>74.0</b>
Okra	523	99	519	227	1,042	327	30.5
Radish	0	0	14	4	14	4	0.0
Turmeric	0	0	0	0	0	0	0.0
Bitter Aubergine	475	59	532	79	1,008	137	42.8
Garlic	0	0	132	27	132	27	0.0
Onions	7,729	2,253	2,572	470	10,301	2,723	82.7
Ginger	1,286	436	859	212	2,145	651	67.4
Cabbage	9,618	2,032	2,189	385	11,787	2,397	84.8
Tomatoes	32,421	7,437	10,276	2,184	42,697	9,621	77.3
Spinach	3,123	360	1,187	229	4,310	589	81.2
Carrot	1,578	343	953	540	2,531	893	38.9
Chillies	4,113	919	949	187	5,062	1,107	83.1
Amaranths	8,072	870	3,185	304	11,257	1,175	74.1
Pumpkins	769	84	3,437	476	4,206	560	15.0
Cucumber	2,290	379	696	87	2,988	466	81.4
Egg Plant	941	260	848	135	1,787	396	65.6
Water Melon	2,101	759	559	211	2,860	969	78.3
Cauliflower	312	61	-	-	312	61	100.0
<b>CASH CROPS</b>		<b>1,887</b>		<b>111,540</b>		<b>113,427</b>	<b>1.7</b>
Sesweed	-	-	339	173	339	173	0.0
Cotton	1,779	1,820	114,515	108,534	116,294	110,154	1.5
Tobacco	922	287	7,054	2,553	7,976	2,820	9.5
Pyrethrum	-	-	1,018	280	1,018	280	0.0
Jute	-	-	-	-	-	-	0.0
<b>Mainland</b>		<b>62,710</b>		<b>1,395,145</b>		<b>1,457,855</b>	<b>4.3</b>
Zanzibar		1,358		9,701		11,058	
<b>National</b>		<b>64,068</b>		<b>1,404,845</b>		<b>1,468,913</b>	

7.1.16 ANNUAL CROP &amp; VEGETABLE PRODUCTION: Planted Area (hectares) &amp; Number of Households by Method of Harvesting by Crop during 200/03 agriculture year - SHORT RAINY SEASON

Crop	How Harvested								Total		
	By Hand		By Draft/Animal		By Human Powered Tool		By Engine Driven Machine		Not applicable		
	Planted Area (Ha)	Number of Households	Planted Area (Ha)	Number of Households	Planted Area (Ha)	Number of Households	Planted Area (Ha)	Number of Households	Planted Area (Ha)	Number of Households	
<b>CEREALS</b>	<b>1,692,741</b>		<b>1,183</b>		<b>3,373</b>		<b>4,627</b>		<b>124,789</b>		<b>1,720,582</b>
Millet	1,423,918	666,426	1,243	790	3,827	1,422	1,196	2,646	66,911	92,917	1,424,572
Paddy	132,428	60,227	0	0	182	151	577	300	22,273	11,705	134,498
Sorghum	112,881	48,728	130	36	421	150	136	96	7,691	3,042	120,576
Sudanese Millet	1,889	1,248	0	0	0	0	0	0	89	282	1,766
Finger Millet	26,086	12,141	0	0	187	36	0	0	472	186	28,895
Wheat	0	0	0	0	0	0	0	0	0	0	0
Berly	244	78	0	0	0	0	58	46	72	29	374
<b>ROOTS &amp; TUBERS</b>	<b>324,847</b>		<b>237</b>		<b>3,699</b>		<b>827</b>		<b>56,167</b>		<b>385,522</b>
Cassava	31,244	9,121	47	20	1,241	471	348	119	3,620	1,861	38,892
Banana	222,062	42,620	170	43	2,282	471	370	55	4,021	1,122	228,121
Yam	48,284	14,177	0	0	491	146	0	8	618	74	50,245
Yava	7,484	1,282	0	0	0	0	0	0	213	61	7,697
Cowpeas	25,453	3,293	0	0	0	0	114	45	829	620	25,482
<b>PULSES</b>	<b>962,729</b>		<b>473</b>		<b>2,471</b>		<b>2,777</b>		<b>46,522</b>		<b>1,009,427</b>
Mung Beans	686	173	0	0	0	0	0	0	39	16	725
Beans	914,772	222,277	0	0	2,171	727	840	378	11,011	3,021	928,291
Common	92,486	23,148	79	10	0	0	1,882	641	24,218	7,262	118,926
Green Gram	35,022	2,472	126	25	0	0	85	17	4,203	1,212	40,430
Pigeon Peas	0	0	0	0	0	0	0	0	27	8	35
Chick Peas	1,243	622	0	0	0	0	0	0	0	0	1,243
Swampbean	10,084	1,281	0	0	0	0	0	0	343	31	10,427
Field Peas	7,706	2,204	0	0	0	0	0	0	0	0	7,706
<b>OLEAGINOUS &amp; OIL SEEDS</b>	<b>161,473</b>		<b>3</b>		<b>479</b>		<b>282</b>		<b>4,142</b>		<b>166,728</b>
Sunflower	16,172	2,742	0	0	133	13	130	14	640	221	17,282
Straw	7,666	2,640	0	0	0	0	0	0	739	279	7,822
Groundnut	137,723	27,721	0	0	342	22	132	18	2,827	722	140,848
Soya Beans	667	179	0	0	0	0	0	0	0	0	667
Castor Seed	172	42	0	0	0	0	0	0	0	0	172
<b>FRUITS &amp; VEGETABLES</b>	<b>142,724</b>		<b>342</b>		<b>489</b>		<b>221</b>		<b>2,224</b>		<b>144,227</b>
Citrus	624	262	0	0	0	0	0	0	137	64	1,043
Peach	14	4	0	0	0	0	0	0	0	0	14
Turmeric	0	0	0	0	0	0	0	0	0	0	0
Bitter Aubergine	1,026	197	0	0	0	0	0	0	0	0	1,026
Garlic	132	27	0	0	0	0	0	0	0	0	132
Onion	10,084	2,726	0	0	284	16	0	0	0	0	10,368
Ginger	1,026	226	0	0	0	0	0	0	147	46	1,173
Celery	11,243	2,221	74	91	132	12	0	0	341	72	11,797
Tomato	41,180	2,222	258	136	58	28	136	14	1,227	222	42,807
Spinach	4,212	888	0	0	0	0	0	0	0	0	4,212
Carrot	2,221	888	0	0	0	0	0	0	0	0	2,221
Chili	4,212	1,222	0	0	0	0	0	0	111	11	4,323
Amazone	11,121	1,121	0	0	0	0	0	0	78	8	11,200
Pumpkin	3,222	212	0	0	0	0	0	21	222	29	3,444
Dumbar	2,222	422	0	0	0	0	0	0	22	4	2,244
Egg Plant	1,221	222	0	0	0	0	0	0	122	22	1,343
Water Melon	2,222	422	0	0	0	0	12	8	122	22	2,344
Cauliflower	212	21	0	0	0	0	0	0	0	0	212
<b>GRASS GROUPS</b>	<b>721,222</b>		<b>122</b>		<b>222</b>		<b>72</b>		<b>2,221</b>		<b>723,222</b>
Sesuvium	522	172	0	0	0	0	0	0	0	0	522
Cotton	112,722	122,222	122	42	0	0	72	92	3,222	4,222	116,222
Tobacco	2,222	2,222	0	0	222	122	0	0	222	21	2,622
Pyrethrum	1,212	222	0	0	0	0	0	0	0	0	1,212
Jute	0	0	0	0	0	0	0	0	0	0	0
<b>Others</b>	<b>3,222,222</b>		<b>2,221</b>		<b>12,222</b>		<b>2,222</b>		<b>122,722</b>		<b>3,344,222</b>
Zaizabi	22,222	2,221	0	0	22,222	0	0	0	1,222	0	23,444
National	3,322,412	6,222	0	0	24,222	0	2,222	0	122,722	0	3,344,222



7.1.17 ANNUAL CROP &amp; VEGETABLE PRODUCTION: Planted Area (hectare) &amp; Number of Crop Growing Households by Method of Threshing by Crop during 2002/03 agriculture year - SHORT RAINY SEASON

Crop	How Threshed										Total	
	By Hand		By Draft Animal		By Human Powered Tool		Machine		Not applicable			
	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household
<b>CEREALS</b>	<b>1,553,152</b>		<b>1,378</b>		<b>17,818</b>		<b>8,629</b>		<b>148,247</b>		<b>1,738,033</b>	
Mize	1,302,088	807,518	873	842	12,778	8,475	6,785	4,725	102,188	54,773	1,424,632	728,131
Peaszy	120,216	81,502	149	156	3,027	1,818	1,800	957	28,488	18,002	154,458	102,194
Borghum	108,426	44,873	288	27	1,467	448	673	272	15,066	5,297	125,878	52,008
Burrah Millet	1,436	801	87	281	0	0	174	308	89	340	1,765	1,908
Finger Millet	28,072	8,448	0	0	127	28	70	28	2,387	868	38,885	10,384
Wheat	0	0	0	0	0	0	0	0	0	0	0	0
Berly	114	23	0	0	130	33	38	85	72	28	374	186
<b>ROOTS &amp; TUBERS</b>	<b>142,434</b>		<b>348</b>		<b>1,639</b>		<b>6,737</b>		<b>158,868</b>		<b>368,132</b>	
Cassava	21,587	8,822	0	0	798	391	1,098	617	13,659	4,591	36,836	11,722
Sweet Potatoes	87,288	18,213	311	132	745	180	2,278	524	142,548	30,608	235,141	47,788
Irish Potatoes	14,830	3,806	73	30	147	42	1,028	487	33,988	8,868	50,948	14,422
Yams	4,681	577	0	0	0	0	148	30	2,837	653	7,887	1,140
Cocoyam	13,648	2,264	0	0	0	0	284	86	7,280	1,608	21,433	3,836
<b>PULSEES</b>	<b>993,498</b>		<b>888</b>		<b>14,344</b>		<b>4,994</b>		<b>88,868</b>		<b>1,098,437</b>	
Mung Beans	668	170	0	0	0	0	0	0	39	18	868	185
Beans	783,803	240,301	528	118	12,788	3,907	1,298	488	50,878	14,648	828,281	288,481
Cowpeas	88,378	21,420	40	10	818	168	2,448	880	27,018	7,774	118,588	30,000
Green Gram	34,889	9,408	0	0	318	138	88	17	8,430	1,787	40,430	11,331
Pigeon Peas	0	0	0	0	0	0	0	0	27	8	27	8
Chick Peas	1,243	320	0	0	0	0	0	0	0	0	1,243	328
Bambara nuts	8,378	1,821	0	0	0	0	185	37	1,838	270	10,438	1,338
Field Peas	6,503	1,510	0	0	423	125	0	0	871	371	7,796	2,006
<b>OIL SEEDS &amp; OIL NUTS</b>	<b>188,881</b>		<b>238</b>		<b>3,823</b>		<b>427</b>		<b>18,844</b>		<b>198,798</b>	
Sunflower	18,803	3,307	0	0	271	293	123	18	982	382	17,382	4,004
Rhain	5,238	1,850	130	53	1,428	880	58	14	974	302	7,820	2,310
Groundnuts	128,213	34,188	108	11	1,334	384	243	100	10,883	3,818	140,848	36,538
Soya Beans	887	179	0	0	0	0	0	0	0	0	887	179
Castor Seed	48	20	0	0	0	0	0	0	124	28	172	42
<b>FRUITS &amp; VEGETABLES</b>	<b>42,188</b>		<b>0</b>		<b>448</b>		<b>1,134</b>		<b>88,868</b>		<b>134,237</b>	
Okra	874	188	0	0	0	0	0	0	488	188	1,342	327
Radish	0	0	0	0	0	0	0	0	14	4	14	4
Turnerb	0	0	0	0	0	0	0	0	0	0	0	0
Shir Aubergine	308	41	0	0	0	0	0	0	708	98	1,028	137
Garlic	132	27	0	0	0	0	0	0	0	0	132	27
Onions	8,188	1,248	0	0	138	14	0	0	4,978	1,484	10,301	2,728
Ginger	1,802	488	0	0	0	0	0	0	643	188	2,148	621
Cabbage	4,710	773	0	0	118	23	121	12	8,840	1,588	11,787	2,387
Tomatoes	18,838	3,863	0	0	188	84	484	108	28,178	8,808	42,887	9,821
Spinach	1,134	218	0	0	0	0	0	0	3,188	378	4,310	888
Garlic	852	278	0	0	0	0	0	0	1,078	808	2,831	888
Chilies	1,787	480	0	0	0	0	88	4	3,218	883	5,082	1,107
Amarantho	4,620	518	0	0	0	0	44	2	6,694	658	11,317	1,178
Pumpkin	1,708	288	0	0	0	0	88	21	2,385	271	4,206	688
Cucumber	1,333	147	0	0	0	0	127	41	1,527	177	2,988	488
Egg Plant	888	88	0	0	0	0	0	0	1,248	310	1,737	388
Water Melon	848	378	-	-	-	-	162	42	1,680	648	2,680	968
Cauliflower	121	48	-	-	-	-	-	-	191	12	312	81
<b>DARY CROPS</b>	<b>33,883</b>		<b>237</b>		<b>-</b>		<b>1,627</b>		<b>88,868</b>		<b>128,628</b>	
Seaweed	28	2	-	-	-	-	-	-	318	171	388	178
Cotton	28,388	28,372	237	232	-	-	1,527	888	85,874	82,884	118,284	118,184
Tobacco	3,888	1,140	-	-	-	-	-	-	4,070	1,888	7,878	2,820
Pyrethrum	1,018	280	-	-	-	-	-	-	-	-	1,018	280
Jute	-	-	-	-	-	-	-	-	-	-	-	-
<b>Maize</b>	<b>2,838,888</b>		<b>2,788</b>		<b>18,864</b>		<b>22,438</b>		<b>588,787</b>		<b>3,488,823</b>	<b>1,427,833</b>
<b>Zanzibar</b>	<b>18,823</b>		<b>34,888</b>		<b>88,888</b>		<b>8</b>		<b>7,188</b>		<b>16,878</b>	
<b>National</b>	<b>2,843,827</b>		<b>37,787</b>		<b>90,674</b>		<b>22,446</b>		<b>596,968</b>		<b>3,502,900</b>	

**ANNUAL CROP & VEGETABLE PRODUCTION –  
LONG RAINY SEASON**

**7.2.1 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of crop growing Households Planting Crops in the Long Rainy Season by Region during the 2002/03 agriculture year**

Region	Long Rainy Season				Total number of households growing crops
	Households Growing Crops		Crop growing Households NOT Growing Crops		
	Number	%	Number	%	
Dodoma	322,651	99.9	461	0.1	323,112
Arusha	126,736	91.5	11,743	8.5	138,479
Kilimanjaro	163,110	78.2	51,077	23.8	214,187
Tanga	233,601	88.7	29,780	11.3	263,381
Morogoro	224,310	86.5	34,836	13.5	259,146
Pwani	70,400	50.5	69,043	49.5	139,444
Dar es Salaam	14,686	76.3	4,368	23.7	19,054
Lindi	151,154	98.8	1,860	1.2	153,015
Mtwara	226,624	96.9	2,578	1.1	229,202
Ruvuma	187,149	98.0	3,994	2.0	191,143
Iringa	277,863	99.7	854	0.3	278,717
Mbeya	343,685	92.5	27,065	7.5	371,650
Singida	179,359	100.0	41	0.0	179,400
Tabora	235,456	99.9	165	0.1	235,621
Rukwa	171,118	99.8	730	0.4	171,848
Kigoma	118,053	61.1	75,741	38.9	193,794
Shinyanga	374,699	99.9	311	0.1	375,010
Kagera	196,840	44.9	182,759	55.1	379,599
Mwanza	119,525	35.3	219,404	64.7	338,929
Mara	124,798	67.2	60,923	32.8	185,721
Manyara	149,363	98.4	814	0.6	150,177
Mainland	3,972,069	83.4	789,748	16.6	4,761,817
Zanzibar	71,341	74	25,181	26	96,522
National	4,043,430	167	814,927	43	4,858,357

**7.2.2 ANNUAL CROP AND VEGETABLE PRODUCTION: Area Planted (hectare) in the Long Rainy Season by Region, 2002/03 agriculture year - MASIKA**

Region	Long Rainy Season		Total area (ha) planted
	Planted Area (ha)		
	Hectares	%	
Dodoma	658,046	100	658,024
Arusha	141,306	63	169,876
Kilimanjaro	104,142	60	173,401
Tanga	267,714	62	428,535
Morogoro	286,579	69	414,183
Pwani	106,533	62	177,674
Dar es Salaam	17,614	63	21,121
Lindi	195,375	100	195,375
Mtwara	256,823	100	256,405
Ruvuma	358,182	100	358,272
Iringa	405,935	100	405,960
Mbeya	417,588	91	459,226
Singida	316,143	99	321,434
Tabora	532,615	100	532,615
Rukwa	302,345	100	303,394
Kigoma	119,831	45	264,674
Shinyanga	957,423	100	960,250
Kagera	117,709	33	360,621
Mwanza	240,930	36	679,107
Mara	213,341	64	333,637
Manyara	261,239	98	265,260
Mainland	6,282,486	81	7,740,344
Zanzibar	67,219	86	78,276
National	6,349,707	81	7,818,621



7.2.3 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Agriculture Households, Area Planted (ha) and Quantity Harvested (tonnes) during Long Rainy Season and Region; Agricultural Year 2002/03- LONG RAINY SEASON

Region	Maize				Peas				Soybeans				Beans/Peas				Cassava				Sweet Potatoes				Iron Fertilizer			
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Coast	246,027	340,269	147,239	0.4	8,112	4,239	2,347	0.3	43,650	23,022	10,464	0.3	100,464	71,098	22,171	0.3	13,261	10,159	3,106	0.3	13,261	10,159	3,106	0.3	13,261	10,159	3,106	0.3
Arusha	117,248	92,208	77,620	0.8	1,987	202	2,240	2.6	4,319	1,023	1,023	1.0	0	0	0	0.0	207	207	121	0.6	207	207	121	0.6	207	207	121	0.6
Kilimanjaro	126,919	58,516	71,051	1.2	3,164	1,592	6,136	3.9	1,037	16	16	0.0	0	0	0	0.0	11,647	3,552	1,660	0.5	11,647	3,552	1,660	0.5	11,647	3,552	1,660	0.5
Mtanga	166,772	177,433	111,615	0.6	15,429	9,892	3,473	0.4	16	7	7	0.7	623	418	70	0.2	623	418	20	0.5	623	418	20	0.5	623	418	20	0.5
Morogoro	148,261	174,226	92,270	0.5	100,856	59,246	59,289	0.6	25,076	4,287	4,287	0.6	623	418	70	0.2	623	418	20	0.5	623	418	20	0.5	623	418	20	0.5
Pwani	44,181	32,542	11,432	0.4	16,574	4,758	4,758	0.3	8,992	3,672	3,672	0.4	0	0	0	0.0	84	84	4	0.1	84	84	4	0.1	84	84	4	0.1
Dar es Salaam	4,677	2,940	740	0.4	7,792	3,672	1,941	0.5	34	11	11	0.3	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0
Lind	126,909	71,470	24,624	0.3	38,377	16,702	5,180	0.3	78,020	3,788	3,788	0.3	201	143	22	0.2	788	219	20	0.4	788	219	20	0.4	788	219	20	0.4
Mwanza	165,573	71,349	26,512	0.4	38,179	14,016	4,522	0.4	88,019	26,509	26,509	0.3	59	52	31	2.2	1,982	251	32	0.4	1,982	251	32	0.4	1,982	251	32	0.4
Northern	170,337	150,225	179,263	1.3	81,164	38,179	26,570	1.0	7,711	2,678	2,678	0.9	313	24	13	0.3	30,726	10,237	8,044	0.6	30,726	10,237	8,044	0.6	30,726	10,237	8,044	0.6
Shinyanga	271,018	203,074	203,845	1.0	8,783	4,886	6,366	1.7	5,741	2,520	2,520	0.5	241	86	26	0.4	8,828	3,828	3,792	0.5	8,828	3,828	3,792	0.5	8,828	3,828	3,792	0.5
Mara	258,942	202,328	244,267	1.2	80,061	64,742	62,790	1.1	25,156	21,214	21,214	0.8	2,142	2,182	5,185	0.5	20,294	8,226	8,444	0.7	20,294	8,226	8,444	0.7	20,294	8,226	8,444	0.7
Singida	132,987	136,483	54,626	0.4	7,173	3,845	1,373	0.5	88,808	46,884	46,884	0.5	43,260	24,703	10,222	0.3	7,157	3,851	1,327	0.3	7,157	3,851	1,327	0.3	7,157	3,851	1,327	0.3
Tabora	222,221	222,220	142,122	0.6	22,027	26,927	22,027	0.6	28,207	14,220	14,220	0.6	204	1,848	720	0.5	2,311	801	782	0.3	2,311	801	782	0.3	2,311	801	782	0.3
Northern	166,193	140,828	193,277	1.1	38,122	25,229	46,220	1.9	16,813	7,425	7,425	1.3	162	17	20	1.2	16,829	16,297	15,726	0.8	16,829	16,297	15,726	0.8	16,829	16,297	15,726	0.8
Ngara	52,240	6,229	7,223	1.2	2,210	620	1,540	1.7	4,122	1,144	1,144	1.4	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0
Shinyanga	261,224	260,729	190,725	0.8	102,248	116,073	104,428	0.9	26,019	62,004	17,228	0.3	3,284	6,228	2,421	0.4	3,222	229	136	0.6	3,222	229	136	0.6	3,222	229	136	0.6
Northern	44,121	12,566	8,123	0.8	8,123	2,812	6,222	2.4	16,889	8,270	8,142	0.8	16,889	8,270	436	1.6	3,861	822	369	0.8	3,861	822	369	0.8	3,861	822	369	0.8
Northern	18,226	13,626	8,123	0.8	22,226	26,226	26,226	1.1	4,223	1,223	1,223	0.7	2,217	1,826	844	0.4	1,418	500	1,121	1.3	1,418	500	1,121	1.3	1,418	500	1,121	1.3
Mara	77,226	43,226	54,226	1.3	8,222	2,222	3,222	1.5	24,226	26,118	26,226	1.0	27	27	0	0.0	14,726	5,712	4,821	0.8	14,726	5,712	4,821	0.8	14,726	5,712	4,821	0.8
Mwanza	144,272	192,222	144,242	0.8	3,222	2,222	6,274	3.5	15,126	4,222	3,247	0.5	427	323	26	0.3	8,222	3,222	2,812	0.7	8,222	3,222	2,812	0.7	8,222	3,222	2,812	0.7
Total	3,082,727	2,789,429	2,222,421	0.7	398,224	618,226	222,222	1.0	602,222	222,222	222,222	0.4	180,222	122,222	28,222	0.3	154,421	75,222	45,273	0.7	154,421	75,222	45,273	0.7	154,421	75,222	45,273	0.7

Region	Vines				Cucurbit				Mung Bean				Beans				Cassava			
	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)
Sokoto	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aradiri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chibunguru	1,977	0	0	0	4,294	0	0	0	46	19	43	2.2	87,551	42,111	17,376	0.4	1,524	226	27	0.1
Harage	213	0	0	0	515	0	0	0	88	39	68	0.4	118,419	27,882	15,704	0.5	8,096	1,094	267	0.3
Morogoro	166	34	60	2.3	1,263	280	813	3.0	133	86	101	1.4	94,552	20,943	15,205	0.4	2,771	468	102	0.2
Pwani	84	0	0	0	0	0	0	0	0	0	0	0	24,142	13,330	8,260	0.5	12,449	3,086	1,006	0.4
Dar es Salaam	41	0	0	0	0	0	0	0	12	1	1	1.0	140	20	5	0.2	6,256	1,303	207	0.1
[194]	832	131	24	0.2	164	13	0	0	0	0	0	0	88	166	67	0.4	17,542	3,269	884	0.2
Mwanza	315	76	16	1.0	166	29	5.0	3.0	139	21	118	4.9	691	393	177	0.7	22,200	5,535	1,520	0.2
Ruvuma	82	66	175	1.9	4,262	440	876	2.0	145	75	34	0.5	81,496	34,227	15,026	0.4	12,006	2,426	651	0.3
Shinyanga	708	227	413	1.8	246	44	1.5	1.5	4	4	0.1	185,191	25,479	25,479	0.4	19,200	4,112	864	0.2	
Mtanga	1,128	192	422	2.3	5,447	625	1,261	3.0	0	0	0	0	112,711	58,637	26,477	0.5	1,147	260	85	0.3
Shinyanga	39	3	3	0.7	0	0	0	0	49	9	9	4.1	19,413	8,328	1,846	0.9	2,478	943	289	0.3
Tabora	839	248	282	1.5	0	0	0	0	183	80	19	0.3	94,118	13,201	7,143	0.4	7,729	1,802	544	0.3
Rubon	35	15	127	0.5	34	7	27	4.0	0	0	0	0	73,216	37,261	17,265	0.5	151	86	47	0.7
Shinyanga	1381	371	641	3.5	49	19	41	4.0	0	0	0	0	165,194	30,764	16,716	0.6	10	7	0	0.1
Shinyanga	2,829	541	454	0.7	162	41	82	2.0	179	145	54	0.4	49,365	16,206	3,893	0.3	12,707	3,376	851	0.3
Ngara	2,826	553	1,100	2.2	4,168	1,254	3,148	2.5	0	0	0	0	53,164	42,232	23,227	0.5	241	56	31	0.3
Mwanza	0	0	0	0	189	89	81	0.9	0	0	0	0	4,096	1,179	442	0.4	2,894	487	148	0.3
Mara	318	60	265	2.2	141	14	70	4.9	133	109	240	2.2	20,863	3,143	3,215	0.7	317	161	258	1.4
Morogoro	75	15	1	0.2	0	0	0	0	0	0	0	0	30,222	44,624	15,745	0.4	341	420	80	0.2
Total	11,678	3,818	3,771	1.3	19,428	5,944	7,150	2.5	5,717	794	882	0.3	1,265,358	486,462	297,885	0.4	181,884	44,110	10,302	0.2

Region	Green Bean				Pigeon Peas				Chick Peas				Bambara Beans				Fava Beans				
	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	GERAWY Harvested (tonnes)	Yield (tonnes/ha)	
Sokoto	278	76	16	0.2	0	0	0	0	145	86	0	0	20,276	4,664	1,363	0.3	0	0	0	0	
Aradiri	693	226	4	0.2	887	173	183	0.3	0	0	0	0	0	78	42	0	0	133	161	79	0.5
Chibunguru	1,777	269	82	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	75	30	51	1.7
Harage	2,740	796	244	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Morogoro	1,882	441	118	0.3	0	0	0	0	0	0	0	0	291	42	0	0	0	1,346	624	218	0.2
Pwani	851	345	26	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dar es Salaam	193	30	3	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	26	3	0	0
[194]	271	72	14	0.2	88	33	2	0.1	1,807	366	78	0.2	1,807	366	78	0.2	196	20	2	0.1	
Mwanza	4,126	1,040	275	0.3	142	131	97	0.7	80	40	0	0	23,255	7,146	2,288	0.3	0	0	0	0	
Ruvuma	1,027	138	37	0.3	145	81	9	0.1	0	0	0	0	19,344	5,517	1,176	0.4	71	189	164	0.9	
Mtanga	260	86	10	0.1	123	12	0	0	0	0	0	0	1,883	648	344	0.4	16,233	2,769	2,651	1.2	
Morogoro	0	0	0	0	0	0	0	0	22	5	1	0.1	3,742	624	22	0.5	8,277	1,267	448	0.3	
Shinyanga	342	174	79	0.4	0	0	0	0	2,297	3,211	1,624	0.3	3,673	694	3,673	0.2	0	0	0	0	
Tabora	2,675	426	81	0.2	0	0	0	0	943	682	477	0.8	12,336	3,340	1,424	0.4	0	0	0	0	
Rubon	130	122	181	1.2	0	0	0	0	0	0	0	0	208	108	50	0.2	112	22	11	0.2	
Shinyanga	7,684	2,686	656	0.3	0	0	0	0	16,353	22,623	10,316	0.4	5,883	1,319	1,266	0.8	0	0	0	0	
Ngara	547	60	29	0.4	0	0	0	0	0	0	0	0	2,297	296	187	0.2	1,690	871	167	0.3	
Mwanza	1,145	225	71	0.2	0	0	0	0	17,352	25,728	15,096	0.5	1,137	100	64	0.3	0	0	0	0	
Mara	0	0	0	0	1,289	1,464	1.14	0.8	186	122	28	0.3	186	122	28	0.3	0	0	0	0	
Morogoro	34	11	4	0.5	0	0	0	0	0	0	0	0	486	278	84	0.3	148	27	20	0.8	
Total	25,499	7,891	1,886	0.3	1,294	407	270	0.7	42,244	62,338	28,252	0.3	110,934	23,445	8,277	0.4	29,288	8,715	7,165	0.3	

Cont.....

Region	Sulawesi				Sumatra				Gonweh				Sulawesi				Center Island			
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Bojonegara	31,438	21,040	6,265	0.3	27,194	20,724	7,151	0.3	144,318	79,277	30,277	0.4	143	116	0	0.0	0	0	0	0.0
Arus	1,977	1,284	441	0.4	0	0	0	0	58	0	0	0	176	0	0	0.5	0	0	0	0.5
Alamjaya	26,226	3,333	2,779	0.7	366	16	16	0.0	1,826	1,826	1,826	0.9	0	0	0	0	0	0	0	0
Singa	22	78	35	0.5	1,162	729	271	0.4	3,220	1,032	961	0.9	0	0	0	0	0	0	0	0
Mengrove	1,303	425	133	0.3	16,322	7,262	2,172	0.3	4,289	2,210	664	0.4	139	94	12	0.2	0	0	0	0.2
Pantai	86	31	15	0.4	4,864	2,266	312	0.1	626	146	53	0.1	47	0	0	0.0	0	0	0	0.0
Dar-e-Galam	0	0	0	0	122	47	0	0	422	82	21	0.2	0	0	0	0	0	0	0	0
Lidil	102	10	6	0.6	32,422	15,264	5,142	0.4	10,176	4,079	1,661	0.3	146	93	16	0.2	104	60	70	1.2
Mekong	0	0	0	0	10,333	3,272	878	0.3	42,442	13,222	5,127	0.3	0	0	0	0	0	0	0	0
Parang	3,537	762	266	0.5	21,421	3,278	2,276	0.4	33,222	4,721	2,252	0.3	240	240	240	0.3	0	0	0	0.3
Arus	27,496	16,074	1,266	0.5	1,878	1,244	622	0.7	14,261	1,920	2,266	0.9	240	146	84	0.4	0	0	0	0.4
Mengrove	12,246	3,721	1,728	0.5	7,718	5,124	3,221	0.4	22,242	10,242	3,222	0.3	484	72	32	0.4	0	0	0	0.4
Singa	42,627	42,627	24,222	0.5	2,122	2,222	827	0.4	22,222	13,142	2,422	0.2	127	52	17	0.2	0	0	0	0.2
Novari	1,222	270	146	0.3	278	242	64	0.2	12,242	22,222	21,222	0.5	122	122	122	0.2	0	0	0	0.2
Parang	12,222	11,422	6,227	0.5	327	62	22	0.3	44,227	12,222	11,222	0.7	222	127	124	1.2	0	0	0	1.2
Arus	0	0	0	0	222	12	41	0.8	14,222	2,222	2,222	0.8	0	0	0	0	0	0	0	0
Sulawesi	2,177	1,424	422	0.3	724	224	124	0.6	12,222	24,222	24,222	0.6	222	222	222	0.6	0	0	0	0.6
Parang	0	0	0	0	222	22	22	0.4	1,422	1,422	1,422	0.5	222	22	22	0.5	0	0	0	0.5
Mekong	0	0	0	0	422	122	27	0.3	1,222	277	222	0.3	122	12	24	1.5	0	0	0	1.5
Mekong	12,222	11,222	6,227	0.5	422	222	122	0.3	1,222	277	222	0.3	122	12	24	1.5	0	0	0	1.5
Total	122,222	111,222	62,222	0.5	121,222	62,222	22,222	0.3	122,222	22,222	122,222	0.4	122	122	122	0.4	122	122	122	0.4

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Region	Gonos				Riau				Lombok				Bihar				Gonos			
	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Bojonegara	222	122	22	0.2	144	22	0	0.0	12	12	12	0.4	0	0	0	0	0	0	0	0
Arus	12	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alamjaya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singa	222	22	17	0.8	0	0	0	0	0	0	0	0	72	4	2	0.8	0	0	0	0
Mengrove	222	22	22	1.2	0	0	0	0	0	0	0	0	241	170	220	1.7	0	0	0	1.7
Pantai	112	22	22	0.8	0	0	0	0	0	0	0	0	227	42	47	1.5	0	0	0	1.5
Dar-e-Galam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lidil	112	101	37	0.4	0	0	0	0	0	0	0	0	12	1	1	1.2	0	0	0	1.2
Parang	27	2	42	12.1	72	7	2	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Arus	22	21	12	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mekong	122	22	2	0.4	62	72	212	0.4	0	0	0	0	27	2	2	11.1	0	0	0	11.1
Singa	72	21	21	1.8	222	222	412	1.8	0	0	0	0	24	12	14	0.3	0	0	0	0.3
Parang	0	0	0	0	0	0	0	0	0	0	0	0	240	27	22	0.8	0	0	0	0.8
Arus	122	22	12	0.5	0	0	0	0	0	0	0	0	212	42	22	1.2	0	0	0	1.2
Sulawesi	0	0	0	0	12	12	12	0.5	0	0	0	0	0	0	0	0	0	0	0	0
Parang	0	0	0	0	12	12	12	0.5	0	0	0	0	12	12	12	1.0	0	0	0	1.0
Mekong	0	0	0	0	12	12	12	0.5	0	0	0	0	12	12	12	1.0	0	0	0	1.0
Total	3,222	2,222	1,222	1.2	2,222	1,222	2,222	0.7	2,222	1,222	1,222	0.4	2,222	1,222	1,222	0.4	2,222	1,222	1,222	0.4



Region	Cities				Other				Cabbage				Bananas				Spirits			
	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)
English	780	204	811	1.7	0	0	0	0	100	10	10	1.0	4,028	1,149	1,042	1.7	827	90	100	1.8
Dodoma	2,426	1,054	4,932	4.6	0	0	0	0	808	207	207	2.6	1,084	610	2,866	8.6	1,221	130	328	2.4
Arusha	343	136	1,498	10.9	40	6	0	0	2,815	309	309	3.2	2,849	491	5,250	10.9	1,872	159	307	2.1
Mt. Meru	360	100	870	2.8	0	0	0	0	2,217	625	625	4.1	4,100	848	3,652	3.6	0	0	0	0
Morogoro	2,394	880	3,893	4.4	0	0	0	0	3,899	1,229	1,229	6.3	91,777	3,874	19,947	3.6	686	86	191	2.3
Pwani	47	2	4	2.0	0	0	0	0	192	13	13	1.6	1,456	451	5,104	2.2	146	6	4	0.7
Dar es Salaam	141	25	47	1.8	0	0	0	0	0	0	0	0	1,456	780	2,628	3.3	35	2	2	0.8
Zind	1,172	191	406	3.1	0	0	0	0	0	0	0	0	1,456	3,177	3,177	6.3	0	0	0	0
Mtwara	440	73	71	0.9	142	26	0	0	0	0	0	0	1,456	621	1,328	2.6	0	0	0	0
Manica	4,976	896	1,704	2.9	0	0	0	0	19,000	1,229	1,229	3.4	19,899	1,627	7,326	3.8	4,317	496	864	1.8
Iringa	1,370	360	1,371	3.8	56	12	15	1.1	7,479	1,340	1,340	6.8	91,706	3,274	10,941	5.0	2,094	154	264	1.7
Mtengwe	3,288	886	3,894	5.4	0	0	0	0	2,148	1,229	1,229	7.2	1,187	1,054	5,794	5.3	882	95	216	2.3
Shikha	1,339	776	830	1.1	0	0	0	0	321	46	46	3.4	1,409	219	246	1.2	280	18	19	1.0
Tabora	2,200	1,077	2,000	1.7	27	5	15	2.4	248	48	48	5.5	6,471	877	2,622	3.0	420	51	96	1.3
Shinyanga	1,714	286	1,539	4.3	0	0	0	0	1,032	170	170	4.2	3,449	653	2,136	3.7	420	51	96	1.3
Mt. Kilimanjaro	627	94	136	2.3	0	0	0	0	700	115	115	7.6	3,656	386	1,661	4.8	130	6	7	1.3
Shinyanga	1,472	287	600	2.0	21	0	4	0.8	0	0	0	0	3,717	624	1,977	3.8	0	0	0	0
Shinyanga	1,639	314	168	0.8	0	0	0	0	1,911	268	268	7.8	4,301	626	2,246	2.8	0	0	0	0
Manica	660	110	660	6.1	0	0	0	0	1,122	127	127	8.2	5,000	872	4,627	5.4	822	44	100	4.4
Mt. Meru	1,210	182	544	3.3	135	56	136	3.5	1,491	207	207	5.3	3,682	623	2,166	3.6	332	58	49	0.8
Mt. Meru	686	385	686	5.1	0	0	0	0	34	7	7	0.2	424	118	841	7.1	0	0	0	0
Total	28,818	6,072	28,335	3.1	429	117	194	1.4	37,748	6,279	6,279	6.2	91,996	19,822	83,983	4.2	13,708	1,249	3,335	2.0

Region	Cereals				Cotton				Mangoes				Pumpkins				Coconuts			
	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (Tons)	Yield (Tons/Ha)
English	100	10	100	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dodoma	202	34	118	3.5	137	34	147	4.3	1,817	169	169	7.9	729	67	5	0	447	41	212	5.2
Arusha	441	163	1,327	8.1	697	229	2,568	11.2	2,568	215	215	10.0	490	67	5	0	273	90	606	7.4
Mt. Meru	286	143	145	1.0	1,307	307	313	3.0	658	88	88	5.9	59	676	65	31	304	51	33	0.8
Morogoro	180	32	34	1.1	1,287	285	327	2.1	3,217	307	307	1.4	4,628	712	1,686	2.2	324	51	33	0.8
Pwani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dar es Salaam	0	0	0	0	109	26	89	2.8	283	38	38	1.6	429	109	143	1.3	89	29	39	1.4
Zind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtwara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manica	130	72	21	0.3	241	27	26	1.0	3,260	349	349	2.4	4,086	448	1,048	2.3	221	27	27	1.2
Iringa	89	6	18	1.8	251	18	84	5.5	874	86	86	1.7	1,090	111	85	0.7	116	13	1	0.1
Mtengwe	105	10	47	4.9	46	4	35	7.1	2,921	286	286	1.3	1,034	219	545	3.0	85	17	0	0
Shikha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabora	0	0	0	0	36	0	7	6.8	698	85	85	1.9	476	38	89	1.4	28	8	2	0.8
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manica	0	0	0	0	34	0	7	2.1	1,127	122	122	1.2	215	22	12	0.5	0	0	0	0
Shinyanga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtengwe	167	32	38	3.2	245	16	16	6.0	816	74	74	1.9	307	26	1	0.1	199	20	43	1.9
Manica	302	96	91	0.9	531	36	194	3.1	699	73	73	2.4	0	0	0	0	427	48	200	6.0
Mt. Meru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mtengwe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2,118	943	1,930	3.1	5,084	1,185	2,886	2.5	21,503	2,795	2,795	1.5	67,448	2,200	4,326	1.8	2,331	410	1,435	3.5

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Region	Egg Plant				Water Melon				Cauliflower				Sausage				Cotton			
	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Dodoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	176	6	12	1.8	211	252	844	2.2	0	0	0	0	0	0	0	0	0	0	0	0
Mt. Meru	0	0	0	0	271	96	129	1.3	126	0	0	0	0	0	0	0	0	0	0	0
Tanga	264	28	30	0.8	214	79	848	8.9	0	0	0	0	0	0	0	0	0	284	166	0.8
Mt. Kilimanjaro	718	80	60	0.9	127	51	30	0.7	151	20	24	1.0	0	0	0	0	0	620	240	0.4
Morogoro	32	12	37	3.1	246	14	222	1.8	0	0	0	0	0	0	0	0	0	100	117	2.0
Pwani	141	28	121	4.3	887	141	379	2.7	0	0	0	0	0	0	0	0	0	0	0	0
Dar es Salaam	38	12	9	0.7	38	16	50	1.1	0	0	0	0	0	0	0	0	0	0	0	0
Lindi	887	84	84	1.4	108	22	62	2.8	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	127	12	48	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shinyanga	13	1	11	11.3	62	9	1	0.7	0	0	0	0	0	0	0	0	0	0	0	0
Mtwara	104	11	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mt. Rungwe	43	17	10	1.7	0	0	0	0	123	80	16	0.2	0	0	0	0	0	0	0	0
Tabora	160	12	11	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Njombe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngara	34	10	33	2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitanga	214	228	83	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mpigi	496	187	186	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mbeya	492	58	86	1.8	99	16	59	4.0	0	0	0	0	0	0	0	0	0	0	0	0
Mara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manyara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,851	742	787	1.2	3,287	888	2,341	2.7	368	166	66	0.4	378	183	168	1.0	179,879	278,006	1,4,690	0.8

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Region	Tomato				Pumpkin				Lent			
	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)	Number of Households	Planted Area (Ha)	Quantity Harvested (tonnes)	Yield (tonnes/ha)
Dodoma	0	0	0	0	0	0	0	0	0	0	0	0
Arusha	1,328	225	227	0.8	0	0	0	0	0	0	0	0
Mt. Meru	228	23	19	0.8	0	0	0	0	0	0	0	0
Tanga	862	138	70	0.4	0	0	0	0	81	18	13	0.8
Morogoro	282	82	36	0.3	0	0	0	0	0	0	0	0
Pwani	0	0	0	0	0	0	0	0	0	0	0	0
Dar es Salaam	0	0	0	0	0	0	0	0	0	0	0	0
Lindi	103	42	21	0.5	0	0	0	0	162	14	18	0.9
Mwanza	242	542	32	0.2	0	0	0	0	0	0	0	0
Tabora	13,728	7,188	4,371	0.6	0	0	0	0	0	0	0	0
Njombe	116	81	8	0.5	0	0	0	0	0	0	0	0
Sitanga	4,115	3,723	3,603	1.2	0	0	0	0	0	0	0	0
Mpigi	1,343	1,367	1,063	0.8	0	0	0	0	0	0	0	0
Mbeya	30,846	82,083	28,013	0.8	0	0	0	0	0	0	0	0
Mara	4,373	3,208	3,207	1.5	0	0	0	0	0	0	0	0
Manyara	182	8	8	0.7	0	0	0	0	0	0	0	0
Mt. Rungwe	6,343	8,820	8,280	1.2	0	0	0	0	0	0	0	0
Mtwara	0	0	0	0	0	0	0	0	0	0	0	0
Mwanza	164	28	17	0.6	0	0	0	0	0	0	0	0
Mara	174	80	8	0.5	0	0	0	0	0	0	0	0
Manyara	182	26	25	0.8	0	0	0	0	0	0	0	0
Total	84,828	84,288	87,175	0.8	1,628	771	318	0.5	388	33	35	0.9

**7.2.4 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop growing Households and Planted Area (hectare) by Means Used for Soil Preparation and Region during 2002/03 agriculture year -LONG RAINY SEASON**

Region	Soil Preparation						Total		Planted area with no soil preparation
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Number of Household	Planted Area (ha)	
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)			
Dodoma	13,138	59,221	68,709	156,879	240,808	435,013	322,651	658,045	6,932
Arusha	14,055	26,575	77,921	94,057	34,760	20,598	126,736	141,305	74
Kilimanjaro	47,312	34,684	14,788	12,743	101,010	54,609	163,110	104,142	2,106
Tanga	1,299	2,154	7,993	12,541	224,309	224,795	233,601	267,714	28,224
Morogoro	28,830	43,034	12,899	21,377	184,583	208,645	224,310	288,579	15,523
Pwani	1,758	1,915	2,228	2,216	68,418	63,350	70,400	109,533	42,053
Dar es Salaam	230	238	580	771	13,785	8,813	14,695	17,814	7,801
Lindi	2,386	2,142	4,244	5,631	144,515	187,334	151,154	195,375	369
Mtwara	4,204	3,865	8,287	10,028	214,132	240,653	226,824	255,923	1,588
Ruvuma	3,931	4,715	8,903	9,472	176,315	259,982	187,149	358,162	89,993
Iringa	5,993	12,425	86,381	143,236	185,510	248,348	277,863	405,939	3,928
Mbeya	4,691	6,278	105,509	157,885	233,485	245,256	343,685	417,586	5,157
Singida	588	2,530	88,291	203,071	50,482	112,068	179,358	319,143	1,457
Tabora	2,650	4,870	83,901	258,550	148,905	248,136	235,456	532,815	20,960
Rukwa	318	583	78,897	180,092	91,903	119,096	171,110	302,345	2,574
Kigoma	1,517	890	3,439	1,774	113,997	41,830	118,953	119,831	75,337
Shinyanga	8,670	29,718	217,488	526,337	148,541	299,925	374,699	957,423	1,443
Kagera	888	148	5,653	3,828	150,299	74,453	156,840	117,709	39,260
Mwanza	1,098	415	34,644	55,039	83,783	45,913	119,525	240,930	139,568
Mara	1,611	980	60,539	69,016	53,648	28,187	124,798	213,341	115,158
Manyara	19,084	57,827	87,305	133,390	42,973	70,013	149,363	281,239	-
Mainland	152,251	296,106	1,065,678	2,157,635	2,744,160	3,230,244	3,972,089	6,282,459	596,504
%	4.1	4.7	26.8	34.3	69.1	51.4	100.0	100.0	-
Zanzibar	9,993	5,294	77	21	61,272	27,901	71,341	67,218	34,002
National	172,243.3	303,401	1,065,754	2,157,657	2,805,432	3,258,145	4,043,430	6,349,707	630,506

Note: The planted area with no soil preparation is for cassava that was recorded as a permanent crop and later was switched to an annual crop. Method of Land preparation and land clearing were not recorded for permanent crops.

**7.2.5 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) by Fertiliser Use and Region during 2002/03 agriculture year -LONG RAINY SEASON**

Regions	Fertilizer Use								Total	
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Number of Household	Planted Area (ha)
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)		
Dodoma	88,821	165,787	3,901	7,916	1,023	2,680	228,206	491,561	322,651	658,045
Arusha	36,858	39,542	1,449	1,263	12,645	8,267	75,784	90,633	126,736	141,306
Kilimanjaro	39,254	21,600	7,444	5,071	55,244	27,938	61,168	49,524	163,110	104,142
Tanga	28,028	24,784	8,818	7,660	2,485	1,684	199,272	233,816	233,601	267,714
Morogoro	7,589	8,994	4,903	4,460	8,171	9,417	203,648	263,708	224,310	288,579
Pwani	2,141	2,081	4,277	5,147	724	562	63,258	101,742	70,400	109,533
Dar es Salaam	2,304	1,789	1,203	483	1,505	1,156	8,482	14,185	14,695	17,814
Lindi	1,914	2,204	3,092	3,325	682	783	145,466	189,063	151,154	195,375
Mtwara	7,459	10,110	2,652	2,683	4,339	8,792	212,275	236,338	226,824	255,923
Ruvuma	14,628	18,144	2,919	4,268	73,694	100,645	96,906	235,094	187,149	358,162
Iringa	63,676	93,482	14,779	18,840	78,112	102,596	121,206	191,007	277,863	405,939
Mbeya	42,630	43,004	15,720	21,605	89,672	78,583	195,663	278,393	343,685	417,586
Singida	78,813	119,582	3,412	5,952	1,851	3,467	97,482	190,122	179,359	319,143
Tabora	54,867	101,028	7,913	13,255	33,588	64,435	135,108	353,599	235,456	532,815
Rukwa	16,532	26,705	3,131	3,618	8,412	11,968	144,042	260,163	171,116	302,345
Kigoma	9,132	3,838	3,508	2,668	3,505	1,086	102,707	112,239	118,953	119,831
Shinyanga	79,210	164,532	8,661	12,721	6,441	14,673	280,308	785,497	374,699	957,423
Kagera	8,632	5,583	8,089	1,798	187	47	141,952	110,281	156,840	117,709
Mwanza	19,774	17,389	2,343	1,619	2,621	1,452	94,788	220,270	119,525	240,930
Mara	22,647	17,063	2,891	2,487	2,888	1,578	96,370	182,203	124,798	213,341
Manyara	57,054	79,845	1,449	3,845	585	948	90,275	178,500	149,363	281,239
Mainland	678,160	957,185	106,253	131,085	386,135	440,080	2,797,539	4,754,109	3,972,089	6,282,459
%	17.1	15.2	2.7	2.1	9.8	7.0	70.4	73.1	100	100
Zanzibar	5,478	2,780	1,375	648	8,504	4,991	55,988	59,100	71,341	67,218
National	683,635	959,965	107,628	131,733	394,639	444,770	2,853,527	4,813,209	4,043,430	6,349,707



**7.2.6 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) by Irrigation Use and Region during 2002/03 agriculture year -LONG RAINY SEASON**

Region	Irrigation use				Total Number of Households Planting in MASIKA	Total Planted Area (ha) in MASIKA	% of area planted under irrigation in long rainy season
	Number of Households using Irrigation	Planted Area (ha) with Irrigation	Number of Households NOT using Irrigation	Planted Area (ha) with no Irrigation			
Dodoma	1,405	5,483	321,245	652,562	322,651	658,045	0.8
Arusha	15,471	14,255	111,265	127,050	126,736	141,305	10.1
Kilimanjaro	16,644	12,430	146,166	91,712	163,110	104,142	11.9
Tanga	5,839	5,859	227,762	261,855	233,601	267,714	2.2
Morogoro	10,348	10,547	213,962	276,032	224,310	286,579	3.7
Pwani	1,420	1,536	68,981	107,966	70,400	109,533	1.4
Dar es Salaam	898	958	13,797	16,956	14,895	17,814	3.7
Lindi	2,312	2,806	148,842	192,570	151,154	195,375	1.4
Mtwara	2,304	2,337	224,320	253,566	226,624	255,923	0.8
Ruvuma	3,942	9,104	183,206	349,058	187,149	358,162	2.5
Iringa	27,829	45,344	250,034	360,591	277,863	405,935	11.2
Mbeya	26,750	37,855	316,935	379,731	343,685	417,586	9.1
Singida	2,583	4,409	176,775	314,733	179,359	319,143	1.4
Tabora	5,438	15,333	230,018	517,262	235,456	532,615	2.8
Rukwa	6,561	12,571	164,555	289,774	171,116	302,345	4.2
IGoma	5,763	2,566	113,170	117,264	118,953	119,831	2.1
Shinyanga	4,852	9,017	389,847	948,407	374,699	957,423	0.8
Kagera	4,888	2,526	151,852	115,183	156,840	117,709	2.1
Mwanza	6,216	2,714	113,309	236,215	119,525	240,930	1.1
Mara	3,777	1,790	121,021	211,551	124,798	213,341	0.8
Manyara	4,879	5,971	144,484	255,268	149,363	261,239	2.3
Mainland	180,542	205,113	3,811,547	6,077,376	3,972,069	6,282,489	3.3
%	4.0	3.3	96.0	96.7	100.0	100.0	
Zanzibar	2,090	924	69,251	66,394	71,341	67,216	
National	182631.9	206,937	3,880,798	6,143,771	4,043,430	6,349,707	

**7.2.7 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) by Improved Seed Use by Region during 2002/03 agriculture year - Long Rainy Season**

Regions	Improved Seed				Total Number of Households Planting in MASIKA	Total Planted Area (ha) in MASIKA	% of area planted using improved seed
	Number of Households using Improved Seed	Planted Area (ha) Improved Seed Used	NUMBER OF Households NOT using Improved Seeds	Planted Area (ha) Improved Seed not Used			
Dodoma	38,289	85,480	284,363	572,565	322,651	658,045	13.0
Arusha	36,330	31,730	90,408	109,575	126,736	141,305	22.5
Kilimanjaro	89,827	53,908	73,483	50,235	163,110	104,142	51.8
Tanga	25,537	30,490	208,064	237,225	233,601	267,714	11.4
Morogoro	30,208	37,809	194,102	248,770	224,310	286,579	13.2
Pwani	12,246	11,144	58,155	98,389	70,400	109,533	10.2
Dar es Salaam	7,990	5,350	6,706	12,264	14,895	17,814	30.4
Lindi	12,255	15,930	138,899	179,445	151,154	195,375	6.2
Mtwara	6,991	7,691	219,633	248,233	226,624	255,923	3.0
Ruvuma	18,917	26,833	166,232	329,328	187,149	358,162	6.1
Iringa	51,052	85,835	226,811	320,100	277,863	405,935	21.1
Mbeya	50,579	51,856	293,107	365,730	343,685	417,586	12.4
Singida	32,456	56,797	146,902	260,346	179,359	319,143	18.4
Tabora	32,477	77,659	202,960	454,956	235,456	532,615	14.6
Rukwa	11,039	29,135	160,077	273,210	171,116	302,345	9.6
IGoma	4,371	2,411	114,562	117,420	118,953	119,831	2.0
Shinyanga	79,089	229,502	295,610	727,921	374,699	957,423	24.0
Kagera	17,360	9,835	139,461	107,674	156,840	117,709	6.4
Mwanza	20,249	22,910	99,277	216,019	119,525	240,930	9.5
Mara	25,496	16,323	99,302	195,018	124,798	213,341	6.6
Manyara	23,566	40,095	125,797	221,144	149,363	261,239	15.3
Mainland	626,141	934,724	3,345,948	5,347,766	3,972,069	6,282,489	14.9
%	15.8	14.9	84.2	85	100.0	100.0	
Zanzibar	2,706	1,251	53,952	24,374	71,341	67,216	
National	628,847	935,975	3,399,900	5,372,140	4,043,430	6,349,707	

**7.2.8 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) By Herbicide Use and Region During 2002/03 Crop Year LONG RAINY SEASON**

Region	Herbicide Use					
	Households Using Herbicide		Households Not Using Herbicide		Total	
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)
Dodoma	3,315	6,664	319,336	651,181	322,651	658,045
Arusha	4,331	5,183	122,405	136,122	126,736	141,305
Kilimanjaro	4,783	4,938	158,327	99,204	163,110	104,142
Tanga	1,424	1,781	232,177	265,934	233,601	267,714
Morogoro	16,673	26,937	207,637	259,642	224,310	266,579
Pwani	1,339	1,197	69,061	108,336	70,400	109,533
Dar es Salaam	260	112	14,435	17,502	14,695	17,614
Lindi	1,748	1,572	149,406	193,804	151,154	195,375
Mtwara	1,013	2,645	225,611	253,279	226,624	255,923
Ruvuma	3,183	4,475	183,966	353,687	187,149	358,162
Iringa	7,281	10,686	270,582	395,249	277,863	405,935
Mbeya	24,276	26,039	319,409	391,547	343,685	417,596
Singida	1,303	2,868	178,056	316,274	179,359	319,143
Tabora	4,242	9,119	231,214	523,496	235,456	532,615
Rukwa	997	2,366	170,119	299,959	171,116	302,345
Kigoma	1,057	279	117,896	119,552	118,953	119,631
Shinyanga	6,625	15,464	368,075	941,959	374,699	957,423
Kagera	719	391	156,122	117,318	156,840	117,709
Mwanza	2,857	3,277	116,668	237,653	119,525	240,930
Mara	2,275	878	122,523	212,465	124,798	213,341
Manyara	2,998	7,473	146,366	253,766	149,363	261,239
Mainland	92,699	134,561	3,879,390	6,147,928	3,972,099	6,282,489
Zanzibar	3,315	2,029	68,026	65,190	71,341	67,216
National	96,014	136,590	3,947,416	6,213,118	4,043,430	6,349,707

**7.2.9 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (hectare) By Insecticide Use and Region During 2002/03 Crop Year in LONG RAINY SEASON**

Region	Insecticide Use					
	Households Using Insecticide		Households Not Using Insecticide		Total	
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)
Dodoma	3,315	24,459	319,336	633,585	322,651	658,045
Arusha	4,331	19,904	122,405	121,401	126,736	141,305
Kilimanjaro	4,783	15,374	158,327	68,769	163,110	104,142
Tanga	1,424	7,286	232,177	260,428	233,601	267,714
Morogoro	16,673	17,221	207,637	269,358	224,310	266,579
Pwani	1,339	2,185	69,061	107,347	70,400	109,533
Dar es Salaam	260	1,245	14,435	16,368	14,695	17,614
Lindi	1,748	3,495	149,406	191,680	151,154	195,375
Mtwara	1,013	6,101	225,611	249,822	226,624	255,923
Ruvuma	3,183	24,876	183,966	333,286	187,149	358,162
Iringa	7,281	175,130	270,582	230,805	277,863	405,935
Mbeya	24,276	46,322	319,409	371,264	343,685	417,596
Singida	1,303	13,714	178,056	305,429	179,359	319,143
Tabora	4,242	64,475	231,214	448,141	235,456	532,615
Rukwa	997	27,634	170,119	274,711	171,116	302,345
Kigoma	1,057	2,390	117,896	117,440	118,953	119,631
Shinyanga	6,625	145,159	368,075	912,264	374,699	957,423
Kagera	719	2,486	156,122	115,224	156,840	117,709
Mwanza	2,857	10,107	116,668	230,822	119,525	240,930
Mara	2,275	3,240	122,523	210,101	124,798	213,341
Manyara	2,998	19,445	146,366	241,794	149,363	261,239
Mainland	92,699	652,249	3,879,390	5,830,241	3,972,099	6,282,489
Zanzibar	1,609	1,014	69,732	66,204	71,341	67,216
National	94,308	653,263	3,949,122	5,896,444	4,043,430	6,349,707

**7.2.10 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Households and Planted Area (hectare) by Fungicide Use by Region - Long Rainy Season**

Regions	Fungicide Use						% of Planted area using Fungicide
	Number of Households using Fungicide	Planted Area (ha) Fungicide Used	Number of Households NOT using Fungicide	Planted Area (ha) Fungicide not Used	Total Number of Households Planting in MASIKA	Total Planted Area (ha) in MASIKA	
Dodoma	3,870	9,174	318,780	648,870	322,651	658,045	1.4
Anusha	5,290	7,218	121,448	134,069	126,736	141,305	5.1
Kilimanjaro	6,394	4,205	166,716	99,837	163,110	104,142	4.0
Tanga	2,817	3,208	230,664	294,507	233,601	267,714	1.2
Morogoro	5,083	5,143	219,227	291,437	224,310	286,579	1.8
Pwani	1,872	1,522	68,528	108,011	70,400	109,533	1.4
Car es Salaam	1,050	1,068	13,648	16,548	14,695	17,814	6.1
Lindi	2,669	2,481	146,486	192,894	151,154	195,375	1.3
Mtwara	3,780	4,785	222,844	251,138	226,624	255,623	1.9
Ruvuma	4,628	7,142	182,222	351,020	187,149	356,162	2.0
Iringa	8,434	22,214	289,429	383,721	277,863	405,935	6.6
Mbeya	7,411	10,773	336,274	406,813	343,685	417,566	2.6
Singida	1,873	3,462	177,465	315,860	179,359	319,143	1.1
Tabora	9,045	20,484	226,411	512,131	235,456	632,615	3.8
Rukwa	2,569	3,782	186,546	296,563	171,116	302,345	1.3
Kigoma	3,019	1,294	115,937	118,537	118,953	119,831	1.1
Shinyanga	11,620	26,689	383,060	930,734	374,699	957,423	2.8
Kagera	3,238	962	153,803	116,747	156,840	117,709	0.8
Mwanza	3,865	3,347	115,560	237,562	119,525	240,930	1.4
Mara	3,030	1,770	121,768	211,571	124,798	213,341	0.8
Manyara	3,261	7,577	146,102	253,863	149,363	261,239	2.9
Mainland	95,313	148,298	3,876,776	6,134,182	3,972,069	6,282,469	2.4
%	2.4	2.4	97.6	97.6	100.0	100.0	
Zanzibar	213	53	71,128	67,165	71,341	67,218	
National	95,526	148,351	3,947,904	6,201,357	4,043,430	6,349,707	



7.3.11 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectares) & Number of Agriculture Households by Method of Land Clearing by Crop during the 2002/03 agriculture year - LONG RAINY SEASON

Crop	Land Clearing														Total	
	Mostly Bush Clearance		Mostly Hand Clearing		Mostly Tractor Clearing		Mostly Burning		No land Clearing		Other		Number of Households	Planted Area (ha)		
	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)				
<b>GRASSES</b>		<b>294,879</b>		<b>3,948,279</b>		<b>36,978</b>		<b>258,289</b>		<b>289,894</b>		<b>843</b>		<b>3,676,281</b>		
Maize	224,872	303,074	2,481,882	2,163,183	18,872	24,168	148,848	128,222	208,114	220,616	282	225	3,084,130	2,730,370		
Fecky	46,720	28,428	301,523	388,282	4,742	3,071	41,828	32,914	28,722	21,214	284	268	753,788	618,833		
Sorghum	81,169	42,282	483,856	322,890	2,675	1,287	32,717	22,121	17,012	3,858	144	117	678,388	386,782		
Outrath Millet	12,828	10,731	117,275	88,202	842	527	25,441	18,282	3,828	3,122	0	0	158,822	121,321		
Finger Millet	13,762	7,376	118,838	86,438	812	141	3,748	3,827	12,881	4,887	0	0	153,828	72,821		
Wheat	3,262	348	38,288	27,184	628	612	4,422	2,228	1,187	428	0	0	66,172	31,182		
Barley	78	12	1,321	412	122	422	0	0	0	0	0	0	1,628	828		
<b>ROOTS &amp; TUBERS</b>		<b>33,282</b>		<b>288,724</b>		<b>1,184</b>		<b>8,821</b>		<b>818,728</b>		<b>843</b>		<b>128,828</b>		
Cassava	47,278	28,124	328,827	188,487	1,677	858	3,881	4,682	8,812	828,128	0	0	424,728	828,728		
Beetroot Potatoes	14,818	4,977	282,724	72,228	1,228	288	7,228	1,728	28,228	7,824	0	0	343,227	87,278		
Yam	5,828	3,221	72,228	22,228	228	88	3,121	2,128	7,228	2,828	0	0	152,228	38,221		
Yam	444	78	12,128	2,128	52	12	228	42	824	128	0	0	15,278	2,912		
Cocoyam	418	187	18,221	2,921	0	0	348	72	2,421	221	0	0	18,221	3,128		
<b>FRUIT</b>		<b>33,282</b>		<b>488,821</b>		<b>3,822</b>		<b>28,228</b>		<b>71,128</b>		<b>843</b>		<b>828,821</b>		
Mung Beans	481	277	81	428	87	22	0	0	228	28	0	0	1,277	724		
Beans	82,221	21,128	1,024,428	382,128	8,222	2,828	53,828	22,128	128,172	87,128	0	0	1,258,448	483,728		
Cowpeas	17,848	4,742	118,817	32,328	1,278	527	3,222	5,428	12,278	3,022	0	0	181,878	44,221		
Green Gram	1,284	328	21,841	8,221	271	72	481	88	1,882	888	0	0	28,428	7,421		
Pigeon Peas	0	0	272	287	0	0	0	0	822	122	0	0	1,284	421		
Chick Peas	1,228	1,744	32,228	42,112	0	0	427	2,428	7,728	2,028	0	0	42,284	52,281		
Bambara Beans	12,128	3,228	78,228	17,228	148	12	7,227	1,214	3,222	784	0	0	128,428	23,428		
Field Peas	1,278	442	24,277	7,228	188	84	2,122	827	822	242	0	0	28,228	8,712		
<b>OLE. SEEDS &amp; OIL. RUFFS</b>		<b>42,422</b>		<b>381,722</b>		<b>1,878</b>		<b>28,221</b>		<b>28,824</b>		<b>843</b>		<b>482,221</b>		
Sunflower	5,822	6,228	121,728	24,424	1,218	488	12,777	4,128	14,222	4,824	0	0	187,824	111,271		
Sunam	17,828	8,127	121,228	21,842	884	427	7,221	2,228	2,822	1,822	0	0	132,718	84,822		
Groundnuts	68,128	22,844	578,228	242,228	2,222	1,228	57,278	28,428	26,712	14,228	0	0	722,221	328,228		
Soy Beans	182	122	2,888	1,222	0	0	888	227	188	8	0	0	3,212	1,242		
Castor Seed	128	32	727	142	0	0	0	0	0	0	0	0	842	228		
<b>FRUIT &amp; VEGETABLES</b>		<b>2,214</b>		<b>28,827</b>		<b>224</b>		<b>1,281</b>		<b>3,248</b>		<b>843</b>		<b>42,121</b>		
Onion	388	182	2,321	547	128	22	141	88	82	8	0	0	3,281	827		
Peas	148	281	822	822	0	0	128	22	88	182	0	0	227	1,422		
Turnip	0	0	22	12	0	0	0	0	0	0	0	0	22	12		
Other Aubergine	72	12	1,478	228	0	0	0	0	822	128	0	0	1,822	412		
Garlic	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Onion	1,824	328	28,227	8,274	121	12	782	112	2,822	718	0	0	28,878	8,272		
Shoe	0	0	288	112	0	0	0	0	42	4	0	0	428	117		
Cabbage	2,828	342	32,822	4,722	82	8	828	84	3,842	488	0	0	37,242	6,222		
Tomatoes	2,222	712	82,222	17,247	812	222	3,022	882	4,827	782	222	88	21,428	18,724		
Spinach	888	121	12,228	1,228	0	0	828	78	1,842	141	0	0	12,884	1,242		
Corn	78	2	1,271	428	68	3	121	22	842	78	0	0	2,118	242		
Onion	1,27	81	4,828	922	0	0	228	22	1,842	181	0	0	8,222	1,182		
Amoranth	724	822	17,228	1,822	0	0	228	88	2,828	222	32	2	21,288	2,721		
Pumpkin	248	128	14,818	2,217	0	0	428	58	1,288	112	0	0	17,442	2,222		
Cucumber	88	8	1,817	322	0	0	121	18	818	88	0	0	2,522	412		
Egg Plant	222	128	2,728	427	0	0	0	0	222	48	0	0	3,228	722		
Water Melon	277	71	1,228	878	0	0	82	82	222	182	0	0	2,927	822		
Cauliflower	0	0	222	122	0	0	0	0	0	0	0	0	222	122		
<b>CASH CROPS</b>		<b>32,128</b>		<b>188,848</b>		<b>881</b>		<b>8,821</b>		<b>8,828</b>		<b>843</b>		<b>228,188</b>		
Peas	0	0	84	22	21	4	0	0	211	124	0	0	318	188		
Cotton	22,828	34,218	122,222	172,224	872	822	7,848	7,228	7,222	8,822	0	0	171,828	228,228		
Tobacco	8,128	7,822	21,814	42,228	228	212	1,488	712	1,578	222	0	0	24,422	24,428		
Pyrethrum	0	0	1,888	711	0	0	0	0	0	0	0	0	1,828	711		
Yam	78	12	218	22	0	0	0	0	0	0	0	0	228	22		
<b>Total</b>		<b>424,242</b>		<b>4,422,121</b>		<b>28,274</b>		<b>228,242</b>		<b>1,224,244</b>		<b>742</b>		<b>8,222,244</b>		
%		<b>8.88</b>		<b>71.22</b>		<b>0.62</b>		<b>4.57</b>		<b>18.12</b>		<b>0.01</b>		<b>100.00</b>		
<b>Rural</b>																
<b>National</b>																

