United Republic of Tanzania

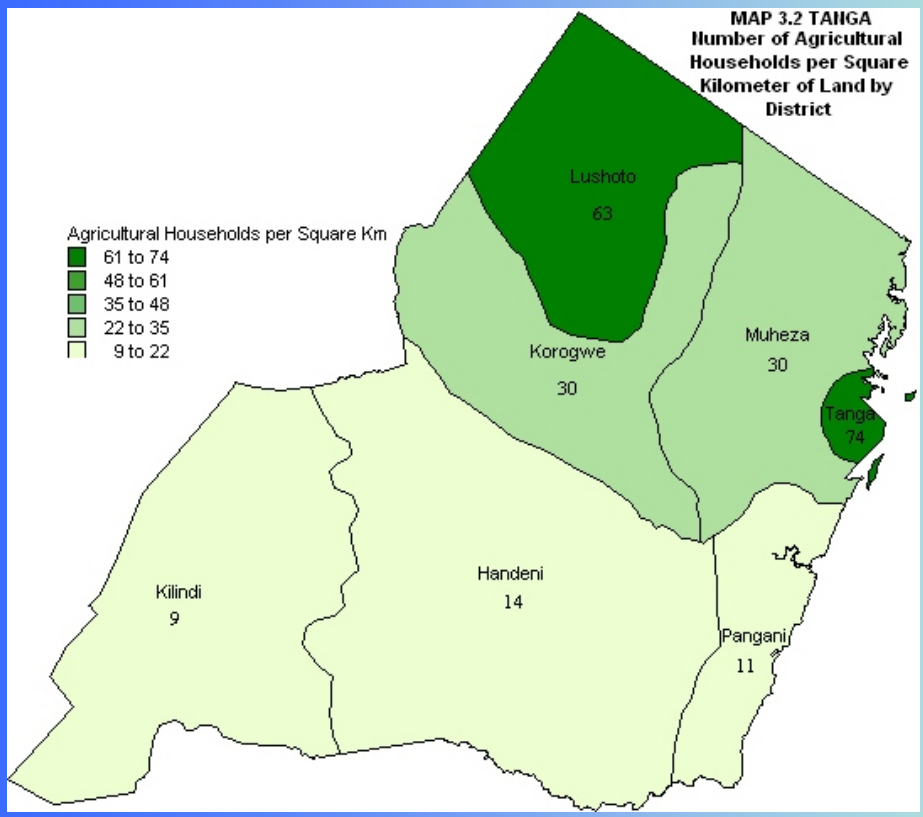
NATIONAL SAMPLE CENSUS OF AGRICULTURE
2002/2003

# Volume Vd: REGIONAL REPORT: TANGA REGION

Sisal

Condition of Household

Oranges



Coconuts

Tomatoes

Dairy Goats

Maize

Fishing

Bananas

Chickens

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

September 2006

United Republic of Tanzania

# NATIONAL SAMPLE CENSUS OF AGRICULTURE 2002/2003

## VOLUME Vd: REGIONAL REPORT:TANGA REGION

*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*

December 2007

## TABLE OF CONTENTS

Table of contents ..... i
Acronyms ..... v
Preface ..... vi
Executive summary ..... vii
Illustrations ..... xii

**PART I: BACKGROUND INFORMATION ..... 1**

**1.1 Introduction ..... 1**
**1.2** Geographical Location and Boundaries ..... **1**
**1.3 Land Area ..... 1**
**1.4 Climate ..... 1**
1.4.1 Temperature ..... 1
1.4.2 Rainfall ..... 1

**1.5 Population ..... 1**
**1.6 Socio-economic Indicators ..... 2**

**PART II: INTRODUCTION ..... 3**

**2.1 The Rationale for Conducting the National Sample Census of Agriculture ..... 3**
**2.2 Census Objectives ..... 3**
**2.3 Census Coverage and Scope ..... 4**
**2.4 Legal Authority of the National Sample Census of Agriculture ..... 5**
**2.5 Reference Period ..... 5**
**2.6 Census Methodology ..... 5**
2.6.1 Census Organization ..... 5
2.6.2 Tabulation Plan ..... 6
2.6.3 Sample Design ..... 6
2.6.4 Questionnaire Design and Other Census Instruments ..... 7
2.6.5 Field Pre-Testing of the Census Instruments ..... 7
2.6.6 Training of Trainers, Supervisors and Enumerators ..... 7
2.6.7 Information, Education and Communication (IEC) Campaign ..... 7
2.6.8 Household Listing ..... 8
2.6.9 Data Collection ..... 8
2.6.10 Field Supervision and Consistency Checks ..... 8
2.6.11 Data Processing ..... 8
- Manual Editing ..... 9
- Data Entry ..... 9
- Data Structure Formatting ..... 9
- Batch Validation ..... 9
- Tabulations ..... 9
- Analysis and Report Preparations ..... 9
- Data Quality ..... 10