Note: 596,303 ha has been added to "No Clearing" for cassava on the mainland. Thus area is from cassava recorded as a permanent crop in which this variable was not recorded

**7.2.12 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectares) & Number of Crop Growing Households by Method of Soil Preparation during the 2002/03 Agriculture Year - LONG RAINY SEASON**

Crop	Soil Preparation						Total	
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation			
	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household
<b>CEREALS</b>	<b>235,433</b>		<b>1,518,789</b>		<b>2,125,977</b>		<b>3,880,178</b>	
Milze	183,643	190,674	1,014,244	827,982	1,538,518	2,038,051	2,736,403	3,056,707
Paddy	44,180	38,091	208,204	222,609	286,268	497,935	518,853	756,834
Sorghum	4,039	7,142	219,755	219,338	173,624	354,447	397,819	580,825
Buinah Millet	888	1,747	35,117	38,047	85,268	120,228	122,303	180,020
Finger Millet	1,124	2,187	30,822	50,620	38,174	101,674	73,120	154,481
Wheat	1,266	1,207	6,478	9,756	23,481	54,336	31,224	85,298
Barley	292	240	148	197	416	1,052	856	1,528
<b>ROOTS &amp; TUBERS</b>	<b>4,531</b>		<b>41,322</b>		<b>904,847</b>		<b>950,701</b>	
Cassava	2,562	5,268	18,035	28,771	798,840	391,817	223,828	425,858
Sweet Potatoes	1,575	4,584	16,881	55,198	88,246	284,188	87,712	343,958
Irish Potatoes	345	890	5,923	12,463	30,620	86,826	36,888	100,260
Yams	27	235	372	1,274	2,115	10,470	2,513	11,979
Cocoyam	23	450	101	417	3,020	18,551	3,144	19,428
<b>PULSES</b>	<b>30,210</b>		<b>209,418</b>		<b>394,148</b>		<b>833,776</b>	
Mung Beans	285	501	158	290	352	905	794	1,717
Beans	26,765	52,430	136,020	298,968	323,667	911,970	486,452	1,263,368
Cowpeas	1,088	3,963	8,434	31,197	33,618	128,834	44,119	161,994
Green Gram	158	310	3,161	8,580	4,133	16,501	7,451	28,499
Pigeon Peas	104	449	50	289	246	646	401	1,394
Chick Peas	715	1,038	54,151	35,378	7,532	5,949	62,388	42,364
Bambara nuts	1,082	2,121	4,125	14,935	18,238	83,548	23,445	100,804
Field Peas	34	147	2,318	4,888	6,363	23,994	6,716	28,899
<b>OIL SEEDS &amp; OIL NUTS</b>	<b>13,705</b>		<b>290,964</b>		<b>273,667</b>		<b>488,335</b>	
Sunflower	4,063	9,753	80,518	112,866	27,000	86,194	111,579	188,541
Sisal	2,416	3,068	14,291	18,946	48,368	108,263	83,104	131,308
Groundnuts	7,228	13,679	106,919	207,780	196,600	511,155	306,805	732,624
Soya Beans		0	238	787	1,402	3,149	1,840	3,915
Caster Seed		0		0	208	843	208	843
<b>FRUITS &amp; VEGETABLES</b>	<b>1,805</b>		<b>11,269</b>		<b>34,321</b>		<b>47,395</b>	
Olives	156	436	77	265	504	2,360	837	3,061
Radish		0	894	228	431	728	1,425	957
Turmeric		0		0	19	95	19	95
Bitter Aubergine		0	22	94	390	1,789	412	1,853
Garlic		0		0		0		0
Onions	551	993	3,420	9,297	4,102	18,329	8,072	29,819
Ginger	4	43	54	135	88	281	117	439
Cabbage	130	539	670	3,682	5,477	33,526	6,278	37,746
Tomatoes	264	1,580	4,558	15,075	15,068	75,302	19,522	91,966
Spinach	27	243	193	1,601	1,129	10,912	1,348	12,756
Carrot		0	35	127	508	1,991	543	2,119
Chilies	111	330	96	500	988	5,284	1,196	6,084
Amaranth	491	387	221	1,746	2,084	19,370	2,795	21,503
Pumpkins	28	190	482	1,885	1,780	15,378	2,290	17,449
Cucumber	14	135	76	364	320	2,032	410	2,530
Egg Plant		0	43	280	899	3,370	742	3,630
Water Melon	29	197	327	340	477	1,531	803	2,067
Cauliflower		0		0	155	365	155	369
<b>CASH CROPS</b>	<b>12,422</b>		<b>178,097</b>		<b>83,900</b>		<b>282,418</b>	
Sesewood		0	4	21	179	295	183	316
Cotton	12,018	4,900	170,163	121,548	44,724	48,823	225,905	172,072
Tobacco	404	677	5,726	6,728	48,457	57,218	54,586	64,822
Pyrethrum		0	204	264	507	1,284	711	1,538
Jute		0		0	32	298	32	298
<b>Mainland</b>	<b>298,106</b>		<b>2,157,830</b>		<b>3,826,859</b>		<b>6,282,802</b>	
%	5		34		61		100	
Zanzibar	10,355		77		96,875		107,308	
<b>National</b>	<b>308,462</b>		<b>2,157,913</b>		<b>3,923,735</b>		<b>6,390,109</b>	

Note: 596,303 ha has been added to "Mostly hand cultivation" for cassava on the mainland. Thus area is from cassava recorded as a permanent crop in which this variable was not recorded

## 7.2.13 ANNUAL CROP &amp; VEGETABLE PRODUCTION: Planted Area &amp; Number of Households by Irrigation Use by Crop - LONG RAINY SEASON

Crop	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household
Maize	800,171	589,487	71,757	87,180	282,381	357,333	1,772,706	2,058,577	2,734,965	3,008,590
Paddy	26,480	30,899	8,616	14,042	27,284	42,189	467,090	686,841	518,430	752,781
Sorghum	66,706	86,792	4,774	7,543	855	2,802	324,875	483,077	387,410	580,113
Burush Millet	44,657	56,064	1,752	2,788	386	603	75,434	100,421	122,349	158,867
Finger Millet	4,562	10,987	1,432	2,869	3,689	10,832	63,804	129,962	73,067	154,239
Barley	28	140		0	423	132	405	1,257	866	1,629
Cassava	7,132	11,713	3,289	5,718	1,606	3,106	211,734	405,380	223,773	425,867
Sweet Potatoes	4,791	19,444	1,648	9,034	2,417	8,920	876,172	306,797	683,929	343,185
Irish Potatoes	8,065	22,374	1,139	4,251	14,922	29,939	12,742	43,430	36,967	99,991
Yams	232	1,797	54	244	129	337	2,100	8,662	3,513	11,979
Cocoyam	367	4,004		0	27	236	2,754	16,306	3,148	19,544
Mung Beans	123	205	28	68	87	208	547	1,238	794	1,717
Beans	70,898	179,494	16,843	50,635	25,273	75,033	370,317	655,834	486,041	1,260,697
Cowpeas	3,868	14,029	1,278	4,164	1,289	3,909	37,703	138,693	44,119	181,894
Green Gram	907	2,875	180	408	11	35	8,356	22,181	7,461	26,499
Pigeon Peas	173	897		0		0	228	497	401	1,394
Chick Peas	6,271	3,188	703	410	17	14	56,408	38,571	62,369	42,163
Bambara nuts	1,846	6,349	106	615	232	1,484	21,443	91,678	23,427	100,306
Field Peas	711	2,888	397	1,084	1,890	4,546	5,857	20,380	8,715	28,898
Sunflower	17,754	28,269	2,798	4,332	2,671	11,080	88,057	140,578	111,578	188,256
Simsim	3,294	4,849	1,278	2,988	980	3,178	58,513	118,951	66,063	130,966
Groundnuts	31,066	63,537	4,572	12,849	3,751	11,361	269,491	642,128	308,980	729,874
Soya Beans	35	50	30	148	83	338	1,491	3,378	1,840	3,815
Castor Seed		0		0	13	124	186	719	208	843
Okra	203	739	80	116	56	284	516	1,940	837	3,081
Radish	48	201		0	286	221	1,108	338	1,425	957
Bitter Aubergine	78	415		0	28	258	308	1,160	412	1,853
Onions	1,853	8,973	132	619	3,803	10,865	2,271	8,224	8,068	28,483
Ginger		0		0	5	27	112	412	117	439
Cabbage	3,516	22,611	177	682	2,008	9,408	680	5,148	8,278	37,748
Tomatoes	7,798	41,588	857	3,146	6,721	25,927	4,745	21,089	19,322	91,750
Spinach	803	7,761	78	617	303	2,570	164	1,800	1,349	12,756
Carrot	172	812		0	310	842	81	484	543	2,119
Chillies	623	3,611	1	12	422	1,824	149	847	1,196	8,094
Amarantha	1,665	11,419	135	1,047	384	3,319	582	5,415	2,775	21,181
Pumpkins	207	1,388	88	433	112	858	1,912	14,747	2,289	17,437
Cucumber	186	1,158	13	36	88	427	141	808	410	2,630
Egg Plant	310	1,304	11	54	14	150	369	2,077	730	3,696
Water Melon	267	858	8	31	388	672	141	607	633	2,087
Cauliflower		0	25	121		0	130	248	168	389
Sesewood		0		0		0	183	316	183	316
Cotton	27,901	17,270	1,881	1,775	769	1,085	196,962	162,388	227,504	172,628
Tabacco	1,218	2,189	791	687	50,282	54,808	2,264	6,802	54,668	84,477
Pyrethrum	201	173		0		0	511	1,364	711	1,638
<b>Total</b>	<b>953,709</b>	<b>1,273,816</b>	<b>129,816</b>	<b>435,654</b>	<b>435,654</b>	<b>4,728,265</b>	<b>4,728,265</b>	<b>6,248,245</b>	<b>6,248,245</b>	
%	15.3		2.1		7.0		75.7			

Note: 596,303 ha has been added to "No Fertiliser used" for cassava on the mainland. This area is from cassava recorded as a permanent crop in which this variable was not recorded



**7.2.14 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop Growing Households by Pesticide use and Crop for the 2002/03 agriculture year - LONG RAINY SEASON (MASIKA)**

Regions	Herbicide use						% of Planted area using Herbicide
	Number of Households using Herbicide	Planted Area (ha) Herbicide Used	Number of Households NOT using Herbicide	Planted Area (ha) Herbicide not Used	Total Number of Households Planting in MASIKA	Total Planted Area (ha) in MASIKA	
<b>CEREALS</b>		<b>106,432</b>		<b>3,773,746</b>		<b>3,880,178</b>	<b>2.7</b>
Maize	52,631	53,835	3,044,076	2,682,766	3,096,707	2,736,403	2.0
Paddy	39,566	44,140	717,068	474,513	756,634	518,653	8.5
Sorghum	6,164	3,851	574,741	393,968	580,925	397,619	0.9
Bulrush Millet	2,047	1,430	157,973	120,673	160,020	122,303	1.2
Finger Millet	1,061	641	153,410	72,479	154,491	73,120	0.9
Wheat	3,341	2,485	61,858	28,740	65,298	31,224	8.0
Barley	203	451	1,325	404	1,528	656	52.7
<b>ROOTS &amp; TUBERS</b>		<b>4,510</b>		<b>643,681</b>		<b>948,192</b>	<b>0.5</b>
Cassava	2,365	4,043	423,471	816,088	425,858	223,628	1.8
Sweet Potatoes	5,444	1,369	338,514	86,343	343,958	87,712	1.6
Irish Potatoes	2,441	1,280	97,839	35,606	100,280	35,898	3.5
Yams	281	16	11,698	2,496	11,979	2,513	0.6
Cocoyam	0	0	19,428	3,144	19,428	3,144	0.0
<b>PULSES</b>		<b>8,267</b>		<b>624,508</b>		<b>633,775</b>	<b>1.5</b>
Mung Beans	0	0	1,717	794	1,717	794	0.0
Beans	16,024	6,822	1,247,344	479,631	1,263,368	466,452	1.4
Cowpeas	1,552	437	160,442	43,682	161,994	44,119	1.0
Green Gram	148	36	25,352	7,416	25,499	7,451	0.5
Pigeon Peas	0	0	1,394	401	1,394	401	0.0
Chick Peas	738	1,950	41,626	60,446	42,364	62,396	3.1
Bambara nuts	872	143	99,732	23,302	100,604	23,445	0.6
Field Peas	378	79	28,520	8,636	28,698	8,715	0.9
<b>OIL SEEDS &amp; OIL NUTS</b>		<b>4,686</b>		<b>483,649</b>		<b>488,335</b>	<b>1.0</b>
Sunflower	1,895	1,349	186,546	110,229	188,541	111,579	1.2
Simain	1,190	524	130,119	64,580	131,308	65,104	0.8
Groundnuts	6,263	2,813	726,361	306,992	732,624	309,606	0.9
Soya Beans	0	0	3,915	1,640	3,915	1,640	0.0
Castor Seed	0	0	843	208	843	208	0.0
<b>FRUITS &amp; VEGETABLES</b>		<b>2,437</b>		<b>44,858</b>		<b>47,395</b>	<b>5.1</b>
Okra	147	27	2,915	810	3,061	837	3.2
Radish	0	0	957	1,425	957	1,425	0.0
Turmeric	0	0	95	19	95	19	0.0
Bitter Aubergine	0	0	1,653	412	1,653	412	0.0
Garlic	0	0	0	0	0	0	0.0
Onions	1,308	522	28,311	7,550	29,619	8,072	6.5
Ginger	0	0	439	117	439	117	0.0
Cabbage	1,326	308	36,422	5,970	37,748	6,278	4.9
Tomatoes	5,109	1,256	86,857	18,656	91,966	19,922	6.3
Spinnaech	133	35	12,623	1,314	12,756	1,349	2.6
Carrot	380	158	1,738	384	2,118	543	28.2
Chillies	244	62	5,650	1,133	6,094	1,195	5.2
Amaranths	204	26	21,299	2,769	21,503	2,795	0.9
Pumpkins	0	0	17,449	2,290	17,449	2,290	0.0
Cucumber	71	14	2,459	395	2,530	410	3.5
Egg Plant	83	8	3,547	734	3,630	742	1.1
Water Melon	102	19	1,965	813	2,067	833	2.3
Cauliflower	0	0	369	155	369	155	0.0
<b>CASH CROPS</b>		<b>7,228</b>		<b>275,190</b>		<b>282,418</b>	<b>2.6</b>
Seaweed	0	0	316	183	316	183	0.0
Cotton	2,932	3,750	169,140	223,155	172,072	226,906	1.7
Tobacco	3,430	3,479	61,192	51,107	64,622	54,596	6.4
Pyrethrum	0	0	1,538	711	1,538	711	0.0
Jute	0	0	298	32	298	32	0.0
Mainland		134,561		6,145,731		6,280,293	2.1
%		2.14		97.86		100.00	
Zanzibar		2,029		31,188		33,216	
National		136,590		6,176,919		6,313,509	

**7.2.15 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop growing Households by Fungicide Use and Crop for the 2002/03 agriculture year - LONG RAINY SEASON**

Crops	Fungicide use						% of Planted area using Fungicide
	Number of Households using Fungicide	Planted Area (ha) Fungicide Used	Number of Households NOT using Fungicide	Planted Area (ha) Fungicide not Used	Total Number of Households Planting in MASIKA	Total Planted Area (ha) in MASIKA	
<b>Cereals</b>		<b>51,162</b>		<b>3,797,792</b>		<b>3,646,634</b>	1.3
Maize	53,687	40,010	3,041,769	2,696,393	3,095,455	2,738,403	1.6
Paddy	12,294	6,011	740,864	512,642	753,158	518,853	1.2
Sorghum	6,732	2,856	673,889	384,762	580,421	397,619	0.7
Bulrush Millet	2,307	1,185	157,714	121,118	160,020	122,303	1.0
Finger Millet	1,454	677	152,917	72,444	154,372	73,120	0.9
Barley	132	423	1,397	433	1,529	856	49.4
<b>Root Crops</b>		<b>16,239</b>		<b>966,482</b>		<b>964,720</b>	1.9
Cassava	5,368	4,862	421,054	849,601	426,423	854,462	0.6
Sweet Potatoes	3,919	513	339,705	87,199	343,623	87,712	0.6
Irish Potatoes	25,544	12,845	74,593	24,043	100,137	36,888	34.8
Yams	132	13	11,848	2,500	11,979	2,513	0.5
Coocoyam	86	5	19,341	3,139	19,428	3,144	0.2
<b>Pulses</b>		<b>6,897</b>		<b>624,677</b>		<b>633,775</b>	1.4
Mung Beans	0	0	1,717	794	1,717	794	0.0
Beans	22,390	7,046	1,239,955	479,408	1,282,345	486,452	1.4
Cowpeas	2,814	401	159,380	43,718	161,994	44,119	0.9
Green Gram	122	19	25,377	7,433	25,499	7,451	0.2
Pigeon Peas	0	0	1,394	401	1,394	401	0.0
Chick Peas	487	652	41,677	61,747	42,163	62,388	1.0
Bambaranuts	920	213	99,500	23,232	100,419	23,445	0.9
Field Peas	1,843	567	27,255	8,148	28,998	6,715	6.5
<b>Oilseeds and nuts</b>		<b>2,740</b>		<b>485,595</b>		<b>486,335</b>	0.6
Sunflower	1,164	321	187,093	111,257	188,256	111,579	0.3
Simsim	1,331	567	129,733	64,537	131,064	65,104	0.9
Groundnuts	6,167	1,831	723,533	307,974	731,720	309,805	0.6
Soya Beans	0	0	3,915	1,640	3,915	1,840	0.0
Castor Seed	222	20	821	188	843	208	9.8
<b>Fruit &amp; Vegetables</b>		<b>15,843</b>		<b>31,533</b>		<b>47,376</b>	33.4
Okra	351	106	2,710	731	3,061	837	12.6
Radish	149	261	809	1,164	957	1,425	18.3
Bitter Aubergine	334	50	1,519	362	1,853	412	12.0
Onions	5,846	1,855	23,773	6,217	29,819	6,072	23.0
Ginger	27	5	412	112	439	117	4.6
Cabbage	6,101	1,143	31,647	5,135	37,748	6,278	16.2
Tomatoes	47,092	10,413	44,658	9,509	91,750	19,822	52.3
Spinnach	1,546	209	11,211	1,140	12,756	1,349	15.5
Carrot	828	237	1,290	308	2,119	543	43.8
Chillies	2,168	469	3,926	729	6,094	1,195	39.2
Amaranths	821	98	20,568	2,697	21,369	2,795	3.5
Pumpkins	296	36	17,163	2,255	17,449	2,290	1.6
Cucumber	965	180	1,545	230	2,530	410	43.8
Egg Plant	538	74	3,091	668	3,630	742	10.0
Water Melon	1,475	708	592	125	2,067	833	85.0
Cauliflower	0	0	369	155	369	155	0.0
<b>Cash Crops</b>		<b>16,792</b>		<b>263,281</b>		<b>263,073</b>	7.0
Seaweed	0	0	316	183	316	183	0.0
Cotton	7,115	7,932	165,519	219,660	172,634	227,592	3.5
Tobacco	14,912	11,860	49,710	42,726	84,822	54,588	21.7
Pyrethrum	0	0	1,538	711	1,538	711	0.0
<b>Mainland</b>		<b>116,673</b>		<b>6,169,560</b>		<b>6,286,233</b>	
<b>%</b>		<b>1.86</b>		<b>98.14</b>		<b>100.00</b>	
<b>Zanzibar</b>		<b>53</b>		<b>33,163</b>		<b>33,216</b>	
<b>National</b>		<b>116,726</b>		<b>6,202,723</b>		<b>6,319,449</b>	

**7.2.16 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop Growing Households by Insecticide use and Crop for the 2002/03 agriculture year - LONG RAINY SEASON (MASIKA)**

Crops	Insecticide use						% of Planted area using Insecticide
	Number of Households using Insecticide	Planted Area (ha) Insecticide Used	Number of Households NOT using Insecticide	Planted Area (ha) Insecticide not Used	Total Number of Households Planting in MASIKA	Total Planted Area (ha) in MASIKA	
<b>Cereals</b>		<b>299,011</b>		<b>3,549,943</b>		<b>3,848,954</b>	<b>7.8</b>
Maize	325,107	274,805	2,770,348	2,461,568	3,095,455	2,736,403	10.0
Paddy	19,502	13,897	733,656	504,757	753,158	518,853	2.7
Sorghum	9,509	5,732	570,912	381,887	580,421	397,619	1.4
Bulrush Millet	4,435	3,217	155,586	119,086	180,020	122,303	2.6
Finger Millet	2,364	1,141	152,007	71,980	154,372	73,120	1.6
Barley	220	220	1,309	636	1,529	856	25.7
<b>Root Crops</b>		<b>17,941</b>		<b>966,780</b>		<b>984,720</b>	<b>1.8</b>
Cassava	5,967	7,035	420,455	847,427	426,423	854,482	0.8
Sweet Potatoes	4,042	718	339,581	86,966	343,623	87,712	0.8
Irish Potatoes	11,870	10,067	88,267	26,821	100,137	36,886	27.3
Yams	239	117	11,740	2,366	11,979	2,513	4.7
Cocoyam	4	4	16,423	3,139	19,428	3,144	0.1
<b>Pulses</b>		<b>47,880</b>		<b>585,894</b>		<b>633,775</b>	<b>7.6</b>
Mung Beans	133	72	1,584	722	1,717	794	9.1
Beans	60,565	36,804	1,201,780	449,648	1,262,345	488,452	7.6
Cowpeas	4,503	2,579	157,491	41,540	181,994	44,119	5.8
Green Gram	890	223	24,809	7,228	25,499	7,451	3.0
Pigeon Peas	0	0	1,394	401	1,394	401	0.0
Chick Peas	7,529	6,882	34,634	55,516	42,183	62,398	11.0
Bambara nuts	1,018	267	96,401	23,178	100,419	23,445	1.1
Feld Peas	1,783	1,053	27,135	7,662	28,898	8,715	12.1
<b>Oilseeds and nuts</b>		<b>10,897</b>		<b>477,438</b>		<b>488,335</b>	<b>2.2</b>
Sunflower	3,878	1,989	184,378	109,580	188,258	111,579	1.8
Simsim	5,648	4,881	125,418	60,223	131,064	65,104	7.5
Groundnuts	8,801	3,967	722,919	305,638	731,720	309,805	1.3
Soya Beans	118	48	3,797	1,562	3,915	1,640	2.9
Castor Seed	13	13	830	196	843	208	6.0
<b>Fruit &amp; Vegetables</b>		<b>25,555</b>		<b>21,620</b>		<b>47,175</b>	<b>53.9</b>
Okra	177	173	2,884	664	3,081	837	20.7
Radish	271	271	686	1,154	957	1,425	19.0
Bitter Aubergine	100	100	1,753	312	1,853	412	24.3
Onions	6,582	4,347	23,067	3,726	29,619	8,072	53.8
Ginger	5	5	434	112	439	117	4.6
Cabbage	6,267	4,789	31,481	1,510	37,748	8,278	76.0
Tomatoes	18,635	12,094	73,114	7,828	91,750	19,922	60.7
Spinach	1,344	695	11,412	654	12,758	1,349	51.6
Carrot	320	320	1,798	222	2,119	543	59.0
Chillies	948	819	5,146	376	6,094	1,195	69.5
Amaranth	1,147	697	20,242	2,068	21,389	2,795	24.9
Pumpkins	80	80	17,369	2,211	17,449	2,290	3.5
Cucumber	422	287	2,108	122	2,530	410	70.1
Egg Plant	179	137	3,450	606	3,630	742	18.4
Water Melon	781	781	1,306	72	2,087	833	91.4
Cauliflower	0	0	389	155	389	155	0.0
<b>Cash Crops</b>		<b>142,859</b>		<b>140,414</b>		<b>283,073</b>	<b>50.4</b>
Seaweed	0	0	316	183	316	183	0.0
Cotton	112,172	106,907	60,462	120,685	172,634	227,592	47.0
Tobacco	39,527	35,752	25,066	18,834	64,622	54,586	65.5
Pyrethrum	0	0	1,538	711	1,538	711	0.0
<b>Mainland</b>		<b>543,943</b>		<b>5,742,290</b>		<b>6,286,233</b>	<b>8.7</b>
<b>%</b>		<b>8.65</b>		<b>61.35</b>		<b>100.00</b>	
<b>Zanzibar</b>		<b>1,014</b>		<b>32,202</b>		<b>33,216</b>	
<b>National</b>		<b>544,958</b>		<b>5,774,491</b>		<b>6,319,449</b>	



7.2.17 ANNUAL CROP &amp; VEGETABLE PRODUCTION: Planted Area (hectares) &amp; Number of Crop Growing Households by Method of Harvesting by Crop for the 2002/03 agriculture year - LONG RAINY SEASON

Crop	How Harvested										Total	
	By Hand		By Draft Animal		By Human Powered Tool		By Engine Driven Machine		Not applicable			
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)
<b>CEREALS</b>	<b>4,490,910</b>	<b>3,541,713</b>	<b>12,089</b>	<b>13,494</b>	<b>10,392</b>	<b>5,417</b>	<b>3,775</b>	<b>3,173</b>	<b>303,729</b>	<b>210,362</b>	<b>4,812,604</b>	<b>3,860,179</b>
Millets	2,911,226	2,507,090	5,379	10,221	2,754	2,283	3,340	3,544	170,513	152,407	3,096,707	2,736,488
Paddy	983,863	477,419	1,166	826	5,324	2,840	969	931	65,303	36,639	759,634	519,653
Sorghum	521,667	381,036	1,716	1,205	1,547	623	754	312	95,210	34,182	580,905	387,619
Bulrush Millet	160,686	118,201	342	261	0	0	78	96	8,812	6,889	160,000	122,303
Finger Millet	150,606	71,310	540	134	563	422	280	184	2,467	1,093	154,401	73,120
Wheat	61,135	27,394	130	48	185	48	3,590	3,875	230	0	65,299	31,224
Barley	1,224	263	0	0	0	0	200	451	101	0	1,529	638
<b>ROOTS &amp; TUBERS</b>	<b>813,815</b>	<b>315,349</b>	<b>1,358</b>	<b>697</b>	<b>8,039</b>	<b>2,354</b>	<b>863</b>	<b>182</b>	<b>77,304</b>	<b>31,817</b>	<b>891,507</b>	<b>430,399</b>
Cassava	385,764	750,633	946	480	2,274	1,239	380	113	95,303	26,663	425,699	820,131
Sweet Potatoes	318,436	90,822	510	206	5,112	1,188	475	51	10,425	5,896	340,959	87,712
Irish Potatoes	90,605	38,693	0	0	279	74	130	19	364	139	100,389	38,688
Yams	11,783	2,441	0	0	0	0	0	0	196	72	11,979	2,513
Cocoyam	18,837	2,980	0	0	374	77	0	0	717	81	19,429	3,144
<b>PULSES</b>	<b>1,669,467</b>	<b>608,352</b>	<b>3,399</b>	<b>1,117</b>	<b>1,626</b>	<b>706</b>	<b>1,844</b>	<b>1,128</b>	<b>88,710</b>	<b>23,473</b>	<b>1,698,633</b>	<b>633,775</b>
Mung Beans	1,695	785	0	0	0	0	0	0	22	9	1,717	794
Beans	1,228,417	470,622	2,624	1,006	1,343	671	1,210	636	28,474	13,718	1,263,309	486,632
Cowpeas	144,889	38,222	214	35	141	114	121	12	10,229	4,739	161,964	44,119
Green Gram	22,578	6,629	0	0	0	0	0	0	2,921	823	26,499	7,461
Pigeon Peas	1,394	401	0	0	0	0	0	0	0	0	1,394	401
Chick Peas	40,581	80,670	0	0	0	0	314	478	1,489	1,291	42,384	82,368
Bambara nuts	91,881	21,501	0	0	62	6	0	0	8,941	1,339	100,604	23,445
Pink Peas	28,550	3,625	261	78	51	12	0	0	24	0	28,836	3,716
<b>OIL SEEDS &amp; OIL NUTS</b>	<b>1,098,499</b>	<b>489,698</b>	<b>1,711</b>	<b>947</b>	<b>3,691</b>	<b>1,327</b>	<b>982</b>	<b>349</b>	<b>42,375</b>	<b>16,216</b>	<b>1,097,327</b>	<b>488,233</b>
Sunflower	181,077	107,899	304	161	483	297	523	194	5,197	3,347	188,541	111,679
Sesame	122,037	61,417	162	41	179	95	0	0	8,910	3,663	131,508	65,104
Groundnuts	760,770	388,640	1,210	742	3,012	894	408	198	27,199	8,203	732,604	389,836
Soya Beans	3,772	1,024	0	0	0	0	0	0	143	116	3,815	1,140
Caster Seed	643	203	0	0	0	0	0	0	0	0	643	203
<b>FRUITS &amp; VEGETABLES</b>	<b>225,474</b>	<b>46,133</b>	<b>715</b>	<b>12</b>	<b>312</b>	<b>39</b>	<b>191</b>	<b>10</b>	<b>6,293</b>	<b>1,262</b>	<b>234,267</b>	<b>47,205</b>
Onion	2,917	823	0	0	11	0	0	0	133	10	3,061	837
Radish	824	1,224	0	0	0	0	0	0	134	202	967	1,426
Turnips	0	0	0	0	0	0	0	0	97	19	97	19
Bitter Aubergine	1,754	402	0	0	0	0	0	0	100	10	1,863	412
Garlic	0	0	0	0	0	0	0	0	0	0	0	0
Onions	28,894	7,932	0	0	84	3	0	0	881	137	29,819	8,072
Ginger	439	117	0	0	0	0	0	0	0	0	439	117
Cabbage	37,495	6,246	0	0	0	0	0	0	282	33	37,748	6,279
Tomatoes	88,546	19,354	110	12	237	33	0	0	2,099	523	91,966	19,922
Spinach	12,685	1,334	0	0	0	0	0	0	72	14	12,759	1,348
Garut	2,118	543	0	0	0	0	0	0	0	0	2,118	543
Chilies	5,505	1,196	0	0	0	0	0	0	220	29	6,094	1,196
Amaranth	21,063	2,743	0	0	0	0	161	16	339	41	21,503	2,795
Pumpkins	10,894	2,182	0	0	0	0	0	0	595	89	17,449	2,290
Cucumber	2,416	369	0	0	0	0	0	0	116	41	2,530	410
Egg Plant	3,448	703	0	0	0	0	0	0	182	40	3,630	742
Water Melon	2,067	833	0	0	0	0	0	0	0	0	2,067	833
Cauliflower	389	156	0	0	0	0	0	0	0	0	389	156
<b>CASH CROPS</b>	<b>321,187</b>	<b>274,698</b>	<b>829</b>	<b>702</b>	<b>448</b>	<b>479</b>	<b>60</b>	<b>281</b>	<b>6,537</b>	<b>4,457</b>	<b>328,645</b>	<b>282,678</b>
Sesameed	316	163	0	0	0	0	0	0	0	0	316	163
Cotton	165,972	225,397	405	483	190	187	0	0	6,605	5,837	172,072	226,996
Tobacco	83,044	50,164	224	219	257	282	90	281	1,047	820	84,622	54,596
Pyrethrum	1,534	711	0	0	0	0	0	0	0	0	1,534	711
Jute	286	32	0	0	0	0	0	0	0	0	286	32
<b>Mainland</b>		<b>5,347,397</b>		<b>14,819</b>		<b>16,766</b>		<b>10,000</b>		<b>368,868</b>		<b>6,383,480</b>
Zanzibar		85,458		0		1,794		9,803		1,281		79,276
<b>National</b>		<b>5,432,756</b>		<b>14,819</b>		<b>18,560</b>		<b>19,803</b>		<b>380,150</b>		<b>6,362,756</b>

**T.2.18 ANNUAL CROP & VEGETABLE PRODUCTION: Planted Area (hectare) & Number of Crop Growing Households by Method of Threshing by Crop for 2002/03 agriculture year - LONG RAINY SEASON**

Crop	How Threshed											
	By Hand		By Draft Animal		By Human Powered Tool		By Engine Driven Machine		Not applicable		Total	
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)
<b>CEREALS</b>	<b>4,288,488</b>	<b>3,483,181</b>	<b>13,153</b>	<b>14,895</b>	<b>155,815</b>	<b>113,118</b>	<b>25,483</b>	<b>31,272</b>	<b>887,180</b>	<b>252,953</b>	<b>4,815,884</b>	<b>3,280,178</b>
Millets	2,819,678	2,432,564	4,100	9,233	70,478	88,334	15,757	57,077	182,898	140,555	3,096,707	2,736,403
Paddy	928,574	442,470	1,701	780	15,405	9,742	7,204	5,003	103,493	90,554	1,068,634	618,663
Sorghum	462,961	352,152	2,388	4,487	18,088	9,024	1,066	2,421	78,403	49,626	562,625	387,619
Sudangrass Millet	143,382	110,589	358	194	2,221	2,327	148	1,041	12,001	6,722	150,090	129,343
Finger Millet	131,603	60,184	575	168	14,214	9,644	363	269	7,476	2,887	154,401	73,120
Wheat	57,254	20,641	86	7	1,783	1,146	3,422	3,620	3,624	906	65,288	31,224
Barley	1,517	351	0	0	0	0	253	491	308	74	1,879	898
<b>ROOTS &amp; TUBERS</b>	<b>483,680</b>	<b>263,680</b>	<b>3,178</b>	<b>830</b>	<b>6,804</b>	<b>3,614</b>	<b>2,338</b>	<b>863</b>	<b>333,820</b>	<b>146,586</b>	<b>627,507</b>	<b>410,219</b>
Cassava	273,377	143,735	870	350	5,796	2,406	511	307	145,301	673,123	428,886	325,131
Sweet Potatoes	181,252	40,858	1,187	587	3,222	848	1,384	388	178,013	45,442	343,959	87,712
Yam Potatoes	43,053	18,190	51	74	734	208	450	110	52,352	20,250	105,280	38,888
Yams	8,287	1,363	0	0	0	0	0	0	8,862	1,181	11,079	2,513
Cocoyam	6,491	1,137	0	0	252	52	13	1	10,672	1,855	15,628	3,144
<b>PULSES</b>	<b>1,441,387</b>	<b>663,383</b>	<b>5,025</b>	<b>2,438</b>	<b>35,849</b>	<b>25,422</b>	<b>4,238</b>	<b>6,283</b>	<b>115,349</b>	<b>43,278</b>	<b>1,625,628</b>	<b>633,775</b>
Mung Beans	1,374	221	0	0	0	0	0	0	143	78	1,717	794
Beans	1,142,828	435,879	2,789	1,186	51,841	33,822	1,311	891	53,588	24,661	1,283,398	488,482
Cowpeas	134,484	38,875	203	55	2,428	682	480	53	24,439	6,453	151,924	44,119
Green Gram	21,198	6,147	0	0	419	62	0	0	3,862	1,242	25,499	7,451
Pigeon Peas	1,264	401	0	0	0	0	0	0	0	0	1,264	401
Cinch Peas	32,049	47,575	709	1,080	1,285	2,111	2,464	5,322	5,270	6,305	43,384	53,398
Herbiferous	82,485	18,742	108	21	2,824	1,183	0	0	15,188	3,515	102,604	23,416
Field Peas	24,585	7,514	292	70	1,082	262	103	18	2,818	1,225	29,698	8,715
<b>Oil Seeds &amp; Oil Nuts</b>	<b>847,851</b>	<b>497,888</b>	<b>1,878</b>	<b>1,671</b>	<b>36,873</b>	<b>19,069</b>	<b>1,997</b>	<b>1,106</b>	<b>76,624</b>	<b>28,844</b>	<b>1,057,827</b>	<b>488,725</b>
Sunflower	188,388	97,433	428	252	12,737	8,858	378	187	8,720	3,881	198,541	111,578
Mustard	115,804	58,682	378	778	2,785	862	157	87	12,274	4,753	131,308	85,104
Groundnuts	681,174	279,843	920	630	14,879	4,341	1,371	891	54,190	20,664	732,024	358,803
Soya Beans	3,588	1,440	0	0	72	28	0	0	277	170	3,915	1,840
Castor Seed	621	188	0	0	0	0	0	0	222	30	843	208
<b>FRUITS &amp; VEGETABLES</b>	<b>183,882</b>	<b>22,579</b>	<b>642</b>	<b>141</b>	<b>805</b>	<b>247</b>	<b>833</b>	<b>132</b>	<b>125,641</b>	<b>24,288</b>	<b>234,257</b>	<b>47,285</b>
Onion	1,829	562	0	0	0	0	0	0	1,232	285	3,061	837
Radish	805	1,183	0	0	0	0	0	0	362	273	1,167	1,456
Turnips	0	0	0	0	0	0	0	0	95	19	95	19
Slate Aubergine	788	246	0	0	0	0	0	0	1,080	188	1,863	412
Garlic	0	0	0	0	0	0	0	0	0	0	0	0
Onions	17,064	5,216	0	0	82	16	72	15	12,380	2,828	29,019	3,072
Ginger	287	77	0	0	0	0	0	0	173	40	439	117
Cabbage	17,031	2,656	125	52	124	40	0	0	20,485	3,521	37,748	6,276
Tomatoes	40,911	8,789	387	84	208	27	214	108	49,048	10,857	91,998	19,928
Sprouts	4,847	478	0	0	0	0	0	0	8,109	878	12,706	1,549
Carrot	810	189	0	0	0	0	0	0	1,808	384	3,119	643
Cilantro	1,656	456	0	0	0	0	0	0	4,480	187	6,034	1,185
Amoranth	8,266	862	125	25	0	0	0	0	12,881	1,808	21,903	2,785
Pumpkin	8,887	1,180	0	0	0	0	118	11	8,746	1,086	17,448	2,200
Cucumber	1,133	188	0	0	0	0	0	0	1,307	244	2,530	410
Egg Plant	683	77	0	0	81	185	0	0	2,808	501	3,630	742
Water Melon	1,031	399	0	0	0	0	0	0	1,237	435	2,087	633
Cauliflower	389	133	0	0	0	0	0	0	0	0	389	133
<b>CASH CROPS</b>	<b>86,834</b>	<b>113,312</b>	<b>217</b>	<b>483</b>	<b>682</b>	<b>438</b>	<b>11,184</b>	<b>17,942</b>	<b>127,828</b>	<b>131,341</b>	<b>238,645</b>	<b>282,618</b>
Reeswood	0	0	0	0	0	0	0	0	316	183	316	183
Cotton	58,782	78,187	217	483	108	88	11,063	17,851	100,884	130,285	172,072	228,505
Tobacco	37,578	30,480	0	0	574	330	115	85	26,354	20,643	64,022	54,588
Pyrethrum	1,297	585	0	0	0	0	0	0	240	127	1,538	711
Jute	272	32	0	0	0	0	0	0	24	0	296	32
<b>Other</b>	<b>4,732,137</b>	<b>25,339</b>	<b>489</b>	<b>165,799</b>	<b>165,799</b>	<b>111</b>	<b>10,778</b>	<b>65,142</b>	<b>65,142</b>	<b>65,142</b>	<b>5,282,690</b>	<b>3,282,690</b>
<b>Total</b>	<b>4,732,137</b>	<b>25,339</b>	<b>489</b>	<b>165,799</b>	<b>165,799</b>	<b>111</b>	<b>10,778</b>	<b>65,142</b>	<b>65,142</b>	<b>65,142</b>	<b>5,282,690</b>	<b>3,282,690</b>
<b>National</b>	<b>4,732,673</b>	<b>26,378</b>	<b>2,678</b>	<b>168,907</b>	<b>168,907</b>	<b>118,803</b>	<b>118,803</b>	<b>701,202</b>	<b>701,202</b>	<b>701,202</b>	<b>5,390,785</b>	<b>3,390,785</b>

**PERMANENT CROP PRODUCTION**



**7.3.1 PERMANENT CROPS: Number of Households Planting Permanent Crops by Region, 2002/03  
Agriculture Year-Mainland**

Region	Does your Household have any Permanent / Perennial Crops or Fruit Trees					
	Have Crops/Fruit Trees		Does Not Have Crops/Fruits		Total	
	Number	%	Number	%	Number	%
Dodoma	42,320	13	280,792	87	323,112	100
Arusha	42,009	27	96,470	73	138,479	100
Kilimanjaro	165,631	77	48,556	23	214,187	100
Tanga	157,116	59	106,412	41	263,528	100
Marogoro	132,223	51	127,023	49	259,246	100
Pwani	104,184	74	35,280	26	139,464	100
Dar es Salaam	17,505	88	1,758	14	18,264	100
Lindi	100,582	66	52,423	34	153,005	100
Mtwara	160,750	70	68,452	30	229,202	100
Ruvuma	168,958	89	21,084	11	191,043	100
Iringa	67,354	24	211,362	76	278,717	100
Mbeya	177,606	48	193,845	52	371,451	100
Singida	10,003	6	169,397	94	179,400	100
Tabora	63,921	27	171,700	73	235,621	100
Rukwa	49,796	29	122,049	71	171,845	100
Kigoma	159,972	82	34,722	18	194,694	100
Shinyanga	35,364	9	340,183	91	375,547	100
Kagera	314,269	89	35,311	11	349,580	100
Mwanza	211,890	62	127,038	36	338,928	100
Mara	145,838	77	40,153	23	185,991	100
Manyara	35,877	23	114,300	77	150,278	100
Mainland	2,364,277	49	2,398,312	51	4,762,589	100
Zanzibar	91,624		4,397		96,021	
National	2,456,101		2,402,709		4,858,810	

**7.3.2 PERMANENT CROPS: Area Planted, Area Harvested, Quantity Harvested and Yield by Type of Permanent Crop-Mainland**

Main Crop	Total Area Planted (ha) Mono+Mixed Area		Area harvested (ha)	Quantity harvested (t/ha)	Yield (t/ha)	Yield (kg/ha)
	Number of Households	Planted Area				
Cashew nut	269,500	414,518	258,337	81,845	0.32	317
Banana	872,118	306,103	192,039	2,205,673	11.49	11,486
Coffee	425,182	180,849	136,894	211,798	1.56	1,547
Mango	212,231	97,442	31,898	336,028	10.54	10,538
Pigeon pea	154,499	89,274	69,454	26,615	0.36	383
Coconut	94,172	61,563	38,122	102,458	2.69	2,688
Orange	86,029	39,930	21,707	186,895	8.60	8,501
Sisal	1,006	5,861	130	116	0.89	892
Sugar cane	50,607	21,262	20,567	404,604	19.66	19,676
Palm oil	44,966	17,336	15,757	51,109	3.24	3,244
Tee	15,296	7,340	6,273	31,677	5.05	5,050
Other	336,666	119,028	49,428	227,935	4.61	4,611
Total	2,376,072	1,380,309	840,586	3,866,641	4.80	4,800

**7.3.3 PERMANENT CROPS: Mono and Mixed Crops by Area Planted, Area Harvested and Quantity Harvested Type of Planting Crop and Region-Mainland**

Crop/Region		Area of Plants/Trees/ Bushes in Mono Crop (ha)		Area Covered by Permanent Crop in Mixed Crop (ha)		Total Area Planted (ha) Mono+Mixed		Area Harvested (ha)	Quantity Harvested (tons)
		Number of households	Area	Number of households	Area	Number of households	Area	Area	tons
Cashew nut	Tanga	4,062	4,542	4,187	3,363	7,158	7,905	4,884	4,580
	Morogoro	738	358	1,804	211	2,518	570	413	882
	Pwani	19,541	24,424	24,472	17,839	40,199	42,263	30,529	12,711
	Dar es	340	800	8,813	4,445	6,901	5,245	3,582	2,528
	Lindi	30,142	45,018	14,261	10,666	40,156	55,083	30,262	13,521
	Mtwara	110,202	136,148	65,174	81,629	131,000	228,078	126,560	38,205
	Ruvuma	29,803	57,022	15,718	17,101	30,885	74,124	52,708	0,278
	Iringa	0	0	0	0	0	0	358	147
	Mbeya	651	441	629	135	1,192	577	383	97
	Singida	0	0	0	0	0	0	0	7
	Kigoma	0	0	132	27	132	27	0	0
	Shinyanga	0	0	0	0	0	0	0	0
	Mwanza	157	47	157	1	157	48	0	0
<b>Total</b>		<b>195,435</b>	<b>268,802</b>	<b>134,436</b>	<b>146,716</b>	<b>269,600</b>	<b>414,518</b>	<b>208,337</b>	<b>81,848</b>
Banana	Mtwara	661	140	545	286	825	426	467	212
	Lindi	447	71	1,439	366	1,886	437	317	2,423
	Dar es	270	78	2,661	1,128	2,796	1,204	663	1,963
	Tabora	2,231	429	3,067	1,170	3,058	1,800	490	2,619
	Dodoma	1,276	1,381	1,960	426	2,189	1,786	211	1,087
	Rukwa	5,324	1,021	2,377	789	7,261	1,790	1,010	11,471
	Mwanza	3,263	1,432	7,879	832	10,472	2,264	1,475	12,361
	Singida	2,425	387	2,549	3,005	2,937	3,373	259	878
	Pwani	2,307	1,824	4,832	1,714	6,749	3,538	2,288	7,583
	Shinyanga	1,855	240	2,782	3,517	3,436	3,783	388	1,487
	Man	10,482	2,888	7,304	1,688	13,118	4,376	2,467	12,983
	Arusha	8,967	1,921	18,460	2,036	23,195	4,857	4,840	130,416
	Manyara	1,921	4,384	1,719	584	2,701	4,948	4,598	3,161
	Ruvuma	18,828	4,920	6,814	2,830	24,420	7,751	3,706	37,890
	Tanga	11,429	3,535	17,139	4,550	25,263	8,125	5,408	34,128
	Morogoro	14,482	6,295	18,246	3,101	30,480	9,396	8,828	47,418
	Iringa	10,487	3,181	13,589	6,564	19,428	9,745	7,283	10,244
Kigoma	20,289	11,435	28,421	9,066	44,445	20,503	8,891	96,828	
Mbeya	54,487	25,310	74,212	27,405	94,050	52,715	28,886	226,241	
Kilimanjaro	34,026	15,822	115,819	40,541	132,070	58,463	38,406	327,080	
Kagera	38,421	31,273	195,365	75,789	219,347	107,042	74,794	1,239,219	
<b>Total</b>		<b>241,486</b>	<b>117,612</b>	<b>527,305</b>	<b>188,292</b>	<b>672,118</b>	<b>306,103</b>	<b>192,038</b>	<b>2,306,673</b>
Coffee	Arusha	3,057	1,090	15,362	4,875	15,562	5,765	5,004	3,088
	Kilimanjaro	16,735	8,418	94,031	29,392	98,550	35,808	27,634	18,623
	Tanga	5,149	2,177	2,116	1,023	6,782	3,200	5,250	1,168
	Morogoro	363	291	620	82	983	373	347	251
	Ruvuma	12,018	8,113	30,348	21,848	41,347	29,861	26,000	12,368
	Iringa	3,141	1,400	2,774	743	4,384	2,143	1,000	603
	Mbeya	70,042	42,322	38,856	17,138	90,477	59,460	39,001	98,841
	Rukwa	155	35	0	0	155	35	24	7
	Kigoma	981	430	4,847	663	5,497	1,093	5,218	1,313
	Kagera	12,558	8,198	145,878	29,581	152,036	37,759	23,868	71,860
	Mwanza	72	37	972	61	972	97	24	290
	Man	6,493	2,786	2,885	1,005	7,581	3,771	2,738	2,246
	Manyara	685	1,090	516	95	866	1,185	664	48
<b>Total</b>		<b>131,449</b>	<b>74,385</b>	<b>339,208</b>	<b>108,285</b>	<b>425,182</b>	<b>180,849</b>	<b>136,894</b>	<b>211,788</b>

**7.3.4 PERMANENT CROPS: Mono and Mixed Crops by Area Planted, Area Harvested and Quantity Harvested Type of Planting Crop and Region-Mainland**

Crop/Region	Area of Plants/Trees/ Bushes in Mono Crop (ha)		Area Covered by Permanent Crop In Mixed Crop (ha)		Total Area Planted (ha) Mono+Mixed		Area Harvested (ha)	Quantity Harvested (tons)	
	Number of households	Area	Number of households	Area	Number of households	Area	Area	tons	
Mango	Dodoma	676	82	2,886	587	3,187	668	632	1,588
	Arusha	177	1	1,053	66	1,053	67	36	1,284
	Kilimanjaro	3,674	1,193	21,491	6,851	22,263	8,045	4,301	17,370
	Tanga	3,973	638	10,765	3,832	12,399	4,268	2,761	36,841
	Morogoro	4,459	2,015	19,171	3,287	21,879	5,302	2,511	48,498
	Pwani	1,912	1,042	8,230	1,202	7,401	2,244	1,326	16,931
	Dar es Salaam	426	1,159	5,725	1,919	5,771	3,078	1,809	7,203
	Lindi	469	894	4,556	666	4,947	1,830	607	8,022
	Mtwara	260	2,898	605	905	605	3,804	48	319
	Ruvuma	3,643	619	2,062	740	5,635	1,359	1,101	24,200
	Iringa	1,852	554	2,667	2,427	3,661	2,961	1,363	1,873
	Mbeya	7,377	4,315	12,469	4,044	16,272	8,356	1,796	12,261
	Singida	1,539	251	2,234	3,533	2,599	3,784	76	254
	Tabora	2,803	1,124	7,622	2,683	9,338	3,807	466	20,762
	Rukwa	1,406	236	3,018	311	4,033	547	2,382	16,671
	Kigoma	972	114	6,919	7,262	7,404	7,376	367	11,334
	Shinyanga	11,782	1,832	18,030	28,434	18,825	28,065	2,586	28,136
	Kagera	1,586	1,756	31,643	1,973	32,087	3,729	6,493	22,062
	Mwanza	2,860	1,381	20,941	4,997	22,482	6,358	670	58,094
	Mara	2,015	885	9,433	1,018	9,981	1,701	249	5,573
Manyara	154	20	270	50	270	70	230	98	
<b>Total</b>	<b>54,048</b>	<b>22,556</b>	<b>169,841</b>	<b>74,886</b>	<b>212,231</b>	<b>97,442</b>	<b>31,888</b>	<b>336,028</b>	
Pigeon pea	Dodoma	17,647	11,875	12,091	7,803	26,588	19,878	14,799	5,149
	Arusha	7,089	4,439	2,859	1,235	7,514	5,674	2,897	2,182
	Kilimanjaro	1,226	142	863	407	2,002	549	170	309
	Tanga	1,326	1,342	1,327	1,141	1,827	2,484	1,530	474
	Morogoro	2,963	942	4,326	1,171	6,127	2,113	1,471	873
	Pwani	2,646	618	5,141	896	7,281	1,513	1,129	310
	Dar es Salaam	156	26	384	70	542	96	74	17
	Lindi	19,552	9,860	15,831	4,282	25,995	14,142	6,949	2,308
	Mtwara	9,213	1,977	20,792	5,864	25,948	7,841	18,516	1,636
	Ruvuma	2,173	415	7,258	4,745	9,089	5,159	1,630	516
	Iringa	313	98	0	0	313	98	83	56
	Mbeya	755	94	743	50	1,498	145	124	63
	Singida	123	35	122	30	245	65	66	14
	Tabora	104	8	230	31	230	38	31	8
	Rukwa	401	162	0	0	401	162	210	89
	Kigoma	2,618	278	3,790	677	6,214	956	2,253	806
	Shinyanga	3,450	1,483	761	230	3,450	1,713	1,450	868
	Kagera	243	40	0	0	243	40	26	1,600
	Mwanza	231	26	231	26	231	52	26	17
	Manyara	17,661	9,937	26,635	16,818	28,801	26,755	17,316	9,620
<b>Total</b>	<b>88,901</b>	<b>43,798</b>	<b>103,513</b>	<b>45,476</b>	<b>154,499</b>	<b>89,274</b>	<b>69,464</b>	<b>28,819</b>	
Coconut	Kilimanjaro	169	28	652	77	921	105	99	283
	Tanga	6,131	7,077	11,012	7,688	16,471	14,766	7,588	26,329
	Morogoro	5,527	1,599	19,744	5,981	23,954	7,550	2,748	17,963
	Pwani	8,063	6,916	17,410	8,385	24,094	17,300	13,171	30,732
	Dar es Salaam	979	1,938	9,067	4,351	9,386	6,288	3,268	4,987
	Lindi	4,814	4,278	6,271	4,103	10,736	8,381	9,078	10,488
	Mtwara	2,900	4,920	2,154	1,027	4,255	5,947	1,896	1,931
	Ruvuma	2,531	797	776	192	3,309	989	266	866
	Mbeya	0	0	253	40	253	40	40	30
	Tabora	0	0	336	53	336	53	0	29
	Rukwa	35	42	199	17	234	60	66	62
	Kigoma	0	0	34	7	34	7	7	3
	Kagera	147	30	147	30	147	60	30	9
Mwanza	0	0	162	17	162	17	77	253	
<b>Total</b>	<b>33,397</b>	<b>29,596</b>	<b>66,229</b>	<b>31,967</b>	<b>94,172</b>	<b>61,563</b>	<b>38,122</b>	<b>102,458</b>	



**7.3.5 PERMANENT CROPS: Mono and Mixed Crops by Area Planted, Area Harvested and Quantity Harvested Type of Planting Crop and Region-Mainland**

Crop/Region	Area of Plants/Trees/ Bushes in Mono Crop (ha)		Permanent Crop in Mixed Crop (ha)		Total Area Planted (ha) Mono+Mixed		Area Harvested (ha)	Harvested (tons)	
	Number of households	Area	Number of households	Area	Number of households	Area	Area	tons	
Orange	Dodoma	85	12	359	37	399	48	84	29
	Arusha	376	2	1,924	26	1,924	28	41	191
	Kilimanjaro	1,555	269	4,373	1,026	4,829	1,284	447	769
	Tanga	8,746	4,918	9,152	4,424	12,143	9,342	5,964	66,210
	Morogoro	2,903	1,039	13,085	3,510	15,819	4,549	3,072	30,883
	Pwani	2,588	2,930	13,545	4,706	15,006	7,635	3,571	18,807
	Dar es Salaam	241	215	4,133	1,807	4,283	2,022	854	8,290
	Lindi	427	358	4,040	1,511	4,256	1,866	2,588	11,890
	Mtwara	660	360	360	9	660	369	170	889
	Ruvuma	2,349	2,644	1,203	183	3,553	2,827	502	3,418
	Iringa	566	151	544	73	727	224	126	833
	Mbeya	1,135	663	3,306	1,439	3,634	2,101	419	1,709
	Singida	123	25	123	25	123	50	26	2
	Tabora	795	177	1,566	263	2,214	440	181	2,637
	Rukwa	535	78	823	112	1,224	190	671	1,569
	Kigoma	556	602	1,703	307	2,132	909	590	5,559
	Shinyanga	1,487	547	2,155	1,137	2,559	1,684	366	1,784
	Kagera	0	0	2,440	53	2,440	53	0	2,611
	Mwanza	2,084	1,801	12,838	1,054	13,851	2,855	1,022	22,737
	Mara	1,747	221	8,379	946	8,978	1,169	613	3,854
Manyara	315	100	393	171	514	280	129	3,243	
<b>Total</b>	<b>27,295</b>	<b>17,111</b>	<b>83,442</b>	<b>22,819</b>	<b>99,020</b>	<b>39,938</b>	<b>21,707</b>	<b>199,895</b>	
Sisal	Ruvuma	0	0	128	104	128	104	104	71
	Iringa	60	6	0	0	60	6	6	2
	Mbeya	0	0	17	2	17	2	0	0
	Shinyanga	376	16	1,243	5,704	1,243	5,719	16	23
	Mwanza	0	0	83	17	83	17	0	0
	Mara	135	14	0	0	135	14	6	20
<b>Total</b>	<b>579</b>	<b>34</b>	<b>1,472</b>	<b>5,827</b>	<b>1,988</b>	<b>5,861</b>	<b>130</b>	<b>116</b>	
Sugar cane	Dodoma	1,623	514	290	84	1,908	598	482	8,754
	Arusha	0	0	121	31	121	31	31	441
	Kilimanjaro	1,461	437	1,445	505	2,489	942	474	8,656
	Tanga	5,571	1,654	2,867	702	7,759	2,356	4,216	30,667
	Morogoro	7,687	7,797	1,862	533	9,463	8,330	7,416	213,556
	Pwani	127	19	87	56	214	75	10	10
	Dar es Salaam	0	0	57	16	57	16	16	1
	Lindi	212	50	57	6	269	56	58	1,149
	Mtwara	92	7	92	37	92	45	7	18
	Ruvuma	5,142	1,212	1,079	270	6,077	1,482	1,183	16,262
	Iringa	580	84	982	147	1,501	211	93	1,797
	Mbeya	1,462	354	1,210	285	2,568	839	729	16,668
	Singida	1,267	479	510	62	1,429	541	144	6,267
	Tabora	926	218	269	66	1,051	303	115	3,549
	Rukwa	4,847	1,775	135	22	4,782	1,797	4,327	64,638
	Kigoma	1,675	406	1,673	537	3,348	943	485	12,721
	Shinyanga	1,078	286	662	1,323	1,200	1,609	212	12,468
Kagera	636	93	3,260	138	3,796	230	120	1,242	
Mwanza	1,382	400	262	46	1,644	455	229	5,098	
Mara	900	350	106	33	900	383	181	4,512	
Manyara	87	9	112	14	199	22	29	222	
<b>Total</b>	<b>36,453</b>	<b>16,333</b>	<b>17,292</b>	<b>4,930</b>	<b>59,607</b>	<b>21,282</b>	<b>28,567</b>	<b>404,894</b>	

**7.3.6 PERMANENT CROPS: Mono and Mixed Crops by Area Planted, Area Harvested and Quantity Harvested Type of Planting Crop and Region-Mainland**

Crop/Region	Area of Plants/Trees/ Bushes in Mono Crop (ha)		Area Covered by Permanent Crop in Mixed Crop (ha)		Total Area Planted (ha) Mono+Mixed		Area Harvested (ha)	Quantity Harvested (tons)	
	Number of households	Area	Number of households	Area	Number of households	Area	Area	tons	
Palm oil	Kilimanjaro	0		125	3	125	3	3	60
	Tanga	90	18	0		90	18	18	9
	Morogoro	647	418	2,865	340	2,953	758	81	2,211
	Pwani	79	18	319	74	398	90	31	54
	Dar es Salaam	4	0	408	124	408	125	108	381
	Lindi	0		0		0	0	0	18
	Ruvuma	334	95	202	38	463	132	102	181
	Mbeya	2,085	289	13,432	3,125	13,931	3,414	2,910	3,558
	Tabora	805	414	2,964	1,744	3,425	2,158	115	416
	Rukwa	379	125	245	12	489	138	80	2,403
	Kigoma	12,411	6,657	4,732	1,600	15,819	10,287	9,573	40,607
	Kagera	149	8	5,770	179	5,770	185	3,529	427
	Mwanza	85	1	1,095	30	1,095	31	8	904
<b>Total</b>	<b>17,070</b>	<b>10,070</b>	<b>31,955</b>	<b>7,288</b>	<b>44,988</b>	<b>17,338</b>	<b>15,797</b>	<b>61,188</b>	
Tea	Kilimanjaro	114	5	0		114	5	5	5
	Tanga	3,618	1,503	1,347	439	4,714	1,941	1,794	5,415
	Iringa	1,078	899	0		1,078	899	1,191	8,323
	Mbeya	8,116	3,050	2,076	1,558	8,400	4,808	3,186	16,881
	Kagera	149	80	140	57	289	117	117	237
	<b>Total</b>	<b>13,875</b>	<b>5,288</b>	<b>3,563</b>	<b>2,054</b>	<b>15,258</b>	<b>7,348</b>	<b>6,273</b>	<b>31,677</b>
Other	Dodoma	2,408	1,419	4,723	535	6,258	1,053	771	1,748
	Arusha	1,928	51	9,798	863	9,908	814	354	2,874
	Kilimanjaro	11,885	2,280	45,933	8,770	49,748	11,050	4,718	20,888
	Tanga	5,805	2,482	16,214	5,518	20,351	7,968	5,138	82,711
	Morogoro	5,109	2,159	19,845	9,612	23,479	11,771	7,776	15,685
	Pwani	2,037	1,904	11,599	5,488	12,733	7,372	3,202	14,529
	Dar es Salaam	210	84	2,850	736	2,948	800	423	1,287
	Lindi	175	18	1,051	87	1,228	105	85	1,581
	Mtwara	784	385	775	315	988	680	374	113
	Ruvuma	2,483	684	1,728	339	4,148	1,023	648	2,831
	Iringa	9,598	6,272	14,702	4,452	21,114	10,725	7,878	18,343
	Mbeya	19,974	5,781	37,187	15,557	43,540	21,319	10,712	15,608
	Singida	2,087	857	3,918	574	4,533	1,430	328	403
	Tabora	1,572	321	3,804	1,209	4,939	1,530	434	1,719
	Rukwa	961	4,008	1,248	84	1,958	4,092	118	2,489
	Kigoma	2,141	378	4,220	374	5,231	753	294	3,745
	Shinyanga	4,150	838	9,184	10,030	10,447	10,866	1,322	5,921
	Kagera	4,182	3,551	72,047	9,830	74,452	13,181	1,703	22,141
	Mwanza	1,022	4,141	13,841	1,483	14,202	5,624	941	7,703
	Mara	2,764	1,058	19,969	4,382	21,040	5,421	2,138	4,755
Manyara	758	88	1,411	353	1,536	421	78	847	
<b>Total</b>	<b>83,465</b>	<b>38,670</b>	<b>295,848</b>	<b>80,349</b>	<b>336,866</b>	<b>119,028</b>	<b>48,426</b>	<b>227,935</b>	

## 7.3.7 PERMANENT CROPS: Planted Area And Area Harvested By Type Of Planting and Region

Region	Area of Plants/Trees/ Bushes in Mono Crop (ha)		Area Covered by Permanent Crop In Mixed Crop (ha)		Total Area Planted (ha) Mono+Mixed		Area Harvested (ha)
	Number of households	Area	Number of households	Area	Number of households	Area	Area
Mtwara	124,772	146,815	91,496	100,373	164,371	247,188	148,131
Lindi	55,368	60,518	47,507	21,965	89,470	82,503	57,943
Dar es Salaam	2,629	4,279	32,087	14,596	33,061	18,675	10,714
Tabora	9,235	2,691	19,856	7,236	26,592	9,929	1,806
Dodoma	23,625	15,262	22,309	9,471	40,250	24,734	15,989
Rukwa	13,843	7,484	9,044	1,326	20,537	8,810	8,879
Mwanza	11,755	9,255	58,459	8,563	65,359	17,819	4,472
Singida	7,564	2,013	9,447	7,229	11,886	9,242	896
Pwani	39,300	41,893	83,635	40,336	114,056	82,031	55,237
Shinyanga	24,026	5,044	34,829	48,376	41,160	53,420	6,333
Mara	24,537	7,783	46,078	9,052	59,733	18,635	8,383
Arusha	21,803	7,504	49,877	9,832	59,357	17,336	13,023
Manyara	21,583	15,998	31,057	18,065	34,667	33,683	22,543
Ruvuma	78,914	76,521	67,449	48,389	138,138	124,910	87,969
Tanga	58,699	29,885	75,126	32,516	114,936	62,402	44,289
Morogoro	44,879	22,884	101,288	27,829	137,656	50,712	34,764
Iringa	28,274	12,397	35,299	14,405	52,885	28,802	19,399
Kigoma	41,643	22,329	56,471	20,523	90,256	42,852	27,658
Mbeya	166,094	62,800	164,391	70,776	277,894	163,578	84,116
Kilimanjaro	70,848	26,691	284,763	97,572	312,991	114,253	78,257
Kagera	56,051	45,006	456,726	117,389	490,618	162,395	110,774
Mainland		644,441		715,867	2,376,072	1,360,309	840,595

Note: The number of households are over exaggerated due to double counting caused by the presence of 2 or more permanent household in a household



**7.3.8 PERMANENT CROPS: Number of Households Planting Permanent Crops by Region, 2002/03  
Agriculture Year-Zanzibar**

Region	Does your Household have any Permanent / Perennial Crops of					
	Have Crops/Fruit Trees		Does Not Have Crops/Fruits		Total	
	Number	%	Number	%	Number	%
North Unguja	20,900	91	1,988	9	22,888	100
South Unguja	14,276	93	1,103	7	15,379	100
Urban West	9,958	95	569	5	10,527	100
North Pemba	24,906	99	319	1	25,225	100
South Pemba	21,783	97	719	3	22,502	100
Total	91,824	95	4,699	5	96,522	100

**7.3.9 PERMANENT CROPS: Area planted, Quantity Harvested And Area Harvested by Permanent Crops-Zanzibar**

Crop	Number of Households	Total Area Planted (ha)	Area Harvested (ha)	Quantity harvested (ha)
Cashew nut	28	1	1	8
Banana	58,917	13,573	10,703	43,792
Mango	12,819	1,734	1,372	6,546
Pigeon pea	4,625	792	720	313
Coconut	22,012	6,750	4,512	13,938
Orange	10,384	1,712	1,355	8,283
Sugar cane	975	329	280	2,653
Other	40,108	7,257	5,150	17,753
Total	147,868	32,147	24,074	93,284

## 7.3.10 PERMANENT CROPS: Number of Households and Area Planted by Type of Farm (small scale/large scale) and Crop Type

Regions	Small scale Mainland and Zanzibar				Large scale				Total		
	Number of households	Area planted with permanent monocrops (ha)	Area planted with permanent crops mixed with annuals (ha)	Total area planted	Number of households	Area planted with permanent monocrops (ha)	Area planted with permanent crops mixed with annuals (ha)	Total area planted	Number of households	Area planted	%
Cashew nut	207,287	268,802	145,718	414,520	66	6,308	281	6,589	207,352	421,108	28.7
Banana	576,241	124,328	186,348	318,676	141	976	21	996	576,382	320,672	21.9
Coffee	315,181	74,365	106,295	180,649	164	11,669	1,083	12,749	315,345	193,398	13.2
Mango	78,580	22,642	76,534	99,176	110	1,571	67	1,637	78,670	100,813	6.9
Pigeon pea	136,014	44,244	45,621	90,085	8	0	3	3	136,022	90,088	8.1
Coconut	33,167	32,157	38,168	88,313	53	4,812	366	5,181	33,203	73,494	6.0
Orange	43,188	17,186	24,454	41,643	122	1,320	10	1,330	43,319	42,972	2.9
Sisal	438	34	5,827	5,861	40	35,031	0	35,031	498	40,892	2.8
Super onion	33,167	16,256	5,032	21,288	57	17,268	86	17,354	33,224	38,942	2.7
Palm oil	27,834	10,070	7,203	17,273	40	2,809	4	2,813	27,874	20,147	1.4
Tea	14,781	5,288	2,064	7,344	34	10,282	0	10,282	14,815	17,022	1.2
Cocoa	25,284	8,420	11,484	18,904	138	138	272	410	25,400	18,994	1.2
Pawpaw	17,045	3,479	11,494	14,973	557	559	1,119	1,678	17,602	14,991	1.0
Jack fruit	6,307	862	13,844	14,706	0	0	0	0	6,307	14,788	1.0
Avocado	28,844	3,835	9,780	13,415	47	0	47	47	28,891	13,417	0.9
Pineapple	10,180	6,783	6,102	12,885	7	7	14	21	10,197	12,870	0.9
Guava	8,789	2,941	7,274	10,216	39	40	78	118	8,808	10,217	0.7
Lima/Lemon	4,248	4,480	1,511	5,991	12	14	26	40	4,280	5,092	0.4
Mandarine/Tangerine	3,078	449	5,520	5,969	12	13	25	38	3,090	5,970	0.4
Pomelo	135	0	3,328	3,328	0	0	0	0	135	3,328	0.2
Black pepper	1,630	690	942	1,632	0	0	0	0	1,630	1,632	0.1
Sour soup	822	353	402	1,364	0	0	0	0	822	1,364	0.1
Wattle	415	195	197	392	9,034	0	0,004	9,038	4,419	993	0.1
Sher fruit	6,307	186	781	967	0	0	0	0	6,307	967	0.1
Grape fruit	500	401	284	885	500	500	1,000	2,000	1,000	816	0.1
Clove	1,176	610	238	847	0	0	0	0	1,176	847	0.1
Mpeheri	1,407	150	428	678	0	0	0	0	1,407	678	0.0
Grape	792	308	59	367	72	0	72	144	864	385	0.0
Rubber	123	0	53	53	490	0	490	245	613	298	0.0
Malay Apple	389	137	109	243	0	0	0	0	389	243	0.0
Cinnamon	320	62	106	188	0	0	0	0	320	188	0.0
Tamarind	182	28	66	83	0	0	0	0	182	83	0.0
Kapok	108	0	25	25	56	0	56	56	164	51	0.0
Mahesheli	364	50	25	73	0	0	0	0	364	73	0.0
Bilimbi	33	10	54	85	0	0	0	0	33	85	0.0
Rambutan	272	0	33	33	0	0	0	0	272	33	0.0
Durian	116	0	12	12	0	0	0	0	116	12	0.0
Flower	0	0	0	0	17	0	17	17	17	9	0.0
Other Fruits	0	0	0	0	0	0	0	0	1	8	0.0
Nutmeg	0	0	0	0	0	0	0	0	0	0	0.0
Bread fruit	0	0	0	0	0	0	0	0	0	0	0.0
<b>Total</b>	<b>1,586,355</b>	<b>647,178</b>	<b>724,706</b>	<b>1,372,185</b>	<b>11,831</b>	<b>83,296</b>	<b>14,159</b>	<b>97,455</b>	<b>1,600,186</b>	<b>1,407,443</b>	<b>100.0</b>

## 7.3.11 PERMANENT CROPS: Total Area Of Input Application By Input Type And Crop

Regions	Total Input Use												Total area planted		
	Area irrigated	%	Area using farm yard manure	%	Area using compost	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%		Area using pesticide	%
Mango	18,128	16.4	10,573	9.98	2,988	2.39	233	0.21	488	0.45	842	0.78	2,333	2.07	112,977
Pigeon peas	8,448	7.22	8,708	9.74	881	0.96	1,205	1.35	1,887	2.22	885	0.77	3,810	4.26	68,588
Oranges	8,126.36	14.84	6,233	12.74	1,710	4.15	280	0.68	918	2.19	252	0.50	1,930	4.81	41,863
Coffee	27,173	14.8	89,338	45.12	10,725	5.42	26,636	13.45	40,528	24.89	11,858	6.88	87,257	34.04	187,572
Sugar cane	5,211	24.2	3,292	15.44	1,369	6.42	3,870	17.21	250	1.20	2,487	11.48	711	3.29	21,608
Banana	61,042	15.7	115,878	35.35	27,280	8.27	2,968	0.90	1,834	0.58	2,450	0.72	3,882	1.17	331,496
Cashew nut	58,842.72	12.8	8,914	1.50	10,985	2.35	4,888	1.07	172,682	37.25	4,740	1.09	27,357	5.90	463,780
Cassava	7,016.55	1.21	43,987	7.33	9,183	1.58	3,883	0.66	2,210	0.37	3,377	0.57	2,743	0.46	578,236

## 7.3.12 PERMANENT CROPS: Total Area Of Input Application On Mango By Input Type And Crop And Region

Regions	Crop : Mango												Total area planted		
	Area irrigated	%	Area using farm yard manure	%	Area using compost	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%		Area using pesticide	%
Dodoma	137	16.1	158.05	18.5	23.48	2.8	8.98	1.2	0.00	0.0	0.00	0.00	20.35	2.39	852.00
Arusha	30	29.2	28.07	28.8	28.48	28.3	0.00	0.0	0.10	0.1	0.10	0.09	24.36	23.28	104.64
Kilimanjaro	2,653	50.8	3,281.32	37.8	1,041.11	12.0	8.24	0.1	87.50	0.8	8.16	0.09	1,820.58	20.98	8,677.68
Tanga	824	13.0	43.16	0.7	367.00	5.9	4.40	0.1	5.92	0.1	9.92	0.15	5.92	0.09	8,347.93
Morogoro	901	7.8	32.82	0.5	23.56	0.3	21.88	0.3	10.18	0.1	13.82	0.18	1.58	0.03	7,228.07
Pwani	419	12.5	257.85	7.7	188.41	5.6	19.35	0.6	13.25	0.4	0.35	0.01	15.83	0.47	3,351.23
Dar es Salaam	406	13.0	368.87	12.6	38.03	1.3	5.12	0.2	73.53	2.4	122.18	3.84	63.51	2.04	3,111.84
Lindi	310	12.7	2.24	0.1	0.00	0.0	0.00	0.0	5.98	0.2	4.84	0.20	29.61	1.20	2,483.64
Mtwara	488	12.5	0.0	0.0	0.00	0.0	0.00	0.0	2.13	0.1	5.83	0.18	0.00	0.00	3,923.87
Ruvuma	388	13.8	80.84	1.8	32.10	1.2	188.23	8.8	0.94	0.0	54.48	1.82	20.38	0.72	2,815.81
Iringa	411	12.3	390.82	12.2	0.00	0.0	0.00	0.0	5.53	0.2	5.53	0.17	5.53	0.18	3,148.14
Mbeya	1,305	14.8	332.32	4.0	402.00	4.8	2.32	0.0	53.62	0.6	228.52	2.80	50.62	0.58	8,837.42
Singida	2,868	75.0	470.09	12.3	10.81	0.3	0.00	0.0	0.00	0.0	0.00	0.00	0.00	0.00	3,821.30
Tabora	1,162	25.2	1,044.68	22.6	261.78	6.7	1.02	0.0	17.74	0.4	10.11	0.22	11.48	0.26	4,991.29
Rukwa	278	14.8	22.88	1.2	8.71	0.4	0.00	0.0	12.70	0.7	8.10	0.42	72.33	3.78	1,068.58
Kigoma	1,032	12.9	15.45	0.2	7.94	0.1	0.00	0.0	0.00	0.0	1.74	0.02	0.00	0.00	7,872.32
Shinyanga	3,483	12.3	3,385.32	12.1	118.26	0.4	0.00	0.0	134.70	0.8	38.90	0.14	136.12	0.48	28,289.00
Kagera	648	12.6	31.73	0.6	103.63	2.0	5.98	0.1	18.17	0.4	20.05	0.39	19.89	0.38	5,180.40
Mwanza	1,078	12.8	436.11	5.2	34.57	0.4	0.00	0.0	24.82	0.3	7.59	0.09	13.19	0.16	8,482.33
Mara	278	15.0	368.74	21.5	9.18	0.5	0.00	0.0	8.37	0.4	0.51	0.03	21.13	1.14	1,858.35
Mtanyika	18	18.1	65.84	54.7	0.00	0.0	0.00	0.0	2.32	2.0	0.00	0.00	0.23	0.19	120.36
Total	18,128	16.4	10,875.55	9.7	2,696.38	2.4	233.30	0.2	457.80	0.4	541.96	0.48	2,383.32	2.07	112,977.77



7.3.13 PERMANENT CROPS: Total Area Of Input Application Pigeon Peas By Input Type And Crop And Region

Region	Crop : Pigeon peas														
	Area irrigated	%	Area using farm yard manure	%	Area using compost	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%	Area using pesticide	%	Total area planted
Dodoma	877	4.87	2,383.14	12.11	750.06	3.81	482.02	2.35	0.00	0.00	226.00	1.18	384.78	3.02	18,878.26
Arusha	448	7.93	2,807.54	48.68	15.73	0.28	48.23	0.87	84	1.13	74.21	1.31	651.30	11.48	5,674.15
Kilimanjaro	78	15.23	183.82	32.29	18.29	3.04	0.00	0.00	0	0.00	0.00	0.00	25.08	4.17	802.15
Tanga	287	11.58	0.00	0.00	0.00	0.00	0.00	0.00	7	0.27	7.41	0.30	13.80	0.55	2,483.52
Morogoro	340	16.07	0.00	0.00	0.00	0.00	0.00	0.00	28	1.22	25.83	1.22	76.50	3.62	2,116.33
Pwani	170	11.37	7.87	0.51	0.00	0.00	38.88	3.94	0	0.00	2.17	0.19	16.43	1.10	1,483.90
Dar es Salaam	9	8.98	10.18	10.88	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	35.47
Lindi	1,358	8.64	0.00	0.00	0.00	0.00	0.00	0.00	154	1.08	4.12	0.03	15.17	0.11	14,094.88
Mwanza	1,140	14.51	0.00	0.00	0.00	0.00	0.00	0.00	188	2.40	0.00	0.00	124.35	1.58	7,854.21
Ruvuma	628	12.81	0.00	0.00	0.00	0.00	80.43	1.58	878	17.23	0.00	0.00	8.35	0.16	5,099.24
Iringa	12	11.58	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	101.02
Mbeya	14	11.65	24.24	18.84	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	121.86
Singida	4	8.73	29.71	45.98	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	84.82
Tabora	2	5.14	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	38.94
Rukwa	27	15.67	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	182.39
Kigoma	48	4.83	38.83	4.05	85.87	8.80	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	987.25
Shinyanga	348	22.85	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	1,713.13
Kagera	25	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	290.54
Mwanza	7	12.50	13.48	25.71	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	52.44
Manyara	488	1.82	3,198.08	11.95	0.00	0.00	658.09	2.08	67	0.25	342.13	1.28	2,284.00	8.64	20,754.97
Total	6,448	7.22	8,707.60	9.74	680.64	0.99	1,208.30	1.35	1,937	2.22	684.86	0.77	3,809.53	4.26	89,358.07

7.3.14 PERMANENT CROPS: Total Area Of Input Application Oranges By Input Type And Crop And Region

Regions	Crop : oranges														
	Area irrigated	%	Area using farm yard manure	%	Area using compost	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%	Area using pesticide	%	Total area planted
Dodoma	31.29	58.66	50	54.81	0	0.00	0	0.00	0.00	0.00	0.00	0.00	3	5.5	52
Arusha	10	3.71	5	1.78	0	0.00	3	0.98	3	0.92	0.01	3	1.3	282	
Kilimanjaro	724.00	55.66	778	58.76	144	11.09	175	13.07	188	14.4	55.83	4.29	375	28.8	1,398
Tanga	1,207.77	12.37	1,264	12.89	147	1.51	0	0.00	177	1.7	0.16	0.00	243	2.4	10,236
Morogoro	670.04	12.12	13	0.28	8	0.18	0	0.00	7	0.2	0.23	0.00	8	0.2	4,704
Pwani	1,047	13.10	205	2.57	818	10.23	20	0.25	126	1.6	12.48	0.16	50	0.6	8,002
Dar es Salaam	288	12.88	1,096	54.82	13	0.67	3	0.13	38	1.8	5.35	0.32	49	2.4	2,005
Lindi	250.20	12.77	1	0.04	0	0.00	0	0.00	1	0.0	3.85	0.19	1	0.0	1,988
Mwanza	80	10.76	8	2.03	0	0.00	0	0.00	0	0.0	0.00	0.00	0	0.0	461
Ruvuma	383.17	12.80	162	5.31	3	0.10	0	0.01	0	0.0	0.48	0.02	7	0.2	2,688
Iringa	79.07	34.31	37	16.14	2	1.06	41	17.82	0	0.0	0.00	0.00	53	23.2	231
Mbeya	248.32	12.54	103	5.22	208	10.39	0	0.00	172	8.6	50.23	2.54	176	8.8	1,860
Singida	0.006	12.50	50	88.87	0	0.00	0	0.00	0	0.0	0.00	0.00	0	0.0	30
Tabora	134	35.18	78	18.80	180	39.02	44	9.48	6	1.2	0.30	0.00	90	19.6	461
Rukwa	30.08	13.41	0	0.18	1	0.24	0	0.00	0	0.0	0.45	0.20	18	8.1	224
Kigoma	125	13.61	11	1.68	0	0.00	0	0.00	0	0.0	0.10	0.01	0	0.0	925
Shinyanga	329.48	19.48	99	5.91	188	10.04	0	0.00	20	1.2	118.90	7.13	629	31.5	1,682
Kagera	10.52	12.50	1	1.41	0	0.00	0	0.00	0	0.0	0.00	0.00	0	0.0	85
Mwanza	384.16	13.22	771	26.62	18	0.63	0	0.01	188	6.7	2.16	0.07	163	8.6	2,906
Mara	182	13.75	235	18.96	0	0.01	0	0.00	0	0.0	0.10	0.01	96	8.1	1,179
Manyara	112	31.02	286	50.48	0	0.00	0	0.00	15	5.1	0.00	0.00	64	22.3	287
Total	6,126.36	14.84	5,233	12.74	1,710	4.16	285	0.68	918	2.2	252.17	0.60	1,930	4.6	41,663

7.3.15 PERMANENT CROPS: Total Area Of Input Application Coffee By Input Type And Crop And Region

Regions	Crop : Coffee														Total area planted
	Area irrigated	%	Area using farm yard manure	%	Area using compost	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%	Area using pesticide	%	
Arusha	837	13.6	6,204	85.1	0	0.0	660	8.4	2,410	36.7	494.39	7.61	3,093	47.0	6,682
Kilimanjaro	7,186	18.8	31,100	81.8	845	1.7	1,338	3.5	10,377	27.1	1,414.16	3.68	13,966	38.5	38,963
Tanga	348	12.6	428	14.1	6	0.2	0	0.0	86	2.1	0.00	0.00	81	2.8	3,103
Morogoro	42	12.5	0	0.0	98	25.8	0	0.0	0	0.0	0.00	0.00	0	0.0	384
Ruvuma	3,804	12.8	18,375	81.6	348	1.2	5,322	17.8	14,896	50.0	2,291.23	7.68	25,032	84.9	29,495
Iringa	317	12.3	1,536	62.8	186	8.4	848	22.1	919	31.4	48.08	1.68	1,128	38.8	2,812
Mbeya	6,652	14.2	22,469	35.4	8,266	13.1	17,379	27.4	16,548	26.1	7,060.33	11.12	21,126	33.7	62,636
Rukwa	12	28.0	0	0.0	0	0.0	0	0.0	0	0.0	0.00	0.00	0	0.0	47
Kigoma	204	12.8	452	21.7	222	10.7	786	38.7	821	38.4	38.87	1.77	961	47.1	2,063
Kegeya	5,090	12.7	7,412	15.9	928	2.0	828	1.4	288	0.8	268.92	0.57	318	0.7	45,871
Mwanza	12	12.6	1	1.0	0	0.0	0	0.0	0	0.0	0.00	0.00	0	0.3	98
Mara	515	14.2	1,174	31.1	0	0.0	0	0.0	121	3.3	13.48	0.38	412	10.9	3,771
Manyara	161	12.6	1,134	92.6	9	0.7	0	0.7	1,047	86.4	13.09	1.07	1,090	88.8	1,228
Total	27,173	14.6	89,339	46.1	10,726	6.4	26,638	13.6	49,658	24.9	11,868.54	6.88	67,257	34.0	197,672

7.3.16 PERMANENT CROPS: Total Area Of Input Application Sugar Cane By Input Type And Crop And Region

Regions	Crop : Sugar cane														Total area planted
	Area irrigated	%	Area using farm yard manure	%	Area using compost	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%	Area using pesticide	%	
Dodoma	119	14.0	148	17.2	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	859.04
Arusha	31	100.0	7	21.8	0	0.0	24	78.1	0.00	0.0	0	0.0	0.00	0.00	31.27
Kilimanjaro	505	52.2	253	25.2	145	15.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	966.95
Tanga	310	12.7	109	6.7	42	1.7	207	8.2	7.81	0.3	0	0.2	7.81	0.30	2,624.89
Morogoro	1,036	12.7	167	2.1	1,002	12.7	3,274	41.4	117.87	1.4	2,378	28.1	6.08	0.00	8,183.24
Pwani	10	12.5	0	0.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	78.17
Der es Salaam	2	12.5	0	0.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	14.90
Lindi	15	26.5	1	1.7	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	57.41
Mwanza	6	12.5	46	100.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	44.63
Ruvuma	296	17.8	161	10.8	31	2.1	182	10.2	3.33	0.3	3	0.3	3.33	0.22	1,483.08
Iringa	82	33.1	33	12.1	14	4.9	0	0.0	0.00	0.0	0	0.0	20.04	9.23	217.26
Mbeya	227	26.1	102	12.9	0	0.0	0	0.0	27.21	3.2	27	3.2	39.24	4.87	840.10
Shigda	117	21.6	75	14.4	65	11.9	0	0.0	0.00	0.0	0	0.0	13.27	2.45	542.38
Tabora	242	78.7	63	17.2	8	2.6	13	4.1	0.00	0.0	0	0.0	62.67	20.32	307.83
Rukwa	303	18.8	444	24.7	4	0.2	0	0.0	62.14	3.8	17	1.0	76.34	4.24	1,798.43
Ngoeny	268	28.4	0	0.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	943.89
Shinyanga	1,485	92.8	1,326	83.0	0	0.0	0	0.0	40.88	2.8	41	2.8	488.67	30.28	1,813.83
Kegeya	30	12.5	0	0.0	60	25.3	0	0.0	0.00	0.0	0	0.0	0.00	0.01	257.07
Mwanza	80	17.6	124	27.2	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	454.87
Mara	84	18.7	171	44.5	0	0.0	0	0.0	0.00	0.0	0	0.0	0.00	0.00	383.32
Manyara	5	19.5	1	5.3	1	10.9	0	0.0	0.00	0.0	14	86.2	0.00	0.00	24.20
Total	5,211	24.2	3,282	15.4	1,369	6.4	3,870	17.2	259.14	1.2	2,487	11.5	711.18	3.29	21,606.56

7.3.17 PERMANENT CROPS: Total Area Of Input Application Bananas By Input Type And Crop And Region

Regions	Crop : Banana														Total area planted
	Area irrigated	%	Area using farm yard manure	%	Area using compost	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%	Area using pesticide	%	
Dodoma	1,512	84.1	1,122.58	82.5	44.54	2.5	0.00	0.0	0.00	0.00	0.00	0.00	20	1.13	1,797
Arusha	1,809	32.1	4,982.41	77.4	105.46	1.9	83.03	1.5	270.58	4.83	168.54	2.98	387	5.51	5,636
Kilimanjaro	12,458	22.4	50,837.42	85.8	1,813.24	2.7	1,181.33	2.0	884.18	0.98	1,198.32	2.02	1,302	2.21	58,862
Tanga	1,189	13.7	258.35	3.0	41.44	0.5	0.00	0.0	15.04	0.17	21.35	0.25	13	0.15	2,596
Morogoro	1,228	13.0	635.83	6.7	106.03	1.1	0.00	0.0	63.94	0.68	9.20	0.10	19	0.20	2,545
Pwani	490	12.8	283.37	7.4	124.88	3.3	0.81	0.0	17.31	0.48	6.94	0.17	28	0.73	3,610
Dar es Salaam	185	15.3	331.24	27.8	88.04	7.4	3.43	0.3	3.58	0.79	1.88	0.14	8	0.63	1,209
Lindi	88	13.0	6.98	1.4	1.18	0.2	0.00	0.0	0.81	0.18	0.24	0.05	0	0.04	906
Mtwara	35	8.0	0.00	0.0	8.52	2.2	0.00	0.0	21.44	4.99	21.44	4.99	21	4.89	430
Ruvuma	1,088	13.6	1,468.16	17.8	639.16	8.6	128.88	1.5	41.73	0.50	94.92	1.15	281	3.40	2,266
Iringa	1,830	18.0	636.83	6.3	1,891.85	20.2	88.21	0.9	88.71	0.92	81.35	0.82	153	1.52	2,682
Mbeya	7,024	13.3	14,791.84	27.9	9,338.84	17.8	1,449.87	2.7	231.70	0.44	414.83	0.78	448	0.84	53,009
Singida	435	12.9	312.88	9.3	229.70	8.8	0.00	0.0	15.70	0.47	58.28	1.73	18	0.53	3,374
Tetete	688	42.8	912.23	55.1	187.79	10.1	0.10	0.0	0.00	0.00	0.00	0.00	7	0.48	1,827
Rukwa	301	16.8	125.08	6.5	4.82	0.2	1.82	0.1	5.77	0.30	7.46	0.39	6	0.30	1,925
Ngoma	2,753	13.3	4,188.82	20.3	2,355.55	10.9	21.94	0.1	18.38	0.09	81.38	0.39	88	0.33	20,814
Shinyanga	473	12.5	555.83	14.7	73.10	1.9	0.00	0.0	49.63	1.32	158.91	4.14	50	1.32	3,772
Kagera	15,863	12.7	25,180.81	22.8	10,246.55	8.2	0.00	0.0	335.18	0.27	88.88	0.08	787	0.81	128,278
Mwanza	335	13.7	988.25	40.8	5.10	0.0	0.00	0.0	0.00	0.00	0.07	0.00	0	0.00	2,445
Mara	545	12.9	2,148.49	48.2	286.18	6.1	0.00	0.0	72.60	1.88	28.55	0.65	249	5.75	4,324
Manyara	736	14.7	4,731.84	84.4	32.44	0.6	0.00	0.0	0.02	0.00	0.23	0.00	70	1.38	3,019
Total	51,042	13.7	118,678.14	35.4	27,380.21	8.3	2,857.88	0.8	1,894.38	0.93	2,388.37	0.72	3,892	1.17	331,466

7.3.18 PERMANENT CROPS: Total Area Of Input Application Cashew nut by Input Type And Crop And Region

Regions	Crop : Cashewnut														Total area planted
	Area irrigated	%	Area using farm yard manure use	%	Area using compost use	%	Area using inorganic fertilizer	%	Area using fungicide	%	Area using herbicide	%	Area using pesticide	%	
Tanga	1,248.38	12.6	170	1.7	0	0.0	0	0.0	430.33	4.3	0	0.0	154	1.6	10,078
Morogoro	81.58	12.3	3	0.4	1	0.1	0	0.0	1.75	0.3	1	0.1	2	0.3	867
Pwani	7,346.76	12.9	1,230	2.1	4,344	7.6	1,198	2.1	15,264.11	26.1	1,817	2.8	3,286	5.6	58,622
Dar es Salaam	872.81	12.5	208	3.9	194	2.9	98	1.1	425.88	7.8	108	2.0	494	9.2	3,377
Lindi	10,010.85	13.0	556	0.7	1,974	2.8	0	0.0	28,382.51	36.7	551	0.7	3,352	4.3	77,494
Mtwara	30,882.84	13.0	4,534	1.9	4,288	1.8	2,327	1.0	85,787.54	40.9	1,894	0.7	14,228	6.0	238,651
Ruvuma	8,855.45	12.3	202	0.3	108	0.1	1,343	1.8	32,350.29	43.8	880	1.2	5,943	8.0	74,230
Iringa	23.16	12.8	0	0.0	0	0.0	0	0.0	89.46	32.1	0	0.0	0	0.0	188
Mbeya	73.54	12.5	11	1.9	0	0.0	0	0.0	0.00	0.0	0	0.0	0	0.0	888
Singida	1.77	12.5	0	0.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0	0.0	14
Ngoma	3.34	12.5	0	0.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0	0.0	27
Shinyanga	0.21	12.5	0	0.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0	0.0	2
Mwanza	6.03	12.5	0	0.0	0	0.0	0	0.0	0.00	0.0	0	0.0	0	0.0	48
Total	58,842.72	12.9	6,814	1.8	10,865	2.4	4,828	1.1	172,842.85	37.3	4,740	1.8	27,357	5.8	463,780



**SECONDARY PRODUCTS**

**7.4.1 SECONDARY PRODUCTS: Number of Crop Growing Households Utilising Secondary Products by Region during 2002/03 agriculture year**

Region	Households using secondary products		Households that do not use secondary products		Total
	Number	%	Number	%	
Dodoma	71,619	22	251,493	78	323,112
Arusha	77,411	56	61,068	44	138,479
Kilimanjaro	148,630	69	65,556	31	214,187
Tanga	31,574	12	231,953	88	263,528
Morogoro	19,100	7	240,146	93	259,246
Pwani	8,868	6	130,578	94	139,446
Dar es Salaam	5,169	27	14,095	73	19,264
Lindi	6,014	4	147,001	96	153,015
Mtwara	21,983	10	207,219	90	229,202
Ruvuma	34,148	18	156,895	82	191,043
Iringa	77,398	28	201,319	72	278,717
Mbeya	96,365	26	275,284	74	371,650
Singida	115,717	65	63,682	35	179,400
Tabora	59,875	25	175,746	75	235,621
Rukwa	9,187	5	162,659	95	171,846
Kigoma	42,355	22	152,339	78	194,695
Shinyanga	138,040	37	237,507	63	375,547
Kagera	71,449	20	278,150	80	349,600
Mwanza	63,164	19	275,764	81	338,929
Mara	30,626	16	155,165	84	185,791
Manyanza	82,605	55	67,673	45	150,278
Mainland	1,211,295	25	3,551,293	75	4,762,589
Zanzibar	14,945	15	81,276	85	96,221
National	1,226,241	25	3,632,569	75	4,858,810

**7.4.2 SECONDARY PRODUCTS: Number of Crop Growing Households By Main Secondary Product Use and Region During the 2002/03 Agriculture Year**

Region	Green leaves & stem	Straw, dry stems etc.	Root, tuber etc	Flower	Fruit	Other	Total Number of Households
Dodoma	4,918	56,386	0	0	0	335	71,619
Arusha	5,861	71,550	0	0	0	0	77,411
Kilimanjaro	25,652	120,597	0	0	0	2,381	148,630
Tanga	1,125	29,975	22	0	32	419	31,574
Moregoro	3,588	14,178	122	0	77	1,137	19,100
Pwani	1,611	5,454	912	0	39	649	8,665
Dar es Salaam	1,001	3,735	389	0	0	43	5,169
Lindi	1,072	3,120	172	0	1,319	331	6,014
Mtwara	9,687	7,148	2,500	0	1,511	1,137	21,983
Ruvuma	5,186	26,520	1,379	0	0	1,063	34,148
Iringa	4,044	71,498	1,724	0	0	133	77,399
Mbeya	6,745	85,925	0	0	0	1,696	96,366
Singida	2,930	112,548	0	0	0	240	115,717
Tabora	3,367	56,507	0	0	0	0	59,875
Rukwa	1,242	6,188	239	0	78	1,442	9,187
Kigoma	16,690	25,121	395	0	0	150	42,356
Shinyanga	7,565	130,110	250	0	0	114	138,040
Kagera	4,724	55,584	513	0	0	228	71,449
Mwanza	5,687	47,090	7,942	0	0	2,445	63,164
Mara	2,875	25,710	1,798	0	0	443	30,826
Manyara	5,843	78,640	0	0	0	122	82,605
Malindi	123,215	1,051,962	18,357	0	3,055	14,706	1,211,295
Zanzibar	10,948	1,074	1,612	0	0	1,066	14,945
National	134,164	1,053,036	20,169	0	3,055	15,802	1,226,241

**7.4.3 SECONDARY PRODUCTS: Number of Crop Growing Households By Main Secondary Products Use And Region During the 2002/03 Agriculture Year**

Region	Type of Main Secondary Product Use							Total Number of households
	Feeding livestock	Building material	Fuel for cooking	Consumed by hh	Sold	Did not use	Other	
Dodoma	58,701	247	1,889	2,008	2,523	8,251	0	71,819
Arusha	71,399	458	248	428	4,620	258	0	77,411
Kilimanjaro	132,424	707	3,003	1,349	7,023	3,999	126	148,630
Tanga	24,115	1,296	660	1,475	1,695	2,134	0	31,574
Moregoro	7,464	4,387	3,584	2,721	617	128	0	19,100
Pwani	976	3,196	693	3,648	189	166	0	8,966
Dar es Salaam	1,435	270	429	2,567	205	262	0	5,169
Lindi	341	2,173	377	1,827	360	915	0	6,014
Mtwara	4,318	4,781	606	9,942	1,703	662	0	21,983
Ruvuma	15,887	950	1,605	13,710	392	1,605	0	34,148
Iringa	49,089	3,254	395	15,600	3,160	5,901	0	77,399
Mbeya	63,631	4,880	4,568	14,846	4,171	4,289	0	96,366
Singida	77,768	1,534	18,708	7,969	2,432	7,176	0	115,717
Tabora	44,386	1,784	1,383	10,178	370	1,766	0	59,875
Rukwa	3,164	1,437	3,321	617	236	111	0	9,187
Kigoma	4,905	3,690	11,762	19,782	261	1,966	0	42,356
Shinyanga	94,318	6,621	18,819	6,854	2,707	8,541	179	138,040
Kagera	12,077	148	21,171	34,036	268	1,179	2,570	71,449
Mwanza	22,462	9,747	20,022	7,166	559	3,209	0	63,164
Mara	10,081	416	17,288	1,158	251	1,454	0	30,826
Manyara	76,249	610	1,082	448	2,693	1,185	338	82,605
Total	775,201	52,666	131,730	156,654	39,655	53,117	3,213	1,211,295
Zanzibar	4,147	79	1,546	9,021	152	0	0	14,945
National	779,348	52,745	133,336	167,675	40,807	53,117	3,213	1,226,241



**7.4.4 SECONDARY PRODUCTS: Number of Crop Growing Households by Use of Secondary Product and Crop during 2002/03 agriculture year**

Crop	Type of Secondary Product Use							Total
	Feeding to Livestock	Building Material	Fuel for Cooking	Used by Household	Sold	Did not use	Other	
Maize	664,288	12,709	80,893	110,381	27,794	40,839	3,213	940,217
Paddy	56,401	37,848	311	5,096	2,063	3,636	0	105,573
Sorghum	102,546	9,710	15,731	8,381	2,280	6,988	0	143,816
Bulrush Millet	39,949	552	4,653	3,009	2,705	3,354	0	54,222
Finger Millet	14,736	597	0	1,406	305	1,711	0	18,754
Wheat	4,071	2,782	0	2,577	364	604	0	10,367
Barley	266	0	0	0	0	0	0	266
Cereals	20,500	413	52,401	37,050	1,007	7,978	170	119,520
Sweet Potatoes	33,926	0	0	7,348	780	5,107	595	47,756
Irish Potatoes	3,413	0	0	874	0	396	0	4,684
Cocoyams	787	0	0	144	0	128	149	1,207
Onions	114	0	0	0	0	0	0	114
Ginger	73	0	0	0	0	0	0	73
Beans	265,316	0	1,541	71,025	12,716	18,289	2,054	371,840
Cowpeas	9,181	0	164	2,854	140	789	0	13,128
Green Gram	563	0	0	163	0	157	0	873
Pigeon Peas	17,461	1,192	13,459	1,411	523	668	0	34,915
Chick Peas	5,197	0	0	80	29	252	0	5,558
Bambara nut	3,851	0	0	642	483	255	224	5,435
Sunflower	15,917	517	17,360	2,486	908	5,931	0	43,119
Simain	512	807	0	0	169	1,255	224	2,968
Groundnut	87,090	0	0	11,216	2,633	8,848	224	111,011
Oil Palm	0	4,945	2,578	1,919	362	34	0	9,829
Cocunut	29	6,221	2,536	2,176	863	83	0	13,927
Cashewnut	673	0	279	1,436	2,564	176	0	5,127
Soya Beans	43	0	0	131	0	0	0	174
Cotton	9,666	211	15,150	1,692	424	7,376	0	34,320
Tobacco	96	0	0	0	0	0	0	96
Coffee	1,431	0	316	621	0	521	0	2,889
Cocoa	0	0	189	0	0	0	0	189
Sugarcane	1,734	172	0	73	165	124	0	2,268
Banana	91,524	739	168	23,313	1,632	2,270	149	119,793
Avocado	2,302	138	1,384	0	0	0	0	3,824
Mango	49	0	888	131	0	59	0	1,127
Pawpaw	161	0	0	77	0	0	0	258
Orange	0	0	83	77	0	0	0	160
Mandarine	0	0	0	67	0	0	0	67
Apples	132	0	0	0	0	0	0	132
Cabbage	1,826	0	0	160	0	0	0	2,066
Tomatoes	250	0	0	460	0	159	0	870
Carrot	147	0	0	0	0	0	0	147
Chillies	8	0	0	0	0	0	0	8
Pumpkins	226	0	0	1,571	0	0	0	1,797
Egg Plant	8	0	0	0	0	0	0	8
Water Melon	8	0	0	16	0	9	0	33
Cauliflower	0	0	123	0	0	0	0	123

**7.4.5 SECONDARY PRODUCTS: Number of Households by Type of Secondary Product and Crop**

Crops	Type of secondary product				Total
	Green Leaves & Stem	Straw, Dry Stems	Fruit	Other	
Maize	0	924,855	0	14,520	939,375
Paddy	0	105,244	0	157	105,401
Sorghum	0	142,793	0	922	143,715
Bulrush Millet	0	53,881	0	341	54,222
Finger Millet	0	18,555	0	198	18,754
Wheat	0	10,287	0	0	10,287
Barley	0	266	0	0	266
Cassava	119,310	0	0	117	119,428
Sweet Potatoes	47,870	0	0	32	47,902
Irish Potatoes	0	0	0	4,864	4,864
Cocoyams	0	0	0	1,207	1,207
Onions	0	0	0	114	114
Ginger	0	0	0	73	73
Beans	0	370,443	0	524	370,967
Cowpeas	0	13,315	0	0	13,315
Green Gram	0	873	0	0	873
Pigeon Peas	0	32,296	0	2,557	34,853
Chick Peas	0	5,558	0	0	5,558
Bambaranut	0	5,435	0	0	5,435
Sunflower	0	40,703	0	2,149	42,852
Simsim	0	2,988	0	0	2,988
Groundnut	110,316	0	0	1,024	111,340
Oil Palm	9,108	0	0	430	9,538
Coconut	11,852	0	0	2,075	13,927
Cashewnut	0	0	5,060	67	5,127
Soya Beans	0	174	0	0	174
Cotton	0	34,308	0	0	34,308
Tobacco	0	98	0	0	98
Coffee	0	2,509	0	381	2,890
Cocoa	0	169	0	0	169
Sugarcane	0	2,289	0	0	2,289
Banana	119,533	0	0	206	119,739
Avocado	0	3,824	0	0	3,824
Mango	0	1,127	0	0	1,127
Pawpaw	0	258	0	0	258
Orange	0	160	0	0	160
Mandarins	0	87	0	0	87
Apples	0	132	0	0	132
Cabbage	0	0	128	1,958	2,086
Tomatoes	0	870	0	0	870
Carrot	73	0	0	0	73
Chillies	8	0	0	0	8
Pumpkins	1,797	0	0	0	1,797
Egg Plant	0	8	0	0	8
Water Melon	0	35	0	0	35
Cauliflower	0	123	0	0	123

**AGROPROCESSING**



**8.1 AGROPROCESSING: Number of Crop Growing Households reporting processing of farm products produced by Region for the 2002/03 Agricultural Year**

Processing of Farm Products					
Region	Households processing crops		Households NOT processing crops		Total Crop Growing Households
	Number	%	Number	%	
Dodoma	296,901	92	25,211	8	323,112
Arusha	107,159	89	31,319	31	138,479
Kilimanjaro	171,910	80	42,277	20	214,187
Tanga	235,784	89	27,743	11	263,528
Morogoro	232,139	89	27,107	11	259,246
Pwani	55,704	39	83,740	61	139,444
Dar es Salaam	7,803	39	11,480	62	19,284
Lindi	135,549	88	17,488	12	153,037
Mtwara	210,780	92	18,442	8	229,222
Ruvuma	188,975	99	2,088	1	191,063
Ifinga	272,110	98	6,607	2	278,717
Mbeya	351,176	94	20,474	6	371,650
Singida	187,351	93	12,049	7	199,400
Tabora	223,896	95	11,725	5	235,621
Ruwa	187,155	97	4,890	3	192,045
Kigoma	185,249	95	9,446	5	194,695
Shinyanga	328,832	87	48,718	13	377,550
Kagera	298,500	84	51,100	16	349,600
Mwanza	325,265	96	13,884	4	339,149
Mara	171,880	91	13,931	9	185,811
Manyara	136,172	88	14,108	12	150,280
Mainland	4,270,248	89	492,341	11	4,762,589
Zanzibar	53,720	58	42,802	44	96,522
National	4,323,969	89	535,142	11	4,859,111

**8.2 AGROPROCESSING: Number of Crop Growing Households By Method of Processing and Region during 2002/03 Agriculture Year**

Region	Method of Processing									
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Farmers Association	By Co-operative Union	By Trader	On Large Scale Farm	Other	By Factory	Total
Dodoma	61,046	14,924	208,367	0	0	10,146	0	2,418	0	296,901
Arusha	3,825	3,383	91,288	0	1,002	7,340	0	242	0	107,159
Kilimanjaro	5,231	17,198	136,503	0	1,045	11,307	0	180	445	171,910
Tanga	16,180	7,094	202,137	291	78	9,495	231	288	0	235,784
Morogoro	81,877	14,318	152,855	0	119	2,994	0	597	91	232,139
Pwani	40,175	1,183	13,010	99	190	588	0	380	81	55,704
Dar es Salaam	5,337	1,329	990	0	0	27	0	95	25	7,803
Lindi	59,757	8,475	62,185	412	321	8,295	103	0	80	135,549
Mtwara	113,971	755	85,481	0	580	2,294	0	6,014	655	210,780
Ruvuma	48,305	10,442	125,177	132	280	4,328	206	105	0	188,975
Ifinga	27,480	10,322	227,360	0	133	1,515	62	801	4,438	272,110
Mbeya	22,173	15,428	294,385	352	373	17,573	179	530	173	351,176
Singida	17,013	4,488	138,352	0	125	8,417	123	284	588	187,351
Tabora	21,628	9,031	192,153	0	311	509	0	54	110	223,896
Ruwa	20,209	3,397	133,195	0	119	9,585	0	331	321	187,155
Kigoma	9,241	12,618	110,871	0	0	51,088	83	385	953	185,249
Shinyanga	51,589	10,071	221,237	186	593	42,017	0	1,057	2,101	328,832
Kagera	30,982	7,808	193,197	2,576	517	80,090	0	413	3,120	298,500
Mwanza	45,446	9,544	254,456	148	339	14,929	152	151	0	325,265
Mara	42,082	12,461	115,059	0	0	1,918	117	118	135	171,880
Manyara	2,952	3,013	119,955	87	88	9,842	117	110	0	136,172
Mainland	706,387	175,147	3,079,005	4,264	6,210	270,025	1,373	14,541	13,286	4,270,248
Zanzibar	34,359	0	13,953	1,292	0	2,732	0	1,385	0	53,720
National	740,746	175,147	3,092,958	5,556	6,210	272,758	1,373	15,926	13,286	4,323,969

Based on main crop in a household

**8.3 AGRO PROCESSING: Number of Crop Growing Households By Main Product During 2002/03 Agriculture Year and Region**

Region	Main Product								Total
	Flour / Meal	Grain	Oil	Juice	Fiber	Pulp	Rubber	Other	
Dodoma	279,163	15,155	1,839	351	274	0	0	129	296,901
Arusha	100,391	8,072	698	0	0	0	0	0	107,159
Kilimanjaro	150,479	18,016	3,150	265	0	0	0	0	171,910
Tanga	218,715	13,494	1,344	762	0	144	0	1,325	235,784
Morogoro	155,687	72,230	3,626	123	124	0	0	349	232,139
Pwani	41,058	8,234	3,457	20	0	39	0	2,898	55,704
Dar es Salaam	3,219	1,558	1,987	105	0	53	0	881	7,803
Lindi	115,383	18,694	964	199	85	0	88	135	135,549
Mwara	103,922	15,423	931	0	388	0	0	96	210,760
Ruvuma	188,023	20,713	106	133	0	0	0	0	188,975
Ifinga	252,747	18,735	243	290	96	0	0	0	272,110
Mbeya	294,138	50,522	5,145	152	0	594	360	298	351,178
Singida	160,806	3,473	2,153	81	0	0	0	838	167,351
Tabora	201,184	18,970	1,148	276	0	2,079	258	0	223,896
Ruwa	155,071	9,077	2,751	185	0	0	71	0	167,155
Ugoma	185,201	8,124	8,944	980	0	0	0	0	185,249
Shinyanga	218,022	103,903	2,929	181	1,848	175	223	1,570	328,832
Kagera	275,732	3,033	119	18,556	0	0	149	0	298,500
Mwanza	200,516	34,328	203	220	0	0	0	0	325,265
Mara	184,261	8,849	202	134	203	0	90	321	171,860
Manyara	130,628	4,780	623	85	12	0	0	44	136,172
Mainland	3,734,315	453,081	43,581	23,095	3,031	3,054	1,238	8,883	4,270,248
Zanzibar	6,561	45,178	517	1,345	0	0	0	120	53,720
National	3,740,875	498,259	44,078	24,430	3,031	3,054	1,238	9,003	4,323,968

Based on main crop in a household

**8.4 AGRO PROCESSING: Number of Crop Growing Households By Main Use of Primary Processed Product During 2002/03 Agriculture Year and Region**

Region	Primary Product Use						Total
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Other	
Dodoma	291,791	1,111	1,246	1,715	1,038	0	296,901
Arusha	106,229	82	498	238	133	0	107,159
Kilimanjaro	158,700	294	11,332	783	492	309	171,910
Tanga	233,217	107	1,768	150	542	0	235,784
Morogoro	228,283	490	2,604	723	2,003	135	232,139
Pwani	54,776	100	350	173	306	0	55,704
Dar es Salaam	7,588	0	59	31	146	0	7,803
Lindi	134,837	96	152	0	360	103	135,549
Mwara	208,552	0	873	196	1,139	0	210,760
Ruvuma	187,508	129	854	280	207	0	188,975
Ifinga	267,155	0	2,443	1,739	409	345	272,110
Mbeya	338,193	330	8,698	2,428	1,169	360	351,178
Singida	165,751	120	285	143	42	0	167,351
Tabora	221,805	54	628	1,141	268	0	223,896
Ruwa	165,499	0	764	351	428	115	167,155
Ugoma	172,786	133	12,187	0	133	0	185,249
Shinyanga	322,958	898	2,352	819	1,107	898	328,832
Kagera	280,111	114	17,941	147	186	0	298,500
Mwanza	322,381	114	1,382	69	1,037	0	325,265
Mara	170,780	114	471	0	495	135	171,860
Manyara	135,512	114	258	174	227	0	136,172
Mainland	4,173,378	114	87,051	11,318	11,668	2,200	4,270,248
Zanzibar	52,028	17	143	0	1,493	39	53,720
National	4,225,407	132	87,195	11,318	13,361	2,238	4,323,968

Based on main crop in a household

## 8.5 AGRO PROCESSING: Number of Crop Growing Households By Where Product Sold During 2002/03 Agriculture Year and Region

Region	Where Sold									
	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	Total
Dodoma	5,498	879	1,610	716	667	81	1,511	7,933	277,898	296,901
Arusha	1,084	297	192	122	138	133	271	647	104,276	107,158
Kilimanjaro	2,077	1,507	0	6,025	4,762	412	371	277	156,479	171,910
Tanga	7,582	9,180	0	1,334	568	595	2,374	169	213,962	235,784
Morogoro	8,722	4,088	252	217	212	207	2,760	3,665	211,075	232,139
Pwani	1,571	377	85	183	44	129	529	3,864	49,120	55,704
Dar es Salaam	308	71	0	0	44	0	173	42	7,166	7,803
Lindi	3,324	106	0	201	55	233	88	3,175	126,366	135,549
Mtwara	7,933	557	97	295	584	94	890	1,125	199,186	210,760
Ruvuma	5,114	907	0	465	105	365	1,263	10,412	170,343	188,975
Iringa	12,820	1,987	375	578	120	134	4,068	8,593	243,455	272,110
Mbeya	8,009	7,153	1,177	876	1,531	255	6,520	4,145	320,399	351,178
Singida	2,942	890	169	258	165	0	168	410	162,680	167,351
Tabora	3,175	1,194	99	231	114	173	993	4,976	212,941	223,896
Rukwa	8,588	598	523	132	568	34	1,851	115	156,468	167,155
Kigoma	7,185	12,772	0	192	2,184	0	4,827	2,597	155,512	185,249
Shinyanga	5,874	3,453	531	2,118	1,091	451	1,020	594	313,599	328,832
Kagera	19,481	8,188	188	171	261	827	6,514	15,410	249,459	298,500
Mwanza	4,859	9,404	460	382	1,012	814	2,732	6,130	299,673	325,265
Mara	2,552	12,532	717	184	114	721	613	231	154,196	171,860
Manyara	1,531	320	117	227	121	87	1,288	15,883	116,616	136,172
Mainland	110,867	74,309	6,892	14,805	14,552	5,755	40,804	89,032	3,603,190	4,270,248
Zanzibar	187	27	0	0	0	0	145	20	53,362	53,720
National	120,033	74,336	6,892	14,805	14,552	5,755	40,949	89,053	3,656,552	4,323,969

Based on main crop in a household

## 8.6 AGRO PROCESSING: Number of Crop Growing Households By By-Product During 2002/03 Agriculture Year and Region

Region	By Product										
	Bran	Cake	Husk	Juice	Fiber	Pulp	Oil	Shell	No by-product	Other	Total
Dodoma	103,912	972	2,653	129	129	21,222	117	1,820	162,996	3,140	256,901
Arusha	22,715	440	1,234	0	0	545	0	58	82,188	0	107,158
Kilimanjaro	36,266	2,973	0	317	0	2,471	0	809	128,661	212	171,910
Tanga	40,044	1,785	3,807	99	0	1,575	0	352	167,263	879	235,784
Morogoro	128,070	1,905	50,149	446	396	122	74	358	49,662	736	232,139
Pwani	21,995	2,887	3,535	87	112	1,900	23	9,775	13,838	1,854	55,704
Dar es Salaam	2,250	1,264	1,257	25	85	14	36	87	1,228	1,555	7,803
Lindi	37,188	1,250	5,884	87	106	88	103	1,610	89,034	0	135,549
Mtwara	21,511	97	6,343	99	962	752	190	8,760	171,741	287	210,760
Ruvuma	136,264	0	13,015	107	332	0	0	213	38,757	288	188,975
Iringa	232,573	532	5,283	392	0	193	0	320	32,715	132	272,110
Mbeya	204,199	945	29,852	240	465	5,185	114	1,085	106,371	911	351,178
Singida	3,020	275	1,384	0	0	289	0	0	162,259	125	167,351
Tabora	121,581	730	9,440	123	27	455	118	337	90,968	97	223,896
Rukwa	26,476	2,550	5,016	0	191	111	201	3,252	128,993	364	167,155
Kigoma	2,899	415	937	197	192	1,339	229	3,035	169,344	6,274	185,249
Shinyanga	81,465	632	18,820	542	504	81	298	1,837	216,232	313	328,832
Kagera	3,785	0	611	235	228	2,408	170	1,960	276,143	4,762	298,500
Mwanza	12,898	104	22,420	2,029	298	740	281	615	265,670	0	325,265
Mara	853	0	2,568	132	251	257	0	308	167,391	0	171,860
Manyara	12,255	273	270	0	0	0	188	0	122,934	254	136,172
Mainland	1,288,007	20,009	182,488	5,296	4,300	39,841	2,048	37,282	2,689,004	22,183	4,270,248
Zanzibar	9,358	1,398	37,463	0	137	0	0	2,320	2,463	583	53,720
National	1,277,365	21,406	219,951	5,296	4,437	39,841	2,048	39,601	2,691,467	22,748	4,323,969

Based on main crop in a household



**8.7 AGROPROCESSING: Number of Crop Growing Households by Location of Processing Farm Products for the 2002/03 Agriculture Year - MAINLAND**

Crop	Location of processing									Total Households Processing
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Farmers Association	By Co-operative Union	By Trader	On Large Scale Farm	By Factory	Other	
Maize	337,514	151,069	2,914,912	3,899	5,913	255,450	1,213	4,630	9,231	3,683,790
Paddy	240,645	20,855	394,108	119	807	38,318	441	4,211	553	697,858
Sorghum	135,023	22,208	323,872	0	313	15,564	123	1,851	147	488,200
Bulrush Millet	28,034	5,087	102,094	0	125	3,908	98	1,071	31	138,328
Finger Millet	19,040	1,707	55,220	0	76	3,194	0	0	0	79,237
Wheat	3,814	1,328	32,185	87	200	708	0	84	0	38,366
Cassava	478,018	11,898	289,282	89	941	53,858	355	8,587	981	841,749
Sweet Potatoes	23,270	290	1,859	83	0	74	0	2,500	0	28,083
Irish Potatoes	315	0	182	0	0	0	0	96	0	603
Yams	32	0	0	0	0	0	0	0	0	32
Cocoyams	34	0	0	0	0	0	0	0	0	34
Beans	43,883	1,981	15,825	0	0	2,808	0	3,496	118	67,480
Cowpeas	23,812	431	824	0	0	0	0	142	117	25,326
Green Gram	4,113	0	98	0	0	0	0	0	0	4,211
Pigeon Peas	31,224	0	1,341	0	0	141	0	475	0	33,182
Chick Peas	8,745	348	1,631	0	0	484	0	1,587	0	10,785
Bambaranut	24,203	245	507	0	0	150	0	811	0	25,818
Sunflower	5,755	555	35,378	303	0	8,453	90	1,200	3,558	55,871
Sesame	14,818	0	1,316	0	0	237	0	0	36	16,207
Groundnut	315,488	3,131	19,515	0	208	2,592	0	11,893	807	353,434
Oil Palm	9,963	5,949	15,202	0	0	613	0	545	0	32,273
Coconut	29,339	950	138	0	0	0	0	1,748	104	32,277
Cashewnut	3,829	0	282	0	0	57	0	0	94	4,372
Soya Beans	225	0	269	0	0	0	0	65	0	559
Cotton	1,392	0	1,440	2,368	1,952	201	0	0	6,799	14,152
Tobacco	202	0	1,631	0	0	0	0	0	123	1,856
Pyrethrum	0	0	142	0	0	0	0	0	0	142
Coffee	10,125	77,063	24,017	0	0	258	174	0	2,586	114,833
Tea	0	0	0	0	0	0	144	0	146	291
Cocoa	2,078	173	82	0	0	0	0	0	0	2,332
Sugarcane	748	479	99	0	0	115	0	44	0	1,485
Banana	42,852	712	8,425	149	0	180	0	2,253	0	52,352
Avocado	0	0	138	0	0	0	0	0	0	138
Mango	490	4	0	0	0	0	0	0	0	490
Pawpaw	223	0	0	0	0	0	0	0	0	223
Pineapple	350	0	0	0	0	0	0	96	0	447
Orange	502	0	289	0	0	0	0	0	0	790
Guava	121	0	0	0	0	0	0	0	0	121
Cabbage	92	0	285	0	0	0	0	0	0	377
Tomatoes	257	0	172	0	0	0	0	27	0	456
Amaranthus	108	0	0	0	0	0	0	0	0	108
Pumpkins	278	0	0	0	0	0	0	0	0	278
Cauliflower	0	0	125	0	0	0	0	0	0	125

**8.8 AGROPROCESSING: Number of Households by Main Use of Processed Products for the 2002/03 Agricultural Year - MAINLAND**

Crop	Used for						Total
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Other	
Maize	3,648,861	3,193	11,391	11,345	7,419	1,582	3,683,790
Paddy	874,910	2,201	13,380	2,006	4,848	302	897,658
Sorghum	495,459	837	969	647	1,092	397	499,200
Sorghum Millet	137,076	120	123	29	979	0	138,328
Finger Millet	72,906	198	4,946	64	402	753	79,237
Wheat	38,233	0	72	62	0	0	38,368
Cassava	831,230	825	6,849	366	2,253	228	841,749
Sweet Potatoes	27,397	83	354	114	0	145	28,083
Irish Potatoes	603	0	0	0	0	0	603
Yams	32	0	0	0	0	0	32
Cocoyams	0	0	0	0	34	0	34
Beans	64,554	119	1,972	248	312	285	67,490
Cowpeas	24,184	0	868	115	179	0	25,326
Green Gram	4,053	0	157	0	0	0	4,211
Pigeon Peas	30,818	182	2,098	0	0	103	33,182
Chick Peas	10,316	0	350	0	0	129	10,795
Bambara nut	24,537	124	829	115	311	0	25,916
Sunflower	49,985	488	5,281	462	372	302	56,871
Simsim	12,180	0	3,381	0	151	495	16,207
Groundnut	327,747	2,452	19,521	395	2,488	831	353,434
Oil Palm	10,276	1,184	20,814	0	0	0	32,273
Coconut	31,197	134	250	232	465	0	32,277
Cashewnut	3,985	0	227	0	181	0	4,372
Soya Beans	353	134	72	0	0	0	559
Cotton	2,804	93	9,948	287	631	599	14,162
Tobacco	1,520	89	367	0	0	0	1,966
Pyrethrum	142	0	0	0	0	0	142
Coffee	1,541	804	105,653	364	6,005	255	114,633
Tea	0	0	291	0	0	0	291
Cocoa	0	88	2,244	0	0	0	2,332
Sugarcane	73	0	1,253	0	0	159	1,485
Banana	16,670	0	35,852	0	220	0	52,352
Avocado	138	0	0	0	0	0	138
Mango	486	0	4	0	0	0	490
Pawpaw	223	0	0	0	0	0	223
Pineapple	278	0	170	0	0	0	447
Orange	502	0	289	0	0	0	790
Guava	121	0	0	0	0	0	121
Cabbage	377	0	0	0	0	0	377
Tomatoes	458	0	0	0	0	0	458
Amaranthus	108	0	0	0	0	0	108
Pumpkins	278	0	0	0	0	0	278
Cauliflower	125	0	0	0	0	0	125

**8.9 AGROPROCESSING: Number of Crop Growing Households By Sale Location of Processed Products for the 2002/03 Agricultural Year - MAINLAND**

Crop	Where Sold									Total
	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	
Maize	85,513	50,900	4,170	6,549	4,949	4,824	20,321	77,412	3,429,352	3,683,790
Paddy	28,443	24,481	3,225	2,037	2,759	1,251	11,132	16,144	606,187	697,658
Sorghum	7,889	5,942	581	1,111	429	877	1,315	10,827	470,649	499,200
Bulrush Millet	1,528	330	888	132	143	0	374	1,131	133,781	138,328
Finger Millet	2,575	2,198	98	263	0	245	687	1,848	71,317	78,237
Wheat	801	381	0	135	0	128	153	0	36,867	38,368
Cassava	30,361	31,128	710	1,108	1,063	1,958	5,313	15,888	754,222	841,749
Sweet Potatoes	377	233	54	146	0	80	101	89	27,015	28,093
Idah Potatoes	0	0	0	0	0	0	0	0	803	803
Yams	0	0	0	0	0	0	0	0	32	32
Cocoyams	0	0	0	0	0	0	0	0	34	34
Beans	1,367	2,281	127	448	0	0	720	2,279	60,267	67,490
Cowpeas	1,043	194	0	143	98	0	134	148	23,696	25,328
Green Gram	384	0	0	0	0	0	0	89	3,788	4,211
Pigeon Peas	1,490	178	0	0	0	0	1,401	86	30,027	33,182
Chick Peas	102	1,257	190	74	0	0	80	0	9,081	10,795
Bambara nut	562	557	159	0	152	0	0	73	24,394	25,916
Sunflower	4,959	2,354	178	525	65	0	1,010	1,505	48,375	58,871
Sesame	488	2,948	162	143	277	0	195	723	11,273	16,207
Groundnut	18,565	7,804	2,980	791	597	287	6,711	8,278	308,322	353,434
Oil Palm	4,123	5,394	0	0	128	0	14,510	32	8,086	32,273
Coconut	1,724	575	0	0	0	0	312	81	29,586	32,277
Cashewnut	96	0	0	0	94	0	271	0	3,911	4,372
Soya Beans	134	0	0	72	0	0	0	0	353	599
Cotton	95	187	0	7,072	4,018	0	0	235	2,548	14,152
Tobacco	110	133	69	96	27	0	0	0	1,520	1,966
Pyrethrum	142	0	0	0	0	0	0	0	0	142
Coffee	1,997	5,033	8,593	25,480	44,130	0	22,430	1,079	5,920	114,633
Tea	0	0	0	0	0	144	148	0	0	291
Cocoa	37	37	0	0	0	0	682	0	1,576	2,332
Sugarcane	407	49	0	0	0	0	429	144	457	1,485
Banana	10,358	2,505	188	0	199	193	14,824	414	14,870	52,352
Avocado	0	0	0	0	0	0	0	0	138	138
Mango	0	0	0	0	4	0	0	0	488	490
Pawpaw	0	0	0	0	0	0	102	0	121	223
Pineapple	170	0	0	0	0	0	90	0	186	447
Orange	0	0	0	0	0	0	281	0	528	790
Guava	0	0	0	0	0	0	0	0	121	121
Cabbage	0	0	0	0	0	0	0	0	377	377
Tomatoe	0	0	0	0	0	0	0	0	458	458
Amaranthus	0	0	0	0	0	0	0	0	108	108
Pumpkin	0	0	0	0	0	0	0	0	278	278
Cauliflower	0	0	0	0	0	0	0	0	125	125



**STORAGE**

**9.1 CROP STORAGE: Number of Crop Growing Households Storing Crops by type of Crop stored for 2002/03 agriculture year**

Crop	Households storing		Households not storing		Quantity stored
	Number	%	Number	%	
Maize	3,444,974	72.33	1,317,616	27.67	638,318
Paddy	682,535	14.33	4,080,054	85.67	135,614
Sorghum & Millet	606,496	12.73	4,156,093	87.27	70,920
Beans & Pulses	1,647,062	34.58	3,115,507	65.42	66,889
Wheat	56,618	1.19	4,705,873	98.81	6,720
Coffee	11,728	0.25	4,750,661	99.75	696
Cashewnut	7,883	0.17	4,754,728	99.83	122
Tobacco	1,127	0.02	4,761,662	99.98	97
Cotton	22,200	0.47	4,740,586	99.53	3,701
Groundnuts/Bambara Nuts	440,029	9.26	4,322,565	90.74	29,725

**9.2 CROP STORAGE: Current Quantity Stored (tonnes) by Crop Type and Region for 2002/03 Agriculture Year**

Region	Crop Name										
	Maize	Paddy	Sorghum & Millet	Beans & Pulses	Sesweed	Cloves	Cashewnut	Tobacco	Coconut	Groundnuts/Bambara Nuts	Total
Dodoma	37,052	278	9,743	736	0	0	0	0	0	4,064	51,563
Arusha	18,114	150	206	4,205	369	0	34	0	0	0	24,571
Kilimanjaro	39,415	1,222	403	5,368	0	83	0	0	0	123	46,285
Tanga	28,545	827	0	1,514	0	9	5	4	0	54	31,295
Morogoro	17,805	18,570	1,438	955	133	0	3	0	51	154	40,407
Pwani	6,968	1,538	196	258	0	0	50	0	0	1	8,960
Dar es Salaam	374	967	0	107	0	0	14	0	0	2	1,464
Lindi	3,720	700	1,432	832	0	0	10	0	0	113	6,807
Mtanza	6,745	972	862	626	0	0	37	0	0	1,040	9,172
Pwani	34,081	3,273	810	2,589	461	6	0	0	0	469	41,800
Iringa	66,901	1,694	810	7,310	3,684	13	0	0	0	315	100,228
Mbeya	80,624	12,747	8,250	4,823	1,147	287	0	0	0	908	88,087
Singida	6,388	367	5,413	230	0	0	0	0	2	119	14,518
Tabora	28,060	11,756	6,195	1,895	0	0	0	0	16	6,895	54,718
Rukwa	43,758	6,823	9,273	5,339	477	0	0	0	13	3,463	68,844
Kigoma	18,083	1,389	520	7,798	0	0	0	10	0	712	28,512
Mtshwari	101,668	65,481	11,303	5,247	0	0	48	3,697	10,223	187,594	
Kagera	8,773	1,128	890	7,530	0	213	0	0	0	335	18,680
Mwanza	20,028	12,144	1,642	2,269	0	7	0	0	111	693	36,691
Mara	11,353	997	9,567	951	0	0	0	0	0	87	22,954
Mwanysa	57,729	2,540	1,664	5,408	550	0	0	0	0	145	68,156
Malindi	638,318	135,614	70,920	66,889	6,720	596	122	97	3,751	29,723	932,804
Zanzibar	270	2,690	44	135	467	322	0	3	1,076	30	4,900
National	638,318	135,614	70,920	66,889	6,720	921	122	100	4,857	29,753	957,811

Reference date: 31 October 2003

**9.3 CROP STORAGE: Number of households Storing Crops by Estimated Storage Loss and Crop Type for 2002/03 agriculture year**

Crop Name	Estimate Of Storage Loss								
	Little or no Loss		Up to 1/4 Loss		Between 1/4 and 1/2 Loss		Over 1/2 Loss		Total
	Number of households	%	Number of households	%	Number of households	%	Number of households	%	Number of households
Maize	2,742,158	80	510,652	15	147,950	4	44,214	1	3,444,974
Paddy	629,066	92	43,937	6	7,834	1	1,599	0	682,535
Sorghum & Millet	510,827	84	70,117	12	20,096	3	5,685	1	606,496
Beans & Pulses	1,449,154	88	143,097	9	43,394	3	11,487	1	1,647,062
Wheat	50,068	88	4,746	8	1,382	2	420	1	56,618
Coffee	11,461	96	171	1	96	1	0	0	11,728
Cashewnut	7,519	96	344	4	0	0	0	0	7,883
Tobacco	1,127	100	0	0	0	0	0	0	1,127
Cotton	22,081	96	119	1	0	0	0	0	22,200
Ground Nuts/ Bambaranuts	414,831	94	19,503	4	4,529	1	1,166	0	440,029

**9.4 CROP STORAGE: Number of Crop Growing Households Storing Crops by type of Crop stored for 2002/03 agriculture year**

Crop	Main Purpose of storage								Total Number of Households
	Food for the Household		To Sell for Higher Price		Seeds for Planting		Other		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	
Maize	3,082,170	89	75,905	2	282,607	8	4,292	0	3,444,974
Paddy	530,084	78	40,042	6	112,036	16	373	0	682,536
Sorghum & Millet	461,009	76	30,404	5	113,305	19	1,777	0	608,496
Beans & Pulses	1,134,888	89	59,705	4	449,083	27	3,726	0	1,647,082
Wheat	27,067	48	4,958	9	24,347	43	244	0	56,616
Coffee	3,539	30	5,489	55	1,180	10	540	5	11,728
Cashewnut	3,107	40	2,111	27	2,641	34	4	0	7,863
Tobacco	0	0	1,083	96	0	0	43	4	1,127
Cotton	822	4	20,390	92	0	0	988	4	22,200
Ground Nuts/ Bembereanuts	231,766	53	40,266	9	167,574	38	424	0	440,029

**9.5 CROP STORAGE: Number of Households that Stored Crops by Length of Storage and Crop Type for 2002/03 Agriculture Year**

Crop	Normal length of Storage						Total Number of Households
	Less than 3 Months		Between 3 and 6 Months		Over 6 Months		
	Number of Households	%	Number of Households	%	Number of Households	%	
Maize	548,879	18	1,701,108	50	1,180,802	34	3,430,789
Paddy	84,909	13	317,849	47	275,949	41	678,507
Sorghum & Millet	108,149	18	297,245	49	197,674	33	603,068
Beans & Pulses	263,388	18	816,595	50	558,548	34	1,638,529
Wheat	2,884	5	25,994	48	27,237	49	56,115
Coffee	3,077	26	4,840	41	3,806	32	11,728
Cashewnut	4,249	55	1,070	22	1,840	24	7,168
Tobacco	461	45	68	7	484	48	1,013
Cotton	8,883	39	13,139	59	378	2	22,200
Ground Nuts/ Bembereanuts	55,961	13	208,027	48	172,581	40	436,479

**9.6 CROP STORAGE: Number of Crop Growing Households Storing Crops by type of Crop stored for 2002/03 agriculture year**

Region	Main Method of Storage						
	In Locally Made Traditional Structure	In Improved Locally Made Structure	In Modern Store	In Sacks/Open Drum	In Airtight Drum	Unprotected Pile	Other
Dodoma	64,392	1,985	482	124,842	681	674	9,171
Arusha	24,318	5,593	1,209	73,771	6,967	379	273
Kilimanjaro	12,334	6,606	636	53,088	88,908	291	713
Tanga	170,859	3,918	134	43,243	2,035	6,288	1,089
Morogoro	61,749	4,577	385	145,443	2,619	1,670	1,859
Pwani	25,848	1,538	138	12,399	796	1,740	1,515
Dar es Salaam	2,295	426	0	4,851	1,567	29	281
Lindi	75,282	2,590	894	14,280	1,488	806	2,088
Mtwara	123,062	3,847	846	28,749	1,779	779	2,573
Ruvuma	66,102	3,702	381	108,032	247	1,490	1,821
Iringa	112,578	4,217	777	137,841	888	667	2,190
Mboya	103,639	4,054	283	222,568	866	1,261	4,016
Singida	104,564	1,172	293	54,162	537	85	940
Tabora	93,454	2,312	0	120,438	351	686	404
Rukwa	41,282	765	203	120,618	276	661	201
Qompa	65,673	1,600	0	116,687	0	822	1,251
Shinyanga	132,513	4,886	936	172,157	204	1,601	1,186
Kagera	106,472	3,706	1,100	205,139	378	578	1,718
Mwanza	55,898	2,804	1,038	233,651	744	1,553	258
Mara	82,393	1,017	141	51,336	0	182	408
Manyara	55,950	2,899	235	63,055	567	277	447
Highland	1,579,858	63,717	10,061	2,106,365	91,488	22,756	34,148
Zanzibar	13,679	1,423	0	35,075	312	2,046	1,532
National	1,893,237	68,140	10,061	2,141,440	91,799	24,842	36,679



**8.7 CROP STORAGE: Number of Households by Duration of Storage and Region for 2002/03 agriculture year**

Region	Less than 3 Months	Between 3 and 5 months	Over 5 Months
Dodoma	16,513	108,287	77,187
Arusha	16,416	57,925	35,768
Kilimanjaro	14,000	56,384	72,383
Tanga	71,111	117,504	38,847
Morogoro	35,828	117,601	64,573
Pwani	11,847	22,428	9,599
Dar es Salaam	2,339	4,128	2,981
Lindi	12,069	49,965	35,680
Mtwara	29,584	70,823	61,029
Ruvuma	22,158	69,082	70,535
Iringa	15,983	102,315	140,811
Mbeya	31,230	152,148	153,296
Singida	60,511	74,095	27,147
Tabora	40,480	123,640	53,525
Rukwa	9,939	60,208	73,847
Kigoma	32,696	109,188	44,650
Shinyanga	60,679	162,717	70,048
Kagera	37,762	156,225	124,163
Mwanza	50,475	146,134	99,137
Mara	29,965	61,778	24,032
Manyara	16,214	54,992	51,994
Mainland	639,500	1,937,269	1,331,464
Zanzibar	9,651	22,130	21,987
National	649,151	1,959,399	1,353,451

**8.8 CROP STORAGE: Number of Households by Main Purpose of Storage and Region during 2002/03 agriculture year**

Region	Food for the Household	To Sell for Higher Price	Seed for Planting	Other
Dodoma	130,144	9,665	61,455	694
Arusha	104,140	1,633	5,336	0
Kilimanjaro	134,085	3,963	4,607	121
Tanga	209,482	1,715	16,322	33
Morogoro	176,678	4,184	35,603	1,337
Pwani	34,714	807	8,463	0
Dar es Salaam	5,682	65	3,675	27
Lindi	64,099	952	32,275	69
Mtwara	103,044	2,681	55,604	95
Ruvuma	165,692	4,326	11,348	107
Iringa	236,459	8,101	11,789	760
Mbeya	301,695	15,716	18,235	729
Singida	157,714	583	3,456	0
Tabora	195,606	8,660	13,324	25
Rukwa	145,152	4,979	13,747	115
Kigoma	164,659	5,653	15,820	0
Shinyanga	296,782	5,068	9,480	113
Kagera	245,632	7,736	64,261	462
Mwanza	273,641	3,864	17,789	253
Mara	119,837	5,354	10,215	70
Manyara	118,504	2,117	2,514	55
Mainland	3,388,755	98,064	416,307	5,075
Zanzibar	20,095	2,227	31,605	0
National	3,408,850	100,291	447,912	5,075

8.9 CROP STORAGE: Number of Households by Storage Loss and Region for 2002/03 agriculture year

Region	Little or no loss	Up to 1/4 loss	Between 1/4 and 1/2 loss	Over 1/2 loss
Dodoma	159,849	28,371	8,448	4,318
Arusha	87,072	18,125	4,833	1,278
Kilimanjaro	129,024	10,246	2,401	568
Tanga	158,874	82,837	15,145	2,808
Morogoro	166,048	40,229	8,881	3,148
Pwani	33,563	8,779	3,888	444
Dar es Salaam	8,034	1,333	82	0
Lindi	88,231	22,824	8,038	2,510
Mtwara	121,498	23,957	4,315	1,885
Saruma	158,063	20,386	3,854	1,661
Singa	188,118	45,847	13,798	3,579
Mbeya	272,848	48,820	12,571	2,438
Singida	129,191	12,800	8,487	1,275
Tabora	170,818	33,370	10,774	2,883
Safwa	141,625	18,285	2,858	1,228
Shinyanga	149,802	28,318	9,770	1,848
Kigoma	268,108	39,287	9,087	1,972
Koppara	265,081	28,748	17,881	5,580
Mwanza	241,001	41,363	9,990	3,823
Mara	107,778	18,564	8,843	2,484
Manyara	100,872	15,984	3,753	2,611
Malindang	3,149,188	549,378	182,028	47,875
Zanzibar	49,498	3,328	835	823
National	3,198,942	582,700	182,880	44,187

8.10 CROP STORAGE: Number of Crop Growing Households Storing Crops by type of Crop stored for 2002/03 agriculture year

Crops	Method of Storage										Total				
	In Locally Made Traditional Structure	%	In Improved Locality Made Structure	%	In Medium Store	%	In Sacks / Open Drums	%	In Airtight Drums	%		Unprotected Pits	%	Other	%
Milias	1,398,033	41	87,898	2	8,885	0	1,690,851	64	84,883	2	19,838	1	28,482	1	3,431,811
Peanut	186,999	29	11,212	2	1,385	0	480,306	88	8,818	1	2,291	0	3,128	0	678,888
Sorghum & Millet	389,231	80	7,211	1	2,700	0	219,234	38	4,384	1	2,827	0	8,880	1	802,347
Bamais & Peas	444,999	27	18,118	1	4,389	0	1,097,439	87	43,987	3	3,311	0	28,094	2	1,837,872
Wheat	11,240	20	1,265	2	180	0	42,888	78	0	0	807	1	387	1	80,115
Coffee	1,761	16	291	2	0	0	9,209	78	133	1	0	0	344	3	11,728
Cashewnut	3,288	42	184	2	282	3	3,001	38	853	6	140	2	287	4	7,786
Tobacco	304	30	102	10	0	0	128	12	0	0	444	44	43	4	1,013
Cotton	1,489	7	2,134	10	144	1	779	4	4	0	17,288	78	387	2	22,200
Ground Nut/ Bamisnuts	141,874	32	5,388	1	1,385	0	274,888	88	3,829	1	1,842	0	7,887	2	438,884

**MARKETING**



**10.1 MARKETING: Number of Crop Producing households reporting Selling agricultural produce during 2003/04 by region**

Region	Selling Crops				Total number of households
	Number of households that sold	%	Number of households that did not sell	%	
Dodoma	190,600	59	132,312	41	322,912
Arusha	83,822	61	54,537	39	138,359
Kilimanjaro	167,709	78	46,476	22	214,185
Tanga	197,188	75	68,360	25	265,548
Morogoro	182,902	71	76,344	29	259,246
Pwani	78,458	56	60,986	44	139,444
Dar es Salaam	13,976	73	5,268	27	19,244
Lindi	167,898	71	68,019	29	235,917
Mtwara	149,163	56	116,036	44	265,199
Ruvuma	178,604	59	124,119	41	302,723
Iringa	191,265	69	87,032	31	278,297
Mbeya	292,480	79	79,189	21	371,669
Singida	81,720	46	97,880	54	179,600
Tabora	131,403	56	104,218	44	235,621
Rukwa	141,287	62	87,748	38	229,035
Kagera	167,633	56	129,082	44	296,715
Shinyanga	218,317	58	158,250	42	376,567
Kigoma	312,670	69	138,630	31	451,300
Mwanza	243,200	72	95,726	28	338,926
Mara	130,438	70	56,353	30	186,791
Manyara	68,121	59	47,156	41	115,277
Mainland	3,348,182	70	1,414,457	30	4,762,639
Zanzibar	81,248	63	47,075	37	128,323
National	3,429,427	70	1,461,533	30	4,890,960

**10.2 MARKETING: Ranking of households by Main Reason for not Marketing their Crop produce and Region, 2002/03 agriculture year**

Crop Marketing Problem	Open Market Price Too Low	No Transport	Transport Cost Too High	No Buyer	Market too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Lack of Market Information	Other
Dodoma	1	4	3	6	2	8	7	9	10	5	11
Arusha	1	5	3	6	2	8	7	11	9	4	10
Kilimanjaro	1	4	2	6	3	8	7	11	9	5	10
Tanga	1	4	3	6	2	8	7	9	10	5	11
Morogoro	1	5	3	6	2	8	7	10	9	4	11
Pwani	1	5	3	6	2	8	7	10	9	4	11
Dar es Salaam	1	4	3	6	2	7	8	11	10	5	9
Lindi	1	6	3	7	4	9	5	8	10	2	11
Mtwara	1	7	4	5	8	9	3	10	8	2	11
Ruvuma	1	7	3	4	2	8	8	9	10	5	11
Iringa	1	5	3	6	2	7	8	9	10	4	11
Mbeya	1	5	3	7	2	8	6	9	10	4	11
Singida	1	4	3	6	2	8	7	10	9	5	11
Tabora	1	4	3	6	2	8	7	9	10	5	11
Rukwa	1	4	2	6	3	8	7	10	9	5	11
Kagera	1	4	2	5	3	7	8	10	11	6	9
Shinyanga	1	5	2	7	3	9	6	8	10	4	11
Kigoma	1	5	3	7	2	9	6	10	8	4	11
Mwanza	1	4	2	6	3	10	7	8	9	5	11
Mara	1	4	3	5	2	8	7	10	9	6	11
Manyara	1	5	3	6	2	7	8	10	9	4	11
Total	1	4	3	6	2	8	7	10	9	5	11

10.3 MARKETING PROBLEM: Number of agriculture households reporting their main marketing problem by Region during 2002/03 agriculture year

Region	Main marketing problem										
	Open Market Price Too Low	No Transport	Transport Cost Too High	No Buyer	Market too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Lack of Market Information	Other
Dodoma	132,130	8,729	11,058	4,090	27,380	457	145	748	1,758	7,688	848
Arusha	61,854	4,143	7,838	1,362	11,308	471	1,281	141	778	6,318	1,255
Kilimanjaro	141,138	12,228	24,733	7,588	20,508	118	560	478	1,481	3,908	2,788
Tanga	166,408	11,220	16,701	9,486	21,866	127	560	90	468	4,561	1,107
Morogoro	134,110	8,420	19,283	9,011	31,387	328	848	424	1,755	7,542	2,277
Pwani	61,588	3,940	5,562	5,072	8,972	535	1,368	215	473	4,541	1,968
Dar es Salaam	11,908	1,109	1,701	669	3,015	91	153	0	161	698	197
Lindi	91,378	5,398	8,376	7,287	9,347	428	3,817	541	1,012	4,783	843
Mtwara	124,914	2,587	4,151	8,302	5,256	2,043	2,878	784	2,244	8,484	2,971
Ruvuma	160,793	10,837	23,309	20,848	28,824	1,285	9,885	858	2,883	12,968	628
Singida	150,844	13,245	18,408	12,174	33,581	1,248	1,068	1,104	829	10,542	2,888
Mbeya	250,812	15,922	27,307	12,420	41,707	3,937	4,801	1,424	1,477	15,222	2,899
Singida	65,830	4,388	3,718	1,822	8,374	183	82	0	745	1,872	125
Tabora	101,201	10,889	7,812	7,045	15,854	815	10,831	173	814	2,907	490
Rubwa	118,339	7,818	17,827	10,115	26,307	902	2,304	391	289	4,682	482
Kigoma	139,940	21,004	33,053	17,830	33,322	780	984	589	1,103	3,332	8,584
Shinyanga	150,355	7,844	11,958	2,962	18,745	871	8,251	5,891	1,159	7,253	5,840
Kagera	268,893	32,182	35,103	30,457	54,042	8,252	22,871	1,206	5,715	19,133	980
Mwanza	198,077	17,891	18,891	7,818	27,522	1,448	8,360	4,174	2,783	18,882	548
Mara	108,105	7,656	9,593	4,531	21,842	1,305	675	823	847	2,254	882
Nanyasa	53,033	11,821	8,204	3,057	16,331	110	0	70	760	8,425	292
Mainland	2,882,518	218,020	313,377	183,713	466,528	24,081	88,282	20,101	28,702	148,847	36,788
Zanzibar	61,054	1,043	2,234	1,127	4,081	21	783	0	0	816	119
National	2,743,572	219,063	315,612	184,840	488,580	24,111	87,085	20,101	28,702	150,183	36,870

10.4 MARKETING PROBLEMS: Number of Households Reporting Marketing Problems for agricultural products by Crop during 2002/03 Agriculture Year

Crop	Main Problem											Total
	Open Market Price Too Low	No Transport	Transport Cost Too High	No Buyer	Market too Far	Farmers' Association Problems	Co-operative Problems	Trade Union Problems	Governments' Regulatory Board Problems	Lack of Market information	Other	
Maize	1,030,876	63,244	76,684	15,682	126,515	2,796	3,658	1,907	5,432	20,638	12,188	1,369,102
Rice	282,821	21,861	30,010	5,142	35,139	1,444	1,850	946	620	11,386	2,817	350,238
Sorghum/Millet	157,889	10,707	12,145	12,504	26,900	960	1,167	316	1,167	9,086	1,585	234,331
Seedseed	23,533	1,364	2,044	1,635	3,700	60	470	132	317	1,742	183	35,200
Beans & Pulses	613,288	43,376	53,428	18,481	104,632	3,546	2,357	1,568	2,708	31,064	7,180	862,828
Cassava	252,482	15,961	30,118	31,343	33,229	980	898	910	1,695	9,181	2,914	379,268
Bananas	286,868	28,708	51,490	20,646	53,314	1,204	732	936	2,317	6,923	2,507	437,745
Croves	324,131	5,030	3,269	2,970	9,427	6,649	31,555	660	2,701	6,167	450	393,008
Vegetables	96,090	8,730	12,672	13,647	26,035	721	74	120	2,897	5,381	2,577	159,486
Fruit	161,440	16,416	20,556	46,207	28,182	429	440	816	1,960	7,354	1,323	266,126
Cashewnut	200,028	1,923	3,437	5,266	7,264	1,805	804	1,214	1,504	7,842	1,968	236,136
Cocunut	177,311	4,360	9,852	980	8,890	1,125	18,088	9,930	932	11,468	2,890	247,284
Tobacco	27,915	1,844	3,432	927	3,591	2,000	18,845	586	322	1,343	0	58,415
Trees/Timber/Poles	3,980	909	2,847	189	1,261	144	0	0	979	636	193	11,027
Fish	42,001	4,536	4,581	1,477	8,897	0	0	435	3,974	2,403	1,076	69,350
Other	482,545	22,158	40,748	22,533	68,441	1,578	2,358	1,224	2,083	24,968	5,481	652,111



10.6 MARKETING PROBLEMS: Number of Households Selling Crops Reporting Biggest Marketing Problems By Importance and Crop Type

Crop Marketing Problem	1st problem														Total								
	Dodoma	Arusha	Kilimanjaro	Tanga	Morogoro	Pwani	Dar es Salaam	Lindi	Mtwara	Ruvuma	Inyanga	Mtanza	Shinyanga	Kagera		Mwanza	Mara	Mahewa	Total				
Open Market Price Too Low	120,980	50,885	125,123	156,928	127,207	53,858	10,339	87,183	134,518	150,372	131,259	235,893	63,201	84,588	102,413	126,776	147,051	237,352	180,635	87,842	50,555	2,462,346	
No Transport	8,865	3,076	5,481	8,564	7,629	2,459	815	3,594	1,825	2,772	10,367	8,405	3,866	6,886	5,103	9,806	10,943	10,043	11,026	7,269	9,995	141,032	
Transport Cost Too High	19,068	8,048	12,870	7,858	11,465	3,866	853	3,658	1,855	5,793	11,149	10,367	4,815	4,856	8,165	7,743	9,763	9,763	9,707	10,577	4,815	5,136	148,876
No Buyer	1,718	406	3,008	2,170	2,269	3,250	139	3,204	4,391	2,374	3,507	3,703	3,331	3,234	3,200	3,033	3,252	3,200	3,552	3,772	1,917	51,026	
Market too Far	24,517	8,248	15,268	14,303	18,201	5,350	1,222	4,781	7,385	7,281	31,020	20,656	8,816	8,840	15,354	10,675	18,153	25,122	10,656	12,762	13,274	281,541	
Farmers Association Problems	1,727	76	147	342	446	4	4	676	1,355	279	524	1,898	866	1,048	526	866	1,048	2,309	937	698	273	14,739	
Co-operative Problems	550	1,155	2,264	696	621	1,267	0	1,403	1,352	1,694	1,728	2,458	117	7,054	1,728	133	8,017	8,253	2,214	466	125	44,115	
Trade Union Problems	351	0	101	0	122	378	30	245	1,426	374	448	1,344	0	410	0	275	3,706	810	3,231	610	75	14,168	
Government Regulatory Board Problems	0	553	118	0	328	230	0	103	2,011	488	345	584	468	77	0	188	1,015	2,813	1,265	825	48	12,048	
Lack of Market Information	7,662	3,153	2,116	3,601	5,376	3,627	76	1,395	2,957	3,231	5,528	7,298	1,911	1,871	2,287	2,312	7,613	8,486	11,842	1,134	6,227	88,161	
Other	0	859	2,198	466	1,872	300	27	0	946	210	987	672	0	50	0	938	2,216	417	0	118	117	11,429	
Not applicable	1,145	837	1,544	1,563	5,468	1,854	28	608	3,374	1,537	918	2,318	566	513	4,283	4,172	2,863	4,283	2,933	5,644	2,842	42,369	
Total	188,851	83,828	185,365	156,594	182,028	76,386	13,830	106,515	147,585	179,852	188,228	290,867	81,022	130,851	140,846	198,912	214,332	311,594	242,028	129,651	129,651	87,807	3,322,645

10.8 MARKETING PROBLEMS: Number of Households Selling Crops Reporting Second Marketing Problems By Importance and Crop Type

Crop Marketing Problem	2nd problem														Total								
	Dodoma	Arusha	Kilimanjaro	Tanga	Morogoro	Pwani	Dar es Salaam	Lindi	Mtwara	Ruvuma	Inyanga	Mtanza	Shinyanga	Kagera		Mwanza	Mara	Mahewa	Total				
Open Market Price Too Low	23,658	13,416	17,820	17,569	21,348	11,121	1,826	8,944	8,379	10,476	27,748	34,573	8,801	17,654	18,396	16,688	20,757	37,852	32,688	13,648	13,128	378,018	
No Transport	41,139	11,893	22,284	32,067	27,571	10,945	3,480	15,361	18,495	8,843	22,929	49,205	18,428	20,278	27,812	37,784	39,025	42,868	41,867	25,256	17,872	360,701	
Transport Cost Too High	40,065	10,130	37,273	48,042	38,508	11,366	2,789	20,073	18,381	17,252	35,790	55,198	15,758	20,458	37,273	40,288	30,810	48,780	41,081	13,448	15,218	818,324	
No Buyer	14,738	4,445	12,684	15,575	14,558	8,156	801	13,726	17,048	15,150	12,319	13,151	8,864	10,117	12,548	16,643	8,828	31,482	14,182	13,232	5,789	254,943	
Market too Far	44,753	20,826	27,862	40,101	40,903	18,897	3,762	14,607	10,952	20,725	63,227	63,121	17,421	28,872	31,274	27,212	30,851	62,586	39,875	23,184	17,789	622,862	
Farmers Association Problems	2,845	825	2,211	5,206	1,143	3,483	245	4,262	10,362	3,233	3,259	14,077	861	8,672	3,161	2,712	7,249	12,075	3,272	4,422	857	65,809	
Co-operative Problems	2,575	2,874	15,960	2,841	2,389	2,872	185	10,308	20,325	7,884	2,282	18,815	1,854	8,852	2,423	426	14,892	35,442	12,286	2,794	401	170,304	
Trade Union Problems	894	98	304	1,168	304	991	62	1,609	3,098	1,937	1,828	3,828	187	694	787	604	1,769	3,328	5,273	1,632	115	30,333	
Government Regulatory Board Problems	128	618	508	174	688	862	60	2,218	9,148	867	674	1,868	1,728	840	1,436	747	1,436	4,287	2,077	1,365	703	34,743	
Lack of Market Information	14,375	5,366	10,307	15,905	14,385	4,825	368	8,770	12,322	7,840	17,707	30,362	8,984	8,442	8,860	8,815	18,856	18,025	27,209	6,827	8,886	250,897	
Other	228	838	134	488	541	240	181	188	1,181	471	582	588	0	750	0	5,038	754	708	75	850	48	14,045	
Not applicable	1,252	1,832	11,410	20,357	20,352	4,257	132	2,313	14,064	83,252	3,320	10,804	1,037	3,458	1,120	13,278	12,920	10,238	17,734	21,620	4,626	280,025	
Total	188,851	87,981	184,707	152,295	181,896	74,938	13,360	104,981	140,828	175,832	185,162	290,295	80,188	130,403	140,875	195,922	210,711	311,201	241,896	128,117	128,117	87,804	3,285,088

10.7 MARKETING PROBLEMS: Number of Households Selling Crops Reporting Third Marketing Problems By Importance and Crop Type

Crop Marketing Problem	3rd problem														Total								
	Dodoma	Arusha	Kilimanjaro	Tanga	Morogoro	Pwani	Dar es Salaam	Lindi	Mtwara	Ruvuma	Inyanga	Mtanza	Shinyanga	Kagera		Mwanza	Mara	Mahewa	Total				
Open Market Price Too Low	12,828	4,036	8,408	6,205	6,825	3,253	873	2,795	3,198	2,144	11,189	10,285	3,127	6,278	8,908	8,228	11,074	12,268	7,949	3,899	4,227	130,032	
No Transport	38,241	10,487	15,728	24,204	28,028	8,276	1,726	11,375	12,946	5,778	27,439	36,848	12,984	19,287	23,241	19,397	20,859	43,403	34,415	15,894	14,181	435,701	
Transport Cost Too High	48,660	18,647	31,240	37,998	33,628	14,865	4,728	17,302	16,095	15,020	40,832	80,194	23,394	29,824	36,806	43,091	44,413	65,234	61,632	23,112	20,491	680,831	
No Buyer	17,241	3,816	15,891	16,738	12,088	5,857	513	10,088	9,485	7,053	12,738	14,563	8,091	9,473	12,295	16,454	14,952	27,725	12,922	12,690	5,065	244,804	
Market too Far	42,723	20,581	28,713	40,758	38,593	15,740	2,885	15,181	18,572	11,781	47,855	56,451	21,867	28,855	36,588	37,135	28,432	47,367	41,788	20,871	17,727	812,948	
Farmers Association Problems	4,444	2,568	4,359	3,707	3,377	3,457	104	5,428	8,312	2,338	5,855	15,883	1,086	4,172	4,504	4,538	7,124	18,728	5,312	3,223	2,798	115,402	
Co-operative Problems	5,239	4,021	11,308	4,672	4,621	3,786	300	14,126	24,985	6,154	4,184	17,896	3,867	9,254	4,269	2,891	26,078	32,264	13,462	4,616	2,624	250,051	
Trade Union Problems	1,488	275	1,213	3,462	987	1,584	19	3,881	6,863	344	1,669	6,863	194	1,254	3,256	6,863	3,256	6,863	1,884	508	508	53,389	
Government Regulatory Board Problems	211	2,091	3,323	1,298	1,904	1,987	23	3,981	13,967	380	1,527	4,738	383	3,820	3,820	3,820	3,820	18,980	5,052	1,276	403	94,307	
Lack of Market Information	17,885	7,024	12,851	17,473	17,623	8,162	1,394	15,077	10,026	4,454	23,122	34,091	4,674	11,340	15,164	5,038	26,048	34,184	25,782	9,098	19,792	330,519	
Other	218	496	201	281	131	386	201	613	1,336	264	178	847	0	438	0	394	860	140	0	329	48	7,512	
Not applicable	1,778	4,117	23,182	30,181	30,288	5,797	489	4,273	18,248	118,252	5,872	17,582	3,921	6,727	1,874	25,831	18,126	18,867	37,461	32,791	7,941	453,945	
Total	188,851	80,421	158,267	191,072	181,873	72,828	13,214	102,004	148,884	174,458	182,822	277,841	78,021	129,833	145,875	195,852	209,478	310,811	241,281	128,118	128,118	87,842	3,285,048



**EROSION CONTROL/IRRIGATION**



**11.1 EROSION CONTROL: Number of Households with Erosion Control/Water Harvesting Facilities on their Land By Region during 2002/03 agriculture year**

Regions	Presence of Erosion Control/Water Harvesting Facilities				
	Yes	%	No	%	Total
Dodoma	33,338	10	290,383	90	323,719
Arusha	29,371	19	125,488	81	154,857
Kilimanjaro	87,748	31	148,425	69	216,173
Tanga	30,288	11	234,910	99	265,198
Morogoro	8,894	3	251,852	97	260,746
Pwani	1,935	1	138,595	99	141,530
Dar es Salaam	1,155	6	19,239	94	20,394
Lindi	998	1	152,175	99	153,173
Mtwara	1,474	1	227,840	99	229,314
Ruvuma	12,403	6	178,772	94	191,175
Iringa	58,902	21	219,816	79	278,717
Mbeya	81,540	17	311,304	83	372,844
Singida	15,529	6	164,388	91	179,915
Tabora	5,399	2	230,518	98	235,917
Rukwa	16,206	6	156,056	91	172,261
Kigoma	19,370	10	176,395	90	195,765
Shinyanga	15,199	4	362,658	96	377,857
Kagera	21,945	6	331,332	94	353,277
Mwanza	28,852	8	311,233	92	340,085
Mara	18,282	10	169,921	90	188,203
Manyara	23,486	15	130,708	85	154,194
Mainland	472,313	10	4,333,002	90	4,805,315
Zanzibar	762	1	95,790	99	96,522
National	473,075	10	4,428,762	90	4,901,837

**11.2 EROSION CONTROL: Number of Erosion Control/Water Harvesting Structures by Type and Region as of 2002/03 agriculture year**

Region	Type of Erosion Control								Total no of structures
	Terraces	Erosion Control Bunds	Gabions / Sandbag	Vether Grass	Tree Belts	Water Harvesting Bunds	Drainage Ditches	Dam	
Dodoma	8,520	112,974	3,141	1,134	10,832	32,840	9,671	245	179,357
Arusha	6,488	79,959	181	2,623	35,825	53,601	10,344	120	188,120
Kilimanjaro	230,562	252,425	1,478	35,796	32,368	67,592	29,871	1,084	650,165
Tanga	84,481	42,520	3,167	63,382	36,312	60,056	11,453	613	301,965
Morogoro	18,443	69,668	364	2,785	7,199	20,166	983	478	120,666
Pwani	141	9,799	473	244	7,749	6,209		164	24,779
Dar es Salaam	90	17,467	1,644	107	1,302	643	138		21,591
Lindi		33,797	207	86			103		34,193
Mtwara		40,232				151	95		40,478
Ruvuma	84,655	57,191	137	4,008	7,407	37,183	7,307	672	198,561
Iringa	166,297	211,493	3,032	35,675	19,591	103,611	12,385	3,169	555,444
Mbeya	12,784	199,991	2,428	8,103	28,183	94,995	44,542	127	390,151
Singida	9,289	112,275	0	3,950	21,962	32,039	4,500	0	184,015
Tabora	554	14,309	317	385	4,217	3,258	971	4,606	28,616
Rukwa	136	223,167		299	1,336	37,903	6,705	957	270,502
Kigoma	14,158	393,448		2,385	10,694	1,907	13,331	351	438,265
Shinyanga	131	139,237	1,652	4,716	19,127	23,561	8,643	79	197,146
Kagera	4,659	27,254	3,396	1,937	8,575	12,392	49,331	429	106,972
Mwanza	41,527	442,027	4,918	1,362	4,908	272,616	11,179	979	779,614
Mara	1,177	198,380		216	10,431	91,745	11,491	241	313,682
Manyara	571	69,216	1,078	10,989	3,302	27,296	5,927	149	108,509
Mainland	684,661	2,734,828	27,793	180,352	271,200	979,963	236,972	14,462	5,130,231
Zanzibar	0	3,503	45	635	1,302	128	128	0	5,739
National	684,661	2,738,331	27,838	180,987	272,501	980,091	237,099	14,462	5,135,970

**Table 11.3 : IRRIGATION: Number of Agriculture Households by Method of Field Application of Irrigation Water and Region**

Region	Households practicing irrigation		Households not practicing irrigation		Total Number of Crop Growing Households
	Number	%	Number	%	
Dodoma	9,438	3	313,674	97	323,112
Arusha	23,461	15	114,998	85	138,479
Kilimanja	48,710	23	165,477	77	214,187
Tanga	23,338	9	240,190	91	263,528
Morogoro	21,683	8	237,553	92	259,246
Pwani	5,309	4	134,134	96	139,444
Dar es Sa	1,977	10	17,287	90	19,264
Lindi	2,902	2	150,112	98	153,015
Mtwara	4,027	2	225,175	98	229,202
Ruvuma	24,560	13	166,483	87	191,043
Iringa	56,068	20	222,848	80	278,717
Mbeya	49,911	13	321,739	87	371,650
Singida	6,380	4	173,020	96	179,400
Tabora	17,181	7	218,440	93	235,621
Rukwa	16,883	10	154,983	90	171,866
Kigoma	17,417	9	177,277	91	194,695
Shinyanga	8,578	2	368,989	98	375,547
Kagera	13,757	4	335,842	96	349,600
Mwanza	14,825	4	324,304	96	338,929
Mara	5,879	3	179,912	97	185,791
Manyara	6,574	4	143,703	96	150,278
Mainland	378,687	6	4,383,901	92	4,762,589
Zanzibar	6,525	7	89,997	93	96,221
National	385,213	8	4,473,898	92	4,858,810

**11.4 IRRIGATION: Area (Hectares) of Irrigatable and Irrigated land by region during 2002/03 agriculture year**

Region	Irrigatable Area (ha)	Irrigated Land (ha)	% of irrigatable Land used	Total Area (ha) of land utilised	%
Dodoma	4,715	4,291	91	420,415	1.12
Arusha	24,406	19,554	80	188,852	12.92
Kilimanja	28,976	23,126	80	359,742	8.05
Tanga	8,660	7,079	82	412,372	2.10
Morogoro	11,453	8,330	81	383,073	2.99
Pwani	3,204	2,563	80	219,442	1.48
Dar es Sa	1,010	858	85	30,722	3.29
Lindi	17,929	959	5	253,790	7.06
Mtwara	2,358	2,075	88	396,873	0.61
Ruvuma	12,510	6,052	48	448,179	2.79
Iringa	23,027	18,377	80	403,180	5.71
Mbeya	45,429	33,291	73	618,866	7.34
Singida	3,583	2,017	56	207,506	1.73
Tabora	9,371	7,480	80	387,355	2.42
Rukwa	12,578	7,523	60	244,723	5.14
Kigoma	5,019	4,167	83	459,623	1.09
Shinyanga	4,912	3,856	78	528,454	0.63
Kagera	5,583	3,184	57	651,079	0.86
Mwanza	6,521	5,272	81	812,383	1.08
Mara	2,014	1,480	74	340,153	0.59
Manyara	4,565	3,751	82	174,780	2.61
Mainland	237,821	166,295	70	7,731,350	3.08
Zanzibar	2,432	2,135	88	2,520	86.52
National	240,253	166,430	70	7,733,870	3.11

Table 11.5 : IRRIGATION: Number of Agriculture Households by Method of Field Application of Irrigation Water and Region

Region	Source of Irrigation Water								Total
	River	Lake	Dam	Well	Borehole	Canal	Pipe water		
Dodoma	2,730	98	417	4,533	129	1,182	369	9,438	
Arusha	12,044	0	0	119	0	11,121	197	23,481	
Kilimanja	18,029	125	1,323	959	43	27,206	1,024	48,710	
Tanga	10,052	0	774	1,965	113	10,176	258	23,338	
Morogoro	12,136	105	0	3,313	12	5,824	502	21,893	
Pwani	1,871	0	374	2,132	158	432	342	5,309	
Dar es Sa	672	13	184	707	129	43	230	1,977	
Lindi	1,569	81	28	923	0	301	0	2,902	
Mwara	2,424	0	637	791	0	81	94	4,027	
Ruvuma	15,798	234	680	1,646	72	5,744	406	24,560	
Iringa	29,977	96	1,181	10,928	362	13,392	132	56,066	
Mbeya	33,543	0	298	2,595	0	13,112	362	49,911	
Singida	258	0	555	1,865	0	3,701	0	6,380	
Tabora	1,196	0	7,418	7,054	654	859	0	17,181	
Rukwa	11,225	148	344	3,137	435	1,593	0	18,883	
Kigoma	13,917	751	193	1,321	197	1,038	0	17,417	
Shinyanga	3,501	0	1,855	1,485	23	1,828	85	8,578	
Kagera	5,161	644	896	2,038	0	4,634	381	13,757	
Mwanza	3,081	2,443	1,701	4,951	55	2,317	78	14,825	
Mara	2,007	1,250	281	2,151	0	191	0	5,879	
Manyara	4,578	0	118	376	321	1,120	60	6,574	
Mainland	185,789	5,988	19,039	54,991	2,704	105,676	4,520	378,687	
%	49	2	5	15	1	28	1	100	
Zanzibar	1,659	223	0	1,873	768	188	1,835	6,525	
National	187,428	6,211	19,039	56,864	3,471	106,844	6,355	385,213	

Table 11.6 IRRIGATION: Number of Agriculture Households by method used to obtain water and region during 2002/03 agriculture year

Regions	Method of Obtaining Water					Total
	Gravity	Hand Bucket	Hand Pump	Motor Pump	Other	
Dodoma	3,409	5,784	144	101	0	9,438
Arusha	22,807	557	0	117	0	23,481
Kilimanja	45,540	2,988	71	67	38	48,710
Tanga	12,883	10,123	84	38	212	23,338
Morogoro	13,136	7,039	131	710	77	21,893
Pwani	238	4,251	252	259	299	5,309
Dar es Sa	129	1,830	13	152	53	1,977
Lindi	1,187	1,530	0	137	68	2,902
Mwara	2,104	1,828	0	0	94	4,027
Ruvuma	10,137	14,040	0	250	132	24,560
Iringa	26,106	27,380	553	354	1,878	56,066
Mbeya	38,547	10,420	358	384	202	49,911
Singida	3,977	2,259	0	143	0	6,380
Tabora	4,987	11,828	46	26	293	17,181
Rukwa	11,028	4,974	133	146	602	18,883
Kigoma	8,681	8,736	0	0	0	17,417
Shinyanga	3,427	4,783	211	23	134	8,578
Kagera	6,512	6,991	132	0	122	13,757
Mwanza	3,817	9,795	857	157	0	14,825
Mara	392	4,639	124	115	420	5,879
Manyara	4,914	1,624	0	36	0	6,574
Mainland	223,936	143,996	3,118	3,213	4,424	378,687
%	89.1	38.0	0.8	0.8	1.2	100.0
Zanzibar	1,253	4,357	182	631	102	6,525
National	225,189	148,353	3,300	3,844	4,527	385,213



**Table 11.7 : IRRIGATION: Number of Agriculture Households by Method of Field Application of Irrigation Water and Region**

Regions	Method of Field Application				Total
	Flood	Sprinkler	Water Hose	Bucket / Watering Can	
Dodoma	3,083	502	144	5,729	9,438
Arusha	22,713	152	0	616	23,481
Kilimanja	45,160	249	492	2,609	48,710
Tanga	12,006	521	222	10,588	23,338
Morogoro	10,258	250	467	10,717	21,893
Pwani	913	98	104	4,195	5,309
Dar es Sa	46	78	219	1,636	1,977
Lindi	1,167	69	0	1,667	2,902
Mtwara	2,104	0	94	1,628	4,027
Ruvuma	7,419	1,245	205	15,891	24,580
Iringa	23,787	1,246	985	30,040	56,068
Mbeya	37,693	359	397	11,462	49,911
Singida	4,534	0	0	1,645	6,380
Tabora	5,828	334	99	10,621	17,181
Rukwa	11,381	143	248	5,111	16,883
Kigoma	7,442	197	160	9,618	17,417
Shinyanga	3,635	63	202	4,678	8,578
Kagera	6,018	281	0	7,460	13,757
Mwanza	3,745	540	725	9,615	14,625
Mara	612	68	124	5,075	5,879
Manyara	4,650	0	0	1,624	6,574
Mainland	214,583	6,393	4,887	152,825	378,687
%	57	2	1	40	100
Zanzibar	1,540	317	557	4,111	6,525
National	216,124	6,710	5,443	156,936	385,213

**ACCESS TO FARM INPUTS & IMPLEMENTS**

**12.1 ACCESS TO INPUTS: Number of Crop growing households using compost by region during 2002/03 agriculture year**

Region	Using Compost		Not using Compost		Total number of households
	No of households	%	No of households	%	
Arusha	3,007	2	135,471	98	138,479
Dar es Salaam	3,393	18	15,871	82	19,264
Dodoma	4,523	1	318,589	99	323,112
Iringa	23,221	8	255,496	92	278,717
Kagera	47,193	13	302,407	87	349,600
Kigoma	16,039	8	178,655	92	194,695
Kilimanjaro	15,912	7	198,275	93	214,187
Lindi	3,492	2	149,523	98	153,015
Manyara	3,434	2	146,843	98	150,278
Mara	6,718	4	179,075	96	185,791
Mbeya	56,324	15	315,326	85	371,650
Morogoro	7,421	3	251,825	97	259,246
Mtwara	5,038	2	224,164	98	229,202
Mwanza	12,896	4	326,033	96	338,929
Pwani	11,417	8	128,027	92	139,444
Rukwa	3,298	2	168,547	98	171,845
Ruvuma	6,305	3	184,738	97	191,043
Shinyanga	14,316	4	361,231	96	375,547
Singida	7,788	4	171,613	96	179,400
Tabora	15,368	7	220,253	93	235,621
Tanga	14,580	6	248,948	94	263,528
<b>Total</b>	<b>281,678</b>	<b>6</b>	<b>4,480,911</b>	<b>94</b>	<b>4,762,589</b>

**12.2 ACCESS TO INPUTS: Number of Crop Growing households using Improved seeds by region during 2002/03 agriculture year**

Region	Using Improved Seed		Not using Improved Seed		Total number of households
	No of households	%	No of households	%	
Dodoma	34,114	11	288,998	89	323,112
Arusha	35,543	28	102,935	74	138,479
Kilimanjaro	108,843	51	105,344	49	214,187
Tanga	33,500	13	230,028	87	263,528
Morogoro	38,884	15	220,562	85	259,246
Pwani	21,121	15	118,323	85	139,444
Dar es Salaam	10,915	57	8,348	43	19,264
Lindi	12,591	8	140,424	92	153,015
Mtwara	8,531	4	220,671	96	229,202
Ruvuma	26,848	14	184,397	86	191,043
Iringa	49,920	18	228,797	82	278,717
Mbeya	52,255	14	319,394	86	371,650
Singida	26,415	15	152,985	85	179,400
Tabora	45,706	19	189,914	81	235,621
Rukwa	9,018	5	162,828	95	171,845
Kigoma	13,963	7	180,731	93	194,695
Shinyanga	118,404	32	257,143	88	375,547
Kagera	40,133	11	309,467	89	349,600
Mwanza	127,982	38	210,948	82	338,929
Mara	42,530	23	143,261	77	185,791
Manyara	20,492	14	129,785	86	150,278
<b>Total</b>	<b>877,308</b>	<b>19</b>	<b>3,885,281</b>	<b>82</b>	<b>4,762,589</b>



**12.3 ACCESS TO INPUTS: Number of Crop Growing households using Chemical Fertilizer by Region during 2002/03 agriculture year**

Region	Using chemical fertilizer		Not using chemical fertilizer		Total number of households
	No of households	%	No of households	%	
Dodoma	2,296	1	320,816	99	323,112
Arusha	18,720	14	119,758	86	138,479
Kilimanjaro	74,551	35	139,636	65	214,187
Tanga	8,223	3	256,304	97	263,528
Morogoro	17,374	7	241,872	93	259,246
Pwani	3,801	3	136,642	97	139,444
Dar es Salaam	2,480	13	16,784	87	19,264
Lindi	1,591	1	151,424	99	153,015
Mtwara	7,333	3	221,869	97	229,202
Ruvuma	91,930	48	99,113	52	191,043
Iringa	101,518	36	177,199	64	278,717
Mbeya	120,352	32	251,298	68	371,650
Singida	2,659	1	176,741	99	179,400
Tabora	46,287	20	189,334	80	235,621
Rukwa	11,103	6	160,742	94	171,845
Kgombe	14,614	8	180,081	92	194,695
Shinyanga	10,730	3	364,817	97	375,547
Kagera	4,031	1	345,568	99	349,600
Mwanza	9,480	3	329,468	97	338,929
Mara	2,932	2	182,859	98	185,791
Manyara	969	1	149,309	99	150,278
<b>Total</b>	<b>552,953</b>	<b>12</b>	<b>4,209,636</b>	<b>88</b>	<b>4,762,589</b>

**12.4 ACCESS TO INPUTS: Number of Crop Growing Households using Farm Yard Manure by Region during 2002/03 agriculture year**

Region	Using Farm Yard Manure		Not using Farm Yard Manure		Total number of households
	No of households	%	No of households	%	
Dodoma	96,637	30	226,275	70	323,112
Arusha	61,031	44	77,448	56	138,479
Kilimanjaro	159,780	75	54,407	25	214,187
Tanga	51,612	20	211,716	80	263,528
Morogoro	14,937	6	244,309	94	259,246
Pwani	9,311	7	130,133	93	139,444
Dar es Salaam	5,958	31	13,306	69	19,264
Lindi	2,865	2	150,150	98	153,015
Mtwara	11,334	5	217,868	95	229,202
Ruvuma	61,064	32	129,979	68	191,043
Iringa	92,023	33	186,694	67	278,717
Mbeya	107,580	29	264,070	71	371,650
Singida	63,259	48	96,141	54	179,400
Tabora	65,279	28	170,342	72	235,621
Rukwa	19,966	12	151,879	88	171,845
Kgombe	41,045	21	153,649	79	194,695
Shinyanga	88,413	24	287,134	76	375,547
Kagera	72,527	21	277,073	79	349,600
Mwanza	103,260	30	235,669	70	338,929
Mara	48,514	26	137,277	74	185,791
Manyara	58,519	39	91,759	61	150,278
<b>Total</b>	<b>1,255,312</b>	<b>26</b>	<b>3,507,276</b>	<b>74</b>	<b>4,762,589</b>

**12.5 ACCESS TO INPUTS: Number of agriculture households using pesticide/fungicide by region during 2002/03 agriculture year**

Region	Using pesticide/fungicide		Not using pesticide/fungicide		Total number of households
	No of households	%	No of households	%	
Dodoma	8,951	3	314,160	97	323,112
Arusha	26,246	19	112,232	81	138,479
Kilimanjaro	65,983	31	148,203	69	214,187
Tanga	13,971	5	249,557	95	263,528
Morogoro	20,823	8	238,423	92	259,246
Pwani	17,019	12	122,424	88	139,444
Dar es Salaam	3,304	17	15,959	83	19,264
Lindi	26,131	17	126,683	83	153,015
Mtwara	52,961	23	176,241	77	229,202
Ruvuma	65,929	35	125,114	65	191,043
Iringa	144,605	52	134,112	48	278,717
Mbeya	63,646	17	308,003	83	371,650
Singida	6,912	4	172,488	96	179,400
Tabora	47,659	20	167,761	80	235,621
Rukwa	19,503	11	152,342	89	171,845
Kigoma	13,513	7	161,181	93	194,695
Shinyanga	61,034	22	294,514	78	375,547
Kagera	27,881	8	321,719	92	349,600
Mwanza	57,260	17	281,668	83	338,929
Mara	21,587	12	164,204	88	185,791
Manyara	9,252	6	141,025	94	150,278
<b>Total</b>	<b>794,372</b>	<b>17</b>	<b>3,988,217</b>	<b>83</b>	<b>4,782,589</b>

**12.6 ACCESS TO INPUTS: Number of agriculture households using herbicide by region during 2002/03 agriculture year**

Region	Using herbicide		Not using herbicide		Total number of households
	No of households	%	No of households	%	
Dodoma	415	0	322,697	100	323,112
Arusha	5,773	4	132,706	96	138,479
Kilimanjaro	7,516	4	206,671	96	214,187
Tanga	835	0	262,692	100	263,528
Morogoro	20,987	8	238,259	92	259,246
Pwani	326	0	139,118	100	139,444
Dar es Salaam	156	1	19,106	98	19,264
Lindi	57	0	152,958	100	153,015
Mtwara	189	0	229,013	100	229,202
Ruvuma	2,011	1	189,032	98	191,043
Iringa	3,548	1	275,169	98	278,717
Mbeya	27,006	7	344,644	93	371,650
Singida	117	0	179,283	100	179,400
Tabora	2,056	1	233,565	99	235,621
Rukwa	269	0	171,576	100	171,845
Kigoma	149	0	194,546	100	194,695
Shinyanga	1,188	0	374,359	100	375,547
Kagera	651	0	348,949	100	349,600
Mwanza	1,054	0	337,875	100	338,929
Mara	207	0	185,584	100	185,791
Manyara	1,691	1	148,587	99	150,278
<b>Total</b>	<b>76,201</b>	<b>2</b>	<b>4,886,388</b>	<b>98</b>	<b>4,782,589</b>

12.7 ACCESS TO INPUTS: Number of Crop Growing Households using inputs by Sources of Inputs and Region during 2002/03 agriculture year

Region	Source of Inputs									
	Co-operative	Local Farmers Group	Local Market / Trade Store	Secondary Market	Development Project	Crop Buyers	Large Scale Farm	Locally Produced by Household	Neighbour	Other
Dodoma	813	1,062	22,426	1,005	7,841	569	947	36,884	63,117	1,097
Arusha	1,264	1,162	45,483	167	124	62	2,072	54,199	9,189	461
Kilimanjaro	17,568	5,842	123,348	844	1,263	1,122	1,429	140,686	18,676	3,079
Tanga	615	203	32,411	325	2,485	204	504	45,659	24,583	448
Morogoro	1,230	965	48,711	1,380	1,934	2,475	1,684	14,817	22,574	847
Pwani	3,865	5,544	22,689	157	1,528	786	1,107	13,335	7,753	607
Dar es Salaam	753	415	10,816	333	128	227	792	4,593	3,001	105
Lindi	5,949	1,198	22,565	97	182	965	231	11,981	9,252	1,462
Mtwara	18,074	3,004	38,048	265	618	267	638	19,385	23,080	1,776
Ruvuma	29,938	11,621	89,642	673	533	3,080	1,163	57,294	19,021	770
Iringa	4,022	3,123	153,485	5,602	1,173	4,277	2,457	94,012	34,434	935
Mbeya	7,143	6,892	133,659	3,375	1,377	4,505	2,197	102,467	44,224	1,716
Shigda	3,279	404	17,950	636	790	1,078	1,806	62,119	28,111	1,157
Tabora	38,186	3,940	33,341	1,048	1,216	2,417	925	56,155	18,289	1,893
Rukwa	3,231	871	20,529	784	128	1,416	241	15,345	9,614	157
Kigoma	4,531	675	18,969	153	133	415	197	43,131	8,272	488
Shinyanga	59,330	5,765	67,709	3,994	2,927	27,477	82	79,705	35,955	2,330
Kagera	6,287	3,845	27,679	140	1,560	3,185	2,483	68,770	23,686	581
Mwanza	30,853	3,318	74,812	967	2,907	30,841	1,384	67,311	47,445	1,058
Mara	6,572	1,854	26,503	994	962	11,491	148	28,185	27,003	335
Manyara	763	297	23,585	633	502	603	1,872	48,718	15,524	0
Meinland	244,047	61,638	1,054,346	23,575	30,331	97,245	24,339	1,086,700	489,926	21,304
Zanzibar										
National										



**12.8 ACCESS TO INPUTS: Number of Crop Growing Households using Inputs by Source of Finance Source of Finance and Region during the 2002/03 agriculture year**

Region	Source of finance for inputs					
	Sale of Farm Products	Other Income generating activities	Remittances	Bank Loan	Produced on form	Other
Dodoma	73,090	18,964	8,461	2,719	1,465	18,008
Arusha	58,691	19,341	2,048	1,165	1,591	10,038
Kilimanjaro	136,550	52,758	13,675	1,151	15,707	20,082
Tanga	62,904	14,608	9,319	795	540	3,910
Morogoro	54,410	18,654	4,702	741	250	4,235
Pwani	29,131	13,057	3,644	567	557	3,079
Dar es Salaam	8,884	5,400	882	219	42	1,239
Lindi	34,572	9,191	2,393	285	0	2,331
Mtwara	69,389	13,819	2,703	627	257	5,728
Ruvuma	114,784	28,616	7,751	610	7,148	7,053
Iringa	144,108	69,322	15,083	1,045	2,255	20,978
Mbeya	181,481	37,119	8,083	2,522	5,659	18,218
Singida	64,717	22,089	4,680	363	1,577	15,646
Tabora	92,686	26,716	4,710	5,505	223	12,299
Rukwa	32,462	6,284	3,387	671	0	5,189
Kgombe	48,950	9,401	1,392	383	591	3,801
Shinyanga	171,296	32,936	3,895	1,802	198	15,808
Kagera	109,019	17,881	4,399	195	1,101	7,671
Mwanza	135,359	43,112	9,820	954	3,446	18,851
Mani	62,236	11,662	4,933	90	478	5,942
Manyara	59,197	10,428	799	351	1,805	8,014
<b>Total</b>	<b>1,743,855</b>	<b>481,558</b>	<b>118,561</b>	<b>22,751</b>	<b>44,891</b>	<b>204,118</b>

**12.9 ACCESS TO IMPLEMENTS: Number of Crop Growing households that Used Farm Implements/Assets by type of Implement and Region during 2002/03 agriculture year**

Region	Use Of Implements									
	Hand Hoe	Hand Powered Sprayer	Oxen	Ox Plough	Ox Seed Planter	Ox Cart	Tractor	Tractor Plough	Tractor Harrow	Thrashers / Shellers
Dodoma	320,764	6,794	58,768	52,820	758	14,738	8,834	6,639	555	4,945
Arusha	136,533	52,825	77,240	76,731	325	11,321	13,322	12,538	2,437	2,001
Kilimanjaro	214,219	78,794	11,632	10,340	561	1,207	37,162	31,466	1,701	39,691
Tanga	262,510	17,676	654	498	0	353	2,105	1,894	1,011	82
Morogoro	259,304	36,943	5,781	5,978	0	6,338	30,348	30,100	5,888	247
Pwani	139,242	8,858	45	204	204	262	835	843	680	140
Dar es Salaam	18,818	2,868	274	83	25	4	193	195	23	0
Lindi	152,341	6,876	0	184	0	0	305	242	0	0
Mtwara	227,452	23,140	0	0	0	0	1,005	899	0	0
Ruvuma	180,861	61,838	1,351	103	27	55	303	74	0	8,178
Inga	277,558	57,803	88,488	83,978	2,165	10,671	5,205	1,854	486	455
Mbeya	370,121	87,323	106,868	103,251	438	15,866	2,788	2,431	845	8,853
Singida	176,728	6,479	90,940	85,816	628	14,918	408	545	208	79
Tabora	234,698	14,582	90,574	88,708	1,767	24,876	1,834	454	211	0
Rukwa	171,568	7,674	78,223	78,388	478	7,578	78	205	161	0
Kigoma	184,746	15,167	671	733	153	326	0	0	0	2,388
Shinyanga	374,937	74,081	248,732	238,752	966	68,324	5,563	5,421	524	238
Kagera	347,263	19,797	5,388	5,088	0	891	477	0	0	0
Mwanza	337,834	58,822	96,674	94,691	486	18,866	666	231	128	237
Mara	186,878	23,073	91,024	92,588	65	1,771	763	466	77	283
Manyara	149,127	21,029	88,628	85,018	1,568	34,202	19,662	16,900	728	4,024
Total	4,747,642	696,270	1,144,099	1,103,764	10,717	232,058	132,099	112,216	18,770	71,872

## 12.10 ACCESS TO IMPLEMENTS: Number of implements Owned by type of implement and Region in 2002/03 agriculture year

Region	Type of farm implement Owned									
	Hand Hic	Hand Powered Sprayer	Oxen	Ox Plough	Ox Seed Planter	Ox Cart	Tractor	Tractor Plough	Tractor Harrow	Thrashers / Shellers
Dodoma	963,177	14,167	110,930	37,697	1,110	6,493	4,219	2,218	1,441	1,602
Arusha	406,842	36,569	129,076	42,876		5,368	1,669	2,162	240	726
Kilimanjaro	711,361	55,069	17,918	6,906	220	398	5,013	3,733	123	24,825
Tanga	804,403	10,579	738	296		206	19	19	19	84
Morogoro	659,905	15,324	26,660	6,894		3,724	1,427	580	1,485	131
Pwani	439,133	5,351	92		204	406				
Chuo Kuu	58,021	1,708	302	64	25	9		29		
Lindi	513,247	1,467		96			62			
Mtwara	803,870	6,805								
Ruvuma	686,535	36,516	1,054	130	27	27	100			2,816
Ifinga	935,704	36,921	106,122	50,728	1,876	3,714	1,167	1,160	228	96
Mbeya	1,124,353	49,351	122,484	57,434	767	5,386	403	632	113	4,958
Singida	587,519	10,505	203,863	57,565	546	9,847	138		245	
Tabora	1,038,061	12,517	257,367	79,777	789	19,005	434			
Rukwa	633,720	4,875	119,899	53,360	2,159	3,356		693	321	
Kigoma	614,541	14,415	5,071	1,930		658				1,119
Shinyanga	1,538,653	38,021	638,727	185,881	731	35,973	872	567	772	
Kagera	1,078,373	17,600	13,787	3,824		279	295			
Mwanza	1,493,923	24,436	270,438	63,556	1,163	9,395	232	99	256	104
Mara	705,861	12,865	190,895	59,540		955				
Manyara	510,403	13,934	160,722	51,175	1,469	16,482	2,627	2,327	659	174
Total	16,487,022	418,416	2,379,183	739,249	11,108	123,392	16,694	14,219	5,905	36,436



**12.11 ACCESS TO FARM INPUTS: Number of Agriculture Households reporting the main Reason for Not Using Inputs and Region during 2002/03 agriculture year**

Region	Main reason of not using inputs							
	Not Available	Price Too High	No Money to Buy	Too Much Labour Required	Do not Know How to Use	Input is of No Use	Locally Produced by Household	Other
Dodoma	161,868	287,442	153,931	31,668	100,544	95,306	5,357	22,385
Arusha	34,258	129,010	69,885	17,036	47,818	42,908	1,199	12,944
Kilimanjaro	45,901	181,669	97,063	10,245	51,134	87,966	845	19,727
Tanga	64,457	240,205	150,428	27,349	63,265	72,247	1,437	10,991
Morogoro	163,332	214,056	110,346	14,373	83,923	64,131	1,333	19,235
Pwani	69,286	118,656	49,825	8,345	54,071	34,059	1,401	7,707
Dar es Salaam	6,371	16,464	7,409	995	6,344	4,629	61	3,479
Lindi	114,194	108,994	43,597	9,416	58,884	43,649	644	7,159
Mtwara	136,356	195,748	107,619	19,451	76,225	26,266	280	29,479
Ruvuma	96,156	171,270	96,200	4,467	65,734	40,761	2,048	21,093
Iringa	130,940	246,278	149,124	21,524	65,851	85,567	3,197	15,035
Mbeya	193,431	315,877	153,248	33,166	101,245	86,040	2,055	36,559
Singida	112,714	159,683	68,330	12,859	75,322	50,206	1,768	11,297
Tabora	159,348	199,820	110,948	12,117	99,795	42,296	2,408	29,245
Rukwa	92,225	145,790	79,272	21,200	73,499	35,420	1,553	13,101
Kigoma	107,587	166,250	118,572	14,905	20,101	15,232	733	7,405
Shinyanga	216,894	338,984	206,741	46,365	150,219	63,331	1,886	37,860
Kagera	208,272	290,897	157,671	20,374	100,635	91,923	4,797	19,932
Mwanza	186,827	298,050	189,398	37,474	131,726	54,352	1,711	36,026
Mara	110,287	158,251	109,103	16,313	52,511	37,507	1,068	26,374
Manyara	66,389	132,228	64,552	9,727	52,133	54,832	1,545	18,312
Total	2,515,090	4,135,622	2,283,564	389,433	1,530,981	1,128,550	37,408	405,344

**12.12 ACCESS TO FARM INPUTS: Number of Agriculture Households reporting the quality of Inputs and Region during 2002/03 agriculture year**

Region	Quality of Inputs				
	Excellent	Good	Average	Poor	Does not Work
Dodoma	42,097	71,823	8,816	1,349	458
Arusha	31,937	51,940	12,059	513	112
Kilimanjaro	94,785	127,029	23,556	887	240
Tanga	19,693	58,862	14,343	653	106
Morogoro	26,556	51,941	7,797	1,633	130
Pwani	15,658	25,873	9,455	901	514
Dar es Salaam	4,220	10,995	1,593	214	17
Lindi	11,047	27,428	12,042	955	446
Mtwara	23,142	57,964	14,560	664	265
Ruvuma	50,612	102,776	23,096	4,341	105
Iringa	73,903	157,667	32,408	4,060	960
Mbeya	63,484	154,671	26,577	3,740	106
Singida	43,065	60,629	8,350	701	0
Tabora	61,336	74,055	13,633	1,753	191
Rukwa	13,458	32,274	3,306	421	0
Kigoma	17,679	39,913	11,295	546	0
Shinyanga	73,605	135,283	33,728	7,795	790
Kagera	45,331	82,206	19,940	772	0
Mwanza	62,535	124,435	27,182	4,897	90
Mara	27,243	52,644	10,642	566	278
Manyara	23,358	45,316	12,550	481	125
Total	845,145	1,546,124	325,930	37,845	4,931

12.18 ACCESS TO INPUTS: Number of Agricultural Households by Source of Chemical Fertilizer by Region, 2005/06 Agricultural Year

Region	Co-operative		Local Farmers Group		Local Member / Trade Show		Secondary Market		Development Project		Crop Buyers		Large Scale Firm		Locally Produced by Household		Neighbour		Other		Not Applicable		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Coastal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Arusha	983	0.25	810	0.20	17,200	11.54	0	0.00	0	0.00	0	0.00	0	0.00	107	0.12	0	0.00	0	0.00	0	0.00	205,113
Mt. Meru	3,542	1.64	1,700	0.78	86,285	81.01	280	0.11	86	0.04	201	0.12	0	0.00	0	0.00	117	0.12	0	0.00	0	0.00	196,479
Tanga	229	0.12	0	0.00	7,443	8.81	0	0.00	0	0.00	0	0.00	0	0.00	146	0.05	0	0.00	0	0.00	0	0.00	81,437
Morogoro	210	0.09	640	0.13	15,061	5.73	282	0.10	10	0.00	408	0.18	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	263,538
Pwani	64	0.02	0	0.00	0,542	0.20	0	0.00	0	0.00	0	0.00	0	0.00	21	0.01	0	0.00	0	0.00	0	0.00	250,748
Dar es Salaam	26	0.14	0	0.00	2,263	11.06	0	0.00	0	0.00	28	0.12	0	0.00	32	0.16	0	0.00	0	0.00	0	0.00	190,444
Lindi	28	0.02	0	0.00	1,374	5.35	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	13,204
Mwanza	394	0.11	186	0.08	6,267	8.74	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	158,515
Mt. Kilimanjaro	10,644	8.12	3,148	1.13	70,774	87.02	628	0.28	186	0.07	736	0.38	107	0.08	147	0.08	162	0.10	0	0.00	0	0.00	220,232
Rovuma	498	0.18	0	0.00	84,003	84.24	718	0.28	186	0.07	3,448	1.28	0	0.00	135	0.06	13	0.00	0	0.00	0	0.00	278,717
Iringa	4,024	1.28	8,200	1.41	123,827	97.24	1,223	0.27	0	0.00	2,897	0.32	0	0.00	323	0.08	3,644	0.42	0	0.00	0	0.00	371,250
Singida	1,421	0.79	0	0.00	484	0.27	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	704	0.42	0	0.00	0	0.00	170,420
Tabora	26,674	11.24	2,268	0.27	14,066	8.81	109	0.06	44	0.02	400	0.18	28	0.01	128	0.06	1,148	0.44	0	0.00	0	0.00	226,223
Rethym	3,864	1.87	846	0.38	6,833	3.80	126	0.09	0	0.00	1,347	0.28	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	171,240
Mjomba	8,226	3.26	173	0.18	10,770	6.32	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	324,200
Schuyange	8,226	3.26	173	0.18	10,770	6.32	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	370,247
Apurva	300	0.07	1,820	0.38	2,327	0.82	0	0.00	0	0.00	121	0.06	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	340,200
Mwanza	0	0.00	0	0.00	3,264	9.14	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	230,223
Mara	0	0.00	0	0.00	0,726	1.45	0	0.00	0	0.00	0	0.00	0	0.00	85	0.09	0	0.00	0	0.00	0	0.00	126,721
Mt. Meru	0	0.00	0	0.00	688	0.83	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	102,273
Manjaro	60,377	1.28	10,274	0.33	448,288	8.37	2,897	0.09	498	0.01	8,061	0.22	1,248	0.03	1,944	0.04	8,837	0.22	1,287	0.03	4,760,200	86.48	4,760,200
Zanzibar	165	0.20	270	0.28	6,272	8.71	37	0.04	177	0.22	0	0.00	0	0.00	0	0.00	143	0.15	44	0.02	0	0.00	86,281
National	69,572	1.28	12,648	0.32	454,282	8.33	3,264	0.08	675	0.01	8,061	0.22	1,248	0.03	1,944	0.04	8,837	0.22	1,492	0.03	4,885,721	86.24	4,885,721

Table 12.14 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and Region, 2005/06 Agricultural Year

Region	Co-operative		Local Farmers Group		Local Member / Trade Show		Secondary Market		Development Project		Crop Buyers		Large Scale Firm		Locally Produced by Household		Neighbour		Other		Not Applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Coastal	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Arusha	176	0.04	120	0.03	1,288	1.11	187	0.08	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	328,112
Mt. Meru	1,068	0.48	628	0.28	6,281	5.21	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	186,376
Tanga	0	0.00	0	0.00	812	0.81	189	0.09	115	0.05	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	214,187
Morogoro	0	0.00	0	0.00	573	0.57	287	0.13	0	0.00	102	0.05	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	262,028
Pwani	0	0.00	0	0.00	280	0.28	0	0.00	119	0.05	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	246,248
Dar es Salaam	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	182,444
Lindi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	16,204
Mwanza	0	0.00	0	0.00	280	0.28	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	228,200
Rethym	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	181,248
Mjomba	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	276,717
Schuyange	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	340,200
Apurva	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	230,223
Mwanza	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	126,721
Mt. Meru	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	102,273
Manjaro	7,251	0.15	4,885	0.12	19,228	1.62	2,813	0.12	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4,760,200
Zanzibar	84	0.10	132	0.14	325	0.27	24	0.01	24	0.01	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	86,281
National	7,235	0.15	4,717	0.12	18,824	1.60	2,841	0.12	0	0.00	2,234	0.06	14,222	0.32	446,678	1.04	3,803,823	7.12	1,492	0.03	3,885,286	86.24	4,885,721

Table 12.15 ACCESS TO INPUTS: Number of Agricultural Households by Source of Inputs and Region, 2002/03 Agricultural Year

Region	Source of Inputs										Total							
	Development Project	Secondary Market	Local Market / Trade Fairs	Local Farmers Group	Local Farmer / Trade Fairs	Development Project	Crop Buyers	Locally Produced / Manufactured	Neighbour	Other		Not applicable						
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
<b>Arusha</b>	4,291	0.15	3,386	0.12	21,744	0.78	658	0.02	1,128	0.04	875	0.03	3,445	0.12	4,720	0.16	5,795	0.20
<b>Dodoma</b>	880	0.03	880	0.03	18,971	0.67	17	0.00	3,610	0.13	29	0.00	29	0.00	33,607	0.12	35,227	0.12
<b>Geita</b>	252	0.01	252	0.01	7,058	0.25	134	0.00	1,001	0.04	79	0.00	79	0.00	203,257	0.73	204,411	0.73
<b>Morogoro</b>	156	0.00	311	0.00	16,100	0.56	350	0.00	1,201	0.04	0	0.00	753	0.03	233,379	0.81	234,840	0.81
<b>Pwani</b>	42	0.00	79	0.00	305	0.01	0	0.00	0	0.00	0	0.00	0	0.00	141,854	0.49	142,075	0.49
<b>Dar es Salaam</b>	0	0.00	0	0.00	160	0.00	0	0.00	0	0.00	0	0.00	0	0.00	30,320	0.10	30,320	0.10
<b>Iringa</b>	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	152,427	0.52	152,427	0.52
<b>Mtwara</b>	470	0.02	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	190	0.00	238,529	0.82	239,000	0.82
<b>Narok</b>	0	0.00	0	0.00	1,120	0.04	0	0.00	0	0.00	770	0.03	337	0.01	192,128	0.67	193,275	0.67
<b>Shinyanga</b>	1,479	0.05	2,189	0.08	21,762	0.76	178	0.00	841	0.03	117	0.00	185	0.00	246,433	0.85	248,018	0.85
<b>Tanga</b>	1,213	0.04	165	0.00	652	0.02	0	0.00	0	0.00	25	0.00	25	0.00	233,861	0.81	235,371	0.81
<b>Unyamwezi</b>	0	0.00	0	0.00	126	0.00	0	0.00	135	0.00	0	0.00	0	0.00	171,861	0.58	172,017	0.58
<b>Zanzibar</b>	899	0.03	0	0.00	149	0.00	0	0.00	0	0.00	0	0.00	0	0.00	156,819	0.52	157,818	0.52
<b>Zomba</b>	285	0.01	0	0.00	354	0.01	0	0.00	128	0.00	0	0.00	0	0.00	274,282	0.93	274,769	0.93
<b>Malawi</b>	117	0.00	0	0.00	622	0.02	0	0.00	0	0.00	139	0.00	100	0.00	333,031	0.99	333,871	0.99
<b>Mozambique</b>	0	0.00	0	0.00	1,047	0.03	0	0.00	0	0.00	0	0.00	0	0.00	159,665	0.48	160,712	0.48
<b>Tanzania</b>	4,291	0.15	3,386	0.12	21,744	0.78	658	0.02	1,128	0.04	875	0.03	3,445	0.12	4,720	0.16	5,795	0.20
<b>Zimbabwe</b>	48	0.00	80	0.00	3,610	0.13	17	0.00	2,126	0.08	29	0.00	29	0.00	33,607	0.12	33,822	0.12
<b>Madagascar</b>	4,782	0.15	3,205	0.09	24,324	0.84	943	0.03	332	0.01	2,126	0.08	2,893	0.10	4,818,319	95.17	4,823,101	95.17

Table 12.16 ACCESS TO INPUTS: Number of Agricultural Households by Source of Inputs and Region, 2002/03 Agricultural Year

Region	Source of Inputs										Total							
	Development Project	Secondary Market	Local Market / Trade Fairs	Local Farmers Group	Local Farmer / Trade Fairs	Development Project	Crop Buyers	Locally Produced / Manufactured	Neighbour	Other		Not applicable						
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
<b>Arusha</b>	7,480	2.52	0	0.00	18,971	0.67	17	0.00	3,610	0.13	29	0.00	29	0.00	33,607	0.12	35,227	0.12
<b>Dodoma</b>	136	0.00	0	0.00	18,971	0.67	17	0.00	3,610	0.13	29	0.00	29	0.00	33,607	0.12	35,227	0.12
<b>Geita</b>	600	0.02	0	0.00	7,058	0.25	134	0.00	1,001	0.04	79	0.00	79	0.00	203,257	0.73	204,411	0.73
<b>Morogoro</b>	1,010	0.04	0	0.00	16,100	0.56	350	0.00	1,201	0.04	0	0.00	753	0.03	233,379	0.81	234,840	0.81
<b>Pwani</b>	369	0.01	0	0.00	305	0.01	0	0.00	0	0.00	0	0.00	0	0.00	141,854	0.49	142,075	0.49
<b>Dar es Salaam</b>	0	0.00	0	0.00	160	0.00	0	0.00	0	0.00	0	0.00	0	0.00	30,320	0.10	30,320	0.10
<b>Iringa</b>	154	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	152,427	0.52	152,427	0.52
<b>Mtwara</b>	285	0.01	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	190	0.00	238,529	0.82	239,000	0.82
<b>Narok</b>	154	0.00	0	0.00	1,120	0.04	0	0.00	0	0.00	770	0.03	337	0.01	192,128	0.67	193,275	0.67
<b>Shinyanga</b>	1,479	0.05	2,189	0.08	21,762	0.76	178	0.00	841	0.03	117	0.00	185	0.00	246,433	0.85	248,018	0.85
<b>Tanga</b>	1,213	0.04	165	0.00	652	0.02	0	0.00	0	0.00	25	0.00	25	0.00	233,861	0.81	235,371	0.81
<b>Unyamwezi</b>	0	0.00	0	0.00	126	0.00	0	0.00	135	0.00	0	0.00	0	0.00	171,861	0.58	172,017	0.58
<b>Zanzibar</b>	899	0.03	0	0.00	149	0.00	0	0.00	0	0.00	0	0.00	0	0.00	156,819	0.52	157,818	0.52
<b>Zomba</b>	285	0.01	0	0.00	354	0.01	0	0.00	128	0.00	0	0.00	0	0.00	274,282	0.93	274,769	0.93
<b>Malawi</b>	117	0.00	0	0.00	622	0.02	0	0.00	0	0.00	139	0.00	100	0.00	333,031	0.99	333,871	0.99
<b>Mozambique</b>	0	0.00	0	0.00	1,047	0.03	0	0.00	0	0.00	0	0.00	0	0.00	159,665	0.48	160,712	0.48
<b>Tanzania</b>	7,480	2.52	0	0.00	18,971	0.67	17	0.00	3,610	0.13	29	0.00	29	0.00	33,607	0.12	35,227	0.12
<b>Zimbabwe</b>	48	0.00	80	0.00	3,610	0.13	17	0.00	2,126	0.08	29	0.00	29	0.00	33,607	0.12	33,822	0.12
<b>Madagascar</b>	4,782	0.15	3,205	0.09	24,324	0.84	943	0.03	332	0.01	2,126	0.08	2,893	0.10	4,818,319	95.17	4,823,101	95.17



12.17 ACCESS TO INPUTS: Number of Agricultural Households by Source of Compost and Region, 2002/03 Agricultural Year  
Source of Compost

Region	Co-operatives		Local Farmers Group		Local Market/Trade Show		Secondary Market		Development Project		Crop Layers		Large Stock Fairs		Locally Produced by Household		Neighbour		Other		Not applicable		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Eastern	332	0.07	0	0.00	0	0.00	0	0.00	0	0.00	322	0.67	0	0.00	3,977	1.25	15	0.03	0	0.00	319,298	88.00	333,723
Arusha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,007	1.84	0	0.00	0	0.00	161,860	86.08	163,767
Mtengwe	49	0.01	73	0.01	313	0.15	0	0.00	0	0.00	0	0.00	13,739	0.64	2,699	1.29	319	0.15	0	0.00	200,274	62.64	214,044
Tanga	148	0.06	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	13,487	0.60	647	0.26	0	0.00	0	0.00	290,897	84.95	291,029
Morogoro	524	0.06	0	0.00	244	0.06	0	0.00	0	0.00	0	0.00	241	0.06	6,195	2.56	44	0.06	0	0.00	293,448	91.16	293,897
Pwani	1,695	1.36	379	0.26	579	0.26	0	0.00	70	0.05	29	0.02	0	0.00	6,531	0.62	133	0.06	60	0.06	135,198	91.18	141,548
Dar es Salaam	441	0.26	54	0.26	46	0.26	48	0.27	0	0.00	41	0.26	0	0.00	2,697	12.85	17,921	0.85	0	0.00	83,284	80.84	84,284
Lindi	812	0.53	480	0.27	244	0.15	0	0.00	26	0.02	523	0.27	61	0.05	1,266	1.04	114	0.07	36	0.02	144,882	62.71	152,011
Mtwara	873	0.26	0	0.00	359	0.13	0	0.00	0	0.00	0	0.00	123	0.04	2,698	1.06	452	0.25	97	0.04	204,352	67.80	205,354
Pemba	0	0.00	27	0.01	291	0.15	0	0.00	0	0.00	0	0.00	0	0.00	5,498	2.64	483	0.25	86	0.05	164,842	86.70	170,178
Zanzibar	1,765	0.63	370	0.13	683	0.24	0	0.00	142	0.07	0	0.00	150	0.04	18,587	7.02	481	0.16	0	0.00	255,584	61.07	274,117
Manja	231	0.06	84	0.25	1,026	0.28	26	0.02	658	0.14	837	0.14	567	0.15	4,354	9.09	11,793	0.15	252	0.27	353,179	84.86	379,613
Singida	1,776	0.65	103	0.06	257	0.11	0	0.00	0	0.00	0	0.00	298	0.15	6,170	3.65	252	0.15	0	0.00	173,106	56.07	175,235
Tabora	1,683	0.64	371	0.18	154	0.04	0	0.00	148	0.08	382	0.18	66	0.04	12,377	6.26	438	0.19	0	0.00	222,643	53.69	235,217
Rukwa	0	0.00	0	0.00	679	0.20	0	0.00	0	0.00	0	0.00	0	0.00	2,308	1.24	314	0.19	0	0.00	184,962	94.09	178,281
Sigara	182	0.06	0	0.00	383	0.15	0	0.00	0	0.00	0	0.00	0	0.00	15,111	7.79	38	0.16	0	0.00	178,805	61.80	183,785
Schiranga	0	0.00	0	0.00	81	0.02	0	0.00	0	0.00	0	0.00	0	0.00	12,242	2.78	9,073	1.00	0	0.00	381,026	86.18	379,228
Mogera	149	0.04	0	0.00	0	0.00	0	0.00	33	0.01	33	0.01	622	0.28	44,713	12.26	1,151	0.33	233	0.27	338,862	86.03	343,277
Mwanza	596	0.20	89	0.22	239	0.07	0	0.00	111	0.03	170	0.06	393	0.12	8,410	2.48	2,002	0.06	0	0.00	327,278	96.21	333,075
Mara	1,253	0.56	156	0.07	273	0.14	136	0.07	126	0.07	0	0.00	0	0.00	4,132	2.82	978	0.38	0	0.00	161,417	66.45	169,229
Mtshwari	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	16	0.02	122	0.02	1,840	1.21	1,293	0.63	0	0.00	152,734	67.77	154,128
Malindi	0	0.00	0	0.00	4,263	0.11	278	0.07	1,180	0.03	1,869	0.03	3,668	0.08	298,413	4.71	26,813	0.81	1,898	0.02	4,600,820	84.13	4,702,698
Zanzibar	22	0.002418	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,477	0.13	0	0.00	0	0.00	31,026	91.78	31,227
Norow	10,889	0.27	2,755	0.06	5,233	0.11	270	0.07	1,382	0.02	1,583	0.02	2,666	0.06	291,835	4.77	23,512	0.61	1,704	0.02	4,811,546	84.01	4,856,810

12.18 ACCESS TO INPUTS: Number of Agricultural Households and Sources of Insecticide by Region, 2002/03 Agricultural Year  
Source of Insecticide

Region	Co-operatives		Local Farmers Group		Local Market/Trade Show		Secondary Market		Development Project		Crop Layers		Large Stock Fairs		Locally Produced by Household		Neighbour		Other		Not applicable		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Eastern	0	0.00	0	0.00	5,259	1.63	528	0.24	3,941	0.94	0	0.00	0	0.00	0	0.00	631	0.17	0	0.00	344,771	61.53	353,753
Arusha	794	0.51	365	0.25	34,287	15.39	0	0.00	0	0.00	463	0.54	0	0.00	287	0.17	65	0.06	46	0.06	184,226	63.04	194,785
Mtengwe	11,981	5.55	1,886	0.87	48,866	22.96	463	0.23	1,131	0.06	242	0.11	1,292	0.69	1,292	0.69	875	0.41	125	0.06	162,865	66.46	219,348
Tanga	597	0.06	11	0.00	12,711	4.80	105	0.04	179	0.07	204	0.08	128	0.05	160	0.07	181	0.08	128	0.04	251,556	64.73	263,229
Morogoro	938	0.16	125	0.05	13,378	6.25	370	0.22	515	0.20	233	0.09	0	0.00	664	0.25	1,567	0.58	239	0.12	233,784	62.71	293,867
Pwani	1,478	1.04	475	0.26	6,340	3.62	6	0.00	257	0.10	374	0.28	60	0.06	0	0.00	612	0.63	127	0.06	124,356	67.86	141,548
Dar es Salaam	201	0.09	220	0.08	2,752	1.02	63	0.41	19	0.00	16	0.00	0	0.00	0	0.00	146	0.07	0	0.00	17,000	62.00	20,284
Lindi	4,656	3.24	488	0.22	13,226	11.42	28	0.02	0	0.00	349	0.21	0	0.00	86	0.06	1,895	1.26	117	0.08	128,379	62.57	132,811
Mtwara	17,273	7.46	1,778	0.78	22,029	13.32	102	0.07	282	0.12	172	0.09	96	0.04	166	0.06	1,102	0.46	402	0.21	174,362	72.80	202,314
Pemba	18,295	8.07	10,838	3.85	33,854	17.10	0	0.00	103	0.05	2,067	1.26	0	0.00	842	0.18	3,000	1.60	153	0.08	123,348	66.17	131,178
Mtoko	1,083	0.26	1,139	0.41	115,058	42.26	4,778	1.31	873	0.13	1,492	0.53	132	0.05	12,427	4.48	5,149	1.65	328	0.11	154,132	64.12	214,717
Mtoko	3,223	0.87	360	0.07	58,285	14.07	1,888	0.65	113	0.03	322	0.09	0	0.00	1,023	0.23	1,307	0.35	159	0.04	303,765	62.91	372,112
Rukwa	2,192	1.87	477	0.22	11,323	6.25	615	0.26	0	0.00	709	0.41	60	0.02	8,420	1.86	994	0.40	0	0.00	162,758	66.09	172,285
Sigara	3,068	1.54	461	0.22	4,898	4.53	0	0.00	0	0.00	0	0.00	0	0.00	5,420	1.86	594	0.40	0	0.00	162,758	66.09	172,285
Tabora	23,163	5.16	2,181	0.17	44,785	12.87	1,673	0.44	0	0.00	3,862	0.26	0	0.00	3,711	0.26	1,148	0.31	119	0.03	295,162	62.10	319,229
Mogera	2,888	0.78	791	0.21	17,028	4.82	6	0.00	617	0.17	584	0.17	126	0.04	4,271	1.16	1,885	0.63	0	0.00	353,206	62.11	383,277
Mwanza	14,553	4.13	430	0.11	31,565	8.25	446	0.13	138	0.04	8,694	2.41	0	0.00	0	0.00	391	0.12	39	0.01	262,716	62.16	319,279
Mara	1,365	0.75	369	0.21	12,812	6.26	251	0.11	134	0.04	7,234	3.26	0	0.00	117	0.06	74	0.04	0	0.00	195,116	65.53	196,223
Mtshwari	532	0.06	0	0.00	4,191	0.23	383	0.24	0	0.00	0	0.00	154	0.07	484	0.22	0	0.00	0	0.00	144,808	64.00	154,128
Malindi	127,686	3.75	26,418	1.05	652,263	11.48	19,173	0.25	5,315	0.13	24,673	0.56	776	0.02	26,418	0.64	24,734	0.63	3,024	0.02	4,007,680	83.48	4,752,698
Zanzibar	94	0.01	29	0.00	2,499	2.81	0	0.00	23	0.00	0	0.00	0	0.00	57	0.01	23	0.01	0	0.00	39,657	97.75	39,827
Norow	132,873	2.73068	24,441	0.60	544,551	11.00	12,078	0.25	4,174	0.13	26,976	0.59	776	0.02	25,873	0.58	24,784	0.61	3,895	0.08	4,131,421	84.41	4,686,810

**Table 12.19 ACCESS TO INPUTS: Number of Agricultural Households by Distance to Source of Chemical Fertilizer and Region, 2002/03 Agricultural Year**

Region	Distance to Source of Chemical Fertilizer										Total Number
	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	758	33	141	6	382	17	144	6	871	38	2,295
Arusha	3,661	20	2,531	14	8,821	47	1,655	9	2,052	11	18,720
Kilimanjaro	19,818	27	17,993	24	22,489	30	11,806	16	2,444	3	74,651
Tanga	1,587	19	2,392	29	3,201	39	302	4	741	9	8,223
Morogoro	3,896	22	3,596	21	5,721	33	2,358	14	1,803	10	17,374
Pwani	603	16	281	7	614	16	662	17	1,541	43	3,801
Dar es Salaam	209	8	158	6	702	28	507	20	604	36	2,480
Lindi	355	22	93	6	618	39	55	4	469	29	1,591
Mtwara	1,209	16	378	5	1,968	27	1,733	24	2,044	28	7,333
Ruvuma	22,065	24	9,794	11	16,509	19	16,145	20	25,416	28	91,930
Idaga	18,144	18	18,454	18	19,993	20	15,307	15	29,619	29	101,518
Mbeya	19,189	16	16,904	14	34,965	29	22,193	18	27,101	23	120,352
Singida	1,940	73	225	8	143	5	268	10	82	3	2,699
Tabora	14,107	30	9,704	21	10,124	22	7,279	16	5,073	11	46,287
Rukwa	1,008	9	1,576	14	3,094	28	3,195	29	2,230	20	11,103
Kigoma	3,094	21	2,265	15	3,612	25	1,636	11	4,017	27	14,614
Shinyanga	4,158	39	2,274	21	1,959	18	1,216	11	1,121	10	10,730
Kagera	1,027	25	1,241	31	1,469	35	148	4	148	4	4,031
Mwanza	1,038	11	1,663	21	2,669	28	1,776	19	2,012	21	9,460
Mara	313	11	400	14	444	15	1,142	39	632	22	2,932
Manyara	155	16	18	2	0	0	0	0	796	83	969
Mainland	118,335	21	92,371	17	139,497	25	91,532	17	111,217	20	552,953
Zanzibar	1,671	18	1,770	17	4,321	42	1,884	18	615	6	10,261
National	120,006	21	94,141	17	143,818	26	93,417	17	111,832	20	563,214

**Table 12.20 ACCESS TO INPUTS: Number of Agricultural Households by Distance to Source of Farm Yard Manure and Region, 2002/03 Agricultural Year**

Region	Source of Farm Yard Manure										Total Number
	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	80,988	90	6,640	7	2,645	3	194	0	370	0	96,837
Arusha	50,919	93	2,632	4	927	2	512	1	141	0	61,031
Kilimanjaro	149,824	94	4,827	3	3,667	2	857	1	605	0	169,780
Tanga	47,492	92	3,668	7	498	1	153	0	0	0	51,612
Morogoro	12,099	61	1,615	10	760	5	433	3	131	1	14,937
Pwani	6,319	68	1,908	20	492	5	411	4	181	2	9,311
Dar es Salaam	3,644	61	1,270	21	590	10	274	5	179	3	5,958
Lindi	2,444	66	68	3	233	8	0	0	100	3	2,965
Mtwara	10,725	95	95	1	169	1	162	1	193	2	11,334
Ruvuma	57,846	94	1,266	2	1,139	2	882	1	132	0	61,064
Idaga	81,013	68	6,924	8	2,247	2	814	1	1,224	1	92,023
Mbeya	99,499	93	3,804	4	3,408	3	693	1	158	0	107,483
Singida	75,763	91	6,367	8	367	0	762	1	0	0	83,269
Tabora	62,850	96	1,904	3	270	0	179	0	275	0	65,279
Rukwa	16,283	77	2,838	14	1,632	8	0	0	213	1	19,966
Kigoma	37,584	92	2,437	6	625	2	266	1	133	0	41,045
Shinyanga	77,998	88	6,798	8	2,684	3	663	1	99	0	86,413
Kagera	64,585	89	6,382	9	1,169	2	0	0	390	1	72,527
Mwanza	90,166	67	10,805	10	1,649	2	568	1	273	0	103,260
Mara	41,597	66	6,380	11	1,009	2	629	1	0	0	48,614
Manyara	55,043	94	2,257	4	715	1	436	1	67	0	58,519
Mainland	1,135,380	90	79,504	6	26,866	2	6,690	1	4,764	0	1,265,196
Zanzibar	15,277	66	1,642	9	557	3	70	0	281	2	17,826
National	1,150,657	90	81,146	6	27,424	2	6,760	1	5,045	0	1,273,022

Table 12.21 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of COMPOST Manure by Region, 2002/03 Agricultural Year

Region	Distance to Source of Compost										Total Number
	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	4,422	98	0	0	0	0	0	0	101	2	4,623
Arusha	2,856	96	0	0	0	0	162	6	0	0	3,007
Kilimanjaro	14,803	92	508	4	434	3	273	2	36	0	16,912
Tanga	14,259	98	321	2	0	0	0	0	0	0	14,580
Morogoro	6,932	93	249	3	119	2	0	0	121	2	7,421
Pwani	11,298	99	36	0	0	0	83	1	0	0	11,417
Dar es Salaam	3,351	99	42	1	0	0	0	0	0	0	3,393
Lindi	3,323	96	0	0	141	4	0	0	28	1	3,492
Mwara	4,575	91	306	7	98	2	0	0	0	0	6,038
Ruvuma	6,936	94	100	2	198	3	72	1	0	0	6,306
Iringa	20,572	89	1,606	7	689	2	410	2	63	0	23,221
Mbeya	54,291	96	493	1	943	2	176	0	421	1	60,324
Singida	7,020	90	515	7	0	0	245	3	0	0	7,780
Tabora	14,090	96	26	0	115	1	531	3	0	0	16,366
Rukwa	2,940	89	109	3	209	6	35	1	0	0	3,298
Kigoma	15,942	99	197	1	0	0	0	0	0	0	16,039
Shinyanga	13,104	92	1,212	8	0	0	0	0	0	0	14,316
Kagera	40,120	98	850	2	68	0	148	0	0	0	47,193
Mwanza	11,090	91	699	6	300	2	208	2	0	0	12,999
Mara	6,331	94	70	1	261	4	66	1	0	0	6,710
Manyara	3,380	98	75	2	0	0	0	0	0	0	3,434
Mainland	267,629	86	7,636	3	3,446	1	2,398	1	798	0	281,678
Zanzibar	5,065	92	367	7	58	1	0	0	8	0	5,486
National	272,694	86	7,803	3	3,501	1	2,398	1	777	0	287,184

Table 12.22 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Insecticides by Region, 2002/03 Agricultural Year

Region	Distance to Source of Insecticides										Total Number
	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	585	7	302	4	1,827	18	431	5	5,947	68	6,951
Arusha	4,157	16	3,132	12	11,968	46	1,657	6	5,334	20	26,246
Kilimanjaro	16,204	25	20,917	32	15,069	30	5,973	9	3,221	5	65,983
Tanga	2,585	16	3,389	24	4,236	30	1,255	9	2,515	18	13,971
Morogoro	5,798	28	3,439	17	4,031	19	2,429	12	5,125	25	20,823
Pwani	4,357	26	2,660	16	4,131	24	1,336	8	4,517	27	17,019
Dar es Salaam	438	13	225	7	737	22	660	20	1,244	38	3,304
Lindi	5,222	20	3,008	12	6,525	25	5,919	23	5,457	21	26,131
Mwara	23,112	44	3,123	6	7,955	15	7,890	15	10,891	21	52,951
Ruvuma	21,812	33	10,198	15	3,981	15	12,255	19	12,184	18	65,329
Iringa	36,714	25	20,837	14	28,087	19	19,774	14	39,198	27	144,605
Mbeya	9,422	15	8,246	13	16,392	29	9,926	16	17,662	28	63,546
Singida	2,883	41	453	7	2,366	35	590	9	608	9	6,912
Tabora	13,026	27	10,061	21	11,103	23	7,071	15	6,576	14	47,859
Rukwa	3,313	17	2,332	12	4,134	21	2,675	14	7,050	38	19,503
Kigoma	2,631	19	2,353	17	3,629	27	1,198	9	3,702	27	13,513
Shinyanga	18,349	23	16,128	20	25,080	31	8,507	10	12,972	16	61,034
Kagera	8,317	30	5,757	21	7,514	27	3,788	14	2,504	9	27,881
Mwanza	15,754	26	16,067	29	12,681	22	8,138	11	6,020	11	57,290
Mara	4,317	20	6,058	28	5,466	25	3,427	16	2,285	11	21,587
Manyara	1,064	12	1,504	18	3,117	34	1,557	17	2,009	22	9,252
Mainland	199,821	26	140,885	18	192,156	24	104,454	13	167,015	20	794,372
Zanzibar	473	16	675	25	584	22	819	23	340	13	2,860
National	200,294	26	141,560	18	192,780	24	105,073	13	167,356	20	797,063



**Table 12.23 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Herbicides by Region, 2002/03 Agricultural Year**

Region	Distance to Source of Herbicides										Total Number
	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	141	34	0	0	0	24	101	24	75	18	415
Arusha	453	8	650	11	2,726	47	1,067	18	876	15	5,773
Kilimanjaro	2,222	30	1,896	23	2,102	28	1,148	15	344	5	7,516
Tanga	732	88	0	0	0	0	103	12	0	0	835
Morogoro	5,580	27	3,111	15	5,851	28	2,785	13	3,650	17	20,987
Pwani	0	0	79	24	224	69	0	0	22	7	326
Dar es Salaam	0	0	0	0	0	0	85	55	71	45	156
Lindi	29	50	0	0	29	50	0	0	0	0	57
Mtwara	189	100	0	0	0	0	0	0	0	0	189
Ruvuma	875	34	0	0	474	24	526	26	337	17	2,011
Iringa	770	22	410	12	310	9	214	6	1,843	52	3,548
Mbeya	4,263	16	2,684	10	7,618	28	6,650	25	5,791	21	27,006
Singida	0	0	117	100	0	0	0	0	0	0	117
Tabora	718	35	519	25	519	25	198	10	102	5	2,056
Rukwa	0	0	269	100	0	0	0	0	0	0	269
Kigoma	0	0	0	0	0	0	0	0	149	100	149
Shinyanga	508	43	291	24	199	16	81	7	119	10	1,188
Kagera	147	23	149	23	167	26	0	0	198	29	651
Mwanza	139	13	293	28	85	8	219	21	317	30	1,054
Mara	207	100	0	0	0	0	0	0	0	0	207
Manyara	80	5	560	33	233	14	364	22	453	27	1,691
Mainland	16,854	22	10,832	14	20,625	27	13,551	18	14,338	19	75,201
Zanzibar	211	6	633	18	1,807	50	680	19	262	7	3,583
National	17,065	21	11,465	14	22,432	28	14,231	18	14,600	18	78,784

**Table 12.24 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Improved Seed by Region, 2002/03 Agricultural Year**

Region	Distance to Source of Improved Seed										Total Number
	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	9,351	27	2,925	9	7,513	22	2,076	6	12,246	36	34,114
Arusha	5,389	15	3,688	10	15,286	43	3,267	9	7,936	22	35,543
Kilimanjaro	26,830	25	28,914	27	34,357	32	13,749	13	5,117	5	108,968
Tanga	10,013	30	6,939	21	7,283	22	4,197	13	5,086	15	33,500
Morogoro	13,817	36	5,521	14	7,704	20	4,081	11	7,582	20	38,684
Pwani	4,035	19	2,460	12	3,700	18	2,170	10	8,757	41	21,121
Dar es Salaam	1,175	11	781	7	3,127	29	2,692	25	3,140	29	10,915
Lindi	6,010	48	740	6	2,319	18	1,203	10	2,319	18	12,591
Mtwara	5,072	59	308	4	910	11	489	6	1,753	21	8,531
Ruvuma	5,501	21	1,688	6	5,641	21	5,524	21	8,293	31	28,646
Iringa	21,277	43	4,280	9	5,678	11	4,550	9	14,135	28	49,920
Mbeya	9,908	19	8,163	16	13,166	25	7,106	14	13,910	27	52,255
Singida	12,076	46	2,607	10	5,041	19	2,566	10	4,126	16	28,415
Tabora	15,069	33	9,608	21	9,580	21	7,077	15	4,393	10	45,706
Rukwa	452	5	1,081	12	2,226	25	1,693	19	3,586	40	9,018
Kigoma	4,521	32	2,291	16	1,367	10	721	5	5,083	36	13,983
Shinyanga	41,182	35	28,718	24	31,030	26	8,474	7	9,000	8	118,404
Kagera	19,863	49	7,931	20	8,385	18	3,166	8	2,786	7	40,133
Mwanza	42,687	33	36,642	29	22,273	17	13,790	11	12,591	10	127,982
Mara	13,263	31	11,926	28	9,234	22	4,280	10	3,826	9	42,530
Manyara	5,040	25	2,752	13	3,309	16	4,174	20	5,216	25	20,492
Mainland	272,510	31	169,958	19	197,090	22	97,045	11	140,829	16	877,432
Zanzibar	10,877	50	3,907	18	4,292	20	1,581	7	1,176	5	21,833
National	283,387	32	173,865	19	201,382	22	98,626	11	142,005	16	899,265

**Table 12.25 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Chemical Fertilizer by Region, 2002/03 Agricultural Year**

Region	Quality of Chemical Fertilizer										Total Number
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	571	25	1,184	52	540	24	0	0	0	0	2,295
Arusha	7,424	40	8,480	46	2,692	14	98	0	0	0	18,544
Kilimanjaro	26,897	36	41,411	56	5,791	8	256	0	197	0	74,561
Tanga	2,206	27	4,400	54	1,478	18	140	2	0	0	8,223
Morogoro	5,743	33	10,803	63	606	4	116	1	0	0	17,374
Pwani	1,410	37	2,041	54	250	7	100	3	0	0	3,801
Dar es Salaam	565	23	1,741	70	161	6	13	1	0	0	2,480
Lindi	700	44	771	48	120	8	0	0	0	0	1,591
Mtwara	2,286	31	4,386	60	652	9	0	0	0	0	7,333
Ruvuma	26,311	29	59,743	65	5,392	6	486	1	0	0	91,930
Iringa	23,036	23	67,199	66	9,804	10	776	1	696	1	101,518
Mbeya	31,348	26	76,206	63	10,709	9	2,090	2	0	0	120,352
Singida	584	22	1,756	66	319	12	0	0	0	0	2,659
Tabora	19,484	42	22,812	49	3,140	7	625	2	27	0	46,287
Rukwa	3,512	32	8,701	60	824	7	86	1	0	0	11,103
Igoma	4,826	33	8,055	55	1,733	12	0	0	0	0	14,614
Shinyanga	4,631	42	5,585	52	604	6	0	0	0	0	10,730
Kagera	960	24	2,776	69	148	4	148	4	0	0	4,031
Mwanza	3,281	35	5,296	56	793	8	86	1	0	0	9,460
Mara	1,506	51	1,426	49	0	0	0	0	0	0	2,932
Manyara	75	8	635	66	258	27	0	0	0	0	968
Mainland	167,262	30	333,506	60	45,916	8	5,176	1	923	0	562,777
Zanzibar	3,154	31	5,778	56	1,224	12	65	1	40	0	10,261
National	170,406	30	339,287	60	47,141	8	5,241	1	963	0	563,036

**12.26 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Farm Yard Manure by Region, 2002/03 Agricultural Year**

Region	Quality of Farm Yard Manure										Total Number
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	33,124	34	59,171	61	3,507	4	905	1	129	0	96,837
Arusha	22,306	37	33,009	54	5,602	9	0	0	112	0	61,031
Kilimanjaro	72,673	46	78,966	49	7,705	5	233	0	0	0	159,790
Tanga	11,140	21	35,593	66	5,375	10	29	0	0	0	52,137
Morogoro	6,235	42	7,905	53	797	5	0	0	0	0	14,937
Pwani	2,831	30	5,584	60	875	9	41	0	0	0	9,311
Dar es Salaam	1,328	22	4,261	72	369	6	0	0	0	0	5,958
Lindi	494	17	1,809	63	562	20	0	0	0	0	2,865
Mtwara	2,458	22	7,612	67	1,264	11	0	0	0	0	11,334
Ruvuma	20,688	34	34,629	57	5,420	9	127	0	0	0	61,064
Iringa	31,917	35	52,654	57	7,181	8	270	0	0	0	92,023
Mbeya	43,198	40	56,507	53	7,345	7	413	0	0	0	107,463
Singida	36,006	43	44,426	53	2,744	3	83	0	0	0	83,259
Tabora	30,398	47	30,480	47	4,299	7	102	0	0	0	65,279
Rukwa	7,233	36	11,627	56	999	5	107	1	0	0	19,966
Igoma	11,244	27	22,585	55	7,237	16	0	0	0	0	41,045
Shinyanga	34,622	39	50,030	57	2,967	3	452	1	142	0	88,413
Kagera	29,378	41	39,885	55	3,164	4	0	0	0	0	72,527
Mwanza	39,563	38	56,449	55	7,093	7	0	0	0	0	103,105
Mara	18,688	39	26,692	55	2,935	6	0	0	0	0	48,514
Manyara	16,673	26	32,793	56	8,845	15	208	0	0	0	58,519
Mainland	473,000	36	692,726	55	86,284	7	2,971	0	384	0	1,255,387
Zanzibar	8,496	36	9,573	54	1,707	10	45	0	6	0	17,826
National	473,496	36	702,301	55	87,991	7	3,016	0	389	0	1,273,193

Table 12.27 ACCESS TO INPUTS: Number of Agricultural Households by Quality of COMPOST Manure and Region, 2002/03 Agricultural Year

Region	Quality of Compost Manure										Total Number
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	545	12	3,481	77	372	8	145	3	0	0	4,523
Aruaha	1,270	42	1,120	37	428	14	189	6	0	0	3,007
Kilimanjaro	4,566	29	10,204	64	1,142	7	0	0	0	0	15,912
Tanga	2,363	18	11,195	77	881	6	140	1	0	0	14,580
Morogoro	2,018	39	3,170	43	1,335	18	0	0	0	0	7,421
Pwani	3,806	33	4,406	39	2,857	25	160	1	82	1	11,417
Dar es Salaam	689	17	2,888	75	196	5	40	1	0	0	3,393
Lindi	1,598	45	1,451	42	443	13	0	0	0	0	3,492
Mwara	1,538	31	3,021	63	285	6	164	4	0	0	5,038
Ruvuma	1,197	19	3,878	58	1,430	23	0	0	0	0	6,305
Iringa	7,513	32	11,276	49	4,387	19	64	0	0	0	23,221
Mbeya	14,428	25	38,429	65	5,289	9	177	0	0	0	66,324
Singida	2,569	33	4,295	55	923	12	0	0	0	0	7,786
Tabora	3,686	23	9,127	59	2,748	18	27	0	0	0	15,368
Rukwa	35	1	2,702	82	434	13	128	4	0	0	3,268
Kigoma	2,088	17	10,817	87	2,369	15	164	1	0	0	16,039
Shinyanga	2,246	15	9,987	65	2,888	18	119	1	0	0	14,318
Kagera	11,803	25	27,727	59	7,853	17	0	0	0	0	47,183
Mwanza	2,033	18	9,214	71	1,991	12	148	1	0	0	12,886
Mara	2,737	41	3,227	45	751	11	0	0	0	0	6,718
Manyara	653	19	1,953	58	780	23	0	0	0	0	3,434
Mainland	70,359	25	170,459	61	39,097	14	1,702	1	82	0	281,678
Zanzibar	1,250	23	3,139	67	1,074	20	23	0	0	0	5,486
National	71,589	25	173,597	60	40,170	14	1,725	1	82	0	287,164

Table 12.28 ACCESS TO INPUTS: Number of Agricultural Households by Quality of Insecticides and Region, 2002/03 Agricultural Year

Region	Quality of Insecticides										Total Number
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	1,313	15	5,793	75	458	5	299	3	100	1	8,963
Aruaha	5,153	31	15,708	63	2,211	8	187	1	0	0	26,239
Kilimanjaro	15,098	24	42,509	64	5,051	10	389	1	126	0	63,083
Tanga	2,220	19	9,171	68	2,332	17	247	2	0	0	13,071
Morogoro	4,789	23	15,056	72	874	4	124	1	0	0	20,823
Pwani	4,424	26	9,518	58	2,289	13	534	3	258	2	17,019
Dar es Salaam	888	30	2,122	64	194	5	0	0	0	0	3,304
Lindi	4,602	18	15,442	59	5,029	19	682	3	377	1	26,131
Mwara	14,532	27	32,047	62	5,013	9	489	1	0	0	52,061
Ruvuma	12,081	19	45,778	69	8,444	10	941	1	105	0	65,929
Iringa	30,279	21	104,879	72	9,257	6	129	0	261	0	144,866
Mbeya	15,517	24	44,257	70	3,146	5	727	1	0	0	63,646
Singida	1,867	24	4,124	63	567	8	534	8	0	0	6,812
Tabora	17,183	38	28,345	59	1,739	4	562	1	50	0	47,850
Rukwa	5,236	27	13,116	67	1,150	6	0	0	0	0	19,503
Kigoma	2,936	22	8,894	68	1,434	11	260	2	0	0	13,513
Shinyanga	22,751	28	51,782	64	5,047	5	1,089	1	365	0	81,034
Kagera	5,816	32	15,095	54	3,381	12	589	2	0	0	27,881
Mwanza	13,885	24	38,678	64	5,354	11	456	1	80	0	57,260
Mara	4,440	21	14,242	68	2,134	10	493	2	278	1	21,587
Manyara	2,523	27	5,284	57	1,320	14	0	0	125	1	5,252
Mainland	184,823	25	521,518	69	67,223	8	5,730	1	2,131	0	794,425
Zanzibar	1,019	37	1,369	60	335	13	0	0	0	0	2,714
National	185,833	25	522,887	68	67,558	8	5,730	1	2,131	0	797,139



**Table 12.29 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Herbicides by Region, 2002/03 Agricultural Year**

Region	Quality of Herbicides										Total Number
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	99	24	317	76	0	0	0	0	0	0	415
Arusha	1,848	32	3,248	56	677	12	0	0	0	0	5,773
Kilimanjaro	3,136	42	3,991	53	388	5	0	0	0	0	7,516
Tanga	0	0	835	100	0	0	0	0	0	0	835
Morogoro	4,519	22	15,071	72	1,268	6	129	1	0	0	20,987
Pwani	101	31	224	69	0	0	0	0	0	0	326
Dar es Salaam	0	0	142	91	14	9	0	0	0	0	156
Lindi	29	50	0	0	29	50	0	0	0	0	57
Mtwara	0	0	189	100	0	0	0	0	0	0	189
Ruvuma	520	26	1,231	61	260	13	0	0	0	0	2,011
Iringa	896	28	2,551	72	0	0	0	0	0	0	3,548
Mbeya	8,270	34	16,064	59	1,114	4	479	2	88	0	27,006
Singida	0	0	117	100	0	0	0	0	0	0	117
Tabora	769	37	1,238	60	50	2	0	0	0	0	2,056
Rukwa	269	100	0	0	0	0	0	0	0	0	269
Kigoma	149	100	0	0	0	0	0	0	0	0	149
Shinyanga	319	27	598	50	189	16	81	7	0	0	1,188
Kagera	503	77	147	23	0	0	0	0	0	0	651
Mwanza	176	17	573	54	305	28	0	0	0	0	1,054
Mara	117	57	90	43	0	0	0	0	0	0	207
Manyara	792	47	887	52	0	0	12	1	0	0	1,691
Mainland	23,612	31	47,515	62	4,294	6	692	1	88	0	76,201
Zanzibar	1,270	35	1,901	53	364	10	15	0	43	1	3,582
National	24,882	31	49,416	62	4,658	6	707	1	130	0	79,793

**Table 12.30 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Improved Seeds by Region, 2002/03 Agricultural Year**

Region	Quality of Improved Seeds										Total Number
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Dodoma	11,644	34	18,036	53	4,205	12	0	0	229	1	34,114
Arusha	12,214	34	20,981	59	2,349	7	0	0	0	0	35,543
Kilimanjaro	34,195	31	67,627	62	6,977	8	0	0	169	0	108,968
Tanga	6,925	20	23,389	69	3,188	9	237	1	108	0	33,825
Morogoro	14,600	38	22,073	57	2,011	5	0	0	0	0	38,684
Pwani	6,536	31	12,123	57	2,265	11	21	0	176	1	21,121
Dar es Salaam	2,694	25	7,273	67	770	7	161	1	17	0	10,915
Lindi	4,702	37	6,260	50	1,491	12	69	1	69	1	12,591
Mtwara	2,743	32	5,328	62	396	5	0	0	159	2	6,625
Ruvuma	6,695	25	18,673	70	1,118	4	159	1	0	0	26,646
Iringa	13,490	27	30,441	61	4,891	10	1,099	2	0	0	49,920
Mbeya	20,753	40	28,990	55	2,494	5	0	0	18	0	52,255
Singida	7,914	30	16,889	64	1,528	8	84	0	0	0	26,415
Tabora	19,603	43	23,123	51	2,601	8	265	1	114	0	45,706
Rukwa	1,665	18	7,079	78	155	2	120	1	0	0	9,018
Kigoma	3,853	28	9,548	68	442	3	121	1	0	0	13,963
Shinyanga	35,971	30	72,466	61	6,519	6	3,366	3	79	0	118,404
Kagera	6,675	17	26,234	65	7,188	18	35	0	0	0	40,133
Mwanza	28,562	22	77,691	61	17,358	14	4,372	3	0	0	127,982
Mara	8,251	19	28,467	67	5,738	13	75	0	0	0	42,530
Manyara	7,482	37	10,355	51	2,395	12	261	1	0	0	20,492
Mainland	257,167	29	533,027	61	76,078	9	10,445	1	1,136	0	877,852
Zanzibar	1,312	27	2,053	61	364	11	15	0	43	0	3,787
National	258,479	29	535,080	61	76,442	9	10,460	1	1,179	0	881,639

**Table 12.31 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Chemical Fertilizer Next Year by Region, 2002/03 Agricultural Year**

Region	Plan to use Chemical Fertilizer Next Year				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next Year		Total Number
	Number	%	Number	%	
Dodoma	15,973	8	307,747	90	323,719
Aruaha	29,415	19	125,443	81	154,857
Kilimanjaro	111,920	52	104,253	48	216,173
Tanga	35,860	13	229,538	87	265,398
Morogoro	47,307	18	213,439	82	260,746
Pwani	20,692	15	120,838	85	141,530
Der es Salaam	6,575	32	13,819	68	20,394
Lindi	13,225	9	139,949	91	153,173
Mtwara	39,833	17	199,481	83	229,314
Ruvuma	121,432	64	69,742	36	191,175
Iringa	126,798	45	151,919	55	278,717
Mbeya	177,401	48	196,444	52	372,844
Singida	7,090	4	172,835	96	179,915
Tabora	81,242	34	154,675	66	235,917
Rukwa	29,882	17	142,679	83	172,261
Kigoma	61,097	31	134,668	69	195,765
Shinyanga	63,462	17	314,395	83	377,857
Kagera	21,562	6	331,715	94	353,277
Mwanza	66,215	20	271,869	80	340,085
Mara	20,610	11	197,593	89	188,203
Manyara	4,290	3	149,904	97	154,194
Mainland	1,103,372	23	3,701,843	77	4,805,315
Zanzibar	49,449	51	47,028	49	96,522
National	1,152,821	24	3,748,870	78	4,901,837

**Table 12.32 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Farm Yard Manure next year by Region, 2002/03 Agricultural Year**

Region	Plan to use Farm Yard Manure Next Year				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next Year		Total Number
	Number	%	Number	%	
Dodoma	150,238	46	173,482	54	323,719
Aruaha	63,747	41	91,110	59	154,857
Kilimanjaro	170,820	79	45,353	21	216,173
Tanga	112,362	42	152,836	58	265,198
Morogoro	39,599	15	221,177	85	260,746
Pwani	28,591	20	112,939	80	141,530
Der es Salaam	10,837	53	9,457	47	20,394
Lindi	16,419	11	136,755	89	153,173
Mtwara	36,079	16	193,236	84	229,314
Ruvuma	72,361	38	118,814	62	191,175
Iringa	107,650	39	171,067	61	278,717
Mbeya	156,064	42	216,780	58	372,844
Singida	113,400	63	66,515	37	179,915
Tabora	116,720	49	119,197	51	235,917
Rukwa	36,102	21	136,159	79	172,261
Kigoma	91,795	47	109,970	53	195,765
Shinyanga	195,634	52	182,224	48	377,857
Kagera	127,891	36	225,386	64	353,277
Mwanza	208,324	61	131,760	39	340,085
Mara	110,213	59	77,990	41	188,203
Manyara	83,951	54	70,244	46	154,194
Mainland	2,048,894	43	2,756,430	57	4,805,315
Zanzibar	48,471	50	48,096	50	96,522
National	2,097,365	43	2,804,526	57	4,901,837

**Table 12.33 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use COMPOST Next Year by Region, 2002/03 Agricultural Year**

Region	Plan to use Compost Next Year				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next		Total Number
	Number	%	Number	%	
Dodoma	37,190	11	298,529	89	323,719
Arusha	11,290	7	143,567	93	154,857
Kilimanjaro	35,085	16	181,088	84	216,173
Tanga	48,108	18	217,080	82	265,188
Morogoro	28,577	10	234,189	90	260,748
Pwani	27,528	19	114,001	81	141,530
Dar es Salaam	6,950	34	13,444	66	20,394
Udi	15,148	10	138,024	90	153,173
Mtwara	19,194	8	210,120	92	229,314
Ruvuma	13,832	7	177,349	93	191,179
Iringa	33,811	12	244,906	88	278,717
Mbeya	81,045	22	291,799	78	372,844
Singida	23,495	13	158,421	87	179,916
Tabora	36,338	15	199,581	85	235,917
Rukwa	7,958	5	164,302	95	172,261
Kgombe	58,283	30	137,473	70	195,756
Shinyanga	68,484	18	309,373	82	377,857
Kagera	91,074	26	262,203	74	353,277
Mwanza	59,888	18	280,187	82	340,085
Mara	25,982	14	182,221	86	188,203
Manyara	11,477	7	142,718	93	154,194
Mainland	738,755	15	4,066,560	85	4,805,315
Zanzibar	27,849	29	66,673	71	96,522
National	766,604	16	4,135,233	84	4,901,837

**Table 12.34 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Insecticides Next Year by Region, 2002/03 Agricultural Year**

Region	Plan to use Insecticides Next Year				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next		Total Number
	Number	%	Number	%	
Dodoma	36,023	11	287,697	89	323,719
Arusha	34,807	22	120,250	78	154,857
Kilimanjaro	110,947	51	105,226	49	216,173
Tanga	43,864	17	221,334	83	265,188
Morogoro	53,438	21	207,306	79	260,748
Pwani	42,349	30	99,180	70	141,530
Dar es Salaam	7,418	36	12,978	64	20,394
Udi	43,977	29	109,196	71	153,173
Mtwara	83,253	36	146,061	64	229,314
Ruvuma	77,237	40	113,938	60	191,179
Iringa	153,943	55	124,774	45	278,717
Mbeya	101,483	27	271,361	73	372,844
Singida	35,260	20	144,656	80	179,916
Tabora	69,814	42	138,103	56	235,917
Rukwa	32,762	19	139,499	81	172,261
Kgombe	40,488	21	155,298	79	195,756
Shinyanga	181,562	43	218,296	57	377,857
Kagera	48,815	14	304,462	86	353,277
Mwanza	117,042	34	223,043	66	340,085
Mara	46,090	24	142,113	78	188,203
Manyara	25,283	16	128,932	84	154,194
Mainland	1,365,613	29	3,406,702	71	4,805,315
Zanzibar	29,176	30	67,346	70	96,522
National	1,424,789	29	3,477,048	71	4,901,837



**Table 12.35 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Herbicides Next Year by Region, 2002/03 Agricultural Year**

Region	Plan to use Herbicides Next Year				Total Number
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next		
	Number	%	Number	%	
Dodoma	14,901	5	306,819	95	323,719
Arusha	14,666	9	140,171	91	154,837
Kilimanjaro	27,719	13	188,454	87	216,173
Tanga	16,104	6	249,094	94	265,198
Morogoro	46,080	18	214,669	82	260,748
Pwani	13,482	10	128,047	90	141,530
Der es Saisam	2,882	13	17,712	87	20,594
Lindi	6,532	4	146,642	96	153,173
Mtwara	6,931	3	222,383	97	229,314
Ruvuma	7,403	4	183,772	98	191,175
Iringa	9,553	3	269,163	97	278,717
Mbeya	58,846	15	316,199	85	372,844
Singida	4,166	2	175,749	98	179,915
Tabora	17,828	8	216,088	92	235,917
Rukwa	3,549	2	168,712	98	172,261
Kigoma	17,279	9	176,485	91	195,765
Shinyanga	29,177	8	346,680	92	377,857
Kagera	7,015	2	346,262	98	353,277
Mwanza	20,805	9	319,280	94	340,085
Mara	11,041	6	177,162	94	188,203
Manyara	6,712	4	147,483	98	154,194
Mainland	340,292	7	4,468,023	93	4,805,315
Zanzibar	32,543	34	63,979	66	96,522
National	372,835	8	4,529,002	92	4,901,837

**Table 12.36 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Improved Seeds Next Year by Region , 2002/03 Agricultural Year**

Region	Plan to use Improved Seeds Next Year				Total Number
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next		
	Number	%	Number	%	
Dodoma	92,058	28	231,662	72	323,719
Arusha	53,451	35	101,409	65	154,857
Kilimanjaro	150,884	70	65,289	30	216,173
Tanga	100,788	38	164,410	62	265,198
Morogoro	95,818	37	165,128	63	260,748
Pwani	51,434	36	90,096	64	141,530
Der es Saisam	14,264	70	6,130	30	20,394
Lindi	48,834	33	103,339	67	153,173
Mtwara	50,957	22	178,457	78	229,314
Ruvuma	48,043	25	143,132	75	191,175
Iringa	72,433	28	206,283	74	278,717
Mbeya	134,372	36	236,473	64	372,844
Singida	68,057	38	111,859	62	179,915
Tabora	106,937	45	126,979	55	235,917
Rukwa	20,175	12	152,088	88	172,261
Kigoma	57,275	29	136,490	71	195,765
Shinyanga	198,881	53	177,977	47	377,857
Kagera	93,397	28	259,881	74	353,277
Mwanza	198,754	58	141,331	42	340,085
Mara	94,574	50	93,629	50	188,203
Manyara	54,376	35	99,818	65	154,194
Mainland	1,807,481	38	2,997,854	62	4,805,315
Zanzibar	58,289	60	38,233	40	96,522
National	1,865,750	38	3,036,087	62	4,901,837

**12.37 ACCESS TO EQUIPMENT: Number of households NOT Using Hand Hoes by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Hand Hoe					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	247	2,172	469	0	0	0
Arusha	936	7,247	1,587	347	3,385	2,815
Kilimanjaro	0	1,005	462	0	147	391
Tanga	19	1,485	294	0	490	242
Morogoro	383	936	126	0	247	123
Pwani	162	338	551	318	460	280
Dar es Salaam	127	630	208	45	547	4
Lindi	139	519	0	0	0	0
Mtwara	0	794	971	0	97	0
Ruvuma	107	161	0	0	0	0
Idaga	61	348	508	0	0	0
Mbeya	0	599	1,401	0	176	121
Singida	137	240	565	0	123	0
Tabora	199	497	214	0	13	0
Ruwa	0	178	72	0	106	0
Kigoma	0	566	293	0	160	0
Shinyanga	238	1,210	527	0	557	176
Kagera	183	3,029	682	0	1,602	518
Mwanza	251	963	159	0	829	0
Mara	0	640	319	138	69	0
Manyara	145	2,699	905	0	489	575
Mainland	3,334	26,217	10,313	644	9,477	5,245

**12.38 ACCESS TO EQUIPMENT: Number of agriculture households NOT Using Hand Powered Sprayers by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Hand Powered Sprayer					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	80,416	131,445	84,673	117	35,609	2,993
Arusha	5,578	52,617	19,265	518	20,334	3,911
Kilimanjaro	6,010	68,680	33,096	80	30,277	1,720
Tanga	21,431	123,848	68,371	59	35,155	704
Morogoro	39,685	108,529	47,280	278	27,189	1,234
Pwani	30,601	51,358	38,539	325	12,398	1,235
Dar es Salaam	1,668	8,648	4,774	17	2,370	102
Lindi	63,570	40,400	30,658	79	10,200	421
Mtwara	44,787	80,945	70,509	520	9,640	1,378
Ruvuma	22,943	47,458	38,731	0	21,381	1,024
Idaga	21,910	98,020	68,718	618	31,319	503
Mbeya	29,444	111,587	91,110	323	50,432	2,839
Singida	29,258	81,722	43,587	143	17,744	982
Tabora	42,638	80,342	53,738	102	44,081	527
Ruwa	30,334	63,891	49,619	625	19,968	162
Kigoma	25,953	107,532	28,097	214	17,755	1,048
Shinyanga	28,059	141,070	81,297	463	51,388	1,888
Kagera	52,011	164,241	69,524	0	47,188	518
Mwanza	39,487	111,080	87,328	622	42,593	254
Mara	29,238	65,197	32,632	270	34,994	2,831
Manyara	12,572	55,499	29,443	1,600	31,937	2,119
Mainland	637,918	1,792,284	1,094,786	7,170	693,947	28,372
Zanzibar	28,366	30,410	9,330	366	23,981	199
National	666,284	1,822,694	1,074,116	7,536	617,928	28,571

**12.39 ACCESS TO EQUIPMENT: Number of agriculture households NOT Using Oxen by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Oxen					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	10,612	97,938	147,321	2,025	2,302	4,974
Arusha	3,524	28,041	18,737	2,964	18,068	5,232
Kilimanjaro	28,128	15,465	31,988	2,834	124,248	1,857
Tanga	42,368	60,652	95,652	3,385	80,547	960
Morogoro	102,101	65,452	48,584	2,808	31,824	3,897
Pwani	61,893	36,376	35,026	1,185	5,558	1,434
Dar es Salaam	4,582	6,584	7,312	132	1,433	88
Lindi	106,838	20,808	21,478	1,109	2,873	241
Mtwara	95,859	54,273	73,503	203	3,577	888
Ruvuma	82,622	36,862	52,958	896	13,568	2,853
Iringa	15,433	56,295	98,328	3,065	12,466	783
Mbeya	24,286	58,566	146,479	1,881	28,913	5,826
Singida	2,648	24,041	60,753	381	406	747
Tabora	5,182	41,272	95,930	612	2,171	312
Rufawa	8,638	28,393	52,852	332	1,867	167
Kigoma	61,923	55,004	50,636	2,281	3,300	1,741
Shinyanga	2,188	62,416	58,196	1,116	2,587	550
Kagera	75,623	100,890	82,637	1,878	84,667	796
Mwanza	13,020	68,143	145,008	7,158	9,226	856
Mara	7,390	28,691	48,560	700	8,970	1,589
Manyara	5,084	12,355	30,541	4,329	10,402	1,645
<b>Total</b>	<b>785,985</b>	<b>961,792</b>	<b>1,406,692</b>	<b>40,666</b>	<b>428,574</b>	<b>37,671</b>

**12.40 ACCESS TO EQUIPMENT: Number of agriculture households NOT Using Ox Plough by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Ox Plough					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	11,050	104,077	143,599	5,312	2,591	4,326
Arusha	2,403	30,841	18,551	1,828	20,306	5,230
Kilimanjaro	25,427	15,394	35,476	1,087	126,951	1,514
Tanga	44,892	57,592	97,672	4,279	59,979	498
Morogoro	95,057	65,675	54,086	2,316	32,725	3,609
Pwani	53,009	35,381	43,012	2,125	6,432	1,527
Dar es Salaam	4,316	6,619	7,769	141	1,391	52
Lindi	104,510	22,317	23,014	775	2,125	165
Mtwara	94,333	58,622	69,934	257	5,747	421
Ruvuma	82,039	39,457	52,910	395	14,075	2,052
Iringa	17,920	58,066	101,183	2,388	14,136	651
Mbeya	23,097	67,726	140,609	964	31,841	5,417
Singida	2,151	28,605	60,257	678	1,933	506
Tabora	3,589	43,536	97,063	376	2,425	266
Rufawa	8,829	31,729	51,324	80	1,797	123
Kigoma	79,891	59,246	50,516	194	3,575	1,610
Shinyanga	2,960	65,620	65,093	638	2,653	422
Kagera	79,452	95,619	84,750	996	85,556	604
Mwanza	12,596	75,267	142,300	4,614	10,366	252
Mara	7,654	32,823	44,188	216	9,700	1,022
Manyara	5,894	16,959	31,067	3,667	10,308	1,284
<b>Total</b>	<b>761,887</b>	<b>1,011,375</b>	<b>1,414,325</b>	<b>33,353</b>	<b>447,452</b>	<b>31,962</b>



**12.41 ACCESS TO EQUIPMENT: Number of agriculture households NOT Using Ox Seed Planter by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Ox Seed Planter					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	49,770	127,774	110,779	2,562	29,312	2,625
Arusha	18,713	59,239	30,349	2,192	39,058	5,081
Kilimanjaro	34,957	15,246	29,783	579	133,571	1,505
Tanga	48,063	56,855	89,210	3,383	57,241	367
Morogoro	107,505	85,028	47,479	1,683	34,377	3,547
Pwani	44,296	41,016	39,851	2,330	11,922	1,896
Dar es Salaam	4,323	6,504	7,730	17	1,698	75
Lindi	98,155	23,373	24,644	943	5,710	254
Mtwara	85,944	61,797	88,578	162	11,284	130
Ruvuma	80,272	39,977	52,907	76	16,934	983
Iringa	59,197	83,107	85,480	878	46,783	931
Mbeya	93,191	88,081	113,491	883	71,672	5,249
Singida	39,423	68,324	51,554	143	18,553	1,290
Tabora	61,531	65,562	77,319	796	27,855	27
Rufawa	55,914	52,577	52,099	0	11,002	89
Kigoma	61,631	56,968	49,071	392	6,083	1,057
Shinyanga	101,851	127,820	116,780	648	26,050	688
Kagera	83,980	93,111	82,790	1,112	91,726	554
Mwanza	77,618	98,563	114,020	3,700	45,416	188
Mara	49,668	64,527	42,228	537	30,968	211
Manyara	23,632	54,836	44,747	2,413	25,246	1,733
<b>Total</b>	<b>1,300,833</b>	<b>1,352,418</b>	<b>1,332,834</b>	<b>25,628</b>	<b>752,582</b>	<b>28,481</b>

**12.42 ACCESS TO EQUIPMENT: Number of agriculture households NOT Using Ox-Cart by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Ox Cart					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	19,089	139,513	133,944	2,130	11,402	2,542
Arusha	9,308	60,118	37,546	1,978	29,989	4,398
Kilimanjaro	24,562	21,197	35,896	802	130,863	1,523
Tanga	41,816	62,523	94,254	2,577	53,250	426
Morogoro	97,007	66,033	50,801	2,333	34,524	3,840
Pwani	43,989	43,328	41,327	2,735	8,309	1,559
Dar es Salaam	4,118	6,896	7,890	29	1,536	122
Lindi	98,319	24,686	24,672	834	3,441	212
Mtwara	85,363	56,984	80,610	197	6,208	227
Ruvuma	80,293	42,936	51,772	373	13,026	2,719
Iringa	41,812	61,635	115,382	4,146	24,357	418
Mbeya	52,834	95,566	143,053	3,001	56,543	6,182
Singida	5,131	68,507	62,824	406	7,727	702
Tabora	7,581	72,100	119,280	936	10,717	634
Rufawa	20,699	62,524	75,706	145	5,756	128
Kigoma	78,366	56,191	53,186	2,848	5,931	916
Shinyanga	7,608	129,485	153,595	680	16,483	883
Kagera	77,047	106,735	80,461	857	77,060	237
Mwanza	23,264	114,347	152,590	2,584	27,861	740
Mara	35,657	71,113	55,206	271	21,434	1,750
Manyara	7,535	42,216	50,486	2,233	15,964	1,534
<b>Total</b>	<b>660,348</b>	<b>1,424,657</b>	<b>1,650,565</b>	<b>32,107</b>	<b>572,342</b>	<b>31,703</b>

**12.43 ACCESS TO EQUIPMENT: Number of agriculture households NOT Using Tractors by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Tractor					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	27,262	161,933	112,083	1,887	9,926	1,642
Arusha	4,019	88,606	38,153	1,036	24,156	5,418
Kilimanjaro	4,374	43,940	47,158	366	81,260	1,891
Tanga	23,433	100,679	103,781	0	34,960	238
Morogoro	33,263	90,195	79,628	733	22,801	3,881
Pwani	18,172	87,621	51,958	127	1,899	682
Dar es Salaam	1,874	7,838	9,041	29	1,404	12
Lindi	46,932	46,610	57,616	0	1,416	178
Mtwara	42,183	96,662	87,161	236	2,041	26
Ruvuma	50,572	57,074	69,810	107	12,948	430
Iringa	21,704	123,265	99,917	0	28,118	322
Mbeya	40,206	135,150	139,408	384	48,056	6,852
Singida	13,426	98,036	55,391	284	12,333	43
Tabora	24,731	103,437	85,664	1,743	17,508	0
Rufawa	22,079	76,287	68,422	0	5,275	119
Kigoma	41,956	80,731	69,928	0	1,775	1,378
Shinyanga	25,666	156,448	171,187	426	17,130	660
Kagera	43,281	138,098	100,010	20	70,965	406
Nwanza	38,790	152,895	104,585	513	41,160	374
Mara	23,570	86,106	50,368	12	27,328	66
Manyara	5,022	68,200	51,242	87	7,808	1,172
<b>Total</b>	<b>553,512</b>	<b>1,960,807</b>	<b>1,653,282</b>	<b>7,991</b>	<b>470,328</b>	<b>25,666</b>

**12.44 ACCESS TO EQUIPMENT: Number of agriculture households NOT Using Tractor Ploughs by Main Reason for Not Using and Region for the 2002/03 agriculture year**

Region	Tractor Plough					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	31,084	161,998	110,739	1,008	10,620	1,626
Arusha	4,326	71,080	37,412	816	23,627	6,488
Kilimanjaro	6,202	43,651	47,767	641	84,666	1,891
Tanga	23,471	97,320	103,085	0	39,209	238
Morogoro	31,684	90,367	79,649	1,828	23,423	3,959
Pwani	17,372	85,838	54,727	211	1,793	948
Dar es Salaam	1,922	8,084	8,869	0	1,312	12
Lindi	51,346	42,570	56,666	0	2,304	166
Mtwara	43,912	97,138	83,239	34	3,806	20
Ruvuma	50,638	56,544	69,646	107	16,687	481
Iringa	20,070	124,729	100,658	0	30,828	678
Mbeya	40,624	129,338	141,988	190	51,220	7,091
Singida	13,801	98,756	63,462	143	13,166	43
Tabora	26,481	103,399	85,843	1,562	18,178	0
Rufawa	21,847	78,341	67,889	0	8,112	0
Kigoma	42,472	79,156	70,830	0	1,931	1,378
Shinyanga	28,028	167,187	189,457	206	18,821	739
Kagera	43,029	139,897	100,658	0	69,489	406
Nwanza	40,268	160,881	103,048	513	44,922	222
Mara	23,338	88,506	49,690	183	27,864	138
Manyara	4,170	71,340	52,467	433	8,855	1,097
<b>Total</b>	<b>583,882</b>	<b>1,950,864</b>	<b>1,646,547</b>	<b>7,871</b>	<b>487,729</b>	<b>26,408</b>

**12.45 ACCESS TO EQUIPMENT: Number of households NOT Using Tractor Harrows by Main Reason for Not Using and Region during 2002/03 agriculture year**

Region	Tractor Harrow					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	39,854	153,794	98,362	1,385	27,474	1,937
Arusha	6,758	72,832	35,836	540	30,507	4,710
Kilimanjaro	14,597	42,529	32,530	249	122,839	1,729
Tanga	24,353	97,528	101,091	120	40,666	431
Morogoro	34,481	94,640	84,339	1,525	35,346	4,109
Pwani	19,248	82,195	52,121	261	6,942	997
Dar es Salaam	2,135	7,685	8,801	29	1,710	12
Lindi	55,279	39,783	49,724	106	8,039	243
Mtwara	45,054	91,942	82,148	194	9,600	284
Ruvuma	51,322	55,537	65,867	241	16,505	637
Iringa	22,607	117,133	93,334	194	44,226	418
Mbeya	41,688	125,854	136,219	23	61,067	7,212
Singida	17,964	97,303	45,019	302	19,082	160
Tabora	29,126	100,977	84,425	1,444	19,734	0
Rukwa	23,215	73,095	67,636	113	7,992	0
Kigoma	42,889	79,025	69,668	0	2,507	1,486
Shinyanga	49,271	140,582	156,460	173	29,804	508
Kagera	43,438	138,904	100,800	188	69,742	405
Mwanza	45,011	145,969	99,579	664	48,724	222
Mara	24,884	85,729	45,746	78	30,610	78
Manyara	7,434	68,626	49,742	396	29,234	1,112
<b>Total</b>	<b>640,604</b>	<b>1,891,473</b>	<b>1,558,426</b>	<b>8,228</b>	<b>662,349</b>	<b>26,680</b>

**12.46 ACCESS TO EQUIPMENT: Number of households NOT Using Threshers/Shellers by Main Reason for Not Using and Region during 2002/03 agriculture year**

Region	Threshers / Shellers					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
Dodoma	45,939	138,507	100,861	1,968	28,409	2,090
Arusha	14,334	65,367	30,096	564	37,671	4,388
Kilimanjaro	16,769	51,054	29,632	258	77,185	1,584
Tanga	36,935	116,518	73,075	0	37,834	599
Morogoro	71,567	93,462	51,220	1,854	38,939	2,951
Pwani	32,317	46,005	37,024	511	24,221	1,231
Dar es Salaam	2,688	7,725	5,698	0	4,221	61
Lindi	73,637	29,055	28,901	61	21,237	262
Mtwara	59,015	78,334	65,797	34	24,425	221
Ruvuma	62,276	48,859	49,625	231	21,781	224
Iringa	43,971	103,885	79,465	390	49,666	586
Mbeya	101,274	103,675	82,795	407	73,908	1,805
Singida	22,223	92,231	35,976	366	27,609	432
Tabora	52,594	79,595	68,973	668	33,968	108
Rukwa	51,139	54,810	55,221	0	11,057	34
Kigoma	51,866	75,249	52,650	0	11,529	1,072
Shinyanga	66,927	127,001	126,074	396	35,258	1,254
Kagera	68,926	122,172	75,786	193	65,795	405
Mwanza	78,029	116,915	82,698	942	60,702	278
Mara	40,467	78,291	37,611	198	30,926	197
Manyara	13,031	70,299	40,094	678	25,073	969
<b>Total</b>	<b>1,046,644</b>	<b>1,700,010</b>	<b>1,211,573</b>	<b>8,735</b>	<b>741,396</b>	<b>20,802</b>



12.47 ACCESS TO EQUIPMENT: Number of households NOT Using Hand Powered Sprayers by Main Reason for Not Using and by Region

Region	Hand Powered Sprayer							Total
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other	Not applicable	
Dodoma	60,416	131,445	84,873	117	35,808	2,893	8,885	324,117
Arusha	5,578	52,817	18,266	518	20,334	3,811	52,883	155,386
Kilimanjaro	8,010	66,660	33,066	80	30,277	1,720	78,670	216,513
Tanga	21,431	123,848	68,371	50	35,156	704	17,578	265,148
Morogoro	38,865	108,528	47,280	276	27,188	1,234	36,852	261,294
Pwani	30,801	51,356	35,536	325	12,388	1,235	8,958	141,612
Dar es Salaam	1,668	8,648	4,774	17	2,370	102	2,899	20,456
Lindi	63,570	40,400	30,056	70	10,200	421	8,519	153,345
Mtwara	44,787	80,945	70,506	520	9,640	1,378	23,140	230,888
Ruvuma	22,943	47,458	35,731	0	21,381	1,024	51,838	191,175
Singa	21,910	88,020	68,718	818	31,318	503	57,803	279,091
Mbeya	28,444	111,587	91,110	323	50,432	2,839	87,322	373,057
Shinyanga	28,258	81,722	43,587	143	17,744	862	6,479	179,815
Tabora	42,638	80,342	53,738	102	44,081	527	14,582	236,919
Rufwa	30,334	63,891	48,616	625	19,868	162	7,674	172,273
Kigoma	25,953	107,532	28,067	214	17,755	1,048	15,167	195,765
Shinyanga	28,059	141,070	81,267	483	51,388	1,888	73,758	377,897
Kogoro	52,011	164,241	89,524	0	47,188	518	19,787	353,277
Mwanza	38,467	111,080	87,328	622	42,553	254	55,822	340,166
Mara	28,236	65,187	32,832	270	34,864	2,831	23,073	188,482
Manyara	12,572	55,486	28,443	1,800	31,837	2,118	21,028	154,184
Total	637,919	1,792,284	1,064,788	7,170	593,947	28,372	885,482	4,809,058
%	13	37	22	0	12	1	14	100

12.48 ACCESS TO EQUIPMENT: Number of households NOT Using Ox Plough by Main Reason for Not Using and Region

Region	Ox Plough								Total
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labor Required	Equipment / Asset of No Use	Other	Not applicable	Total	
Dodoma	11,050	1,04,077	143,689	5,312	2,681	4,326	52,861	323,586	
Arusha	2,403	31,040	18,951	1,838	20,306	5,230	75,845	166,002	
Kilimanjaro	25,427	15,394	35,476	1,097	120,951	1,514	10,340	216,099	
Tanga	44,892	67,892	97,872	4,279	59,979	498	459	266,211	
Morogoro	99,057	65,875	54,066	2,319	32,725	3,809	5,979	260,526	
Pwani	53,031	35,361	43,034	2,125	6,432	1,527	0	141,530	
Dar es Salaam	4,316	6,919	7,769	141	1,391	92	83	20,372	
Lindi	104,510	22,363	23,041	775	2,125	165	184	163,173	
Mtwara	94,333	58,622	69,934	257	5,747	421	0	229,314	
Ruvuma	82,036	39,569	52,910	395	14,075	2,032	103	191,175	
Zinga	17,982	59,066	101,193	2,398	14,260	851	83,918	278,556	
Mtewa	23,097	67,728	140,609	964	31,841	5,417	103,251	372,907	
Shinyanga	2,151	29,605	60,257	678	1,903	506	85,616	179,915	
Tabora	3,689	43,536	97,063	379	2,429	266	88,706	236,966	
Rukwa	8,829	31,729	51,324	80	1,787	123	78,368	172,261	
Kigoma	79,891	69,246	50,516	194	3,575	1,810	733	195,765	
Shinyanga	2,060	69,210	65,211	638	2,693	422	238,796	378,961	
Kopere	79,452	95,619	94,750	996	88,556	804	5,098	363,277	
Mwanza	12,596	75,267	142,300	4,014	10,366	252	94,861	340,085	
Niara	7,654	32,823	44,188	218	9,700	1,022	92,461	188,066	
Nyamira	5,894	19,959	31,067	3,687	10,369	1,294	85,016	154,194	
Total	761,951	1,012,363	1,414,482	33,353	447,576	31,952	1,102,360	4,804,042	
%	16	21	29	1	9	1	23	100	

12.49 ACCESS TO EQUIPMENT: Number of households NOT Using Ox Cart: by Main Reason for Not Using and by Region

Region	Ox Cart										Total
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other	Not applicable				
Dodoma	19,069	130,513	133,644	2,130	11,452	2,542	14,738				323,337
Arusha	8,302	60,116	37,948	1,978	29,989	4,368	11,321				164,666
Kilimanjaro	24,682	21,187	35,888	802	130,683	1,523	1,207				216,173
Tanga	41,816	62,623	94,264	2,577	63,260	426	363				266,196
Mwanza	67,007	66,033	60,801	2,333	34,624	3,840	6,338				260,876
Pwani	43,989	43,328	41,327	2,735	8,309	1,509	282				141,510
Dar es Salaam	4,118	8,666	7,860	29	7,536	122	4				20,394
Lindi	66,319	24,000	24,672	834	3,441	212	0				163,173
Mtwara	65,383	66,984	80,010	187	6,208	227	0				228,888
Ruvuma	80,293	42,930	61,772	373	13,029	2,719	55				181,175
Iringa	41,874	81,835	115,382	4,148	24,481	418	10,571				278,717
Mbeya	62,834	65,968	143,053	3,051	66,543	6,182	15,513				372,702
Singida	5,131	68,607	82,624	406	7,727	702	14,919				179,915
Tabora	7,591	72,100	119,290	939	10,717	634	24,678				236,917
Rukwa	20,659	62,624	75,708	145	5,766	129	7,578				172,486
Njombe	76,366	66,191	63,188	2,848	5,631	919	329				185,705
Sirinyanga	7,602	128,860	153,949	680	16,483	883	68,222				377,675
Kagera	77,047	106,735	90,481	857	77,060	237	891				363,277
Mwanza	23,264	114,347	152,680	2,594	27,681	740	18,702				386,916
Mara	35,657	71,113	68,208	271	21,434	1,760	1,771				188,203
Morogoro	7,536	42,219	50,489	2,233	15,964	1,534	34,202				154,194
Total	880,410	1,425,011	1,850,919	32,107	672,486	31,703	231,848				4,804,264
%	18	30	34	1	12	1	5				100



**12.50 ACCESS TO EQUIPMENT: Number of households NOT Using Tractor Plough by Main Reason for Not Using and Region**

Region	Tractor Plough						Total
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other	
Dodoma	31,084	161,888	110,739	1,006	10,820	1,525	316,872
Arusha	4,326	71,080	37,412	818	23,827	5,486	142,747
Kilimanjaro	6,202	43,661	47,757	641	84,565	2,016	184,832
Tanga	23,471	87,320	103,065	0	39,208	238	263,304
Morogoro	31,584	80,307	78,548	1,828	23,423	3,859	230,530
Pwani	17,372	66,838	54,727	211	1,783	948	140,867
Dar es Salaam	1,922	8,084	8,889	0	1,312	12	20,189
Lindi	51,348	42,570	56,558	0	2,304	155	152,831
Mtwara	43,812	87,138	83,238	34	3,805	26	228,156
Ruvuma	50,638	66,544	68,645	107	15,887	481	191,101
Iringa	20,070	124,729	100,858	0	30,828	578	276,862
Mbeya	40,524	128,338	141,886	190	51,220	7,081	370,350
Singida	13,801	88,798	53,482	143	13,185	43	179,370
Tabora	26,481	103,389	85,843	1,562	18,178	0	235,463
Rukwa	21,847	78,341	67,888	0	6,112	0	172,190
Kigoma	42,472	78,166	70,830	0	1,831	1,378	195,788
Shinyanga	26,028	157,187	189,457	205	18,821	738	372,436
Kagera	43,029	139,687	100,858	0	89,488	405	363,277
Mwanza	40,288	150,681	103,048	513	44,922	222	336,854
Mara	23,338	86,508	48,680	183	27,884	138	187,717
Manyara	4,170	71,340	52,467	433	8,855	1,007	138,362
<b>Total</b>	<b>553,862</b>	<b>1,960,964</b>	<b>1,648,547</b>	<b>7,871</b>	<b>497,728</b>	<b>26,530</b>	<b>4,683,404</b>
<b>%</b>	<b>12</b>	<b>42</b>	<b>35</b>	<b>0</b>	<b>11</b>	<b>1</b>	<b>100</b>

**TREE FARMING & AGROFORESTRY**

**14.1 TREE FARMING/AGROFORESTRY: Number of Households with planted trees by Region, 2002/03 agriculture year**

Regions	Households with planted trees		Households without planted trees		Total
	Number	%	Number	%	
Dodoma	22,308	7	301,411	93	323,719
Arusha	32,725	21	122,133	79	154,857
Kilimanjaro	132,827	61	83,345	39	216,173
Tanga	28,901	11	236,387	89	265,198
Morogoro	18,184	7	242,862	93	260,746
Pwani	3,240	2	136,290	98	141,530
Dar es Salaam	3,543	17	16,852	83	20,394
Lindi	707	0	182,467	100	183,173
Mtwara	2,088	1	227,228	99	229,314
Ruvuma	43,315	23	147,880	77	191,175
Iringa	71,531	28	207,185	74	278,717
Mbeya	48,701	13	323,144	87	371,844
Singida	11,552	6	186,364	94	197,915
Tabora	4,847	2	231,070	98	235,917
Rukwa	28,439	17	142,822	83	171,261
Kigoma	23,768	12	171,997	88	195,765
Shinyanga	13,645	4	364,213	96	377,857
Kagera	47,475	13	305,802	87	353,277
Mwanza	44,741	13	286,343	87	331,085
Mara	54,015	28	134,188	71	188,203
Manyara	13,510	8	140,684	91	154,194
Malindi	851,960	14	4,153,355	86	4,905,315
Zanzibar	2,931	3	93,591	97	96,522
National	654,891	13	4,245,946	87	4,900,837

**14.2 TREE FARMING/AGROFORESTRY: Number of Households and number of trees Planted on their Land by Planting Location and Region, 2002/03 agriculture year**

Region	Where Planted								
	Mostly on Field / Plot Boundaries		Mostly Scattered in Field		Mostly in Plantation / Coppice		Total		
	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of trees per household
Dodoma	11,917	991,238	6,175	81,410	2,217	387,324	22,308	1,459,972	65
Arusha	21,729	603,178	7,622	468,721	3,374	953,741	32,725	1,925,639	59
Kilimanjaro	80,741	1,562,786	50,013	1,147,900	2,000	779,975	132,754	3,480,560	26
Tanga	18,098	507,502	7,757	338,029	2,623	372,567	28,308	1,216,098	43
Morogoro	13,500	529,124	2,944	91,040	1,740	1,877,326	18,184	2,497,490	137
Pwani	2,046	123,290	831	141,126	290	86,947	3,166	361,362	111
Dar es Salaam	2,071	80,794	1,436	231,224	38	215	3,543	289,223	81
Lindi	592	2,870	28	142	0	0	620	2,812	5
Mtwara	1,068	7,772	1,030	15,279	0	0	2,088	23,051	11
Ruvuma	13,533	1,415,487	10,155	1,132,478	13,821	8,047,018	43,309	10,594,983	245
Iringa	16,223	2,710,204	6,952	1,975,270	60,098	42,234,321	71,271	48,919,790	688
Mbeya	12,976	1,047,798	3,008	968,693	33,802	18,793,409	48,486	20,797,891	420
Singida	7,063	79,550	3,408	89,884	1,083	37,100	11,552	186,396	16
Tabora	2,286	14,898	1,284	66,840	1,049	109,041	4,619	190,349	41
Rukwa	10,708	311,396	8,175	426,878	4,668	1,384,359	28,439	2,101,632	71
Kigoma	10,824	725,988	6,440	530,344	7,684	2,843,458	23,928	3,903,784	163
Shinyanga	6,343	402,547	5,121	484,840	2,017	107,119	13,481	994,512	74
Kagera	18,332	1,320,803	6,893	364,909	20,250	12,840,868	47,475	14,326,368	302
Mwanza	10,168	482,868	20,837	1,127,899	8,600	1,588,939	44,803	3,170,706	71
Mara	20,896	809,308	21,397	1,375,436	5,623	2,362,852	63,675	4,537,982	85
Manyara	5,544	281,472	2,305	52,572	1,661	489,940	13,510	803,964	60
Malindi	309,290	13,880,428	181,806	11,075,319	159,004	94,617,222	850,100	119,772,968	164
Zanzibar	1,477	145,463	1,193	465,083	1,054	826,770	3,725	1,441,316	387
National	310,767	14,029,890	183,000	11,540,402	160,058	95,543,982	653,825	121,214,284	185



## 14.3 ON FARM TREE PLANTING: Number of Planted Trees by Species and Region

Regions	Senec Spp	Gravella	Albizia Guanzonis	Acacia Spp	Pinus Spp	Eucalyptus Spp	Cyrus Spp	Calophyllum Inophyllum	Melicis excoeca
Dodoma	183,994	51,128		158,231	295,545	430,229	6,238		
Arusha	128,687	1,068,107	5,492	18,206	2,324	219,989	403,845	33,458	199
Kilimanjaro	375,274	1,838,259	57,608	48,187	28,343	889,148	178,907	1,881	14,083
Tanga	32,188	821,208			19,121	91,764	72,130		
Morogoro	66,681	2,171,081	2,097	7,328	119	35,777	42,418	51,528	2,883
Pwani	71,987	14,480		24,479		16,570	11,893		124,182
Dar es Salaam	12,004	189,881	289	638	201	18,413			2,143
Lindi	1,008					142			301
Mtwara	16,086			2,085					628
Ruvuma	243,200	698,771	1,585	210,757	224,851	7,638,602	1,298,088	173,727	10,034
Iringa	31,190	589,138	10,682	1,038,921	33,903,348	5,950,507	4,485,037		3,058
Mbeya	173,647	16,727			4,287,540	8,714,472	9,538,369		28,304
Singida	30,883	45,630		813		74,864	1,927	243	
Tabora	7,114	8,443		32,393	3,058	29,003			833
Rukwa	222,188	58,386	10,399	3,734	1,174	1,778,915	5,573	146	676
Kigoma	140,224	440,467		27,242	12,078	3,207,894	29,962	532	
Shinyanga	7,576	260,860	1,076	130,387	3,031	10,312	4,225		
Kagera	2,950	1,187,979	83,683	5,419	888,283	12,376,281	188,135	28,582	643
Mwanza	105,782	397,413		54,001	8,995	1,140,360	368,310	14,754	3,181
Mara	101,816	388,923	5,801	32,544	23,032	1,807,691	324,484	80,978	6,211
Manyara	29,588	493,308		2,890	8,732	94,871	87,620		
Mainland	1,902,353	10,498,098	158,193	1,793,943	39,509,178	42,324,475	17,028,188	386,023	194,057
%	1.9	8.7	0.1	1.5	32.8	34.9	14.0	0.3	0.2
Zanzibar	2,898	0	0	228,121	0	108,222	0.0	33,273	229
National	1,905,079	10,498,098	158,193	2,019,064	39,509,178	42,432,697	17,028,188	419,297	194,287

Regions	Cesurina Equisetifolia	Tactona Grandis	Terminalia Catapa	Terminalia Ivorensis	Messopala Berchemioides	Leucena Spp	Syzzygium Spp	Azadirachta Spp	Jakaranda Spp
Dodoma		3,596		589		184,842	15,614	154,435	
Arusha		305		323	1,145	4,127	882	17,373	12,503
Kilimanjaro	51,015	30,180	5,839	845	54,085	6,494	7,813	38,362	12,377
Tanga	6,882	313,570	2,483	1,301		4,052	243	3,360	251
Morogoro	1,288	33,170	707	18		6,558	1,782	5,718	131
Pwani	3,278	58,168	240	947		4,455	211	7,408	
Dar es Salaam	1,158	444	387	143		35,784	88	14,330	440
Lindi								988	
Mtwara			302					408	198
Ruvuma	427		8,073	8,388		2,285	1,511	2,181	11,310
Iringa		1,819		238		775,483	10,865	8,974	1,701
Mbeya	28,882			580		16,987		8,020	1,275
Singida						8,898	5,087	8,662	143
Tabora	187	495	576	1,780		16,822	751	4,300	
Rukwa	400	400				156	239	889	17,556
Kigoma	2,920	884			18,834	4,118	1,480	5,138	2,850
Shinyanga	308	144	867	1,067		4,527	347	95,534	216
Kagera	288				1,063,430			208	
Mwanza	4,258	4,254	1,837	588	514,129	49,583	5,870	348,785	1,546
Mara	20,380	14,878	358	2,274	3,162	33,062	6,828	107,041	40,189
Manyara			454			14,342	599	11,287	502
Mainland	120,681	463,888	23,595	17,303	1,668,277	1,814,532	80,008	841,185	102,992
%	0.1	0.4	0.0	0.0	1.4	1.3	0.0	0.7	100.0
Zanzibar	1,089,132	1,710	383	41	0	0	57	124	0
National	1,189,813	464,799	23,938	17,343	1,668,277	1,814,532	80,057	841,292	102,992

Regions	Albizia Spp	Kyaya Spp	Sebania Spp	Calliandra Spp	Moringa Spp	Saraca Spp	Trichilia Spp	Total	%
Dodoma			332		14,937		2,064	1,459,672	1.20
Arusha	933			183			3,429	1,911,996	1.58
Kilimanjaro	228,157	499	1,376	13,424	1,604	260	4,875	3,866,692	3.03
Tanga	10,639	4,420	664		3,646	1,285	8,518	1,196,782	0.99
Morogoro	54	42,590			22,249	2,839	1,108	2,497,414	2.08
Pwani					12,936	477		361,509	0.29
Dar es Salaam		160		402	3,772	6,489	2,154	288,223	0.24
Lindi							693	2,812	0.00
Mtwara					1,815			21,426	0.02
Ruvuma	21,542	12,720	82	738			1,437	10,688,130	8.72
Iringa			132	96,683	18,828			48,904,504	38.70
Mbeya	439		1,209		1,014			20,816,716	17.18
Singida		974			8,976			186,395	0.15
Tabora	34,292				52,394			190,349	0.16
Rukwa							706	2,101,832	1.73
Kgombe					9,413			3,903,784	3.22
Shinyanga	2,578			16,118	1,575			997,782	0.82
Kagera					193	2,201	1,352	15,806,525	12.88
Mwanza	1,730	311	34,672		114,311		347	3,172,997	2.82
Mara	47,282	6,312	106,817	4,863	7,482		1,371,383	4,540,064	3.75
Mtanyika	64,356				352			809,098	0.87
Mainland	412,038	66,980	144,104	132,431	275,478	12,522	1,398,034	121,195,710	100.00
%	0.3	0.1	0.1	0.1	0.2	0.0	1.2	100.0	
Zanzibar	0	81	0	0	265	0	0	1,441,316	0
National	412,038	67,061	144,104	132,431	275,743	12,522	1,398,034	122,637,026	100

**14.4 TREE PLANTING/AGROFORESTRY: Number of households planting trees by Main Use of Tree and Region, 2002/03 agriculture year**

Region	Main Use							Total
	Plants / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	Other	
Dodoma	9,839	1,221	100	5,290	14,214	1,266	1,477	33,407
Arusha	26,220	4,842	297	8,391	8,296	990	76	46,110
Kilimanjaro	95,189	12,888	202	33,765	71,061	3,173	1,838	217,915
Tanga	16,214	3,785	0	10,527	3,670	198	735	35,324
Morogoro	9,156	1,936	93	3,833	8,376	717	791	24,902
Pwani	1,177	359	20	714	1,130	561	193	4,154
Dar es Salaam	482	483	22	1,310	2,663	351	168	5,689
Lindi	100	0	0	0	352	99	89	620
Mtwara	216	452	0	423	803	0	419	2,313
Ruvuma	21,299	4,261	129	14,032	16,888	306	233	57,219
Ifinga	65,953	6,850	484	10,319	1,753	478	1,369	67,204
Mbeya	26,112	6,815	113	24,015	1,931	124	1,011	60,120
Singida	5,215	2,081	0	2,578	3,512	850	2,124	16,361
Tabora	395	252	0	2,585	1,576	108	1,183	6,065
Rukwa	8,170	3,122	35	9,520	10,334	444	70	31,895
Kigoma	11,817	2,785	388	13,058	3,556	865	191	32,635
Shinyanga	3,200	992	0	8,444	3,671	804	752	17,863
Kagera	31,671	14,866	0	13,255	2,263	228	0	62,284
Mwanza	44,895	5,554	539	13,090	3,610	4,047	416	71,949
Mara	46,290	8,797	190	14,012	8,232	2,910	1,099	79,520
Manyara	10,288	1,644	0	3,528	1,619	888	50	18,028
Mainland	433,648	83,874	2,610	192,689	157,912	19,393	14,273	914,397
Zanzibar	723	1,975	211	594	74	15	133	3,725
National	434,371	85,849	2,820	193,282	157,986	19,408	14,406	918,122

**14.5 TREE PLANTING/AGROFORESTRY: Number of households planting trees by Second Use of Tree and Region, 2002/03 agriculture year**

Region	Second Use							Total
	Plants / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	Other	
Dodoma	9,839	1,221	100	5,290	14,214	1,266	1,477	33,407
Arusha	26,220	4,842	297	8,391	8,296	990	76	46,110
Kilimanjaro	95,189	12,888	202	33,765	71,061	3,173	1,838	217,915
Tanga	16,214	3,785	0	10,527	3,670	198	735	35,324
Morogoro	9,156	1,936	93	3,833	8,376	717	791	24,902
Pwani	1,177	359	20	714	1,130	561	193	4,154
Dar es Salaam	482	483	22	1,310	2,663	351	168	5,689
Lindi	100	0	0	0	352	99	89	620
Mtwara	216	452	0	423	803	0	419	2,313
Ruvuma	21,299	4,261	129	14,032	16,888	306	233	57,219
Ifinga	65,953	6,850	484	10,319	1,753	478	1,369	67,204
Mbeya	26,112	6,815	113	24,015	1,931	124	1,011	60,120
Singida	5,215	2,081	0	2,578	3,512	850	2,124	16,361
Tabora	395	252	0	2,585	1,576	108	1,183	6,065
Rukwa	8,170	3,122	35	9,520	10,334	444	70	31,895
Kigoma	11,817	2,785	388	13,058	3,556	865	191	32,635
Shinyanga	3,200	992	0	8,444	3,671	804	752	17,863
Kagera	31,671	14,866	0	13,255	2,263	228	0	62,284
Mwanza	44,895	5,554	539	13,090	3,610	4,047	416	71,949
Mara	46,290	8,797	190	14,012	8,232	2,910	1,099	79,520
Manyara	10,288	1,644	0	3,528	1,619	888	50	18,028
Mainland	433,648	83,874	2,610	192,689	157,912	19,393	14,273	914,397
Zanzibar	307	600	215	2,343	168	0	93	3,725
National	433,955	84,474	2,825	195,031	168,078	19,393	14,366	918,122



**14.6 TREE FARMING/AGROFORESTRY: Number of Trees Utilised and Value by type of utilisation and Region**

Region	Utilisation of trees				Total Value (Tsh)
	Number of Plank Trees Sold	Number of Pole Trees Sold	Number of Poles hh Utilised	Number of Timber hh Utilised	
Dodoma	2,418	4,833	10,832	2,248	22,530,788
Arusha	42,862	10,057	28,903	13,858	283,038,292
Kilimanjaro	188,427	79,732	104,515	55,911	1,834,722,473
Tanga	23,383	7,512	30,483	8,439	327,870,975
Morogoro	12,384	5,829	24,740	7,307	110,378,581
Pwani	2,723	8,970	7,542	184	22,980,902
Dar es Salaam	25	1,841	1,008	52	3,940,087
Lindi	0	0	0	0	0
Mtwara	0	0	0	0	19,227
Ruvuma	29,422	377,984	241,882	15,312	455,923,772
Iringa	2,090,079	232,741	327,224	132,815	2,333,501,148
Mbeya	280,150	473,518	348,303	82,423	970,948,384
Singida	19,804	20,344	3,483	1,228	22,432,315
Tabora	0	5,490	7,380	0	16,909,845
Rukwa	21,154	33,529	81,589	9,009	91,481,240
Kigoma	22,588	59,042	73,571	4,053	58,015,733
Shinyanga	202	5,514	8,128	1,409	17,388,750
Kagera	55,128	844,189	388,974	15,847	583,707,949
Mwanza	107,355	89,798	38,085	19,029	384,817,882
Mara	157,025	125,920	184,034	37,089	697,420,488
Manyara	10,427	13,087	14,530	3,417	38,503,704
Mainland	3,053,381	2,397,520	1,890,803	409,608	8,238,313,294
Zanzibar	40,830	87,781	10,348	267	80,315,095
National	3,094,191	2,485,302	1,871,151	409,875	8,318,628,389

**14.7 COMMUNITY TREE PLANTING: Number of Households Involved in community tree planting by Main scheme household involvement and Region, 2002/03 agriculture year**

Region	Household Involvement				
	Only Planting	Only Protection & Thinning	Only Cutting	Most or all Activity	Total
Dodoma	17,714	8,093	141	8,601	36,549
Arusha	9,809	1,830	335	2,827	14,801
Kilimanjaro	8,990	3,487	0	3,172	15,649
Tanga	11,813	1,877	29	14,625	27,944
Morogoro	8,078	3,333	800	7,630	17,641
Pwani	1,091	589	0	3,098	4,778
Dar es Salaam	161	31	0	1,405	1,596
Lindi	323	81	0	915	1,318
Mtwara	4,832	1,085	0	1,003	6,920
Ruvuma	12,786	1,136	27	20,800	34,549
Iringa	33,309	12,229	366	51,415	97,319
Mbeya	38,990	7,491	3,158	38,447	88,086
Singida	16,813	9,385	661	18,288	45,146
Tabora	11,290	2,785	158	12,371	26,585
Rukwa	17,891	2,513	35	15,997	36,536
Kigoma	14,048	588	0	8,668	23,302
Shinyanga	19,985	3,843	423	22,041	46,292
Kagera	9,550	10,225	3,034	13,150	36,959
Mwanza	9,783	3,203	366	28,156	39,499
Mara	13,091	4,885	118	3,650	21,544
Manyara	6,347	2,252	114	5,915	14,627
Total	264,382	80,310	9,552	281,971	636,215
%	42	13	2	44	100

**14.8 COMMUNITY TREE PLANTING: Number of Households by Distance to Community Planted Forest (Km) By Region, 2002/03 agriculture year**

Region	Distance						Total
	0-9 Km	10-19 Km	20-29 Km	30-39 Km	40-49 Km	Above 50 Km	
Dodoma	13,148	6,844	4,885	2,838	1,838	2,875	32,433
Arusha	10,346	1,196	890	518	173	0	13,123
Kilimanjaro	2,416	2,753	3,317	1,221	1,968	596	12,281
Tanga	11,887	4,497	6,309	3,538	405	638	27,073
Morogoro	12,288	1,502	1,288	946	131	1,812	17,845
Pwani	849	380	121	70	514	309	2,353
Dar es Salaam	221	28	692	336	0	82	1,287
Lindi	161	60	0	0	32	0	254
Mtwara	1,595	1,736	1,019	163	0	261	4,773
Ruvuma	12,882	5,738	5,482	3,908	2,109	1,712	31,840
Iringa	35,486	16,582	13,278	8,848	5,364	13,086	83,636
Mbeya	26,328	19,744	18,364	10,347	4,830	6,305	85,917
Singida	12,088	8,541	6,887	5,527	3,333	5,307	42,454
Tabora	8,058	5,348	5,094	2,148	408	1,873	24,026
Rukwa	17,248	7,105	5,250	2,110	465	3,012	35,190
Kigoma	12,823	8,549	3,882	919	0	129	23,302
Shinyanga	20,244	6,882	5,286	4,781	3,178	3,574	43,942
Kagera	13,823	7,250	5,613	2,914	1,480	2,826	33,906
Mwanza	11,711	11,382	8,262	5,278	1,078	671	38,379
Mara	10,118	3,368	3,051	1,698	1,860	2,031	21,925
Manyara	6,280	2,557	852	959	1,018	1,840	13,525
Mainland	240,929	118,890	89,802	60,969	29,979	48,879	586,347
Zanzibar	2,039	0	0	0	0	0	2,039
National	242,967	118,890	90,502	60,969	29,979	48,879	601,386

**14.9 COMMUNITY TREE PLANTING: Number of Households involved in community tree planting by Main Purpose and Region**

Region	Main Purposes					Total
	Erosion Control	Production of Poles	Production of Firewood	Restoration of Wildlife	Other	
Dodoma	3,750	818	129	30,851	0	35,549
Arusha	228	475	241	19,708	0	14,652
Kilimanjaro	859	291	73	14,407	114	15,744
Tanga	904	1,007	6,923	18,333	135	27,302
Morogoro	898	245	1,428	14,810	1,807	18,559
Pwani	404	15	22	4,337	0	4,778
Dar es Salaam	0	353	0	1,243	0	1,596
Lindi	81	888	0	319	0	1,280
Mtwara	1,375	187	0	5,358	0	6,920
Ruvuma	3,180	2,418	128	28,545	148	34,417
Iringa	4,854	12,069	7,924	54,488	18,186	97,520
Mbeya	5,057	15,297	11,173	48,254	9,899	89,680
Singida	4,884	3,000	2,870	33,958	855	45,148
Tabora	494	1,528	3,424	21,024	50	26,518
Rukwa	1,311	2,477	2,704	28,845	395	36,502
Kigoma	0	8,852	3,748	10,137	3,353	24,091
Shinyanga	7,757	1,134	6,477	30,814	173	46,155
Kagera	2,188	9,997	5,569	17,485	970	36,210
Mwanza	1,006	1,738	9,291	27,093	321	39,450
Mara	815	5,152	135	14,896	1,753	22,550
Manyara	3,285	2,258	207	8,348	541	14,637
<b>Total</b>	<b>42,576</b>	<b>88,794</b>	<b>62,468</b>	<b>427,853</b>	<b>38,299</b>	<b>639,880</b>
<b>%</b>	<b>7</b>	<b>11</b>	<b>10</b>	<b>67</b>	<b>6</b>	<b>100</b>

**14.10 COMMUNITY TREE PLANTING: Number of Households involved in community tree planting by Use and Region**

Regions	Main use during 2002/03							Total
	Poles	Timber Logs	Charcoal	Firewood	Not Ready to Use	Not Allowed to Use	Other	
Dodoma	1,131	8,224	0	7,078	4,816	16,547	0	35,796
Arusha	2,979	1,605	74	755	3,170	6,067	0	14,650
Kilimanjaro	1,485	146	113	2,859	3,794	7,051	0	15,448
Tanga	1,484	3,952	146	8,464	8,022	5,437	205	28,710
Morogoro	372	4,985	186	3,041	7,923	3,330	131	19,968
Pwani	431	172	0	102	3,614	573	47	4,939
Dar es Salaam	190	178	0	89	387	789	0	1,613
Lindi	81	1,011	0	0	225	94	0	1,411
Mtwara	854	796	89	340	937	3,853	354	7,413
Ruvuma	6,634	5,720	146	2,951	11,492	6,885	1,164	35,982
Iringa	7,012	54,764	381	12,992	16,359	3,501	2,522	98,621
Mbeya	15,971	25,512	1,005	18,087	20,033	7,003	2,298	90,909
Singida	7,191	5,744	590	6,895	16,329	7,812	1,788	46,529
Tabora	6,352	357	76	6,613	11,191	2,826	0	27,515
Rukwa	1,344	8,978	415	4,710	16,097	4,201	614	37,359
Kigoma	4,692	6,823	592	4,036	3,017	0	5,128	24,289
Shinyanga	2,102	8,249	438	9,948	18,071	9,894	3,006	49,807
Kagera	11,861	5,724	267	3,487	14,073	2,530	0	37,942
Mwanza	3,008	8,871	906	16,510	7,728	3,019	162	39,908
Mara	3,130	12,168	117	70	4,825	2,768	108	23,186
Manyara	3,418	2,017	198	2,318	3,386	3,029	185	14,538
<b>Mainland</b>	<b>81,822</b>	<b>163,987</b>	<b>5,442</b>	<b>112,122</b>	<b>176,699</b>	<b>97,498</b>	<b>18,072</b>	<b>555,642</b>
<b>%</b>	<b>12</b>	<b>25</b>	<b>1</b>	<b>17</b>	<b>27</b>	<b>15</b>	<b>3</b>	<b>100</b>
Zanzibar	1,503	335	25	282	526	187	45	2,902
<b>National</b>	<b>83,324</b>	<b>164,321</b>	<b>5,468</b>	<b>112,404</b>	<b>177,225</b>	<b>97,685</b>	<b>18,117</b>	<b>558,544</b>



**CROP EXTENSION**

**15.1 CROP EXTENSION: Number of Agriculture Households  
Receiving Extension Messages by Region During the 2002/03  
Agriculture Year**

Region	Number of Households Receiving Extension Advice	%	NUMBER of Households NOT Receiving Extension Advice	%	Total Number of Households
Dodoma	132,389	41	191,331	59	323,719
Arusha	43,073	28	111,784	72	154,857
Kilimanjaro	135,826	63	80,345	37	216,173
Tanga	121,487	46	143,711	54	265,198
Morogoro	67,358	26	193,377	74	260,746
Pwani	46,727	33	94,803	67	141,530
Dar es Salaam	13,122	64	7,272	36	20,394
Lindi	25,571	17	127,602	83	153,173
Mtwara	40,456	18	188,858	82	229,314
Ruvuma	67,199	35	123,975	65	191,175
Shinyanga	179,297	64	99,420	36	278,717
Mbeya	153,818	41	219,026	59	372,844
Singida	86,702	48	93,214	52	179,915
Tabora	62,956	27	172,961	73	235,917
Rukwa	29,046	17	143,215	83	172,261
Kigoma	118,417	60	77,348	40	195,765
Shinyanga	104,252	28	273,606	72	377,857
Kagera	69,081	20	284,196	80	353,277
Mwanza	71,522	21	288,562	79	340,085
Mara	62,900	33	125,403	67	188,203
Manyara	36,712	25	115,682	75	154,194
Mtindi	1,559,621	35	3,135,494	65	4,805,315
Zanzibar	17,109	18	79,413	82	96,522
National	1,686,829	34	3,214,907	66	4,901,837

**15.2 Crop Extension Services: Number of Agriculture Households By Quality of Extension and Region During the 2002/03 Agriculture Year**

Region	Quality of service									
	Very Good	%	Good	%	Average	%	Poor	%	No Good	%
Dodoma	20,897	18	86,304	86	19,855	15	2,731	2	1,528	1
Arusha	10,739	25	24,394	57	7,007	16	743	2	0	0
Kilimanjaro	25,343	19	75,225	56	28,556	21	4,972	4	467	0
Tanga	9,720	8	75,286	83	32,287	27	1,505	1	1,564	1
Morogoro	9,539	14	45,171	67	11,138	17	1,211	2	102	0
Pwani	7,474	18	30,499	86	7,805	18	357	1	390	1
Dar es Salaam	1,916	15	9,322	72	1,489	11	190	1	112	1
Lindi	4,195	16	17,117	67	3,698	14	474	2	89	0
Mwera	5,115	20	27,511	68	4,069	10	489	1	178	0
Ruvuma	7,192	11	45,999	69	11,967	18	1,088	2	668	1
Iringa	32,536	19	123,583	71	15,031	9	2,780	2	1,264	1
Mbeya	19,852	13	107,638	70	23,298	15	1,949	1	303	0
Singida	9,349	11	82,764	73	11,287	13	2,254	3	925	1
Tabora	9,547	15	40,448	65	10,282	17	1,381	2	358	1
Rufawa	2,657	9	16,539	57	8,059	28	1,675	6	0	0
Kigoma	13,933	12	68,930	58	34,950	29	773	1	0	0
Shinyanga	13,475	13	66,075	64	20,903	20	1,648	2	358	0
Kagera	6,971	10	45,522	66	15,752	23	734	1	0	0
Mwanza	13,371	19	45,399	64	11,801	17	587	1	101	0
Mara	6,635	11	40,174	64	15,298	24	547	1	0	0
Nanyera	5,049	13	21,808	57	9,235	24	1,647	5	357	1
Mainland	238,297	14	1,075,479	65	303,224	18	29,893	2	8,792	1
Zanzibar	3,726	22	9,504	56	3,223	19	481	3	100	1
National	242,023	14	1,085,043	65	306,447	18	30,384	2	8,895	1

**15.3 EXTENSION MESSAGES: Number of Agriculture Households By Source of Extension Messages By Region During the 2002/03 Agriculture Year**

Region	Source of Crop Extension										
	Government	%	NGO / Development Project	%	Cooperative	%	Large Scale Farm	%	Other	%	Households Receiving Extension Advice
Dodoma	124,380	85	1,003	1	0	0	229	0	0	0	738
Arusha	39,989	94	1,196	3	185	0	543	1	0	0	187
Kilimanjaro	128,975	98	2,573	2	518	0	472	0	0	0	74
Tanga	118,592	99	438	0	107	0	433	0	0	0	296
Morogoro	81,803	93	2,306	3	248	0	1,451	2	0	0	200
Pwani	44,889	97	227	0	357	1	755	2	0	0	140
Dar es Salaam	12,178	98	94	1	19	0	232	2	0	0	113
Lindi	24,848	97	187	1	68	0	403	2	0	0	0
Mwera	39,227	97	374	1	170	0	492	1	0	0	0
Ruvuma	59,075	88	1,791	3	1,907	3	2,485	4	0	0	1,013
Iringa	165,828	93	4,740	3	74	0	3,072	2	0	0	2,055
Mbeya	128,318	84	6,182	4	1,577	1	5,527	4	0	0	8,010
Singida	83,765	97	883	1	250	0	855	1	0	0	348
Tabora	49,275	80	8,488	14	2,982	5	581	1	0	0	278
Rufawa	24,535	85		10	330	1	887	3	0	0	170
Kigoma	112,202	95	3,504	3	197	0	988	1	0	0	806
Shinyanga	98,589	98	2,489	2	458	0	343	0	0	0	32
Kagera	59,595	87	5,984	9	597	1	707	1	0	0	1,147
Mwanza	81,731	87	6,754	10	524	1	1,891	2	0	0	135
Mara	58,531	95	2,395	4	188	0	240	0	0	0	134
Nanyera	35,400	94	1,158	3	178	0	410	1	0	0	210
Mainland	1,532,485	93	52,703	3	10,911	1	22,772	1	0	0	15,854
Zanzibar	16,237	95	954	2	0	0	0	0	518	3	17,041
National	1,548,722	93	53,657	3	10,911	1	22,772	1	518	2	32,895



**15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source and Region During the 2002/03 Agriculture Year**

Regions	Spacing						Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other				
Dodoma	121,701	1,003	0	229	726	123,658	323,719	38	
Arusha	35,039	1,129	185	457	187	36,978	154,857	24	
Kilimanjaro	118,299	2,573	516	430	74	121,891	216,173	56	
Tanga	117,838	339	107	329	287	118,900	265,198	45	
Morogoro	57,281	2,033	248	745	123	60,430	280,748	23	
Pwani	43,371	207	357	713	160	44,787	141,530	32	
Dar es Salaam	10,829	94	0	185	61	11,270	20,394	55	
Lindi	23,738	187	0	315	0	24,240	153,173	16	
Mtwara	37,842	374	60	289	0	38,595	229,314	17	
Ruvuma	47,783	1,189	1,468	1,677	898	52,993	191,175	28	
Iringa	147,753	3,324	74	2,070	1,526	154,748	278,717	56	
Mbeya	120,188	4,592	1,298	4,580	5,573	136,232	372,844	37	
Binga	80,516	863	250	855	181	82,665	179,915	46	
Tabora	46,493	8,075	2,843	505	164	58,080	235,917	25	
Rukwa	21,080	2,610	213	384	135	24,402	172,261	14	
Kigoma	108,641	3,037	197	968	606	113,447	195,766	58	
Bhinyanga	93,030	2,489	458	99	32	96,106	377,857	25	
Kagera	52,731	3,045	450	579	1,147	57,947	383,277	15	
Mwanza	54,975	3,690	240	1,287	135	60,327	340,085	18	
Mara	53,899	1,430	188	134	134	55,785	188,203	30	
Manyara	31,713	881	121	66	154	32,935	154,194	21	
<b>Maliind</b>	<b>1,424,838</b>	<b>43,143</b>	<b>9,270</b>	<b>16,903</b>	<b>12,242</b>	<b>1,506,397</b>	<b>4,805,315</b>	<b>31</b>	
%	95	3	1	1	1	100			
Zanzibar	9,882	240	0	0	229	10,451	96,522	11	
<b>National</b>	<b>1,434,821</b>	<b>43,383</b>	<b>9,270</b>	<b>16,903</b>	<b>12,472</b>	<b>1,516,848</b>	<b>4,901,837</b>	<b>31</b>	

**15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro-Chemical Use by Source and Region During the 2002/03 Agriculture Year**

Region	Use of Agrochemicals						Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other				
Dodoma	54,710	3,181	94	229	144	58,358	323,719	18.0	
Arusha	21,054	838	112	529	167	22,702	154,857	14.7	
Kilimanjaro	79,469	4,033	423	309	161	84,395	216,173	39.0	
Tanga	55,501	643	0	21	107	56,371	265,198	21.3	
Morogoro	28,561	1,848	248	772	72	31,502	280,748	12.1	
Pwani	27,194	427	255	353	53	28,271	141,530	20.0	
Dar es Salaam	5,823	105	125	116	60	6,259	20,394	30.7	
Lindi	8,828	183	69	125	195	9,400	153,173	6.1	
Mtwara	21,842	445	334	403	0	23,024	229,314	10.0	
Ruvuma	33,246	1,703	1,580	775	66	37,383	191,175	19.6	
Iringa	98,108	7,307	157	1,774	1,281	108,627	278,717	39.0	
Mbeya	69,895	7,197	2,592	3,224	4,200	87,109	372,844	23.4	
Binga	42,776	538	146	0	398	43,958	179,915	24.4	
Tabora	25,987	5,708	1,483	384	829	38,471	235,917	16.3	
Rukwa	11,825	1,767	329	149	0	14,090	172,261	6.2	
Kigoma	59,500	3,869	195	577	150	64,400	195,766	32.9	
Bhinyanga	87,590	1,966	302	273	0	70,230	377,857	18.6	
Kagera	19,083	2,237	0	129	600	22,049	383,277	6.2	
Mwanza	32,494	3,037	102	354	0	35,988	340,085	10.6	
Mara	26,324	1,173	0	117	0	27,614	188,203	14.7	
Manyara	11,855	147	0	41	0	12,143	154,194	7.8	
<b>Maliind</b>	<b>802,038</b>	<b>52,561</b>	<b>6,535</b>	<b>10,663</b>	<b>6,546</b>	<b>882,343</b>	<b>4,805,315</b>	<b>18.4</b>	
%	90.9	6.0	1.0	1.2	1.0	100.0			
Zanzibar	5,317	0	0	0	66	5,404	96,522	6	
<b>National</b>	<b>807,366</b>	<b>52,561</b>	<b>6,535</b>	<b>10,663</b>	<b>6,632</b>	<b>887,747</b>	<b>4,901,837</b>	<b>18</b>	

**15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source and Region During the 2002/03 Agriculture Year**

Regions	Erosion Control					Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other			
Dodoma	65,139	4,364	197	229	514	70,443	323,719	21.8
Anusha	25,321	1,501	112	112	72	27,119	154,857	17.5
Kilimanjaro	78,566	8,398	0	420	0	86,984	216,173	39.5
Tanga	64,130	4,197	0	145	107	68,579	285,198	25.9
Morogoro	13,300	3,331	258	114	0	17,003	280,748	6.5
Pwani	15,155	823	20	143	0	16,142	141,530	11.4
Dar es Salaam	3,773	17	29	145	0	3,963	20,394	19.4
Lindi	2,067	87	0	0	0	2,154	153,173	1.4
Mtwara	8,509	194	0	0	0	8,703	229,314	2.9
Ruvuma	17,287	475	198	719	188	18,864	191,175	9.9
Iringa	94,406	12,207	60	497	529	107,699	278,717	38.6
Mbeya	80,530	10,201	1,229	3,113	2,294	97,367	372,844	20.8
Singida	44,732	990	0	81	139	45,942	179,915	25.5
Tabora	13,703	2,862	378	102	53	17,096	235,917	7.2
Rukwa	10,110	678	195	116	0	11,097	172,281	6.4
Kigoma	53,352	8,754	394	589	239	61,326	195,785	31.3
Shinyanga	46,097	1,443	0	0	0	47,540	377,857	12.6
Kagera	25,995	3,974	171	281	883	31,083	353,277	8.8
Mwanza	25,219	9,137	254	708	0	35,316	340,085	11.5
Mara	19,887	3,565	0	133	0	23,585	188,203	12.5
Manyara	21,019	401	57	0	57	21,533	154,194	14.0
Mainland	710,297	73,598	3,548	7,625	4,873	799,940	4,905,315	0.0
%	88.8	9.2	0.4	1.0	0.6	100.0		
Zanzibar	2,595	43	0	0	129	2,768	96,522	3
National	712,891	73,641	3,548	7,625	5,001	802,708	4,901,837	16

**15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertiliser Use by Source and Region During the 2002/03 Agriculture Year**

Region	Organic Fertiliser Use					Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other			
Dodoma	101,619	2,410	98	229	685	105,062	323,719	32.5
Anusha	30,917	1,582	232	381	167	33,289	154,857	21.5
Kilimanjaro	97,819	3,955	593	0	0	102,367	216,173	47.4
Tanga	88,833	2,206	0	147	117	91,303	285,198	34.4
Morogoro	20,173	1,659	245	328	0	22,406	280,748	8.8
Pwani	23,285	688	258	276	20	24,507	141,530	17.3
Dar es Salaam	7,015	53	26	159	136	7,389	20,394	36.3
Lindi	4,861	0	0	0	0	4,861	153,173	3.2
Mtwara	21,137	721	0	125	0	21,882	229,314	9.6
Ruvuma	35,298	1,471	1,050	1,258	288	38,342	191,175	20.8
Iringa	104,800	10,321	266	1,895	1,389	118,652	278,717	42.8
Mbeya	80,842	8,658	1,511	5,094	4,633	100,738	372,844	27.0
Singida	73,137	463	245	975	432	75,241	179,915	41.8
Tabora	33,326	2,421	467	560	511	37,285	235,917	15.8
Rukwa	13,689	746	213	385	38	15,080	172,281	8.8
Kigoma	83,315	4,842	197	805	327	88,485	195,785	45.7
Shinyanga	70,719	2,035	488	467	0	73,709	377,857	19.5
Kagera	43,758	4,921	278	707	882	50,346	353,277	14.3
Mwanza	48,072	6,745	168	832	135	56,852	340,085	16.7
Mara	38,480	2,623	0	381	0	41,485	188,203	22.0
Manyara	18,732	351	69	0	84	19,236	154,194	12.5
Mainland	1,040,794	68,872	6,404	15,023	6,611	1,138,696	4,905,315	23.5
%	92.0	5.2	0.6	1.3	0.6	100.0		
Zanzibar	7,740	112	0	0	481	8,333	96,522	9
National	1,048,524	68,984	6,404	15,023	10,092	1,138,028	4,901,837	23

**15.8 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Inorganic Fertiliser Use by Source and Region During the 2002/03 Agriculture Year**

Regions	Inorganic Fertilizer Use							Total Number of households	% of total number of households	
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total receiving advice			
Dodoma	28,808	7,058	340	428	449		80,258	97,337	323,719	30.1
Arusha	16,402	1,354	112	305	0		2,788	22,990	154,857	14.8
Kilimanjaro	79,473	3,152	704	125	0		9,497	92,951	216,173	43.0
Tanga	45,718	557	0	21	253		8,815	55,363	285,198	20.9
Morogoro	20,921	1,994	620	1,116	0		1,338	25,973	280,746	10.0
Pwani	19,358	173	145	287	27		898	20,887	141,530	14.6
Dar es Salaam	4,542	141	0	35	90		128	4,936	20,394	24.2
Lindi	4,935	87	0	192	0		312	5,227	153,173	3.4
Mtwara	17,126	658	95	0	96		1,134	19,110	229,314	8.3
Ruvuma	37,362	1,793	3,229	1,079	170		336	43,936	191,175	23.0
Iringa	90,248	3,317	387	1,801	719		4,300	100,771	278,717	36.2
Mbeya	75,171	7,429	3,168	5,309	6,825		4,000	105,559	372,844	28.3
Singida	19,273	1,011	302	0	0		518	21,104	179,915	11.7
Tabora	22,631	11,739	1,512	631	883		635	38,030	235,917	16.1
Rukwa	9,392	2,553	212	67	0		255	12,478	172,261	7.2
Kigoma	65,853	4,355	180	548	137		461	71,514	195,785	36.5
Shinyanga	34,583	2,723	80	160	32		1,116	38,673	377,857	10.2
Kagera	14,761	1,595	131	129	0		171	16,760	353,277	4.7
Mwanza	19,149	1,459	120	662	58		453	21,901	340,085	6.4
Mara	9,901	588	0	0	0		590	10,026	188,203	5.3
Manyara	6,497	582	12	12	70		193	7,378	154,194	4.8
Mainland	845,781	54,236	11,328	12,962	9,810		98,557	832,075	4,805,315	17.3
%	77.8	6.5	1.4	1.8	1.2		11.8	100.0		
Zanzibar	6,552	40	0	0	68		0	6,860	96,522	7
National	852,333	54,276	11,328	12,962	9,877		98,557	839,335	4,901,837	17

**15.9 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Improved Seed by Source and Region During the 2002/03 Agriculture Year**

Region	Use of Improved Seed							Total Number of households	% of total number of households	
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total receiving advice			
Dodoma	91,470	3,903	0	229	779		20,574	115,965	323,719	36.1
Arusha	27,890	1,948	473	603	167		1,807	32,886	154,857	21.2
Kilimanjaro	107,310	4,815	1,291	71	0		3,840	117,296	216,173	54.3
Tanga	94,180	1,341	0	257	239		2,924	98,942	285,198	37.3
Morogoro	37,528	1,996	11	752	77		1,707	41,941	280,746	16.1
Pwani	30,626	1,119	276	254	47		806	33,127	141,530	23.4
Dar es Salaam	9,307	90	0	144	142		365	10,048	20,394	49.3
Lindi	13,777	116	0	184	96		134	14,306	153,173	9.3
Mtwara	22,818	1,017	175	0	0		865	24,875	229,314	10.8
Ruvuma	29,638	1,735	1,101	423	154		265	33,316	191,175	17.4
Iringa	105,713	6,450	686	1,284	961		3,226	118,327	278,717	42.6
Mbeya	79,151	7,448	2,803	2,719	2,819		5,652	100,582	372,844	27.0
Singida	60,534	1,053	321	1,950	298		1,404	65,559	179,915	36.4
Tabora	30,207	10,018	1,247	450	636		568	43,126	235,917	18.3
Rukwa	16,557	2,623	115	78	0		323	19,696	172,261	11.4
Kigoma	67,070	5,464	197	1,358	192		913	75,195	195,785	38.4
Shinyanga	72,213	2,509	275	390	53		1,242	78,993	377,857	20.4
Kagera	35,789	3,839	283	425	256		609	41,163	353,277	11.7
Mwanza	51,464	4,786	848	1,289	135		827	59,360	340,085	17.5
Mara	42,282	1,503	108	0	0		371	44,364	188,203	23.6
Manyara	22,263	1,131	183	365	83		593	24,515	154,194	16.0
Mainland	1,047,869	65,076	10,352	13,235	7,145		48,014	1,182,711	4,805,315	24.8
%	87.9	5.5	0.9	1.1	0.6		4.1	100.0		
Zanzibar	8,988	198	0	0	219		0	7,403	96,522	8
National	1,054,877	65,272	10,352	13,235	7,364		48,014	1,200,114	4,901,837	24



**15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Mechanisation by Source and Region During the 2002/03 Agriculture Year**

Regions	Mechanisation / LBT					Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other			
Dodoma	36,809	5,693	195	330	597	43,625	323,719	13
Arusha	13,362	1,695	859	488	0	16,404	154,857	11
Kilimanjaro	33,095	2,636	3,473	114	119	39,435	216,173	18
Tanga	19,073	280	0	235	302	19,890	265,198	8
Morogoro	20,104	830	380	1,470	144	22,928	260,748	9
Pwani	12,306	571	47	85	72	13,081	141,530	9
Dar es Salaam	903	28	0	0	0	930	20,394	5
Lindi	1,967	0	0	0	0	1,967	153,173	1
Mtwara	7,630	0	0	0	99	7,729	229,314	3
Ruvuma	6,547	257	72	182	0	7,058	191,175	4
Iringa	19,770	1,100	479	385	2,244	23,968	278,717	9
Mbeya	14,938	1,840	109	420	171	17,478	372,844	5
Singida	14,277	594	0	0	0	14,872	179,915	8
Tabora	3,966	124	0	148	90	4,285	235,917	2
Rufawa	2,113	105	0	0	0	2,218	172,261	1
Kigoma	18,548	394	83	149	0	19,174	195,765	10
Shinyanga	13,914	319	179	119	0	14,531	377,857	4
Kagera	2,799	578	0	0	0	3,377	353,277	1
Mwanza	4,822	582	0	293	0	5,507	340,085	2
Mara	2,363	134	0	0	0	2,497	188,203	1
Manyara	8,469	886	141	394	108	9,958	154,184	6
<b>Total</b>	<b>257,537</b>	<b>18,636</b>	<b>8,019</b>	<b>4,780</b>	<b>3,905</b>	<b>290,876</b>	<b>4,805,315</b>	<b>6</b>
<b>%</b>	<b>89</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>100</b>		
Zanzibar	5,835	6	0	0	47	5,888	96,522	6
<b>National</b>	<b>263,372</b>	<b>18,642</b>	<b>8,019</b>	<b>4,780</b>	<b>3,952</b>	<b>296,764</b>	<b>4,901,837</b>	<b>13</b>

**15.11 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Irrigation Technology by Source and Region During the 2002/03 Agriculture Year**

Region	Irrigation Technology					Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other			
Dodoma	28,298	5,202	294	889	224	34,815	323,719	11
Arusha	12,485	1,062	353	189	187	14,264	154,857	9
Kilimanjaro	42,784	5,898	388	889	191	49,888	216,173	23
Tanga	50,340	1,336	0	0	0	51,674	265,198	19
Morogoro	17,305	1,649	813	977	77	20,821	260,748	8
Pwani	14,187	281	145	179	0	14,790	141,530	10
Dar es Salaam	2,070	73	0	68	61	2,270	20,394	11
Lindi	1,836	0	0	29	0	1,864	153,173	1
Mtwara	3,883	0	0	0	102	4,026	229,314	2
Ruvuma	18,228	200	124	501	241	19,292	191,175	10
Iringa	39,047	2,880	157	1,050	2,898	46,032	278,717	17
Mbeya	29,233	2,707	902	2,294	1,081	36,197	372,844	10
Singida	16,377	1,116	228	393	288	18,399	179,915	10
Tabora	10,128	1,187	0	360	134	11,799	235,917	5
Rufawa	5,840	828	78	253	35	6,834	172,261	4
Kigoma	38,429	1,497	197	384	0	38,509	195,765	20
Shinyanga	28,812	543	0	179	32	27,585	377,857	7
Kagera	9,298	802	0	0	171	10,289	353,277	3
Mwanza	18,998	1,367	231	511	58	19,132	340,085	6
Mara	8,089	1,059	0	0	0	7,148	188,203	4
Manyara	5,023	883	0	0	98	5,784	154,184	4
<b>Total</b>	<b>392,321</b>	<b>30,135</b>	<b>3,690</b>	<b>8,708</b>	<b>5,898</b>	<b>440,752</b>	<b>4,805,315</b>	<b>9</b>
<b>%</b>	<b>89</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>100</b>		
Zanzibar	2,131	62	0	0	67	2,280	96,522	4
<b>National</b>	<b>394,452</b>	<b>30,197</b>	<b>3,690</b>	<b>8,708</b>	<b>5,964</b>	<b>443,011</b>	<b>4,901,837</b>	<b>13</b>

**15.12 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Crop Storage by Source and Region During the 2002/03 Agriculture Year**

Regions	Crop Storage						Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other				
Dodoma	94,162	2,534	98	101	1,028	97,923	323,719	30.2	
Arusha	25,710	1,587	112	112	263	27,785	154,857	17.9	
Kilimanjaro	88,882	3,184	553	275	199	93,093	216,173	43.1	
Tanga	96,290	701	0	253	301	96,545	285,198	36.4	
Morogoro	39,173	1,623	117	245	111	41,269	280,748	15.8	
Pwani	22,413	108	79	35	82	22,718	141,830	16.1	
Dar es Salaam	3,765	92	19	129	160	4,166	20,394	20.4	
Lindi	9,611	29	0	67	255	9,962	153,173	6.5	
Mtwara	17,840	181	95	248	193	18,537	229,314	8.1	
Ruvuma	28,910	424	339	335	735	30,744	191,175	16.1	
Ifinga	101,337	8,593	206	1,195	3,516	114,847	278,717	41.2	
Mbeya	86,231	5,161	1,454	6,142	8,584	107,572	372,844	28.9	
Singida	64,491	989	305	1,595	348	67,708	179,915	37.6	
Tabora	32,104	4,373	758	1,298	433	38,966	235,917	16.5	
Ruwa	19,125	595	187	199	0	20,106	172,261	11.7	
Kigoma	83,825	4,288	280	1,682	311	90,387	195,765	46.2	
Shinyanga	65,082	1,565	275	545	64	67,930	377,857	18.0	
Kagera	27,989	1,622	149	333	452	30,545	353,277	8.6	
Mwanza	39,563	1,408	124	614	193	41,901	340,085	12.3	
Mara	30,515	535	0	349	302	31,701	188,203	16.8	
Manyara	21,468	908	120	41	70	22,586	154,194	14.6	
Mainland	997,465	40,857	5,271	15,804	17,599	1,076,998	4,805,315	22.4	
%	92.8	3.8	0.5	1.5	1.8	100.0			
Zanzibar	2,108	125	0	0	181	2,414	96,522	15	
National	999,573	40,982	5,271	15,804	17,780	1,079,410	4,901,837	37	

**15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Vermin Control by Source and Region During the 2002/03 Agriculture Year**

Region	Vermin Control						Total receiving advice	Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other				
Dodoma	62,284	2,329	0	229	1,130	65,972	323,719	20.4	
Arusha	10,496	1,008	185	328	0	11,977	154,857	7.7	
Kilimanjaro	38,084	1,737	212	555	650	41,217	216,173	19.1	
Tanga	57,417	735	0	498	429	59,079	285,198	22.3	
Morogoro	22,348	1,630	317	858	149	25,300	280,748	9.7	
Pwani	30,393	143	0	738	0	31,245	141,830	22.1	
Dar es Salaam	3,205	27	0	141	29	3,401	20,394	16.7	
Lindi	11,874	58	0	192	0	12,124	153,173	7.9	
Mtwara	11,321	0	0	105	105	11,530	229,314	5.0	
Ruvuma	16,952	298	340	418	231	18,247	191,175	9.5	
Ifinga	45,288	4,586	219	131	3,252	53,475	278,717	19.2	
Mbeya	44,010	1,026	404	5,214	807	51,461	372,844	13.8	
Singida	40,383	389	0	65	159	40,975	179,915	22.8	
Tabora	11,805	1,230	202	572	0	13,810	235,917	5.9	
Ruwa	5,225	153	199	334	0	5,911	172,261	3.4	
Kigoma	43,556	1,885	197	3,042	195	48,874	195,765	25.0	
Shinyanga	33,052	620	311	108	32	34,133	377,857	9.0	
Kagera	13,509	1,439	171	490	171	15,880	353,277	4.5	
Mwanza	20,937	989	489	3,582	306	26,302	340,085	7.7	
Mara	12,582	205	0	349	0	13,136	188,203	7.0	
Manyara	6,770	318	0	123	409	7,619	154,194	4.9	
Mainland	541,519	20,782	3,246	18,071	8,053	591,670	4,805,315	12.3	
%	91.5	3.5	0.5	3.1	1.4	100.0			
Zanzibar	1,736	48	0	0	33	1,815	96,522	5	
National	543,255	20,827	3,246	18,071	8,086	593,485	4,901,837	17	

**15.14 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro Processing by Source and Region During the 2002/03 Agriculture Year**

Regions	Agro-processing						Total receiving advice	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Total		
Dodoma	51,587	3,625	0	350	1,520	57,062	323,710	17.8
Arusha	12,118	762	185	487	117	13,669	154,857	8.8
Kilimanjaro	52,720	3,277	1,139	660	759	58,778	218,173	27.2
Tanga	68,640	684	0	107	643	70,176	288,198	26.5
Morogoro	18,661	916	683	611	111	20,882	280,748	8.0
Pwani	14,221	867	0	0	170	15,267	141,630	10.8
Dar es Salaam	2,236	0	19	67	274	2,886	20,394	12.7
Lindi	2,714	0	0	96	54	2,864	153,173	1.9
Mtwara	5,026	162	0	97	0	5,284	228,314	2.3
Ruvuma	17,787	224	828	332	379	18,349	191,175	10.1
Iringa	44,837	7,658	904	880	4,799	58,179	278,717	21.2
Mbeya	55,838	5,104	1,591	6,268	8,700	77,291	372,844	20.7
Singida	39,380	579	526	2,710	866	44,161	179,915	24.5
Tabora	10,380	1,194	260	3,263	536	15,653	235,917	6.5
Rukwa	6,790	265	0	0	136	7,161	172,261	4.2
Kigoma	53,780	1,078	320	755	156	56,068	195,765	28.6
Shinyanga	40,464	1,285	0	433	0	42,172	377,857	11.2
Kagera	11,337	1,610	446	320	0	14,013	353,277	4.0
Mwanza	23,550	1,324	130	3,223	306	28,533	340,065	8.4
Mara	16,281	884	0	487	694	18,306	188,203	9.7
Manyara	5,913	360	12	58	203	7,457	154,194	4.8
<b>Total</b>	<b>555,233</b>	<b>32,000</b>	<b>6,754</b>	<b>21,411</b>	<b>20,521</b>	<b>635,918</b>	<b>4,805,315</b>	<b>0.0</b>
<b>%</b>	<b>87.3</b>	<b>5.0</b>	<b>1.1</b>	<b>3.4</b>	<b>3.2</b>	<b>100.0</b>		
Zanzibar	1,243	46	0	0	77	1,367	96,522	5
National	556,476	32,046	6,754	21,411	20,598	637,285	4,901,837	5

**15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro-Forestry by Source and Region During the 2002/03 Agriculture Year**

Region	Agro-forestry						Total receiving advice	Total number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Total			
Dodoma	37,057	6,213	0	390	1,226	45,826	323,719	14.5	
Arusha	16,712	1,174	186	359	0	18,428	154,857	11.9	
Kilimanjaro	55,349	4,682	667	467	362	61,328	218,173	29.8	
Tanga	49,780	3,653	107	203	0	53,624	288,198	20.2	
Morogoro	9,794	1,613	121	117	125	11,769	280,748	4.6	
Pwani	12,324	1,733	180	36	0	14,272	141,630	10.1	
Dar es Salaam	2,722	197	0	106	23	3,049	20,394	14.9	
Lindi	1,575	35	0	0	0	1,610	153,173	1.1	
Mtwara	6,065	324	0	0	0	6,418	228,314	2.8	
Ruvuma	13,889	702	124	0	267	15,003	191,175	7.8	
Iringa	49,964	10,112	323	1,694	911	62,434	278,717	22.4	
Mbeya	33,409	4,825	390	1,488	1,232	41,344	372,844	11.1	
Singida	31,365	835	205	0	264	32,669	179,915	18.2	
Tabora	11,076	1,861	306	217	526	14,006	235,917	5.9	
Rukwa	5,168	823	255	289	133	6,568	172,261	3.9	
Kigoma	36,765	9,116	63	34	0	45,998	195,765	23.5	
Shinyanga	28,072	564	188	0	0	29,745	377,857	7.9	
Kagera	13,402	2,803	0	170	0	16,455	353,277	4.7	
Mwanza	13,855	14,097	0	116	193	28,261	340,065	8.3	
Mara	8,794	10,795	0	117	118	19,823	188,203	10.5	
Manyara	8,418	595	67	0	0	10,079	154,194	6.5	
<b>Total</b>	<b>450,484</b>	<b>78,662</b>	<b>3,112</b>	<b>5,141</b>	<b>5,389</b>	<b>542,786</b>	<b>4,805,315</b>	<b>11.3</b>	
<b>%</b>	<b>83.0</b>	<b>14.5</b>	<b>0.6</b>	<b>0.8</b>	<b>1.0</b>	<b>100.0</b>			
Zanzibar	1,014	46	0	0	22	1,082	96,522	7	
National	451,508	78,708	3,112	5,141	5,412	543,881	4,901,837	10	



**15.16 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Bee Keeping by Source and Region During the 2002/03 Agriculture Year**

Regions	Beekeeping						Total receiving advice	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Total		
Dodoma	19,818	4,875	0	323	1,271	28,088	323,719	8.1
Arusha	6,297	582	112	0	0	6,992	154,857	4.5
Kilimanjaro	4,039	3,353	0	281	0	7,673	218,173	3.5
Tanga	8,885	2,082	0	0	0	8,787	285,198	3.3
Morogoro	3,083	587	0	0	0	3,630	280,748	1.4
Pwani	3,361	385	0	0	0	3,746	141,530	2.6
Dar es Salaam	287	0	0	0	0	287	20,394	1.4
Lindi	214	28	0	29	0	271	153,173	0.2
Mtwara	2,054	0	0	0	99	2,153	229,314	0.9
Ruvuma	8,720	780	0	27	27	7,555	191,175	4.0
Idinga	13,108	10,970	277	133	0	24,488	278,717	8.8
Mbeya	8,487	1,241	0	113	178	9,999	372,844	2.7
Singida	8,182	1,331	78	125	0	9,696	179,915	5.4
Tabora	2,541	885	0	128	244	3,578	235,917	1.5
Rukwa	802	0	0	0	0	802	172,281	0.3
Kigoma	5,078	582	197	196	0	6,063	195,785	3.1
Shinyanga	3,917	210	0	0	0	4,127	377,857	1.1
Kagera	2,294	149	0	0	0	2,442	353,277	0.7
Mwanza	1,835	822	0	0	0	2,657	340,085	0.8
Mara	1,433	785	0	117	0	2,318	188,203	1.2
Manyara	2,114	430	0	0	0	2,544	154,194	1.7
<b>Maland</b>	<b>101,890</b>	<b>29,827</b>	<b>884</b>	<b>1,489</b>	<b>1,819</b>	<b>135,870</b>	<b>4,805,315</b>	<b>0.0</b>
<b>%</b>	<b>75.1</b>	<b>22.0</b>	<b>0.6</b>	<b>1.1</b>	<b>1.3</b>	<b>100.0</b>		
Zanzibar	132	0	0	0	83	195	96,522	2
<b>National</b>	<b>102,021</b>	<b>29,827</b>	<b>884</b>	<b>1,489</b>	<b>1,882</b>	<b>135,885</b>	<b>4,901,837</b>	<b>2</b>

**15.17 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Fish Farming by Source and Region During the 2002/03 Agriculture Year**

Region	Fish Farming						Total Number of households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Total		
Dodoma	11,058	3,509	0	224	715	15,506	323,719	4.9
Arusha	4,287	388	112	0	0	4,788	154,857	3.1
Kilimanjaro	5,118	4,434	0	80	0	9,632	218,173	4.5
Tanga	7,400	3,284	0	59	78	10,822	285,198	4.1
Morogoro	2,213	807	0	0	0	2,819	280,748	1.1
Pwani	3,027	208	47	0	0	3,279	141,530	2.3
Dar es Salaam	312	0	0	14	0	328	20,394	1.6
Lindi	423	0	0	0	0	423	153,173	0.3
Mtwara	745	159	0	0	99	1,002	229,314	0.4
Ruvuma	7,419	798	74	89	100	8,481	191,175	4.4
Idinga	11,388	10,295	314	133	0	22,109	278,717	7.9
Mbeya	6,347	1,109	21	300	0	7,777	372,844	2.1
Singida	4,480	941	0	0	0	5,421	179,915	3.0
Tabora	1,353	728	124	125	0	2,328	235,917	1.0
Rukwa	241	0	0	0	0	241	172,281	0.1
Kigoma	3,482	2,894	0	0	0	6,175	195,785	3.2
Shinyanga	2,313	30	108	0	0	2,452	377,857	0.6
Kagera	1,831	488	0	0	0	2,099	353,277	0.6
Mwanza	794	239	0	0	0	1,032	340,085	0.3
Mara	1,885	1,214	0	0	0	3,099	188,203	1.6
Manyara	853	545	0	0	0	1,398	154,194	0.9
<b>Maland</b>	<b>78,748</b>	<b>32,044</b>	<b>800</b>	<b>1,005</b>	<b>991</b>	<b>111,588</b>	<b>4,805,315</b>	<b>2.3</b>
<b>%</b>	<b>88.8</b>	<b>28.7</b>	<b>0.7</b>	<b>0.9</b>	<b>0.9</b>	<b>100.0</b>		
Zanzibar	23	0	0	0	28	51	96,522	1
<b>National</b>	<b>78,771</b>	<b>32,044</b>	<b>800</b>	<b>1,005</b>	<b>1,019</b>	<b>111,639</b>	<b>4,901,837</b>	<b>3</b>

15.18 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and Region (Part 1) During the 2002/03 Agriculture Year

Region	Spacing			Use of Agrochemicals			Erosion Control		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Dodoma	123,833	107,366	87	54,390	15,446	28	68,245	29,129	43
Arusha	37,043	32,202	87	21,984	15,806	72	27,316	15,872	58
Kilimanjaro	121,927	114,025	94	87,112	58,180	67	84,954	67,300	79
Tanga	119,130	109,047	92	55,156	8,817	16	67,925	21,958	32
Morogoro	60,406	54,057	89	30,739	19,024	62	16,900	7,939	47
Pwani	44,577	40,322	90	27,732	11,219	40	14,906	4,278	29
Dares Salaam	11,226	10,280	92	6,109	3,895	64	3,672	2,973	81
Lindi	24,346	22,749	93	8,952	6,730	75	1,829	1,739	95
Mtwara	38,751	35,954	93	22,892	14,360	63	6,098	1,967	32
Ruvuma	52,911	51,912	98	36,557	25,553	70	18,394	10,719	58
Iringa	155,290	142,784	92	108,765	80,078	74	107,826	67,074	63
Mbeya	135,502	131,543	97	84,903	50,346	59	75,436	49,781	66
Singida	82,511	76,516	93	43,633	13,556	31	45,573	27,026	59
Tabora	58,092	50,816	87	38,287	27,040	71	16,465	9,183	56
Rukwa	24,402	21,252	87	14,209	7,080	50	11,093	5,352	48
Kigoma	113,828	103,213	91	65,299	18,513	28	61,913	30,788	50
Shinyanga	96,382	81,330	84	68,920	41,663	60	46,957	25,207	54
Kagera	58,213	48,753	84	20,586	8,954	43	30,413	20,500	67
Mwanza	60,133	48,972	81	35,602	18,727	53	38,351	25,694	70
Mara	56,096	48,855	87	27,918	17,941	64	23,901	18,222	76
Manyara	32,889	29,473	90	12,019	6,346	53	21,834	12,538	57
Mainland	1,507,559	1,381,423	90	871,886	471,478	54	789,893	457,149	58
Zanzibar	10,451	8,810	84	5,404	2,284	42	2,766	1,726	
National	1,518,010	1,370,233	90	877,070	473,740	54	792,759	458,874	58

15.19 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and Region (Part 2) During the 2002/03 Agriculture Year

Region	Organic Fertilizer Use			Inorganic Fertilizer Use			Use of Improved Seed		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Dodoma	108,885	57,887	54	27,857	4,801	18	101,817	44,020	43
Arusha	33,408	27,022	81	19,217	11,553	60	31,710	18,570	62
Kilimanjaro	103,005	93,835	91	84,840	51,831	61	113,889	92,711	81
Tanga	92,312	37,885	41	44,307	6,288	14	98,120	29,582	30
Morogoro	22,888	10,907	48	24,582	10,277	42	41,753	23,321	56
Pwani	24,040	8,272	34	19,327	3,197	17	32,583	12,797	39
Dares Salaam	7,259	5,493	76	4,479	2,805	63	9,096	8,136	81
Lindi	4,383	1,778	41	4,732	1,901	40	14,388	8,306	44
Mtwara	21,471	5,771	27	17,599	2,845	16	24,274	8,908	36
Ruvuma	37,782	28,472	75	43,788	38,140	87	32,991	18,980	51
Iringa	118,870	74,101	62	95,148	88,783	93	116,411	67,271	49
Mbeya	98,970	82,333	83	101,009	70,298	70	94,544	39,042	41
Singida	75,750	54,484	72	18,139	7,832	43	66,335	28,223	43
Tabora	38,909	22,427	58	37,431	25,294	68	42,985	25,582	60
Rukwa	15,017	7,101	47	12,045	4,633	38	19,894	8,147	31
Kigoma	90,193	38,748	43	70,808	15,781	22	75,997	14,481	19
Shinyanga	74,332	45,821	62	38,748	18,387	50	77,447	48,310	62
Kagera	50,458	33,853	67	14,897	3,893	26	41,802	19,832	48
Mwanza	57,004	39,882	70	21,200	8,723	41	59,373	42,481	72
Mara	41,705	24,115	58	8,912	3,474	39	45,589	29,421	65
Manyara	18,893	12,102	64	6,989	1,835	27	24,582	11,599	47
Mainland	1,131,192	689,888	61	713,585	360,140	50	1,185,990	582,809	50
Zanzibar	8,333	5,117	61	6,860	3,100	47	7,403	4,440	
National	1,139,525	694,605	61	720,245	363,240	50	1,193,393	587,249	50

15.20 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and Region (Part 3) During the 2002/03 Agriculture Year

Region	Mechanization / LST			Irrigation Technology			Crop Storage		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Dodoma	35,903	7,608	21	21,536	6,445	30	98,829	81,241	81
Arusha	15,531	7,187	46	13,721	7,589	55	28,222	22,671	80
Kilimanjaro	37,295	25,041	67	47,696	33,607	70	94,207	81,634	87
Tanga	17,344	2,408	14	47,974	15,413	32	97,163	77,002	79
Morogoro	22,569	12,452	55	19,655	11,360	58	41,281	37,004	92
Pwani	12,254	1,607	14	12,683	4,024	30	23,372	11,182	48
Dar es Salaam	596	783	128	1,782	1,702	101	4,024	3,307	82
Lindi	1,504	1,162	73	1,378	1,131	82	9,808	8,300	85
Mtwara	7,194	1,150	16	2,837	1,310	46	17,843	10,766	60
Ruvuma	5,832	1,415	24	17,821	10,275	58	30,963	29,139	94
Iringa	21,930	7,115	33	43,435	31,311	72	114,044	107,485	94
Mbeya	14,021	4,986	36	29,779	19,558	66	107,048	101,706	95
Binga	13,703	2,402	18	15,358	7,304	48	68,433	58,508	85
Tabora	3,800	415	11	11,177	8,460	76	38,918	33,064	87
Ruwa	1,833	255	14	6,160	2,755	45	20,071	17,880	89
Kigoma	19,713	309	2	38,397	9,024	26	90,957	82,074	91
Bhinyanga	12,816	7,133	56	24,173	11,987	50	69,095	58,115	84
Kagera	2,583	931	36	10,060	4,232	42	30,693	26,644	87
Mwanza	4,456	957	21	17,325	8,436	49	41,133	37,000	90
Mara	2,006	499	24	6,067	5,010	83	31,448	26,183	83
Manyara	8,789	5,385	61	4,760	3,871	81	22,293	21,112	95
Mainland	262,824	91,371	35	393,783	206,608	52	1,080,745	934,734	86
Zanzibar	5,888	2,736	46	2,260	1,121	50	2,414	2,019	84
National	15,657	8,121	52	7,020	4,892	71	24,707	23,131	94

15.21 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and Region (Part 4) During the 2002/03 Agriculture Year

Region	Vermin Control			Agro-progressing			Agro-forestry		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Dodoma	65,536	49,716	76	55,166	43,393	79	42,878	15,008	35
Arusha	11,532	7,950	68	13,327	9,864	74	18,443	10,866	59
Kilimanjaro	41,090	33,575	82	58,165	54,575	94	65,947	51,485	78
Tanga	55,716	45,519	82	68,912	62,505	91	53,935	23,000	44
Morogoro	25,027	22,497	90	21,123	20,050	95	12,335	6,423	52
Pwani	31,379	24,200	77	14,280	9,268	65	13,492	5,650	42
Dar es Salaam	3,130	2,300	74	2,144	1,893	88	2,714	2,465	92
Lindi	12,202	9,312	76	2,725	2,724	100	1,449	785	54
Mtwara	10,989	7,571	68	4,219	3,757	89	6,360	1,407	22
Ruvuma	16,999	16,254	96	19,504	19,080	98	14,819	7,947	54
Iringa	50,932	40,832	80	57,448	52,815	92	62,915	33,606	54
Mbeya	44,736	42,700	95	75,577	72,519	96	37,795	25,113	66
Binga	40,155	36,971	92	42,937	41,389	96	33,218	14,037	42
Tabora	13,175	11,820	90	15,177	14,281	94	13,494	5,004	37
Ruwa	5,573	4,830	87	6,951	6,510	94	6,707	4,347	65
Kigoma	49,352	40,532	82	55,150	48,199	88	46,675	22,200	48
Bhinyanga	32,144	28,734	89	39,969	38,435	96	29,320	16,207	56
Kagera	15,569	9,628	61	13,299	11,732	88	16,703	12,785	77
Mwanza	25,036	20,575	82	27,983	27,986	100	28,162	19,002	68
Mara	11,705	11,520	98	17,901	17,491	98	19,653	14,806	75
Manyara	7,152	7,210	101	7,169	7,001	98	10,066	7,843	78
Mainland	569,420	474,364	83	619,023	567,168	92	537,080	301,304	56
Zanzibar	1,815	1,387	76	1,341	1,135	85	1,082	693	64
National	8,967	8,597	96	8,509	8,126	96	11,148	8,636	77



**15.22 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and Region (Part 5) During the 2002/03 Agriculture Year**

Region	Beekeeping			Fish Farming		
	Received	Adopted	%	Received	Adopted	%
Dodoma	10,568	6,072	36	7,090	2,489	31
Arusha	6,560	2,929	45	3,647	1,615	44
Kilimanjaro	6,780	3,352	49	8,643	4,373	51
Tanga	5,840	1,205	21	8,207	1,065	13
Morogoro	3,307	1,251	38	2,677	1,250	47
Pwani	3,338	650	19	2,627	575	22
Dar es Salaam	140	201	144	218	287	132
Lindi	271	237	87	509	177	35
Mtwara	1,460	490	33	740	487	66
Ruvuma	7,252	1,415	20	8,131	2,009	25
Iringa	22,838	4,803	21	21,674	4,066	19
Mbeya	7,617	2,944	39	5,800	1,903	32
Binga	8,608	4,100	47	5,216	495	9
Tabora	2,378	1,635	69	1,634	274	17
Rukwa	481	240	50	241	34	14
Kigoma	5,232	1,303	25	5,320	132	2
Ghinyanga	3,744	1,567	42	2,223	1,220	55
Kagera	1,925	263	14	2,116	170	8
Mwanza	1,775	461	26	453	188	41
Mara	1,581	384	24	2,103	664	32
Manyara	1,899	1,040	52	1,189	330	28
Mainland	112,819	37,440	33	91,487	23,843	26
Zanzibar	195	51	31	51	0	0
National	2,194	1,101	50	1,250	330	26

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**APPENDEIX III. CENSUS DATA COLLECTION INSTRUMENTS**

**Smallholder Questionnaire  
Community Questionnaire  
Village Listing Forms**

**APPENDEIX III. a Smallholder Questionnaire**





<b>United Republic of Tanzania</b>																																						
<b>ACQ 1</b>																																						
<b>CONFIDENTIAL</b>																																						
<b>Small holder/Small Scale Farmer Questionnaire</b>																																						
<b>Agriculture Sample Census</b>																																						
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Executed by the Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development, Ministry of Cooperatives and Marketing and National Bureau of Statistics																																						

**Definition and working page for page 1****General Definitions****Small holder hh/small scale farm:**

Should have between 25sq metres and 20 Hectares under production, and/or between 1 and 50 head of Cattle, and/or between 5 and 100 head of Sheep/Goats/Pigs, and/or between 50 and 1000 chickens/turkeys/ducks/rabbits.

**Household:** A group of people who occupy the whole or part of one or more housing units and makes joint provisions for food and/or other essentials for living.

**Household Head:** A person who is acknowledged by all other members of the household either by virtue of his age or standing in the household as the head. He/she should be a permanent resident of the house and he/she is the main person responsible for making decisions.

**Agricultural Holding:** This is an economic unit of agricultural production under single management. It consists of all livestock kept and all land used for agricultural production without regard to title. For the purpose of this survey, the agricultural holdings are restricted to those which meet one of the following conditions:

- Having or operated at least 25 sq meter of arable land
- Own or keep at least one head of cattle or five goats/sheep/pigs or fifty chicken/ducks/turkeys during the agricultural year 2002/03 (October 2002 to September 2003) .

**Question Specific Definitions:****Type of Agriculture Holdings Codes (Q2.1):**

- **Crops only:** A holding is referred to be a crops only holding if it has cultivated a piece of land equal or exceeding 25 sq Meter. This also applies to all households owning or have kept livestock whose number does not qualify such household to be an agricultural holding (No cattle, less than 5 goats/sheep/pigs, less than 50 chickens/turkeys/ducks/rabbits)

- **Livestock only:** A holding is referred to be a Livestock only holding if it has exercised Livestock husbandry only during the agricultural year. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time.

- **Livestock pastoralism:** This refers to a household which practices livestock production as its major income generating activity and a means of subsistence, but moves from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they have no permanent place of residence.

*For both livestock only and pastoralism , the number of livestock has to be at least 1 head of cattle, 5 goats/sheep/pigs or 50 chickens/turkeys/ ducks/rabbits. This also applies to all households owning or have cultivated a piece of land less than 25 sq meter, which does not qualify such household to be an agricultural holding.*

- **Both crops and livestock:** A holding is referred to be a both crops and livestock if it has cultivated a piece of land equal or exceeding 25 sq meter and if such households is owning or have kept livestock whose number qualify such household to be an agricultural holding.

**Important livelihood activities/source of income (Q 2.2):**

- **Crop farming:** This refers to a household where crop production is its major means of subsistence and income generation.

- **Livestock farming/herding/pastoralism:** This refers to a household where livestock farming/herding is its major means of subsistence & income generation.

- **Off Farm Income** This refers to cash generated from activities other than from the households holding. This can be from permanent employment (eg government/other), temporary employment/labouring and includes cash generated from working on other farmers farms.

-**Remittances:** Assistance from family members who are not currently part of the household, or from a relative or family friend. This assistance is usually in the form of cash but it can also be in-kind (eg food, clothes, building material, farm tools, etc). The money is a gift and is not paid back.

-**Fishing/hunting and gathering** The use of non farmed resources for food eg fishing, hunting wildlife and gathering mushrooms, berries, wild honey roots from uncultivated land.

**Procedures for Questions:****Q 2.1 Type of agriculture household/holding**

1. Using the options under the question classify the type of agriculture hh/holding

**Note:** If the hh had 1 acre of crops and raised 40 chickens during 2002/03 it is classified as "Crops only" as the number of chickens do not qualify the hh as keeping livestock.

**Q 2.2 Important hh livelihood activities /source of income**

1. Read the list in column 1 to the respondent and ask him to rank them in order of importance during the reference year.
2. In column 2 indicate the importance of each activity by placing "1" against the most important, "2" against the second most important, etc until you reach "7" the least important activity/source of income.

**Note:** You must attempt to fill in all boxes. Most households will carry out these activities to a greater or lesser degree. You will normally have to probe to get remittances.

If the hh did not undertake an activity during the 2002/2003 agriculture year then mark the appropriate box in column 2 with an 'X'.

3. For each activity/source of income assign a percentage. The enumerator should assist the respondent in assigning the percentage based on the information provided by the farmer.

4. After completing column 3 make sure the percentages add up to 100.

**Note:** It is not essential to be 100% accurate. This question is just to give the relative importance of the different items in general terms

<b>1.0 IDENTIFICATION DETAILS</b>		
<b>1.1 Location</b>		
<b>S/N</b>	<b>Location Name</b>	<b>Codes</b>
1.1.1	Region .....	<input type="text"/>
1.1.2	District .....	<input type="text"/>
1.1.3	Ward .....	<input type="text"/>
1.1.4	Village .....	<input type="text"/>
<b>1.2 Details of the respondent and household head</b>		
<b>S/N</b>		<b>Codes</b>
1.2.1	Name & number of local leader .....	<input type="text"/>
1.2.2	Name & number of household head .....	<input type="text"/>
1.2.3	Sex of household head (Male = 1, Female = 2)	<input type="text"/>
1.2.4	Name of respondent .....	/
1.2.5	Relationship of Respondent to Household Head	
<p><i>Relationship to household head codes (Q 1.2.5)</i>                  Head of Household.....1    Son/Daughter .....3    Grandson/Granddaughter .....5    Other (friend, employee, etc)...8                  Spouse.....2    Father/Mother .....4    Other relative.....6</p>		

<b>2.0 ACTIVITIES OF THE HOUSEHOLD</b>			
<b>2.1</b>	<b>Type of Agriculture Household</b>	<input type="text"/>	
<p><i>Agriculture household codes(Q2.1)</i>                  Crops only.....1    Livestock only .....2    Pastoralist.....3    Crops and Livestock .....4</p>			
<b>2.2 Rank the following livelihood activities/source of income of the household in order of importance</b>			
S/N	Livelihood/source of income activity.	Rank in order of importance 1=most 7=least	How important are each of these activities expressed in percentage.
	(1)	(2)	(3)
2.2.1	Annual Crop farming	<input type="text"/>	<input type="text"/> %
2.2.2	Permanent crop farming	<input type="text"/>	<input type="text"/> %
2.2.3	Livestock keeping/herding	<input type="text"/>	<input type="text"/> %
2.2.4	Off Farm Income	<input type="text"/>	<input type="text"/> %
2.2.5	Remittances	<input type="text"/>	<input type="text"/> %
2.2.6	Fishing/hunting and gathering	<input type="text"/>	<input type="text"/> %
2.2.7	Tree/forest resources (eg honey, firewood, timber,etc)	<input type="text"/>	<input type="text"/> %
			<input type="text"/> %



**Definition and working page for page 2****Question Specific Definitions:****Relation to head (Col 2):**

- **Household Head:** A person who is acknowledged by all other members of the household either by virtue of their age or standing as the household head.

- **Spouse:** Wife or Husband

**Read and Write (Col 7):**

- **Any other language:** Must be a written language.

For someone who can read and write in Swahili and any other language apart from English, the correct code is 1. For one who can read and write in English and any other language apart from Swahili the correct code is 2. Code 4 should only be used for another language but not English or Swahili

**Education Level Reached (Col 9):**

Indicate the highest level only. For those still attending school fill in the last year reached before the survey period. For example if a hh member is currently in standard 7 this year his highest grade reached is standard 6

**Main Activity (Col 11):**

- **Crop farming:** The persons main activity is crop production. This can be annual crops, vegetables, permanent crops or tree farming.

- **Livestock farming/herding:** The persons main activity is livestock farming/herding. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time. This category also includes fish farming but not fishing.

- **Livestock pastoralism:** The persons main activity is in moving livestock from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they may have no permanent place of residence.

- **Paid employment** - In full time employment earning a cash income

- **Government/Parastatal** - In full time employment for a government Ministry, Department or Board that is controlled by the Government

- **Private/NGO/Mission/etc** - employed by Non public/government organisation

- **Self employee** - works for own business for cash income

- **With employees** - Works for own business for cash and employs other workers

- **Without employees** - Works for own business for cash but does not employ other workers

- **Not working but available to work** - No productive activity but would like to have one.

- **Not working & nor available for work** - No productive activity and does not want to have one.

- **Unable to work** too old, too young, retired, disabled, etc

**Off-farm Income (Col 12)** - Income made from activities NOT on the HH's farming activities. This can be any off farm income generation activity and includes working for cash on other peoples farms.

Indicate whether each member was involved in an off farm income generating activity during 2002/03

**Overview to section 3.0****Section 3.0 - Preliminary note**

1. Make sure that you define the hh properly to ensure that all the members of the hh are included. Make sure you stress that the hh is not just the hh heads direct family and that it includes other people living and eating together with the family.

2. If you notice that his house is large or you see many people around his house and he has only given you small number of hh members enquire further until you are sure that you have captured all the hh members.

**Procedures for questions****Section 3.0 - Household Information**

1. For each household member complete columns 1, 2 & 3.

2. After completing columns 1, 2 & 3 for each household member go back to the first household member and complete the remaining columns for that member.

3. Repeat step 2 for the rest of the household members

**IMPORTANT NOTE:**

Cross check responses in columns 11 and 12 with section 2 especially in relation to:

off-farm income - if a hh member was involved in off farm income then there should be a response in question 2.2.4 and vice versa.



**3.0 HOUSEHOLD INFORMATION**  
**3.1 Give details of personal particulars of all household members beginning with the head of the household**

S/N	Names of household members	Relationship to head	Sex M=1 F=2	Age (if age is above 99 years then write 99)	Survival of Parents		Not applicable for children under 5 years of age					
					Mother	Father	Read & Write	Education Status	Education Level reached	Involvement in farming	Main activity (for aged 5 & above)	Off-farm Income Yes=1 No=2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3.1.1	.....	1	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.2	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.3	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.4	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.5	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.6	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.7	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.8	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.9	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.10	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.11	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.12	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.13	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.14	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.15	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.16	.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Relation to head (Col 2)**

Head of household .....1

Spouse .....2

Son/daughter .....3

Father/Mother .....4

Grandson/granddaughter .....5

Other Relative .....6

Others .....8

**Education Status (Col 8)**

Attending School .....1

Completed .....2

Never attended School .....3

**Involvement in farming activities (Col 10)**

Works full time on farm ...1

Works part-time on farm 2

Rarely works on farm ...3

Never works on farm.....4

**Main activity (Col 11)**

Crop Farming .....01

Livestock Keeping/Herding...02

Livestock Pastoralism.....03

Fishing .....04

**Paid employment:**

- Government/parastatal ...05

- Private- NGO/mission/etc .06

**Self employed (non farming)**

- with employees .....07

- without employees .....08

Unpaid family helper (non agriculture) .....09

Not working & available.....10

Not working & unavailable...11

Housemaker/housewife .....12

Student .....13

Unable to work /too old/ Retired/sick/disabled).....14

Other .....98

**Survival of Parents (Col 5 & 6)**

Yes .....1

No .....2

Don't know .....3

**Read & Write (Col 7)**

Swahili .....1

English .....2

Swahili & English .....3

Any other language .....4

Don't Read/ Write .....5

**Education Level Reached (Col 9)**

**Primary Education**

Not of school age .....NA

Under Standard One ... 00

Standard One .....01

Standard Two .....02

Standard Three .....03

Standard Four .....04

Standard Five .....05

Standard Six .....06

Standard Seven .....07

Standard Eight .....08

Training after Primary Education .....09

Pre Form One .....10

**Secondary Education**

Form one .....11

Form two .....12

Form three .....13

Form four .....14

Form five .....15

Form six .....16

Training after Secondary Education .....17

University & other tertiary Education .....18

Adult Education .....19

Not applicable .....99



**Definition and working page for page 3****Question Specific Definitions****Section 4.1 - Land Access/Ownership**

**Lease/Certificate of Ownership** Area under lease/certificate of ownership refers to the area for which the household possesses a government issued leasehold title or certificate of ownership. The land will normally be officially surveyed and boundaries marked. This includes leased land bought from others where the lease/certificate of ownership has been transferred.

**Customary Law:** This refers to the land which the hh does not have an official government title to but its right of use is granted by the traditional leaders. This user-right agreement does not have to be granted directly by the village leaders as right of access may be passed on through heredity.

**Bought:** This refers to the area of customary land that has been bought from others. This land does not have an official title and therefore is not leasehold.

**Rented from others:** Land rented from others for Cash or for a fixed amount in crop produce (eg fixed number of bags at harvest).

**Borrowed:** Use granted by land owner free of charge. Land owner can either be a lease holder or has right of access through customary law.

**Share Cropping:** where the hh is permitted to use land which is then paid for from a percentage of the harvested crop.

**Section 5.0 Land Use**

- **Temporary crops:** are sown and harvested during the same agricultural year

- **Permanent crops:** are sown or planted once and then , they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., berries), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

- **Mixed Crops:** This is a mixture of two or more crops planted together and mixed in the same plot/field. The two crops can either be randomly planted together or they can be planted in a particular pattern eg intercropping (1 row of maize and 1 row of beans). A field that has been divided into plots for different crops is not mixed. This is further subdivided into:

**Permanent Mixed** -two or more permanent crops grown together,  
**Permanent/Temporary Mix** - permanent crop and annual crop together,  
**Temporary Mixed** - two or more temporary, annual crops grown together.

- **Pasture Land:** This is an area of owned/allocated land which is set aside for livestock grazing. It can be improved pasture where the farmer has planted grass, applied fertilizer or applied other production increasing technologies to improve the grazing. Or it can be rough pasture.

- **Fallow:** This is the area of land that is normally used for crop production, but is not used for crop production during a year or a number of years. This is normally to allow for self generation of fertility/soil structure and is often an integral part of the crop rotation system.

- **Natural Bush:** Land which is considered productive but is not under cultivation or used extensively for livestock production and has naturally growing shrubs and trees.

-**Planted trees:** Land which is used for planting trees for poles or timber

- **Unusable:** Land that is known to be non-productive for agriculture purposes

**Uncultivated Usable:** This is land that was not used for reasons other than fallow. The reasons could be lack of inputs/money/rainfall/etc

**Distance to fields (Q6.1):**

**-fields** A field is a contiguous piece of land holding which the farmer considers as a single entity. The field may be divided into plots for growing different crops. A holding may consist of one or more fields in different localities.

**Use of Communal Resources (Q6.2):**

**-Communal resources** - refers to the place on which all individual households can have access to. It is not individually owned or controlled by one hh.

**NOTE: The listed resources refers to communal resources and not those individually owned or part shared. The resource has to be freely accessible to the whole village**

**Overview to section 4****Section 4.0 - Preliminary note****Land Access/ Ownership**

Access/Ownership refers to the area utilized by the members of the household. This does not include communal land where the resources are shared between households. It does include official communal land that the hh has sole access to eg a plot for crop farming in the communal area.

**Procedures for Questions****Section 4.0 - Land Ownership**

1. Ask the respondent if he knows the total area of land the household has sole access to. If he knows make a note in the calculation space

2. Ask the respondent the area of the different land ownership categories the household has sole access to (Q4.1.1 to 4.1.7) and record in the appropriate spaces.

3. Add up the area of the different categories of land and compare it with the total area obtained in step 1 (if the respondent provided the information).

4. If the total area is different find out which one is correct and make amendments where appropriate.

**Section 5.0 - Land Use**

1. Ask the respondent the area of the different land use categories the household has sole access to (Q5.1.1 to 5.1.12) and record in the appropriate spaces.

2. Add up the area of the different categories of land and compare it with the total area obtained in section 4.0. The total area should be the same.

3. If the total area is different find out which one is correct and make amendments where appropriate.

**Section 6.2 Communal resources**

**Note:** the code "Not available" means that the resource does not exist. The code "Not Used" means that the resource does exist but is not used by the hh.



4.0 LAND ACCESS/OWNERSHIP/TENURE			
4.1 Details of area "owned" by the household in the 2002/03 agricultural year. Give area reported by the respondent in "acres".		Area in Acres	
4.1.1 Area Leased/Certificate of ownership	<input type="text"/>	<input type="text"/>	4.2 Was all land available to the hh used during 2002/03 (Yes=1, No=2) <input type="checkbox"/>
4.1.2 Area owned under Customary Law	<input type="text"/>	<input type="text"/>	
4.1.3 Area Bought from others	<input type="text"/>	<input type="text"/>	4.3 Do you consider that you have sufficient land for the hh (Yes=1, No=2) <input type="checkbox"/>
4.1.4 Area Rented from others	<input type="text"/>	<input type="text"/>	
4.1.5 Area Borrowed from others	<input type="text"/>	<input type="text"/>	
4.1.6 Area Share -cropped from others	<input type="text"/>	<input type="text"/>	4.4 Do any female members of the hh own or have customary right to land (Yes=1, No=2) <input type="checkbox"/>
4.1.7 Area under Other forms of tenure .....	<input type="text"/>	<input type="text"/>	
<b>Total area</b>		<input type="text"/>	<input type="text"/>

5.0 LAND USE			
5.1 Area operated by household under different forms of land use during 2002/03 agriculture year. Give area reported by the respondent in "acres".		Area in Acres	
5.1.1 Area under Temporary Mono-crops	<input type="text"/>	<input type="text"/>	Calculation area
5.1.2 Area under Temporary Mixed crops (eg Maize & beans)	<input type="text"/>	<input type="text"/>	
5.1.3 Area under Permanent Mono-crops	<input type="text"/>	<input type="text"/>	
5.1.4 Area under Permanent Mixed crops (eg bananas, coffee & trees)	<input type="text"/>	<input type="text"/>	
5.1.5 Area under Permanent/temporary mix (eg bananas & maize)	<input type="text"/>	<input type="text"/>	
5.1.6 Area under Pasture	<input type="text"/>	<input type="text"/>	
5.1.7 Area under Fallow	<input type="text"/>	<input type="text"/>	
5.1.8 Area under Natural Bush	<input type="text"/>	<input type="text"/>	
5.1.9 Area under Planted Trees	<input type="text"/>	<input type="text"/>	
5.1.10 Area Rented to others	<input type="text"/>	<input type="text"/>	
5.1.11 Area Unusable	<input type="text"/>	<input type="text"/>	
5.1.12 Area of Uncultivated Usable land (excluding fallow)	<input type="text"/>	<input type="text"/>	
<b>Total area</b>		<input type="text"/>	<input type="text"/>

**6.0 ACCESS AND USE OF RESOURCES**

**6.1 In the following table indicate the distance to the different fields used by the household**

S/N	Field Number	Distance (in kilometres) from field to:			Distance codes less than 100m .....1 between 2 and 3km ....6 between 100 and 300m .2 between 3 and 5km .....7 between 300 and 500m .3 between 5 and 10 km ..8 between 500 and 1km...4 Over 10 km .....9 between 1 and 2km .....5
		Homestead	Nearst road	Nearst Market	
6.1.1	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.2	2	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.3	3	<input type="text"/>	<input type="text"/>	<input type="text"/>	

**6.2 In the following table indicate the distance and use of the following communal resources**

S/N	Communal Resource	Distance to resource (km)		Main hh use	Instructions for distance to resource (Col 2 and 3): If under 1km, write 0 If above 1km round to whole numbers eg 1.5km= 2km, 1.25km= 1km
		dry season	wet season		
	(1)	(2)	(3)	(4)	
6.2.1	Water for humans	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>Main hh use (Col 4)</b> Home or farm Consumption/utilisation.....1 Sold to Neighbours.....2 Sold to trader on the farm.....3 Sold to village market .....4 Sold to local wholesale market.....5 Sold to major wholesale market .....6 Not used by household.....7 Not available .....8
6.2.2	Water for livestock	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.2.3	Communal Grazing	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.2.4	Communal Firewood	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.2.5	Wood for Charcoal	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.2.6	Building poles	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.2.7	Forest for bees (honey)	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.2.8	Hunting (animal products)	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.2.9	Fishing (Fish)	<input type="text"/>	<input type="text"/>	<input type="text"/>	

**Definitions and working page for page 4**  
Working table for the calculation of areas occupied by annual crop in a mixture

Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
Permanent crop 1			0.000		0
Permanent crop 2			0.000		0
Permanent crop 3			0.000		0
Permanent crop 4			0.000		0
<b>REMAINING AREA UNDER TEMPORARY CROPS</b>					
Temporary/permanent crop name 1					
Temporary/permanent crop name 2					
Temporary/permanent crop name 3					
<b>Total area check</b>					

**Instructions for calculating the area of mixed crops in a mixture.**

- A. If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS, and go to step 1 of these instructions.
- B. If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix, Step C.
- C. Number of trees method to calculate annual crop areas in a permanent-annual crop mix/ (from instructions for page 6) in column 'c'.
  - (i) list each of the permanent crops in column b and enter the ground area per acre for each permanent crop
  - (ii) obtain the number of permanent trees in the mix from the respondent and enter the number in column (iii) calculate the area occupied by each crop by multiplying column 'd' with column 'e' and sum these to obtain the total area of permanent crops in the mix.
  - (iv) subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the area under temporary crops.
- D. Proceed to step 1 to calculate the area under each temporary crop.

1. Enter the name of each annual crop in the mix & estimate the percentage of each crop.
2. Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.
3. After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 7.1 col 6.
4. Obtain an estimate of the planned area for each crop and enter it in column 5.
5. If the area harvested is different to the area planted estimate the harvest area.
6. Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with the norms given in the crop codes box. If it is excessively different check the area and the amount harvested.

**Land Clearing:** Refers to removing trees/bush/grass prior to ploughing

**Soil Preparation:** Refers to the seedbed preparation (ploughing, harrowing, etc)

**Planned Area:** Area in Acres the household planned to plant before the season started

**Actual Planted Area:** The area in Acres that household was able to plant.

**Area Harvested:** The area in Acres that produced a harvest. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/ets damage.

**Temporary/Annual Crop:** Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.

**Cash Crop Codes:**

Code	Crop
50	Cotton
51	Tobacco
53	Pyrethrum
62	Jute
19	Seaweed

**Crop Codes (Cereals / tubers/roots):**

Code	Crop
11	Maize
12	Paddy
13	Sorghum
14	Burush Millet
15	Finger Millet
16	Wheat
17	Barley
22	Sweet Potatoes
23	Irish potatoes
24	Yams
25	Cocoyams
26	Onions
27	Ginger

**Vegetable Codes:**

Co	Crop
-d1e	
86	Cabbage
87	Tomatoes
88	Spinach
89	Carrot
90	Chillies
91	Amaranths
92	Pumpkins
93	Cucumber
94	Egg Plant
95	Water Melon
96	Cauliflower

**Crop Codes**

**Legumes Oil & fruit**

Code	Crop
31	Beans
32	Cowpeas
33	Green gram
35	Chick peas
36	Bambara nuts
37	Field peas
41	Sunflower
42	Simsim
43	Groundnut
47	Soyabean
48	Caster seed

**REMAINING AREA UNDER TEMPORARY CROPS**

Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
Permanent crop 1			0.000		0
Permanent crop 2			0.000		0
Permanent crop 3			0.000		0
Permanent crop 4			0.000		0
<b>REMAINING AREA UNDER TEMPORARY CROPS</b>					
Temporary/permanent crop name 1					
Temporary/permanent crop name 2					
Temporary/permanent crop name 3					
<b>Total area check</b>					







**Definitions and working page for page 5**  
Working table for the calculation of area occupied by annual crop in a mixture

Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
Permanent crop 1			0.000		0
Permanent crop 2			0.000		0
Permanent crop 3			0.000		0
Permanent crop 4			0.000		0

Total Area of permanent crops in mix: 0

**REMAINING AREA UNDER TEMPORARY CROPS**

Permanent/Temporary crop name 1	Temp crop's Temp. crop area
Permanent/Temporary crop name 1	
Permanent/Temporary crop name 2	
Permanent/Temporary crop name 3	
<b>Temporary crop total check</b>	

Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
Permanent crop 1			0.000		0
Permanent crop 2			0.000		0
Permanent crop 3			0.000		0
Permanent crop 4			0.000		0

Total Area of permanent crops in mix: 0

**REMAINING AREA UNDER TEMPORARY CROPS**

Temporary/permanent crop name 1	Temp crop's Temp. crop area
Temporary/permanent crop name 1	
Temporary/permanent crop name 2	
Temporary/permanent crop name 3	
<b>Temporary crop total check</b>	

**Land Clearing:** Refers to removing trees/bush/grass prior to ploughing

**Soil Preparation:** Refers to the seedbed preparation (ploughing, harrowing, etc)

**Planned Area:** Area in Acres the household planned to plant before the season started

**Actual Planted Area:** The area in Acres that the household was able to plant.

**Area Harvested:** The area in Acres that the household got most of its production from. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/ etc damage

Crop Codes (Cereals / tubers/roots):	Vegetable Codes:	Crop Codes (Legumes Oil & fruits)
Code Crop	Code Crop	Code Crop
11 Maize	27 Ginger	31 Beans
12 Paddy	86 Cabbage	32 Cowpeas
13 Sorghum	87 Tomatoes	33 Green gram
14 Bahush Millet	88 Spinach	35 Chick peas
15 Finger Millet	89 Carrot	36 Bambara nuts
16 Wheat	90 Chillies	37 Field peas
17 Barley	91 Amaranths	41 Sunflower
22 Sweet Potatoes	92 Pumpkins	42 Simsim
23 Irish potatoes	93 Cucumber	43 Groundnut
24 Yams	94 Egg Plant	47 Soybeans
25 Cocoyams	95 Water Melon	48 Caster seed
26 Onions	96 Cauliflower	
27 Ginger	20 Garlic	

**Temporary/Annual Crop:** Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.

**Cash Crop Codes:**

Code Crop	50 Cotton
51 Tobacco	53 Pyrethrum
62 Jute	19 Seaweed

**Instructions for calculating the area of mixed crops in a mixture.**

A. If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS, and go to step 1 of these instructions.

B. If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix (Step C).

C. Number of trees method to calculate annual crop areas in a permanent annual crop mix

- list each of the permanent crops in column 'b' and enter the ground area per acre for each permanent crop (from instructions for page 6) in column 'd'.
- obtain the number of permanent trees in the mix from the respondent and enter the number in column 'c'.
- calculate the area occupied by each crop by multiplying column 'd' with column 'c' and sum these to obtain the total area of permanent crops in the mix.
- subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the area under temporary crops.
- proceed to step 1 to calculate the area under each temporary crop.

Enter the name of each annual crop in the mix & estimate the percentage of each crop.

Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.

- After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 2.1 col 6.
- Obtain an estimate of the planned area for each crop and enter it in column 5
- If the area harvested is different to the area planted estimate the harvest area
- Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with norms given in the crop codes box. If it is excessively different check the area and the amount harvested.





### Definitions and working page for page 6

#### Permanent Crop:

Permanent crops: are sown or planted once and then, they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., bamboo), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

#### Total number of plants:

This includes both mature harvestable plants and immature non harvestable plants.

#### Number of mature plants: This is the number of plants which bore harvest.

#### Instructions for Permanent crop mono stands and mixtures

- A. For fields that are monocrop permanent, ONLY enter the area of plants in column 3.
- B. For fields that are mixed permanent, calculate the area of each crop based on the % occupied by each crop method (NOT using the number of trees method) and ONLY enter the area in column 4.
- C. For fields that are mixed permanent/annual either:  
- ONLY enter the area in column 4 if the area of the permanent crop was based on the % occupied by each crop method

#### OR

- ONLY enter the number of trees in column 5 if the number of permanent crop plants was provided

#### Permanent crops (oil):

Code	Crop	Ground area/plant
44	Palm Oil	0.00046
45	Coconut	0.00037
46	Cashewnut	0.00062

#### Permanent (Cash crops)

Code	Crop	Ground area/plant
53	Sisal	0.00012
54	Coffee	0.00049
55	Tea	0.00037
56	Cocoa	0.00049
57	Rubber	0.00099
58	Wattle	0.00099
59	Kapok	0.00124
60	Sugar Cane	0.00012
61	Cardamom	0.00049
63	Tamarind	0.00099
64	Cinnamon	0.00124
65	Nutmeg	0.00099
66	Clove	0.00074
18	Black Pepper	0.00037
34	Pigeon pea	0.00025
21	Cassava	0.00019
75	Pinapple	0.00006

#### Permanent Crops:

Code	Crop	Ground area/plant
70	Passion Fruit	0.00074
71	Banana	0.00037
72	Avocado	0.00099
73	Mango	0.00099
74	Papaw	0.00037
75	Orange	0.00074
76	Grapefruit	0.00074
77	Grapes	0.00012
78	Mandarin	0.00074
80	Gueva	0.00074
81	Plums	0.00074
82	Apples	0.00074
83	Pears	0.00074
84	Peaches	0.00074
85	Lime/Lemon	0.00074
88	Pomeio	0.00099
68	Jack fruit	0.00074
97	Durian	0.00074
98	Billmbi	0.00074
99	Rambutan	0.00074
67	Bread fruit	0.00099
36	Malay apple	0.00074
39	Star fruit	0.00074

Working Area/calculation space





Definition and working page for page 7					
Temporary/annual crop codes for section 7.4 col 2					
Crop Code	Crop Name	Secondary Product Question 7.4	Agroprocessing & bi-products		
			Main Products (Section 8.0)	Bi-product (Sect 8.0)	
			1	2	
11	Maize	Stems/straw	Flour	Bran	
12	Paddy	Stems/straw	polished rice grain	husk	
13	Sorghum	Stems/straw	flour		
14	Bulrush Millet	Stems/straw	flour		
15	Finger Millet	Stems/straw	flour		
16	Wheat	Stems/straw	flour	Bran	
17	Barley	Stems/straw	flour	Bran	
21	Cassava	Leaves/stems	flour		
22	Sweet Potatoes	Leaves			
23	Irish potatoes				
24	Yams				
25	Cocoyams				
26	Onions				
27	Ginger				
31	Beans	straw/stems			
32	Cowpeas	straw			
33	Green gram	straw			
34	Pigeon peas	stems			
35	Chick peas	straw			
36	Bambara nuts	straw/stems	oil	cake	
41	Sunflower	Stems	oil	Cake	
42	Sesim	straw	oil	Cake	
43	Groundnut	straw	oil	Cake	
47	Soya beans	straw	oil	Cake	
48	Caster seed	straw	oil	Cake	
75	Pineapple	J	juice		
50	Cotton	straw	fibre/seed	oil	cake
51	Tobacco				
53	Pyrethrum	straw	Insecticide		
62	Jute		fibre		
86	Cabbage				
87	Tomatoes				
88	Spinach				
89	Carrot				
90	Chillies	d	red powder		
91	Amarantha				
92	Pumpkins	leaves			
93	Cucumber				
94	Egg Plant				
95	Water Melon				
96	Cauliflower				
44	Oil Palm	leaves	oil outer	oil inner	cake
45	Coconut	leaves/husk	milk		
46	Cashewnut	Fruit	fruit juice	shell liquid	
52	Sisal	stems	fibre	oil	
54	Coffee	stems	beans	husks	
55	Tea	stems			
56	Cocoa	stems	cocoa	cocoa butter	
57	Rubber	stems			
58	Wattle	stems			
59	Kapok	stems			
60	Sugar Cane		sugar/juice	molasses	ethanol
61	Cardamom				
71	Banana	leaves/stems	Juice		
72	Avocado	stems			
73	Mango	stems	Juice		
74	Paw paw		Juice		
76	Orange	stems	Juice		
77	Grape fruit	stems	Juice		
78	Grapes	stems	Juice		
79	Mandarh	stems	Juice		
80	Guava	stems			
81	Plums	stems			
82	Apples	stems			
83	Pears	stems			
84	Pitches	stems			
85	Lime/Lemon	stems	Juice		

**General Definition for Section 7.4**

**Secondary Products:** Second most important product from a crop. Eg a household may consider the grain from maize as the primary product and the stems/straw as the secondary product.

**Note:** Secondary products are NOT the same as bi-products. By-products are the result of a processing activity and are dealt with in section 8.0.

**Procedures for Questions**

**Q 7.6 Details of Secondary Products:**

- From the list of crops in Q 7.1.2, 7.2.2 & 7.3.2, ask the respondent if the hh used any secondary products. List the crop names and codes in column 1 and 2 for those crops that the hh used secondary products.
- For the listed crops give details of the secondary products used.
- If no units were sold, enter "0" in columns 8 & 9.

**Q 8.0 Agroprocessing & bi-products:**

- From the list of crops in Q 7.1.2, 7.2.2 & 7.3.2, ask the respondent if the hh processed any of these crops during the 2002/03 agriculture year. List the crop names and codes in column 1 and 2 for those crops that were processed by the hh.
- For the listed crops give details of the secondary crops used.
- If no main product or bi-product was sold enter "0" in columns 8 & 14.
- If no bi-product was produced enter "0" in columns 10, 11, 12, 13 & 14.

**Question Specific Definitions**

**Agroprocessing and bi-products (Q 8.2)**  
(Note: Agroprocessing refers to the processing of crops for hh utilisation and for sale)

**Main Product (Col 5):**  
Main Product after processing. Eg for Paddy it may be the polished grain. For Maize it may be flour.

**Bi-Product code (Col 11):** is the secondary residue after processing, eg for rice it may be the husk. for maize it may be the bran.

**Mainly used for (Col 5 & 11):**  
- Consumed by household can mean eaten or utilised in another way (eg by animals) by the hh.

**7.4 Main use of Secondary Products**

7.5 Did you use Secondary Products from any of your crops during the 2002/03 year. (Yes=1, No=2)

*If the response is 'NO' go to section 8.0*

7.6 List the main crops with secondary products and provide the following details:

S/N	Crop name	Crop Code	Secondary product	Prod code	Used for	Unit	Total no of Units	No of units sold	Total value of sold units (Tsh.)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.6.1	.....		.....						
7.6.2	.....		.....						
7.6.3	.....		.....						
7.6.4	.....		.....						
7.6.5	.....		.....						
7.6.6	.....		.....						

**Main product (Col 4)**

Green leaves & Stem...1 Flower...4  
 Straw, dry stems etc...2 Fruit...5  
 Root, tuber, etc...3 Other...8

**Mainly used for (Col 5)**

Feeding to livestock...1 Consumed by hh...4  
 Building material...2 Sold...5  
 Fuel for cooking...3 Did not use...6

**Unit (Col 6)**

Loose Bundle/bunch...1 kg...5  
 Compressed bunch/Bail...2 Stems...6  
 Tin...3 Sack...7  
 Bucket...4 Other...8

**8.0 AGROPROCESSING AND BY-PRODUCTS**

8.1 Did the household process any of the products harvested on the farm during 2002/03 (Yes=1, No=2)

*If the response is 'NO' go to section 9.0*

8.2 List the main crops processed and provide the following details:

S/N	Crop name	Crop Code	Proc-ess-ed	Main Prod-uct code	Used for	Unit	Quantity of main product	Quantity Sold	Where sold	By-Prod-uct code	Used for	Unit	Quantity of by-product	Quantity Sold
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8.2.1	.....													
8.2.2	.....													
8.2.3	.....													
8.2.4	.....													
8.2.5	.....													
8.2.6	.....													

**Processed (Col 3)**

On farm by hand...1  
 On farm by machine...2  
 By neighbours machine...3  
 By farmers association...4  
 By Cooperative union...5  
 By trader...6  
 On Large scale farm...7  
 By factory...9  
 Other...8

**Main product code (Col 4)**

Flour/meal...1  
 Grain...2  
 Oil...3  
 Juice...4  
 Fiber...5  
 Pulp...6  
 Sheet...7  
 Other...8

**Used for (Col 5 & 11)**

Household/human consumption...1  
 Fuel for cooking...2  
 Sale...3  
 Animal consumption...4  
 Did not use...5  
 Other...8

**Unit (Col 6 & 12)**

Loose bundle/bunch...1  
 Compressed bunch/bail...2  
 Tin...3  
 Bucket...4  
 kg...5  
 litre...6  
 Other...8

**Where sold (Col 9)**

Neighbour...1  
 Local market/trade store...2  
 Secondary Market...3  
 Marketing Coop...4  
 Farmer Association...5  
 Largescale farm...6  
 Trader at farm...7  
 Did not sell...8  
 Other...8

**By-product code (Col 10)**

Bran...01  
 Cake...02  
 Husk...03  
 Juice...04  
 Fiber...05  
 Pulp...06  
 Oil...07  
 Shell...08  
 Other...98



Definition and working page for page 8	
<p><b>Question Specific definitions (Section 9.0)</b>  <b>Crop Storage, Section 9</b></p> <p><b>Method of Storage (column 4)</b></p> <ul style="list-style-type: none"> <li>- <b>Locally made structure:</b> The structures that have been inherited from their fore fathers</li> <li>- <b>Improved locally made structure:</b> Traditional structures that have been improved using modern technology.</li> <li>- <b>Normal duration of storage:</b> Often there are stored stocks from different seasons and different years. The normal duration refers to the number of months that the most of the crop is stored for.</li> </ul>	<p><b>Procedures for Questions</b></p> <p><b>Q 9.2 Details of Crop Storage:</b></p> <ol style="list-style-type: none"> <li>1. For the crops listed indicate if the household stored any during 2002/03 in column 2.</li> <li>2. Check that the crops correspond to the crop lists in Q 7.1.2, 7.2.2 &amp; 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments</li> <li>3. For the listed crops give details of storage.</li> </ol>
<p><b>Marketing problems Q 10.2 and 10.3 col 2:</b></p> <ul style="list-style-type: none"> <li>- <b>Farmer Association:</b> A village or community based group of farmers who have formed an organisation to purchase inputs/sell/store their products in order to achieve a better price for their products.</li> <li>- <b>Cooperative Union:</b> Large inter-village /community organisation set up on a district/regional or national basis for providing inputs, marketing and storing farmers products.</li> <li>- <b>Government Regulatory board:</b> Government control body for setting prices and controlling quality of certain agriculture commodities.</li> </ul>	<p><b>Q 10.2 Details on Crop Marketing:</b></p> <ol style="list-style-type: none"> <li>1. For each of the crops listed indicate the main problems in marketing during 2002/03 in column 2.</li> <li>2. Check if the crops correspond to the crop lists list in Q 7.1.2, 7.2.2 &amp; 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments</li> </ol> <p><b>Q 10.3 Ranking of market problems:</b></p> <p>Rank in order of importance the 5 most important marketing problems from the codes in the Market Problems code box.</p>
<p><b>Working Area/calculation space</b></p>	

**9.0 CROP STORAGE**

9.1 Did the household store any crops during the 2002/03 agriculture year? (Yes =1, No=2)   
 If the response is 'NO' go to section 10.0

9.2 For each of the listed crops provide the following details on storage

S/N	Crop Name	Stored Y=1 No=2	Current Quantity Stored (kg)	Method of Storage	Normal duration of storage	Main pur- -pose	Estimate Storage loss
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
9.2.1	Maize	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.2	Paddy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.3	Sorghum/Millet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.4	Beans, peas, etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.5	Wheat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.6	Coffee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.7	Cashewnut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.8	Tobacco	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.9	Cotton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.10	Groundnuts/bambara	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Main method of Storage (Col 4)**  
 In locally made traditional structure ..1  
 In Improved locally made structure ..2  
 In modern store .....3  
 In Sacks/open drum .....4  
 In airtight drum .....5  
 Unprotected pile .....6  
 Other .....8

**Duration of Storage (Col 5)**  
 Less than 3 months .....1  
 Between 3 and 6 months .....2  
 Over 6 months .....3

**Main purpose of storage (Col 6)**  
 Food for the household .....1  
 To sell for higher price .....2  
 seed for planting .....3  
 Other .....8

**Storage loss (Col 7)**  
 Little or no loss .....1  
 Up to 1/4 loss .....2  
 Between 1/4 and 1/2 loss ..3  
 Over 1/2 loss .....4

**10.0 MARKETING**

10.1 Did the household sell any crops from the 2002/03 agriculture year? (Yes=1, No=2)   
 (If the response is 'YES' or 'NO' go to section 10.2)

10.2 For each of the following crops what was the main marketing problem faced by the household during 02/03

Crop	Main problem	Crop	Main problem
(1)	(2)	(1)	(2)
10.2.1 Maize	<input type="checkbox"/>	10.2.9 Vegetables	<input type="checkbox"/>
10.2.2 Rice	<input type="checkbox"/>	10.2.10 Tree Fruits	<input type="checkbox"/>
10.2.3 Sorghum/millet	<input type="checkbox"/>	10.2.11 Cashewnut	<input type="checkbox"/>
10.2.4 Wheat	<input type="checkbox"/>	10.2.12 Cotton	<input type="checkbox"/>
10.2.5 Beans, peas etc	<input type="checkbox"/>	10.2.13 Tobacco	<input type="checkbox"/>
10.2.6 Cassava	<input type="checkbox"/>	10.2.14 Groundnuts/bambara	<input type="checkbox"/>
10.2.7 Bananas	<input type="checkbox"/>	10.2.15 Trees/timber/poles	<input type="checkbox"/>
10.2.8 Coffee	<input type="checkbox"/>	10.2.16 Fish	<input type="checkbox"/>

10.3 From the list of marketing problems below, for all produce rank the five most important problems

	1	2
10.3.1 Biggest problem	<input type="checkbox"/>	<input type="checkbox"/>
10.3.2 2nd problem	<input type="checkbox"/>	<input type="checkbox"/>
10.3.3 3rd problem	<input type="checkbox"/>	<input type="checkbox"/>
10.3.4 4th problem	<input type="checkbox"/>	<input type="checkbox"/>
10.3.5 5th problem	<input type="checkbox"/>	<input type="checkbox"/>

**Market problems (Q10.2 & 10.3 (Col 2))**  
 Open market price too low .....01    Market too far .....05    Government Regulatory board problems .....09  
 No transport .....02    Farmer association problems .....06    Lack of market information .....10  
 Transport cost too high .....03    Cooperative Problems .....07    Other (specify) .....98  
 No buyer .....04    Trade Union problems .....08    Not Applicable .....99

10.4 What was the main reason for not selling crops during 2002/03 year .....

**Reason for not selling crops (Q10.4)**  
 Price too low .....1    Farmer association problems .....4    Government regulatory board problems .....7  
 Production insufficient to sell .....2    Cooperative Problems .....5    Other (specify) .....8  
 Market too far .....3    Trade Union problems .....6    Not Applicable .....9



Definition and working page for page 9	
<b>Overview of Investment activities (Section 11.0)</b>	
<b>Investment activities:</b> Investment activities refer to medium to long term farm development structures and projects. This can be irrigation structures, erosion and water harvesting structures or other permanent or semi-permanent investment made on the land that the household owns.	
<b>Question Specific Definitions (Q 11.1)</b>	
<b>Source of Irrigation Water (Col 1):</b> The main source of water from which water is obtained for irrigation.  <b>Method of obtaining water (Col 2):</b> The mechanism by which the water is extracted from the source.  <b>Application Method (Col 3):</b> How the water is applied on the field. - Flood - is the application of water down the slope of the land by means of gravity - Sprinkler - is the application of pressurised water through pipes. The water passes through a device which sprays the water onto the crop from above.  <b>Irrigatable Area (Col 4):</b> The area the irrigation system is designed to cover in acres.  <b>Area of irrigated land this year (Col 5):</b> Area of land under irrigation during the 2002/03 agric year. This is the physical area and NOT the cumulative area of 2 or more croppings.	<b>Q 11.1 Irrigation</b>  1. If the hh practices irrigation give details on the main source, main method of obtaining and applying water.  2. Cross check column 8, Q 7.1.2, 7.2.2 & 7.3.2 to check if irrigation was used on any crops.
<b>Question Specific Definitions (Q 11.3)</b>	
<b>Erosion control/water harvesting structure (Col 1)</b>  <b>Terraces:</b> Are structures constructed on the side of a hill to provide a level ground to plant crops. They are often used to trap water for paddy/fowland rice production.  <b>Erosion Control Bunds:</b> These are banks of earth/stones built perpendicular to the slope to slow down water and prevent erosion. They are different to Terraces in that the soil behind the banks are not level.  <b>Gabions:</b> A gabion is a wire mesh box filled with rocks/stones and used to control or prevent gully erosion  <b>Sandbags:</b> Used to prevent or control gully erosion  <b>Tree belts/Wind breaks:</b> A band of trees planted perpendicular to the prevailing wind whose main purpose is to slow down wind speed  <b>Water Harvesting bunds:</b> A bank of earth constructed horizontal to the slope of the land to trap water. They are usually banana shaped.  <b>Dam:</b> A bank of earth/material which traps river water to form a catchment of water behind it.	<b>Q 11.3 erosion control/water harvesting</b>  1. Number of structures refers to the number of working/maintained structures and does not include derelict or irreparable structures.  2. Year of construction refers to the year that the structures were first constructed. It is not the year that the structures were last maintained.
<b>Farm Inputs (Q 12.1.1 to 12.1.7)</b>	
<b>Farm yard Manure:</b> An organic fertiliser made on farm composed of animal dung.  <b>Compost:</b> An organic fertiliser made on farm from decomposed plant material  <b>Pesticide:</b> Chemical used to either protect the plant from or kill insects, birds, molluscs, mites, etc attacking the plant.  <b>Fungicide:</b> is a chemical that is used to protect the plant from or control a fungal disease.  <b>Herbicide:</b> A chemical used to control weeds.	<b>Q 12.0 Farm Inputs</b>  1. Indicate in column 1 whether each of the inputs are used or not.  2. Complete cols 3, 4, 6, and 7 for inputs that are used and place '9' in column 5 (for not applicable).  3. Complete cols 5 & 7 for inputs not used.  <b>NOTE:</b> Cross check column 8, 7, 8 & 9, Q 7.1.2, 7.2.2 & 7.3.2 to check what inputs were used.



11.0 ON-FARM INVESTMENT						
11.1 Does the household practice irrigation (Yes=1, No=2)					<input type="checkbox"/>	
<i>If the response is 'NO' go to section 11.3</i>						
S/N	Source of irrigation water	Method of obtaining water	Method of application	Irrigatable area (acres)	Area of irrigated land this year (acres)	
	(1)	(2)	(3)	(4)	(5)	
11.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/> - <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
<b>Source of irrigation water (Col 1)</b> River .....1 Borehole .....5 Lake .....2 Canal .....6 Dam .....3 Tap Water .....7 Well .....4		<b>Method of obtaining water (Col 2)</b> Gravity .....1 motor pump ..... Hand bucket .....2 Other .....8 Hand pump .....3		<b>Method of application (Col 3)</b> Flood .....1 Sprinkler .....2 water hose .....3 Bucket/watering can .....4		
11.2 Does the household have any erosion control/water harvesting facilities on their land (Yes=1, No=2)					<input type="checkbox"/>	
<i>If the response is 'NO' go to section 12.0</i>						
S/N	Type of erosion control/water harvesting structure	Number of structures	Year of construction	Type of erosion control/water harvesting structure	Number of structures	Year of construction
	(1)	(2)	(3)	(1)	(2)	(3)
11.2.1	Terraces	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.5	Tree belts	<input type="text"/> <input type="text"/>
11.2.2	Erosion control bunds	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.6	Water harvesting bunds	<input type="text"/> <input type="text"/>
11.2.3	Gabions/Sandbags	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.7	Drainage ditches	<input type="text"/> <input type="text"/>
11.2.4	Vetiver Grass	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	11.2.8	Dam	<input type="text"/> <input type="text"/>

12.0 ACCESS TO FARM INPUTS AND IMPLEMENTS									
12.1 Give details of farm inputs used during the 2002/03 agriculture year									
S/N	Input name	Used Yes=1 No=2	Source	Distance to Source	Source of Finance	Reason for not using	Quality of Input	Plan to use next year Yes=1, No=2	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
12.1.1	Chemical Fertiliser	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.2	Farm Yard Manure	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.3	Compost	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.4	Pesticide/fungicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.5	Herbicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.6	Improved Seeds	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.7	Other .....	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Source (Col 3)</b> Cooperative .....01 Local farmers group .....02 Local market/Trade Store ...03 Secondary Market .....04 Development project .....05 Crop buyers .....06 Large scale farm .....07 Locally produced by hh .....08 Neighbour .....09 Other (specify) .....98 Not applicable .....99		<b>Distance to source (Col 4)</b> Less than 1 Km .....1 Between 1 and 3km .....2 between 3 and 10 km...3 Between 10 and 20 km ...4 20km and above .....5 not applicable .....9		<b>Source of finance (Col 5)</b> Sale of farm products .1 Other income generating activities ....2 Remittances .....3 Bank Loan/Credit.....4 produced on farm .....5 Other .....8 Not applicable .....9		<b>Reason for not using (Col 6)</b> Not available ..... 1 Price too high ..... 2 No money to buy .....3 Too much labour required.4 Do not know how to use.....5 Input is of no use .....6 Locally produced by hh .....7 Other .....8 Not applicable .....9		<b>Quality of Input (Col 7)</b> Excellent ..... 1 Good .....2 Average .....3 Poor .....4 Does not work 5 not applicable...9	

Definition and working page for page 10	
<p><b>Question Specific Definitions (Q 12.2)</b></p> <p><b>Farm Implements (Col 1):</b></p> <p><b>Hand powered Sprayer:</b> Knapsack or bicycle pump sprayer</p> <p><b>Reason for not using (Col 6):</b> Be careful about using "too much labour required" as this code generally refers to hand hoes only. The codes for this should "NOT" be read out to the farmer as a prompt.</p> <p><b>Note:</b> If remittance is given as the main source of finance check for a response to remittances in question 2.2.5</p>	<p><b>Procedures for questions</b></p> <p><b>Q 12.0 Farm Inputs</b></p> <ol style="list-style-type: none"> <li>1. Indicate in column 2 and 3 whether each of the implements were used or not.</li> <li>2. Complete cols 4, 5, 6, and 8 for inputs that are used and place '9' in column 7 (for not applicable).</li> <li>3. Complete cols 7 &amp; 8 for inputs not used.</li> </ol>
<p><b>Question Specific Definitions (Q 13.0)</b></p> <p><b>Section 13.0 Credit for Agriculture Purposes</b></p> <p>Credit is defined as finance in the form of cash or in-kind contributions (eg direct provision of inputs, machinery, livestock or other material) for the purpose of crop and livestock production whereby the value of the credit must be paid back to the borrower. The value of repayment may either be with interest or interest free.</p> <p>Credit may be paid back in the form of cash or agriculture produce.</p>	<p><b>Section 13.2 Source of agriculture credit</b></p> <p>If the farmer obtained credit from more than one source then use the columns "a", "b" and "c" for the different sources of credit. Start with the main source of credit in column "a".</p> <p><b>NOTE:</b> Check for use of inputs in column 7, 8 &amp; 9 of questions 7.1.2, 7.2.2 &amp; 7.3.2.</p>
<p><b>Section 13.0 Credit for Agriculture Purposes</b></p> <p><b>Value of credit:</b> is the amount in cash received from the borrower. If the credit was paid in-kind, estimate the value of this.</p> <p><b>Value of repayment:</b> This is the amount to be repaid to the borrower and includes the principal amount (value of credit) plus any interest repayment. If the credit is paid back in agriculture produce, then the cash value of this must be estimated.</p> <p><b>Period of repayment:</b> This is the time in months the borrower has given for full repayment.</p>	
<p><b>Working Area/calculation space</b></p>	

12.2 Give details of farm implements and assets used and owned by the household during 2002/03 agriculture year								
S/N	Equipment/Asset Name	Number		Used in 2002/03 Yes 1, No=2	Source of Equip-ment	Source of Fin-ance	Reason for not using	Plan to use next year Yes=1, No=2
		Owned	rent-ed					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12.2.1	Hand Hoe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.2	Hand Powered Sprayer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.3	Oxen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.4	Ox Plough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.5	Ox Seed Planter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.6	Ox Cart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.7	Tractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.8	Tractor Plough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.9	Tractor Harrow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2.10	Shellers/threshers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<b>Source of equipment (Col 5)</b> Neighbour.....1    Development project.....5 Cooperative.....2    Government.....6 Local farmers association.....3    Large scale farm.....7 market/Trade store.....4    Other (specify).....8			<b>Source of finance (Col 6)</b> Sale of farm products.....1 Other income generating activities.....2 Remittances.....3 Bank Loan.....4 Credit.....5 Other.....8 Not applicable.....9		<b>Reason for not using (Col 7)</b> Not available.....1 Price too high.....2 No money to buy/rent.....3 Too much labour required.....4 Equipment/Asset of no use...5 Other.....8 Not applicable.....9	
<b>13.0 USE OF CREDIT FOR AGRICULTURE PURPOSES</b>								
13.1	During the year 2002/03 did any of the hh members borrow money for agriculture (Yes = 1, No = 2)							<input type="checkbox"/>
<i>(if the response is 'NO' go to section 13.3)</i>								
13.2	Give details of the credit obtained during the agricultural year 2002/03 <i>(if the credit was provided in kind, for example by the provision of inputs, then estimate the value in 13.2.9)</i>							
	use codes to indicate source	Source "a"	Source "b"	Source "c"				
	Provided to Male = 1, Female 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		tick the boxes below to indicate the use of the credit	tick the boxes below to indicate the use of the credit	tick the boxes below to indicate the use of credit				
13.2.1	Labour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.2	Seeds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.3	Fertilisers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.4	Agrochemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.5	Tools/equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.6	Irrigation structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.7	Livestock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.8	Other .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13.2.9	Value of Credit (Tsh)	<input type="text"/>	<input type="text"/>	<input type="text"/>				
13.2.10	Value of repayment (Tsh)	<input type="text"/>	<input type="text"/>	<input type="text"/>				
13.2.11	Period of repayment (months)	<input type="text"/>	<input type="text"/>	<input type="text"/>				
<b>Source of credit (Q 13.2-a, b and c)</b> Family, friend or relative...1    Commercial Bank.....2    Cooperative.....3    Savings & credit Soc.....4 Trader/trade store.....5    Private individual.....6    Religious Organisation/NGO/Project...7    Other (Specify).....8								
13.3	If the answer to question 13.1 above is 'NO' what is the reason for not using Credit?							<input type="checkbox"/>
<b>Reason for not using credit (Q13.3)</b> Not needed...1    Not available...2    Did not want to go into debt...3    Interest rate/cost too high...4 Did not know how to get credit...5    Difficult bureaucratic procedure...6    Credit granted too late...7    Other (specify)...8    Dont know about credit...								



Definition and working page for page 11	
<p><b>General Definitions for section 14.0</b></p> <p><b>Tree Farming/Agroforestry</b></p> <p>This section refers to trees planted for wood (firewood, poles, planks, carving, charcoal, medicinal, etc, but NOT fruit trees). It does not include naturally growing trees on the farm (unless special care has been given to promote their establishment) or trees growing naturally on the communal areas.</p> <p><b>Tree farming</b> is the planting of trees on an area of land for which the main purpose is the production and regeneration of trees for wood on that land.</p> <p><b>Agroforestry:</b> is the planting of trees on land for the purpose of complementing other farming activities like crop and animal production. For the purpose of this questionnaire Agroforestry trees are trees planted on boundaries and scattered throughout fields. The main productive unit in this case is Crops and Livestock.</p>	<p><b>Section 14.2 Details of planted trees</b></p> <ol style="list-style-type: none"> <li>1. Enter the tree codes of the main species grown by the hh</li> <li>2. If no planks or poles are sold enter a "0" in columns 8, &amp; 9.</li> <li>3. Total value includes both value of hh utilised trees and sold trees.</li> <li>4. If no trees were utilised by the hh or sold enter "0" in column 10</li> </ol>
<p><b>Question Specific Definitions</b></p> <p><b>Tree farming (Section 14.0)</b></p> <p><b>Pole trees (Col 6):</b> These are young trees which have a maximum diameter of 6 inches at the bottom and are often used for house construction. They are often the thinning harvest after 3 - 5 years.</p> <p><b>Plank trees (Col 7):</b> Trees for sawing into timber planks.</p> <p><b>Animal shade:</b> Trees grown for the purpose of providing shade to animals.</p>	<p><b>Section 15.1 Crop Extension Services</b></p> <ol style="list-style-type: none"> <li>1. For each of the extension providers ask if the hh received extension during 2002/2003 agriculture year and indicate in column 2.</li> <li>2. For each of the providers complete the rest of the columns</li> </ol>
<p><b>Community tree planting scheme (Section 14.3)</b></p> <p><b>Community Forest:</b> A forest planted on the communal land which is planted, replanted or spot planted by the members of the village.</p>	
<p><b>Crop Extension Services (Section 15.1)</b></p> <p><b>Contact Farmer:</b> A farmer who is used by the extension agent as a focal point to demonstrate new interventions. The contact farmer then passes on the message to other farmers</p> <p><b>Group member:</b> Member of a group under which the contact farmer leads</p> <p><b>Adoption:</b> This is the uptake of an intervention for 2 or more years</p>	

Tree Name Guide Col 1

Code	Local Name	Botanical Name	English Name
01		<i>Senna siamea</i>	Cassod tree
02	Msongorna	<i>Gravellia</i>	Silver oak
03	Mbarika	<i>Azela quanzensis</i>	Pod mahogany
04	Mikeshia	<i>Acacia spp</i>	Umbrella thorn
05	Msindano	<i>Pinus spp</i>	Pine
06	Mikaratusi	<i>Eucalyptus spp</i>	Red River Gum
07		<i>Cyprus spp</i>	Cyprus tree
08	Mitondoo	<i>Calophyllum inophyllum</i>	
09	Mvule	<i>Melicia excelsa</i>	Iroko
10	Mvinji	<i>Casurina equisetifolia</i>	Whistling oak
11	Msaji	<i>Tectona grandis</i>	Teak
12	Mkungu we kienyeji	<i>Terminalia catapa</i>	Sea almond
13	Mkungu India	<i>Terminalia ivorensis</i>	Black afara
14	Muhumula	<i>Maesopsis berchemoides</i>	
15			

Code	Local Name	Botanical Name	English Name
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

**14.0 TREE FARMING/AGROFORESTRY**

14.1 Did your household have any **Planted Trees** on your land during 2002/03 agric year? (Yes =1, No=2)   
 If the response is 'NO' go to section 14.3

14.2 Give details of the planted trees you have on your land.

S/N	Tree Code	Number of trees	When planted	Main Use	Secondary Use	Number of Plank trees Sold	Number of Pole trees Sold	hh utilised		Total Value (Tsh.)
								Poles	Timber	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
14.2.1										
14.2.2										
14.2.3										
14.2.4										

**Where Planted (Col 3)**  
 Mostly on field/plot boundaries.....1  
 Mostly scattered in fields .....2  
 Mostly in plantation/coppice .....3

**Use (Col 4 & 5)**  
 Planks/Timber.....1 Shade .....5  
 Poles .....2 Medicinal.....6  
 Charcoal .....3 Other .....8  
 Fuel wood .....4

14.3 Does your village have a **Community tree planting scheme** (Yes=1, No=2)   
 If the response is 'NO' go to section 15.0

14.4 Household involvement in community tree planting scheme

S/N	Distance to community planted forest (Km)	hh Involve -ment	Main purpose	Main use during 2002/03
	(1)	(2)	(3)	(4)

**HH Involvement (Col 2)**  
 Only planting .....1  
 Only protection and thinning.....2  
 Only cutting .....3  
 Most or all activities.....4

**Main Purpose (Col 3)**  
 Erosion control.....1 Environment rehabilitation .....2  
 Production of poles .....2 Restoration of wildlife .....3  
 production of firewood.....3 Other (specify) .....4

**Main Use during 02/03(Col 4)**  
 Poles .....1 Not ready to use .....5  
 Timber logs .....2 Not allowed to use .....6  
 Charcoal .....3 Other (specify) .....8  
 Firewood .....4

**15.0 CROP EXTENSION SERVICES**

15.1 Did your household receive **extension advice for crop production** during 2002/03 (Yes=1, No=2)   
 If the response is 'NO' go to section 16.0

S/N	Extension Provider	Source of extension (Y=1,N=2)	If you pay for extension, what is the cost/yr	Contact farmer /group member (Yes=1, No=2)	No. of visits by extension agency per year	No. of message adopted in the last 3 years	Quality of Service
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
15.1.1	Government extension						
15.1.2	NGO/development project						
15.1.3	Cooperative						
15.1.4	Large Scale farmer						
15.1.5	Other.....						

**Quality of service (Col 7)**  
 Very good.....1 good .....2 Average.....3 Poor.....4 No Good .....5



**Definitions and working page for page 12****Question Specific Definitions**

**Crop Extension Advice (Section 15.2)**

**Mechanisation/LST: LST means Labour Saving Technology**

**Section 16.0 Livelihood constraints****16.1 List the five most important problems in order of most importance:**

1. Read out the list of constraints to the respondent and ask him to select the ones that are a problem. Place a **P** against the constraints that are a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the largest problems
3. Ask the farmer to list these in order of importance and enter in column 2

**16.2 List the five least important problems in order of least importance:**

1. Read out the list of constraints to the respondent and ask him to select the ones that are **NOT** a problem. Place an **O** against the constraints that are **NOT** a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the least problems
3. Ask the farmer to list these in order of least importance and enter in column 2



15.2 Crop Extension Messages				
S/N	Extension Message	Received Advice Yes=1 No=2	Adopted Yes=1 No=2	Source of Crop Extension
	(1)	(2)	(3)	(4)
15.2.1	Spacing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.2	Use of agrochemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.3	Erosion control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.4	Organic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.5	Inorganic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.6	Use of improved seed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.7	Mechanisation/L <sup>1</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.8	Irrigation Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

S/N	Extension Message	Received Advice Yes=1 No=2	Adopted Yes=1 No=2	Source of Crop Extension
	(1)	(2)	(3)	(4)
15.2.9	Crop Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.10	Vermin control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.11	Agro-processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.12	Agro-forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.13	Bee Keeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.14	Fish Farming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.15	Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Source of extension (Col 4)*  
 Government .....1 NGO/Dev project ...2 Cooperative ...3 Large scale farmer .....4 Other (Specify) ...8 Not applicable .....9

**16.0 LIVELIHOOD CONSTRAINTS**

From the list of constraints on the right select:

16.1 the 5 most important problems		16.2 the 5 least important problems			
Order of most importance	Constraint	Order of least importance	Constraint		
	(1)	(1)	(2)		
16.1.1	most important	<input type="checkbox"/>	16.2.1	Least important	<input type="checkbox"/>
16.1.2	2nd most important	<input type="checkbox"/>	16.2.2	2nd least important	<input type="checkbox"/>
16.1.3	3rd most important	<input type="checkbox"/>	16.2.3	3rd least important	<input type="checkbox"/>
16.1.4	4th most important	<input type="checkbox"/>	16.2.4	4th least important	<input type="checkbox"/>
16.1.5	5th most important	<input type="checkbox"/>	16.2.5	5th least important	<input type="checkbox"/>

- List of constraints**
1. Access to Land
  2. Ownership of Land
  3. Poor farm Inputs
  4. Soil Fertility
  5. Access to improved seed
  6. Irrigation facilities
  7. Access to chemical inputs
  8. Cost of Inputs
  9. Extension Services
  10. Access to forest resources
  11. Hunting and Gathering
  12. Access to potable water
  13. Access to credit
  14. Harvesting
  15. Threshing
  16. Storage
  17. Processing
  18. Market information
  19. Transport costs
  20. Distraction by animals
  21. Stealing
  22. Pests and Diseases
  23. Local government taxation
  24. Access to off Farm Income

**17.0 ANIMAL CONTRIBUTION TO CROP PRODUCTION**

17.1 Did you use Draft animals to cultivate your land during 02/03 (Yes=1, No=2)

(If no, go to question 17.2)

S/N	Type of Draft	Number owned	Number used	Area cultivated (acres)
	(1)	(2)	(3)	(4)
17.1.1	Oxen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.1.2	Bulls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.1.3	Cows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.1.4	Donkeys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17.2 Did you apply organic fertiliser during 02/03 (Yes=1, No=2)

(If no, go to question 18)

S/N	Type of organic Fertiliser	Area applied (acres)
	(1)	(2)
17.2.1	FYM	<input type="checkbox"/>
17.2.2	Compost	<input type="checkbox"/>

<p><b>Definitions and working page for page 13</b>  <b>General definitions for page 13</b></p> <p><b>Cattle Intake during 2002/03:</b> Cattle purchased, given or born which increases the number of cattle in the herd.</p> <p><b>Cattle Offtake during 2002/03:</b>  Cattle removed from the herd, either by selling, hh consumption, given away or stolen.</p>	<p><b>Section 18.0 Cattle Population, Intake &amp; Offtake.</b></p> <p><b>NOTE:</b> Section 18.1 is for the current population (as of 1st October 2003); Section 18.2 and 18.3 is for movement in and out of the herd during the 2002/03 agriculture year.  Section 18.4 is for diseases encountered during the agriculture year.</p> <ol style="list-style-type: none"> <li>1. If the household has cows, you would normally expect them to have calves in column 8</li> <li>2. If calves are reported in column 2, 3, or 4 (18.2.6, 18.2.5) then there must be at least that number repeated in column 8</li> </ol> <p><b>Note:</b> If the farmer reports sales of cattle the importance of this must be reflected in Q.2.2.3</p> <p><b>Section 18.5</b> If cattle are reported to have died in Column 5 then at least that number should be reported in 18.4 col 4</p>
<p><b>Question Specific Definitions (Section 18.0)</b></p> <p><b>Cattle type (Q 18.2 &amp; 18.4, Col 1)</b></p> <p><b>Bull:</b> Mature Uncastrated male cattle used for breeding</p> <p><b>Cow:</b> Mature female cattle that has given birth at least once</p> <p><b>Steer:</b> Castrated male cattle over 1 year</p> <p><b>Heifer:</b> Female cattle of 1 year up to the first calving</p> <p><b>Calves:</b> Young cattle under 1 year of age</p>	<p><b>Working area for page 13</b></p>
<p><b>Average Value per Head (Q 18.3, (Col 7 &amp; 9) &amp; 18.4 (Col 5, 5 &amp; 7))</b></p> <p>In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh &amp; given away/solden estimate the value.</p>	<p><b>Cattle vaccination (18.5 col 1)</b></p> <p><b>ECF:</b> East Coast Fever</p> <p><b>FMD:</b> Foot and Mouth Disease</p> <p><b>CBPP:</b> Contagious Bovine Pleura Pneumonia</p>

<b>18.0 CATTLE POPULATION, INTAKE AND OFFTAKE</b>																
18.1 Did the household own, raise or manage any CATTLE during 2002/03 agriculture year? (If no go to section 19.0)											(Yes =1 No =2)					
18.2 Cattle Population as of 1st October 2003																
S/N	Cattle type (1)	Number of Indigenous		Number of Improved		Total	Number Purchased (6)	Number given /obtained (7)	Number Born (8)	Total Intake of Cattle (9)	Average Value per head (10)					
		Beef (3)	Dairy (4)	Beef (5)	Dairy (6)											
18.2.1	Bulls								X X X							
18.2.2	Cows								X X X							
18.2.3	Steers								X X X							
18.2.4	Heifers								X X X							
18.2.5	Male Calves															
18.2.6	Female Calves															
<b>Grand Total</b>																
<b>Total Intake</b>																
18.3 Cattle Intake during 2002/2003																
18.4 Cattle Offtake during 2002/2003																
S/N	Cattle type (1)	Number Sold/traded (2)	Number con sumed by hh (3)	Number given away /stolen (4)	Number died (5)	Total Cattle Offtake (6)	Average value per head (7)	S/N	Disease/ parasite (1)	Number Infected (2)	Number Treated (3)	No. Rec- overed (4)	Number Died (5)	Last vacci- nated (6)	Main Sou- rces (7)	
																18.4.1
18.4.2	Cows															
18.4.3	Steers															X
18.4.4	Heifers															X
18.4.5	Male Calves															
18.4.6	Female Calves															
<b>Total Offtake</b>																
18.5 Cattle diseases																
18.5.1 Tick Borne diseases																
18.5.2 CBPP																
18.5.3 Trypanosomiasis																
18.5.4 Lumpy Skin Disease																
18.5.5 Helminthosis																
18.5.6 FMD																
18.6 Milk Production																
S/N	Season (1)	Litres of milk/day (2)	No. of cattle milked/day (3)	Value/litre (4)	Sold to (5)	Sold/day (Litres) (6)										
18.6.1	Wet Season															
18.6.2	Dry Season															

**Last Vaccinated (Col. 6)**  
 2003 .....1 2000 .....4  
 2002 .....2 Before 2000 .....5  
 2001 .....3 Not Vaccinated...6

**Main Source of vaccine (Col 7)**  
 Private Vet Clinic ..1 Other .....8  
 District Vet Clinic ..2 Not applicable ...9  
 NGO/Project .....3

**Sold to (Col 5)**  
 Neighbour.....1  
 Local Market.....2  
 Secondary Market.....3  
 Processing Industry.....4  
 Large-scale farm ..5  
 Trader at Farm ..6  
 Did not sell .....7  
 Other .....8



**Definitions and working page for page 14**  
**Goat definitions for page 14**

**Goat Intake during 2002/03:** Goat purchased, given or born which increases the number of goats in the herd.

**Goat Offtake during 2002/03:**  
 Goat removed from the herd, either by selling, hh consumption, given away or stolen.

**Question Specific Definitions (Section 19.0)**

**Goat type (Q 19.2 & 19.4, Col 1)**

**Billy Goat (he-goat):** Mature Uncastrated male goat used for breeding

**Castrated goat:** Male goat that has been castrated.

**She Goat:** Mature female goat over 9 months of age

**Kid:** Young goat under 9 months of age.

**Average Value per Head (Q 19.3, (Col 7 & 9) & 19.4 (Col 3, 5 & 7))**

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

**Goat vaccination (19.5 col 1)**

**FMD:** Foot and Mouth Disease

**CCPP:** Contagious Caprine Pleura Pneumonia

**LSO:** Lumpy Skin Disease

**Section 19.0 Goat Population, Intake & Offtake.**

**NOTE:** Section 19.1 is for the current population (as of 1st October 2003);  
 Section 19.2 and 19.3 is for movement in and out of the herd during the 2002/03 agriculture year.

Section 19.4 is for diseases encountered during the agriculture year.

1. If the household has she goats, you would normally expect them to have kids in column 8
2. If kids are reported in column 2, 3, or 4 (19.2.6, 19.2.5) then there must be at least that number repeated in column 8

**Note:** If the farmer reports sales of goats the importance of this must be reflected in Q 2.2.3

**Section 19.5** If goats are reported to have died in Column 5 then at least that number should be reported in 19.4 col 4

Working area for page 14

19.0 GOAT POPULATION, INTAKE AND OFFTAKE															
19.1 Did the household own, raise or manage any GOATS during the 2002/03 agriculture year? (If no go to section 20.0)											(Yes =1 No =2)				
19.2 Goat Population as of 1st October 2003															
S/N	Goat type (1)	Number of Indigenous (2)	Number of Improved for meat (3)	Dairy (4)	Total (5)	Number Purchased (6)	Number given /obtained (7)	Number Born (8)	Total Intake of Goats (9)	Average Value per head (10)	Total Intake				
19.2.1	Billy Goat							X X X							
19.2.2	Castrated Goat							X X X							
19.2.3	She Goat							X X X							
19.2.4	Male Kid														
19.2.5	She Kid														
Grand Total															
19.4 Goat Offtake during 2002/2003															
S/N	Goat type (1)	Number Sold/traded (2)	Number consumed by hh (3)	Number given away/stolen (4)	Number died (5)	Total Goat Offtake (6)	Average value per head (7)	S/N	Disease/parasite (1)	Number Infected (2)	Number Treated (3)	No. Rec-ov-ered (4)	Number Died (5)	Last vacci-nated (6)	Main Sou-rces (7)
19.4.1	Male goat							19.4.1	Foot Rot						
19.4.2	Castrated Goat							19.4.2	CC/PP						
19.4.3	She Goat							19.4.3	Helminthoses						X
19.4.4	Male Kid							19.4.4	Tetanus						
19.4.5	She Kid							19.4.5	Mange						X
Total Offtake															
19.6 MILK PRODUCTION															
S/N	Season (1)	Litres of milks/day (2)	No. of Goats milked/day (3)	Value/litre (4)	Sold to (5)	Sold/day (Litres) (6)									
19.6.1	Wet Season														
19.6.2	Dry Season														

**Sold to Q19.6 Col.5**

Neighbour.....1 Large-scale farm.....5  
 Local Market.....2 Trader at Farm.....6  
 Secondary Market.....3 Did not sell.....7  
 Processing Industry.....4 Other.....8

**Last Vaccinated (Col.6)**

2003.....1 2000.....4  
 2002.....2 before 2000.....5  
 2001.....3 Not Vaccinated.....6

**Main Source of vaccine (Col.7)**

Private Vet Clinic.....1 Other.....8  
 District Vet Clinic.....2 Not applicable.....9  
 NGO/Project.....3



**Definitions and working page for page 15**

**Sheep definitions for page 15**

**Sheep Intake during 2002/03:** Sheep purchased, given or born which increases the number of Sheep in the herd.

**Sheep Offtake during 2002/03:**

Sheep removed from the herd, either by selling, hh consumption, given away or stolen.

**Question Specific Definitions (Section 20.0)**

**Sheep type (Q 20.2 & 20.4, Col 1)**

**Ram:** Mature Uncastrated male goat used for breeding

**Castrated sheep:** Male sheep that has been castrated.

**Ewe:** Mature female sheep over 9 months of age

**Lamb:** Young sheep under 9 months of age.

**Average Value per Head (Q 20.3, (Col 7 & 9) & 20.4 (Col 3, 5 & 7))**

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

**Sheep vaccination (20.5 col 1)**

**FMD:** Foot and Mouth Disease

**CCPP:** Contagious Caprine Pleura Pneumonia

**Section 20.0 Sheep Population, Intake & Offtake.**

**NOTE:** Section 20.1 is for the current population (as of 1st October 2003);

Section 20.2 and 20.3 is for movement in and out of the herd during the 2002/03 agriculture year.

Section 20.4 is for diseases encountered during the agriculture year.

1. If the household has ewes, you would normally expect them to have kids in column 8
2. If lambs are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

**Note:** If the farmer reports sales of Sheep the importance of this must be reflected in Q 2.2.3

**Section 20.5** If Sheep are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 15



<b>20.0 SHEEP POPULATION, INTAKE AND OFFTAKE</b>																
20.1 Did the household own, raise or manage any SHEEP during the 2002/03 agriculture year? (Yes =1 No =2) <span style="float: right;">( )</span>																
20.2 Sheep Population as of 1st October 2003 <span style="float: right;">Sheep Intake during 2002/2003</span>																
S/N	Sheep type (1)	Number of Indigenous (2)	Number of Improved for Mutton (3)	Number of Improved Dairy (4)	Total (5)	S/N	Number Purchased (6)	Number given /obtained (7)	Number Born (8)	Total Intake of Sheep (9)	Average Value per head (10)					
20.2.1	Ram			X X X		20.3.1			X X X							
20.2.2	Castrated Sheep			X X X		20.3.2			X X X							
20.2.3	She Sheep			X X X		20.3.3			X X X							
20.2.4	Male lamb			X X X		20.3.4										
20.2.5	She lamb			X X X		20.3.5										
<b>Grand Total</b>																
20.4 Sheep Offtake during 2002/2003 <span style="float: right;">20.5 Sheep diseases</span>																
S/N	Sheep type (1)	Number Sold /traded (2)	Number culled summed by hh (3)	Number given away /stolen (4)	Number died (5)	Total Sheep Offtake (6)	Average value per head (7)	S/N	Disease/parasite (1)	Number Infected (2)	Number Treated (3)	No. Rec-ov-ered (4)	Number Died (5)	Last vacci-nated (6)	Main Sou- -rce (7)	
20.4.1	Ram							20.5.1	Foot Rot					X		
20.4.2	Castrated Sheep							20.5.2	CC PP							
20.4.3	She Sheep							20.5.3	Helminthosis					X		
20.4.4	Male lamb							20.5.4	Trypa nosomiasis							
20.4.5	She lamb							20.5.5	FMD							
<b>Total Offtake</b>																
Last Vaccinated (Col. 6) 2003 .....1 2000 .....4 2002 .....2 Before 2000 .....5 2001 .....3 Not Vaccinated...6																
Main Source of vaccine (Col 7) Private Vet Clinic...1 Other .....8 District Vet Clinic...2 Not applicable .....9 NGO/Project.....3																

**Definitions and working page for page 16**

**Pigs definitions for page 16**

**Pig Intake during 2002/03:** Pigs purchased, given or born which increases the number of Pigs in the production unit.

**Pig Offtake during 2002/03:**

Pigs removed from the production unit, either by selling, hh consumption, given away or stolen.

**Question Specific Definitions (Section 21.0)**

**Pigs type (Q 21.2 & 21.4, Col 1)**

**Bear:** Mature Uncastrated male pig used for breeding

**Castrated Pig:** Male pig that has been castrated.

**Sow:** Mature female pig that has given birth to at least one litter of pigs.

**GILT:** Female pig of 9 months up to the first farrowing.

**Piglet:** Young pig under 3 months of age.

**Average Value per Head (Q 21.3, (Col 7 & 9) & 21.4 (Col 3, 5 & 7))**

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

**Pig vaccination (21.5 col 1)**

ASIP: African Swine Fever

**Section 21.0 Pig Population, Intake & Offtake.**

**NOTE:** Section 21.1 is for the current population (as of 1st October 2003);

Section 21.2 and 21.3 is for movement in and out of the herd during the 2002/03 agriculture year.

Section 21.4 is for diseases encountered during the agriculture year.

1. If the household has sows, you would normally expect them to have piglets in column 8
2. If piglets are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

**Notes:** If the farmer reports sales of Pigs the importance of this must be reflected in Q 2.2.3

**Section 20.5** If Pigs are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 16

<b>21.0 PIG POPULATION AND PRODUCTION</b>											
21.1 Did the household own, raise or manage any PIGS during the 2002/03 agriculture year (Yes =1 No =2) <span style="float: right;">(If no go to section 22.0)</span>											
21.2 PIG Population as of 1st October 2003											
<b>21.3 Pig increase during 2002/2003</b>											
S/N	Pig type (1)	Number (2)	Number purchased (3)	Number given/obtained (4)	Number Born (5)	Total Pig Increase (6)	Average Value per head (7)				
21.3.1	Boer				X   X   X						
21.3.2	Castrated male				X   X   X						
21.3.3	Sow/Gilt				X   X   X						
21.3.4	Male piglet										
21.3.5	She piglet										
<b>Grand Total</b>											
<b>21.4 Pig decrease during 2002/2003</b>											
S/N	Pig type (1)	Number Sold/traded (2)	Number con sumed by bh (3)	Number given away/stolen (4)	Number died (5)	Total Pig Offtake (6)	Average value per head (7)				
21.4.1	Boer										
21.4.2	Castrated male										
21.4.3	Sow/Gilt										
21.4.4	Male piglet										
21.4.5	She piglet										
<b>Total Offtake</b>											
<b>21.5 Pig diseases/pests/conditions</b>											
S/N	Disease/parasite (1)	S/N	Number Infected (2)	Number Treated (3)	No. Rec-oveted (4)	Number Died (5)	Last Vaccinated (6)	Main Source (7)			
21.5.1	Anthrax	21.5.1									
21.5.2	ASF	21.5.2									
21.5.3	Anemia	21.5.3						X   X			
21.5.4	Helminthoos	21.5.4						X   X			
<b>22.0 LIVESTOCK PEST &amp; PARASITE CONTROL</b>											
22.1 Did you deworm your animals during 2002/03 (Yes=1, No=2) <span style="float: right;">(If the response is 'NO' go to section 22.3)</span>											
22.2 Which animals did you deworm? (Tick appropriate boxes)											
Cattle <input type="checkbox"/> Goats <input type="checkbox"/> Sheep <input type="checkbox"/> Pigs <input type="checkbox"/>											
22.3 Do you normally encounter a tick problem (Yes=1, No=2) <span style="float: right;">(If the response is 'NO' go to section 22.3)</span>											
22.4 Which methods of tick control did you use <span style="float: right;">Control method (0-22) None...1 Spraying...2 Dipping...3 Smearing...4 Other...8</span>											
22.5 Do you normally encounter a tsetse fly problem (Yes=1, No=2) <span style="float: right;">(If the response is 'NO' go to section 23.0)</span>											
22.6 Which methods of control did you use <span style="float: right;">Control method (0-22) None...1 Spray...2 Dipping...3 Trapping...4 Other...8</span>											



Definition and working page for page 17	Procedures for questions
<p><b>Question Specific Definitions Section 26.0)</b></p>	<p><b>Section 23.0 - Other Livestock:</b></p> <p>1. The current number includes both adult and young animals. For example The number of chickens in col 1 would include adults and chicks.</p>
<p><b>Question Specific Definitions Section 27.0)</b></p> <p><b>Access to functional Livestock Structures/accessories (Section 27.0):</b></p> <p><b>NOTE:</b> The structures must be functional. If they are not working/derelict then they should not be included. The distance to the next nearest functional structure should be taken.</p> <p><b>Spray Race:</b> A fixed spray structure on an animal race for spraying acaricide</p> <p><b>Cattle crush:</b> Corridor structure for restraining cattle.</p> <p><b>Abattoir:</b> Large building designed for slaughtering a large amount of animals. It normally has complex structures to assist in the slaughter and storage and a high level of hygiene is maintained.</p> <p><b>Slaughter Slab:</b> Concrete slab designed for slaughtering a small amount of animals</p> <p><b>Hides:</b> obtained from Cattle</p> <p><b>Skins:</b> Obtained from sheep and goats</p> <p><b>Hide/Skin Shed:</b> Shed for curing/tanning animal skins and hides</p> <p><b>Village holding Pen:</b> Enclosure for containing large amount of livestock which is owned communally.</p> <p><b>Drencher:</b> Device for orally administering medicine to livestock. If no product was sold in 2002 enter "0" in columns 6, 7 &amp; 9.</p>	<p><b>Section 26.0 - Outlets for livestock:</b></p> <p>Using the codes enter the outlets for the sale of different livestock in order of importance. If there are, for example, only 2 outlets mark the rest with a "X".</p>

23.0 Other Livestock currently available and details of consumption and sales during the last 12 months						
	Animal type	Current Number	Sold during 2002/03		Consumed during 2002/03	
			Number	Average Value/head	Number	Average Value/head
		(1)	(2)	(3)	(4)	(5)
23.1	Indigenous Chicken					
23.2	Layer					
23.3	Broiler					
23.4	Ducks					
23.5	Turkeys					
23.6	Rabbits					
23.7	Donkeys					
23.8	Horses				X X X	X X X X X
23.9	Other .....					
24.0	<b>CHICKEN DISEASES</b>	<b>Number Infected</b>	<b>Number Treated</b>	<b>Number Died</b>	<b>Number Recovered</b>	
24.1	Newcastle Disease					
24.2	Gumboro					
24.3	Coccidiosis					
24.4	Chorysa					
24.5	Fowl typhoid					
25.0	<b>LIVESTOCK PRODUCTS</b>	<b>Sold during 2002/03</b>		<b>Consumed/utilised during 2002/03</b>		
		Number		Average Value/unit	Number	Average Value/unit
25.1	Eggs			X		
25.2	Hides					
25.3	Skins					
26.0	List in order of importance the outlets for the sale of Livestock					
S/N	Importance of outlet	Outlets for Cattle	Outlets for Goat	Outlets for Sheep	Outlets for Pigs	Outlets for Chickens
		(1)	(2)	(3)	(4)	(5)
26.1	1st					
26.2	2nd					
26.3	3rd					
26.4	4th					
26.5	5th					
<p><b>Outlet code (Col 2, 3, 4 &amp; 5)</b>                      Trader at farm.....1 Abattoir/factory.....5                      Local Market.....2 Another farmer.....6                      Secondary market/auction.....3 Other (Specify).....8                      Neighbour.....4</p>						
<p><b>Source of structure (Q27.0 - Col 2)</b>                      Owns.....1 NGO.....7                      Cooperative.....2 Large scale farm.....7                      Local farmers association.....3 Other.....8                      Gov extension/veterinary.....4 Not applicable.....                      Development project.....5</p>						
27.0	Access to functional Livestock structures /accessories					
S/N	Type of structure / accessory	Source of Structure	Distance to structure (Km)			
	(1)	(2)	(3)			
27.1	Cattle Dip					
27.2	Spray Race					
27.3	Hand powered sprayer					
27.4	Cattle crush					
27.5	Primary Market					
27.6	Secondary Market					
27.7	Abattoir					
27.8	Slaughter Slab					
27.9	Hide/skin shed					
27.10	Input supply					
27.11	Veterinary Clinic					
27.12	Village holding ground					
27.13	village watering point/dam					
27.14	Drencher					

**Definitions and working page for page 18**  
**General definitions for Section 28.0**

**Fish farming:** Refers to the rearing/production of fish. It is different to fishing in that the fish have to be reared and fed in fish farming. Floating traps or captures naturally occurring fish in rivers, lakes and the sea and should not be included in this section.

**Question Specific Definitions (Section 28.2)**

**Production unit number (Col 1):** A production unit is a pond river/lake which is treated as a separate entity for the production of fish eg it may be by virtue of manageable size, maturity of fish, type of fish etc. Eg a farmer may have 3 fish ponds. (each one is a separate production unit).

**Frequency of stocking (Col 5):** What is the number of times the farmer puts new fingerlings into the pond each year.

**Fingerlings:** These are young immature fish used for stocking ponds.

**Sold: (Col 10 & 11)**

If no fish were sold enter '0' in column 10 and 11)

**Livestock Extension Services (Section 29.1)**

**Adopted (Col 9):** This is the uptake of an intervention for 2 or more years

**Livestock Extension Service providers (Section 29.2)**

**Contact Farmer:** A farmer who is used by the extension services as a focal point to demonstrate new interventions to. The contact farmer then passes on the message to other farmers

**Adopted (Col 5):** This is the uptake of an intervention for 2 or more years

Working area for page 18



28.0 FISH FARMING									
28.1 Was fish farming carried out by this household during 2002/2003? <input type="checkbox"/> (Yes = 1, No = 2) <span style="float: right;">(If the response is 'NO' go to section 29.0)</span>									
28.2 Specify details of fish farming practices									
S/N	Product fish farming system	Size of unit/pond (m <sup>2</sup> )	Source frequency of fish of stocking (No./year)	Number of stocked fish		Number of fish harvested	Weight of fish harvested (kg)	Weight of fish sold (kg)	Mainly sold to
				Tilapia	Other				
28.1.1	1								
28.1.2	2								
28.1.3	3								

**Farming System (Col 2)**  
 Natural Pond...1 Natural Lake...3 Other...8  
 Dug out pond...2 Water reservoir...4

**Source of fingerlings (Col 4)**  
 Own pond...1 NGO/Project...3 Private trader...5  
 Government Institution...2 Neighbour...4 Other...8

**Mainly sold to (Col 10)**  
 Neighbour...7 Large scale farm...3  
 Local Market...2 Processing Industry...4 Trader at Farm...5  
 Did not sell...6 Other...8

29.0 LIVESTOCK EXTENSION											
29.1 Did you receive livestock extension advice during 02/03 (Yes=1, No=2) <input type="checkbox"/> <span style="float: right;">(If the response is 'NO' go to section 30.0)</span>											
S/N	Livestock Extension Message	Received Advice		Adapted		Source of Livestock Extension		If you pay for extension, what is the cost/yr	Contact for member	No. of visits	Quality of services adopted in the last 3 yrs
		Yes=1, No=2	(2)	Yes=1, No=2	(3)	Livestock	Extension				
29.1.1	Feed and Proper feeding										
29.1.2	Housing (Goat, Dairy, Poultry, Pigs)										
29.1.3	Proper Milking										
29.1.4	Milk Hygiene										
29.1.5	Disease control (dipping/spraying)										
29.1.6	Herd/Flock size and selection										
29.1.7	Pasture Establishment										
29.1.8	Group formation and strengthening										
29.1.9	Calf rearing										
29.1.10	Use of improved bulls										
29.1.11	Other livestock extension										

**Source of livestock extension (Col 4)**  
 Government...1 NGO/Dev project...2  
 Cooperative...3 Large scale farmer...4  
 Other (Specify)...5

**Quality of service (Col 6)**  
 Very good...1 good...2 Average...3  
 Poor...4 No Good...5

30.0 GOVERNMENT REGULATORY PROBLEMS										
30.1 Did you face problems with government regulations during 2002/03 (Y=1, N=2) <input type="checkbox"/> <span style="float: right;">(If the response is no go to section 31.0)</span>										
List in order of importance										
S/N	Problem code	Problem code			Problem code	Problem code	Problem code	Problem code	Problem code	Problem code
		1st	2nd	3rd						
30.1.1	1st									
30.1.2	2nd									
30.1.3	3rd									

**Definition and working page for page 19****Question specific definitions (Section 31.1)****Activity (Col 1):**

**Land Clearing:** Refers to removing trees/bush/grass prior to ploughing

**Soil Preparation:** Refers to the seedbed preparation (ploughing, harrowing, etc).

**Cattle Rearing:** Tending to cattle at home, eg assisting with births, castration, etc. Different livestock keeping activity to herding.

**Cattle Herding:** Moving livestock from place to place for grazing and water. If herding is carried out the respondent must also give a response to rearing/ husbandry

**Question Specific Definitions (Section 32.0.0)****Activity (Col 1):**

**Subsistence:** For the family's survival, rather than for the generation of cash. This includes feeding the hh, provision of water and fuel for cooking. The source of these products are usually from the land resources available to the family. Remember that not all cash earnings are for non subsistence purposes/activities as cash can be used to purchase subsistence items eg food.

**Non -subsistence:** Cash used for items and activities which are not crucial for the survival of the family. This includes modern medication, non working clothes, refined beer, school fees, etc.

**Procedures for (Section 31.1)****Section 31.1 ((Labour use)**

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 27.1.1 and complete column 3.
3. Make sure you stress MAINLY responsible.

**NOTE:** If an activity has been mentioned previously in the questionnaire eg that the hh keeps chickens, make sure a response is obtained in the appropriate place ie poultry keeping.

If off-farm income generation is mentioned, check for responses to off farm income in other parts of the questionnaire

**Section 32.0 - Subsistence vs Non-subsistence**

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 32.1.1 and complete column 3 & 4. For each activity make an assessment of the percentage used for subsistence survival and the percent converted to cash for non subsistence goods and items.
3. Make sure you stress MAINLY responsible.

**NOTE:** Cross check the responses with previous sections in the questionnaire, eg if a response is given to remittances check for an entry in question 2.2.5



31.0 LABOUR USE				32.0 SUBSISTENCE vs NON-SUBSISTENCE																																																	
31.1 Who is mainly responsible for undertaking the following tasks:				32.1 Indicate if any members of the household was involved in the following activities and assess the percentage used for subsistence/consumption by the household:																																																	
S/N	Activity	Tick if carried out by hh	Main responsibility	S/N	Activity	Tick if hh was involved in activity	Estimate % used for subsistence	Estimate % used for non subsistence	Check Total																																												
	(1)	(2)	(3)		(1)	(2)	(3)	(4)	(5)																																												
31.1.1	Land Clearing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.1	Crop production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.2	Soil preparation (by hand)	<input type="checkbox"/>	<input type="checkbox"/>	32.1.2	Livestock production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.3	Soil preparation (oxen/tractor)	<input type="checkbox"/>	<input type="checkbox"/>	32.1.3	Vegetable production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.4	Planting	<input type="checkbox"/>	<input type="checkbox"/>	32.1.4	Tree cutting for firewood	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.5	Weeding	<input type="checkbox"/>	<input type="checkbox"/>	32.1.5	Tree logging for poles	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.6	Crop Protection	<input type="checkbox"/>	<input type="checkbox"/>	32.1.6	Tree logging for timber	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.7	Harvesting	<input type="checkbox"/>	<input type="checkbox"/>	32.1.7	Tree logging for charcoal	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.8	Crop processing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.8	fishing	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.9	Crop marketing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.9	bee keeping	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.10	Cattle rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>	32.1.10	permanent employment/off farm income	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.11	Cattle herding	<input type="checkbox"/>	<input type="checkbox"/>	32.1.11	temporary employment/off farm income	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.12	Cattle marketing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.12	Remittances	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	00																																												
31.1.13	Goat/sheep rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>	<b>33.0 ACCESS TO INFRASTRUCTURE &amp; OTHER SERVICES</b>																																																	
31.1.14	Goat and sheep herding	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.15	Goat and sheep marketing	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.16	Milking	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.17	Pig rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.18	Poultry keeping	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.19	Collecting Water	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.20	Collecting Firewood	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.21	Pole cutting	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.22	Timber wood cutting	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.23	Building/maintaining houses	<input type="checkbox"/>	<input type="checkbox"/>	<table border="1"> <thead> <tr> <th>S/N</th> <th>Type of service</th> <th>Distance in Km</th> <th>S/N</th> <th>Type of service</th> <th>Distance in Km</th> </tr> <tr> <td></td> <td>(1)</td> <td>(2)</td> <td></td> <td>(1)</td> <td>(2)</td> </tr> </thead> <tbody> <tr> <td>33.1</td> <td>Primary School</td> <td><input type="text"/></td> <td>32.7</td> <td>Feeder Road</td> <td><input type="text"/></td> </tr> <tr> <td>33.2</td> <td>Secondary School</td> <td><input type="text"/></td> <td>32.8</td> <td>All weather road</td> <td><input type="text"/></td> </tr> <tr> <td>33.3</td> <td>Health Clinic</td> <td><input type="text"/></td> <td>32.9</td> <td>Tarmac road</td> <td><input type="text"/></td> </tr> <tr> <td>33.4</td> <td>Hospital</td> <td><input type="text"/></td> <td>32.10</td> <td>Primary market</td> <td><input type="text"/></td> </tr> <tr> <td>33.5</td> <td>District Capital</td> <td><input type="text"/></td> <td>32.11</td> <td>Secondary market</td> <td><input type="text"/></td> </tr> <tr> <td>33.6</td> <td>Regional Capital</td> <td><input type="text"/></td> <td>32.12</td> <td>Tertiary market</td> <td><input type="text"/></td> </tr> </tbody> </table>		S/N	Type of service	Distance in Km	S/N	Type of service	Distance in Km		(1)	(2)		(1)	(2)	33.1	Primary School	<input type="text"/>	32.7	Feeder Road	<input type="text"/>	33.2	Secondary School	<input type="text"/>	32.8	All weather road	<input type="text"/>	33.3	Health Clinic	<input type="text"/>	32.9	Tarmac road	<input type="text"/>	33.4	Hospital	<input type="text"/>	32.10	Primary market	<input type="text"/>	33.5	District Capital	<input type="text"/>	32.11	Secondary market	<input type="text"/>	33.6	Regional Capital	<input type="text"/>	32.12	Tertiary market	<input type="text"/>
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31.1.24	Making Beer	<input type="checkbox"/>	<input type="checkbox"/>	<table border="1"> <thead> <tr> <th>S/N</th> <th>Type of service</th> <th>Distance in Km</th> <th>No of visits/year</th> <th>Satisfied with service</th> </tr> <tr> <td></td> <td>(1)</td> <td>(2)</td> <td>(3)</td> <td>(4)</td> </tr> </thead> <tbody> <tr> <td>33.13</td> <td>Vet Clinic</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>33.14</td> <td>Extension Centre</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>33.15</td> <td>Research Station</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>33.16</td> <td>Plant protection Lab</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>33.17</td> <td>Land registration office</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>33.18</td> <td>Livestock Dev Centre</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </tbody> </table>		S/N	Type of service	Distance in Km	No of visits/year	Satisfied with service		(1)	(2)	(3)	(4)	33.13	Vet Clinic	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.14	Extension Centre	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.15	Research Station	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.16	Plant protection Lab	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.17	Land registration office	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.18	Livestock Dev Centre	<input type="text"/>	<input type="text"/>	<input type="text"/>								
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33.18	Livestock Dev Centre	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																	
31.1.25	Bee keeping	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.26	Fishing	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.27	Fish farming	<input type="checkbox"/>	<input type="checkbox"/>																																																		
31.1.28	Off-farm income generation	<input type="checkbox"/>	<input type="checkbox"/>																																																		
<b>Responsibility (Col 3)</b> HH head alone .....1 Girls .....6 Adult Males .....2 Boys & Girls .....7 Adult Females .....3 All household members .....8 Adults .....4 Hired labour .....9 boys .....5																																																					
<b>Satisfied with service (Col 4)</b> Very good .....1 Average .....3 No good .....5 Good .....2 Poor .....4 Not applicable 9																																																					



**Definition and working page for page 20****Household facilities (Section 34):****Number of rooms used for sleeping in the household (Q 34.1)**

Include sitting room, dining room, kitchen, etc if used for sleeping. It also includes rooms outside the main dwelling

A room is defined as a space which is separate from the rest of the building by a permanent wall or division. A building/house that is not divided into rooms is considered to have one room.

**Household assets (Q 34.2):** these assets must be functioning. Do not include if broken.

**Access to drinking water (Q 34.4):** if there is more than one source, use the one, which the hh uses most frequently.

**Main source of hh cash income:**

Activity that provides the hh with the most cash during 2002/03 agriculture year.

34.0 HOUSEHOLD FACILITIES																														
34.1 House Construction		34.2 Household assets																												
<p>For the main dwelling, what are the main building materials used in the construction of the following</p> <p>34.1.1: Roof <input type="checkbox"/> 34.1.2 Number of rooms <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Roof Material</b></p> <p>Iron Sheets.....1</p> <p>Tiles.....2</p> <p>Concrete.....3</p> <p>Asbestos.....4</p> <p>Grass/leaves.....5</p> <p>Grass &amp; mud.....6</p> <p>Other (Specify) 8</p> <p>Other (reactive) 8</p> </div>		<p>Does your household own the following?</p> <table border="1"> <thead> <tr> <th>Asset</th> <th>Y=1</th> <th>N=2</th> </tr> </thead> <tbody> <tr> <td>34.2.1 Radio/cassette, music system)</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.2.2 Telephone (landline)</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.2.3 Telephone (mobile)</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.2.4 Iron</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.2.5 Wheelbarrow</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.2.6 Bicycle</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.2.7 Vehicle</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>34.2.8 Television</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		Asset	Y=1	N=2	34.2.1 Radio/cassette, music system)	<input type="checkbox"/>	<input type="checkbox"/>	34.2.2 Telephone (landline)	<input type="checkbox"/>	<input type="checkbox"/>	34.2.3 Telephone (mobile)	<input type="checkbox"/>	<input type="checkbox"/>	34.2.4 Iron	<input type="checkbox"/>	<input type="checkbox"/>	34.2.5 Wheelbarrow	<input type="checkbox"/>	<input type="checkbox"/>	34.2.6 Bicycle	<input type="checkbox"/>	<input type="checkbox"/>	34.2.7 Vehicle	<input type="checkbox"/>	<input type="checkbox"/>	34.2.8 Television	<input type="checkbox"/>	<input type="checkbox"/>
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34.2.1 Radio/cassette, music system)	<input type="checkbox"/>	<input type="checkbox"/>																												
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34.2.7 Vehicle	<input type="checkbox"/>	<input type="checkbox"/>																												
34.2.8 Television	<input type="checkbox"/>	<input type="checkbox"/>																												
34.3 Energy use by the Household		34.4 Access to drinking water																												
<p>Energy use and access by the household</p> <p>Main Source of energy for</p> <p>34.3.1 Lighting <input type="checkbox"/> 34.3.2 Cooking <input type="checkbox"/></p> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p><b>Lighting energy</b></p> <p>Mains electricity.....01</p> <p>Solar.....02</p> <p>Gas (biogas).....03</p> <p>Hurricane Lamp.....04</p> <p>Pressure Lamp.....05</p> <p>Wick Lamp.....06</p> <p>Candles.....07</p> <p>Firewood.....08</p> <p>Other (specify).....98</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p><b>Cooking energy</b></p> <p>Mains electricity.....01</p> <p>Solar.....02</p> <p>Gas (hh biogas).....03</p> <p>Bottled gas.....04</p> <p>Paraffin/kerosene.....05</p> <p>Charcoal.....06</p> <p>Firewood.....07</p> <p>Crop Residues.....08</p> <p>Livestock dung.....09</p> <p>Other (specify).....98</p> </div> </div>		<table border="1"> <thead> <tr> <th>Season</th> <th>Main source of drinking water</th> <th>Distance to source (in km)</th> <th>Time to and from source (Hour : minute)</th> </tr> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> </tr> </thead> <tbody> <tr> <td>34.4.1 Wet Season</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> · <input type="checkbox"/></td> <td><input type="checkbox"/> : <input type="checkbox"/></td> </tr> <tr> <td>34.4.2 Dry Season</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> · <input type="checkbox"/></td> <td><input type="checkbox"/> : <input type="checkbox"/></td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Main Source of drinking water</b></p> <p>Piped water.....01 Covered rainwater catchment...07</p> <p>Protected well.....02 Uncovered rainwater catchment 08</p> <p>Protected/covered spring.....03 Water Vendor.....09</p> <p>Unprotected Well.....04 Tanker truck.....10</p> <p>Unprotected spring.....05 Bottled water.....11</p> <p>Surface water (lake/dam/river/stream)06 Other (Specify).....98</p> </div>		Season	Main source of drinking water	Distance to source (in km)	Time to and from source (Hour : minute)	(1)	(2)	(3)	(4)	34.4.1 Wet Season	<input type="checkbox"/>	<input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> : <input type="checkbox"/>	34.4.2 Dry Season	<input type="checkbox"/>	<input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> : <input type="checkbox"/>											
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34.4.2 Dry Season	<input type="checkbox"/>	<input type="checkbox"/> · <input type="checkbox"/>	<input type="checkbox"/> : <input type="checkbox"/>																											
34.5 Access to toilet facilities		34.6 Food consumption patterns																												
<p>34.5.1 What type of toilet does your hh use <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Type of toilet</b></p> <p>No toilet/bush.....1 Improved pit latrine - hh owned.....4</p> <p>Flush toilet.....2 Other type (specify).....5</p> <p>Pit latrine - traditional...3</p> </div>		<p>34.6.1 Number of meals the hh normally has per day <input type="checkbox"/></p> <p>34.6.2 Number of days hh consumed meat last week <input type="checkbox"/></p> <p>34.6.3 How often did the hh have problems in satisfying the food needs of the hh last year? <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Problems satisfying hh food needs (row 34.6.3)</b></p> <p>Never.....1</p> <p>Seldom.....2</p> <p>Sometimes.....3</p> <p>Often.....4</p> <p>Always.....5</p> </div>																												
34.7 Source of Household income																														
<p>34.7.1 What is the households main source of cash income? <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Source of Income codes</b></p> <p>Sale of food crops.....01 Wages or salaries in cash.....07</p> <p>Sale of Livestock.....02 Other casual cash earnings...08</p> <p>Sale of livestock products...03 Cash remittances.....09</p> <p>Sale of cash crops.....04 Fishing.....10</p> <p>Sale of forest products.....05 Other.....98</p> <p>Business income.....06 Not applicable.....99</p> </div>																														

Back Page Reference material									
This page contains reference information that may be required to complete some of the questions in the questionnaires.									
Weights and measures				Conversions					
1 hectare	= 10,000 sq metres	(100 x 100 metres)		1 hectare = 2.47 acres					
1 kilometre	= 1000 metres	1		mile = 1.61 Kilometres					
1 acre	= 4840 square yards	(110 x 44 yards)							
Kg equivalents									
The following standards may be used as a guide to obtain kg if the reported unit is different. Only use these conversions if the respondent is unable to provide weights in kgs.									
Crop Name	Number of Kgs		Non-standard		Crop Name	Number of Kgs		Non-standard	
	Bag	Tin	Name	kgs		Bag	Tin	Name	kgs
11 Maize	100	18	Rumbesl	140	86 Cabbage	50			
12 Paddy	75	15			87 Tomatoes	90			
13 Sorghum	100	18			88 Spinach	45			
14 Bulrush Millet	100	18			89 Carrot	110			
15 Finger Millet	120	20			90 Chillies	85			
16 Wheat	75	15			91 Amaranths	50			
17 Barley	75	15			92 Pumpkins	60			
21 Cassava	60	12			93 Cucumber	80			
22 Sweet Potatoe	80	16			94 Egg Plant	70			
23 Irish potatoes	80	16			95 Water Mellon	80			
24 Yams	80	16			96 Cauliflower	50			
25 Cocoyams	80	16			52 Sisal	130			
26 Onions	80	16			54 Coffee	55			
27 Ginger	75	15			55 Tea	80			
31 Beans	100	20			56 Cacao	60			
32 Cowpeas	100	20			57 Rubber				
33 Green ram	100	20			58 Wattle	90			
34 Pigeon pea	100	20			59 Kapok				
35 Chick peas	100	20			60 Sugar Cane	120			
36 Bambara nut	100	20			61 Cardamom	100			
41 Sunflower	80	12			71 Banana	120			
42 Simsim	100	20			72 Avocado	140			
43 Groundnut	50	10			73 Mangoes	130			
47 Soyabeans	100	20			74 Papaw	100			
48 Caster seed	100	20			76 Orange	130			
75 Pineapple	90	18			77 Grape fruit	120			
50 Cotton	50	10			78 Grapes	80			
51 Tobacco	70	14			79 Mandarin/tan	110			
53 Pyrethrum	60	12			80 Guava	110			
62 Jute	50	10			81 Plums	110			
44 Palm Oil	100				82 Apples	110			
45 Coconut	75				83 Pears	110			
46 Cashewnut	80				84 Pitches	110			

**For official use only:**  
 If a question has a query, an indication will be made by the supervisor/data entry controller on the front page of the questionnaire. This space is to note what and where the problem is, the action required to be taken and the responsible person to take follow up action.

Nature of the problem:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Action Required: National supervisor action  Field supervisor action

Overall Status: Does not affect overall integrity of the questionnaire.  Discard and resample   
 More data is required before it can be used  Record as missing data



Average/maximum yields									
Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop									
Crop Name	kg/ha		kg/acre		Crop Name	kg/ha		kg/acre	
	Average	Max	Average	Max		Average	Max	Average	Max
11 Maize	1200	8250	486	2530	86 Cabbage			0	0
12 Paddy	700	4000	283	1619	87 Tomatoes			0	0
13 Sorghum	750	3500	304	1417	88 Spinach			0	0
14 Bulrush Millet	350	3000	142	1215	9 Carrot			0	0
15 Finger Millet	300	2500	121	1012	0 Chillies			0	0
16 Wheat	1200	4500	486	1822	91 Amaranths			0	0
17 Barley	1400	2300	567	931	2 Pumpkins			0	0
21 Cassava	3000	7000	1215	2834	93 Cucumber			0	0
22 Sweet Potato	800	8000	243	3239	94 Egg Plant			0	0
23 Irish potatoes	750	8500	304	3441	95 Water Mellon			0	0
24 Yams	4000	10000	1619	4049	96 Cauliflower			0	0
25 Cocoyams	2500	5000	1012	2024	2 Sisal	800	25000	324	10121
26 Onions			0	0	54 Coffee	500	100	202	40
27 Ginger			0	0	55 Tea	2500	10000	1012	4049
31 Beans	400	1300	162	526	56 Cacao	200	1000	81	405
32 Cowpeas	300	1750	121	709	57 Rubber	400	1400	162	567
33 Green gram			0	0	58 Wattle			0	0
34 Pigeon pea	800	2000	243	810	9 Kapok			0	0
35 Chick peas	500	1500	202	607	0 Sugar Cane	60000	150000	24291	60729
36 Bambara nut	600	4000	243	1619	61 Cardamom			0	0
41 Sunflower	600	1700	243	688	71 Banana	10000	50000	4049	20243
42 Simsim	300	1000	121	495	72 Avocado			0	0
43 Groundnut	800	4000	243	1619	73 Mangoes	10000	25000	4049	10121
47 Soybeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340
48 Caster seed	300	750	121	304	6 Orange	20000	40000	8097	16184
75 Pineapple	25000	60000	10121	24291	7 Grape fruit	30000	50000	12146	20243
50 Cotton	300	1500	121	607	8 Grapes	5000	30000	2024	12146
51 Tobacco	500	2000	202	810	79 Mandarin/tan	20000	40000	8097	16184
53 Pyrethrum		8	0	0	0 Guava	7000	35000	2834	14170
62 Jute	800	3500	324	1417	81 Plums			0	0
44 Palm Oil	1200	5000	486	2024	2 Apples			0	0
45 Coconut	2000	8000	810	3239	83 Pears			0	0
46 Cashewnut	9	80/tree	4	#VALUE!	84 Pitches			0	0



**APPENDEX III. b**

**Community Questionnaire**





Average/maximum yields									
Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop									
Crop Name	kg/ha		kg/acre		Crop Name	kg/ha		kg/acre	
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16 Wheat	1200	4500	486	1822	91 Amaranths			0	0
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23 Irish potatoes	750	8500	304	3441	95 Water Mellon			0	0
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31 Beans	400	1300	162	526	56 Cacao	200	1000	81	405
32 Cowpeas	300	1750	121	708	57 Rubber	400	1400	162	567
33 Green gram			0	0	58 Wattle			0	0
34 Pigeon pea	600	2000	243	810	9 Kapok			0	0
35 Chick peas	500	1500	202	607	0 Sugar Cane	60000	150000	24291	60729
36 Bambara nut	600	4000	243	1619	61 Cardamom			0	0
41 Sunflower	600	1700	243	688	71 Banana	10000	50000	4049	20243
42 Simsim	300	1000	121	405	72 Avocado			0	0
43 Groundnut	600	4000	243	1619	73 Mangoes	10000	25000	4049	10121
47 Soybeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340
48 Caster seed	300	750	121	304	6 Orange	20000	40000	8097	16184
75 Pineapple	25000	60000	10121	24281	7 Grape fruit	30000	50000	12146	20243
50 Cotton	300	1500	121	607	8 Grapes	5000	30000	2024	12146
51 Tobacco	500	2000	202	810	79 Mandarin/tan	20000	40000	8097	16184
53 Pyrethrum		8	0	0	0 Guava	7000	35000	2834	14170
62 Jute	800	3500	324	1417	81 Plums			0	0
44 Palm Oil	1200	5000	486	2024	2 Apples			0	0
45 Coconut	2000	8000	810	3239	83 Pears			0	0
46 Cashewnut	9	60/tree	4	#VALUE!	84 Pitches			0	0

Average/maximum yields									
Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop									
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14 Bulrush Millet	350	3000	142	1215	9 Carrot			0	0
15 Finger Millet	300	2500	121	1012	0 Chillies			0	0
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31 Beans	400	1300	162	526	56 Cacao	200	1000	81	405
32 Cowpeas	300	1750	121	709	57 Rubber	400	1400	162	567
33 Green gram			0	0	58 Wattle			0	0
34 Pigeon pea	800	2000	243	810	9 Kapok			0	0
35 Chick peas	500	1500	202	607	0 Sugar Cane	60000	150000	24291	60729
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42 Simsim	300	1000	121	405	72 Avocado			0	0
43 Groundnut	800	4000	243	1619	73 Mangoes	10000	25000	4049	10121
47 Soybeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340
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75 Pineapple	25000	60000	10121	24281	7 Grape fruit	30000	50000	12146	20243
50 Cotton	300	1500	121	607	8 Grapes	5000	30000	2024	12146
51 Tobacco	500	2000	202	810	79 Mandarin/tan	20000	40000	8097	16184
53 Pyrethrum		8	0	0	0 Guava	7000	35000	2834	14170
62 Jute	800	3500	324	1417	81 Plums			0	0
44 Palm Oil	1200	5000	486	2024	2 Apples			0	0
45 Coconut	2000	8000	810	3239	83 Pears			0	0
46 Cashewnut	9	80/tree	4	#VALUE!	84 Pitches			0	0



Average/maximum yields					Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop				
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36 Bambara nut	800	4000	243	1819	61 Cardamom			0	0
41 Sunflower	800	1700	243	688	71 Bananas	10000	50000	4049	20243
42 Simsim	300	1000	121	405	72 Avocado			0	0
43 Groundnut	800	4000	243	1819	73 Mangoes	10000	25000	4049	10121
47 Soybeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340
48 Carter seed	300	750	121	304	6 Orange	20000	40000	8097	18194
75 Pineapple	25000	60000	10121	24291	7 Grape fruit	30000	50000	12146	20243
50 Cotton	300	1500	121	607	8 Grapes	5000	30000	2024	12148
51 Tobacco	500	2000	202	810	79 Mandarin/tan	20000	40000	8097	18194
53 Pyrethrum		8	0	0	0 Guava	7000	35000	2834	14170
62 Jute	800	3500	324	1417	81 Plums			0	0
44 Palm Oil	1200	5000	488	2024	2 Apples			0	0
45 Coconut	2000	8000	810	3239	83 Pears			0	0
46 Cashewnut	9	80/tree	4	#VALUE!	84 Ptches			0	0

**APPENDEX III. c**

**Village Listing Forms**



Average/maximum yields									
Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop									
Crop Name	kg/ha		kg/acre		Crop Name	kg/ha		kg/acre	
	Average	Max	Average	Max		Average	Max	Average	Max
11 Maize	1200	8250	488	2530	86 Cabbage			0	0
12 Paddy	700	4000	283	1819	87 Tomatoes			0	0
13 Sorghum	750	3500	304	1417	88 Spinach			0	0
14 Bulrush Millet	350	3000	142	1215	9 Carrot			0	0
15 Finger Millet	300	2500	121	1012	0 Chillies			0	0
16 Wheat	1200	4500	488	1822	91 Amaranths			0	0
17 Barley	1400	2300	567	931	2 Pumpkins			0	0
21 Cassava	3000	7000	1215	2834	93 Cucumber			0	0
22 Sweet Potato	800	8000	243	3239	94 Egg Plant			0	0
23 Irish potatoes	750	8500	304	3441	95 Water Mellon			0	0
24 Yams	4000	10000	1819	4049	96 Cauliflower			0	0
25 Cocoyams	2500	5000	1012	2024	2 Sisal	800	25000	324	10121
26 Onions			0	0	54 Coffee	500	100	202	40
27 Ginger			0	0	55 Tea	2500	10000	1012	4049
31 Beans	400	1300	162	526	56 Cacao	200	1000	81	405
32 Cowpeas	300	1750	121	708	57 Rubber	400	1400	162	567
33 Green gram			0	0	58 Wattle			0	0
34 Pigeon pea	600	2000	243	810	9 Kapok			0	0
35 Chick peas	500	1500	202	607	0 Sugar Cane	60000	150000	24291	60729
36 Bambara nut	600	4000	243	1819	61 Cardamom			0	0
41 Sunflower	600	1700	243	688	71 Banana	10000	50000	4049	20243
42 Simsim	300	1000	121	405	72 Avocado			0	0
43 Groundnut	600	4000	243	1819	73 Mangoes	10000	25000	4049	10121
47 Soybeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340
48 Caster seed	300	750	121	304	6 Orange	20000	40000	8097	18194
75 Pineapple	25000	60000	10121	24281	7 Grape fruit	30000	50000	12146	20243
50 Cotton	300	1500	121	607	8 Grapes	5000	30000	2024	12148
51 Tobacco	500	2000	202	810	79 Mandarin/tan	20000	40000	8097	18194
53 Pyrethrum		8	0	0	0 Guava	7000	35000	2834	14170
62 Jute	800	3500	324	1417	81 Plums			0	0
44 Palm Oil	1200	5000	488	2024	2 Apples			0	0
45 Coconut	2000	8000	810	3239	83 Pears			0	0
46 Cashewnut	9	80/tnoo	4	#VALUE!	84 Pitches			0	0

Average/maximum yields					Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop				
Crop Name	kg/ha		kg/acre		Crop Name	kg/ha		kg/acre	
	Average	Max	Average	Max		Average	Max	Average	Max
11 Maize	1200	8250	486	2530	86 Cabbage			0	0
12 Paddy	700	4000	283	1819	87 Tomatoes			0	0
13 Sorghum	750	3500	304	1417	88 Spinach			0	0
14 Bulrush Millet	350	3000	142	1215	9 Carrot			0	0
15 Finger Millet	300	2500	121	1012	0 Chillies			0	0
16 Wheat	1200	4500	486	1822	91 Amaranths			0	0
17 Barley	1400	2300	567	931	2 Pumpkins			0	0
21 Cassava	3000	7000	1215	2834	93 Cucumber			0	0
22 Sweet Potato	800	8000	243	3239	94 Egg Plant			0	0
23 Irish potatoes	750	8500	304	3441	95 Water Mellon			0	0
24 Yams	4000	10000	1619	4049	96 Cauliflower			0	0
25 Cocoyams	2500	5000	1012	2024	2 Sisal	800	25000	324	10121
26 Onions			0	0	54 Coffee	500	100	202	40
27 Ginger			0	0	55 Tea	2500	10000	1012	4049
31 Beans	400	1300	162	528	56 Cacao	200	1000	81	405
32 Cowpeas	300	1750	121	709	57 Rubber	400	1400	162	567
33 Green gram			0	0	58 Wattle			0	0
34 Pigeon pea	600	2000	243	810	9 Kapok			0	0
35 Chick peas	500	1500	202	607	0 Sugar Cane	60000	150000	24291	60729
36 Bambara nut	600	4000	243	1819	61 Cardamom			0	0
41 Sunflower	600	1700	243	688	71 Banana	10000	50000	4049	20243
42 Simsim	300	1000	121	405	72 Avocado			0	0
43 Groundnut	600	4000	243	1819	73 Mangoes	10000	25000	4049	10121
47 Soybeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340
48 Caster seed	300	750	121	304	6 Orange	20000	40000	8097	18194
75 Pineapple	25000	60000	10121	24291	7 Grape fruit	30000	50000	12146	20243
50 Cotton	300	1500	121	607	8 Grapes	5000	30000	2024	12146
51 Tobacco	500	2000	202	810	79 Mandarin/tan	20000	40000	8097	18194
53 Pyrethrum		8	0	0	0 Guava	7000	35000	2834	14170
62 Jute	800	3500	324	1417	81 Plums			0	0
44 Palm Oil	1200	5000	486	2024	2 Apples			0	0
45 Coconut	2000	8000	810	3239	83 Pears			0	0
46 Cashewnut	9	80/tree	4	#VALUE!	84 Pitches			0	0

Average/maximum yields					Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop				
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	Average	Max	Average	Max		Average	Max	Average	Max
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14 Bulrush Millet	350	3000	142	1215	9 Carrot			0	0
15 Finger Millet	300	2500	121	1012	0 Chillies			0	0
16 Wheat	1200	4500	488	1822	91 Amaranths			0	0
17 Barley	1400	2300	567	931	2 Pumpkins			0	0
21 Cassava	3000	7000	1215	2834	93 Cucumber			0	0
22 Sweet Potato	800	8000	243	3239	94 Egg Plant			0	0
23 Irish potatoes	750	8500	304	3441	95 Water Mellon			0	0
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44 Palm Oil	1200	5000	488	2024	2 Apples			0	0
45 Coconut	2000	8000	810	3239	83 Pears			0	0
46 Cashewnut	9	80/tree	4	#VALUE!	84 Pitches			0	0



# Cereals

# Legumes/Pulses

# Fertiliser Use