**2.7 Funding Arrangements ..... 10**

**PART III: CENSUS RESULTS AND ANALYSIS ..... 11**

**3.1 Holding Characteristics ..... 11**

3.1.1 Type of Holdings ..... 11
3.1.2 Livelihood Activities/Source of Income ..... 11
3.1.3 Sex and Age of Heads of Households ..... 11
3.1.4 Number of Household Members ..... 15
3.1.5 Level of Education ..... 15
- Literacy ..... 15
- Literacy Level for Household Members ..... 15
- Literacy Rates for Heads of Households ..... 15
- Educational Status ..... 16

3.1.6 Off-farm Income ..... 16

**3.2 Land Use ..... 17**
3.2.1 Area of Land Utilised ..... 17
3.2.2 Types of Land use ..... 18

**3.3 Annual Crops and Vegetable Production ..... 18**

3.3.1 Area Planted ..... 18
3.3.2 Crop Importance ..... 20
3.3.3 Crop Types ..... 20
3.3.4 Cereal Crop Production ..... 22
3.3.4.1 Maize ..... 23
3.3.4.2 Paddy ..... 23
3.3.4.3 Other Cereals ..... 26

3.3.5 Roots and Tuber Crops Production ..... 26
3.3.5.1 Cassava ..... 27
3.3.5.2 Irish Potatoes ..... 28

3.3.6 Pulse Crops Production ..... 28
3.3.6.1 Beans ..... 30

3.3.7 Oil Seed Production ..... 32
3.3.7.1 Groundnuts ..... 32

3.3.8 Fruits and Vegetables ..... 33
3.3.8.1 Tomatoes ..... 35
3.3.8.2 Cabbage ..... 37
3.3.8.3 Chillies ..... 37

3.3.9 Other Annual Crops Production ..... 40
3.3.9.1 Cotton ..... 40
3.3.9.2 Tobacco ..... 40

**3.4 Permanent Crops ..... 40**
3.4.1 Coconuts ..... 43
3.4.2 Oranges ..... 45
3.4.3 Banana ..... 45
3.4.4 Cashew Nuts ..... 45

**3.5 Inputs/Implements Use ..... 48**
3.5.1 Methods of land clearing ..... 48
3.5.2 Methods of soil preparation ..... 48
3.5.3 Improved seeds use ..... 50
3.5.4 Fertilizers use ..... 51
3.5.4.1 Farm Yard Manure Use ..... 51
3.5.4.2 Inorganic Fertilizer Use ..... 52
3.5.4.3 Compost Use ..... 53

3.5.5 Pesticide Use ..... 54
3.5.5.1 Insecticide Use ..... 54
3.5.5.2 Herbicide Use ..... 55
3.5.5.3 Fungicide Use ..... 55

3.5.6 Harvesting Methods ..... 56

3.5.7 Threshing Methods ..... 56

**3.6 Irrigation ..... 56**
3.6.1 Area planted with annual crops and under irrigation ..... 56
3.6.2 Sources of water used for irrigation ..... 57
3.6.3 Methods of obtaining water for irrigation ..... 59
3.6.4 Methods of water application ..... 59

**3.7 Crop Storage, Processing and Marketing ..... 59**

3.7.1 Crop Storage ..... 59
3.7.1.1 Method of Storage ..... 60
3.7.1.2 Duration of Storage ..... 60
3.7.1.3 Purpose of Storage ..... 62
3.7.1.4 The Magnitude of Storage Loss ..... 62

3.7.2 Agro processing and by-products ..... 63
3.7.2.1 Processing Methods ..... 63
3.7.2.2 Main Agro-processing Products ..... 63
3.7.2.3 Main use of primary processed Products ..... 64
3.7.2.4 Outlet for Sale of Processed Products ..... 64

3.7.3 Crop Marketing ..... 65
3.7.3.1 Main Marketing Problems ..... 65
3.7.3.2 Reasons for Not Selling ..... 65

**3.8 Access to Crop Production Services ..... 66**

3.8.1 Access to Agricultural Credits ..... 66
3.8.1.1 Source of Agricultural Credits ..... 66
3.8.1.2 Use of Agricultural Credits ..... 66
3.8.1.3 Reasons for not using agricultural credits ..... 67

3.8.2 Crop Extension ..... 67
3.8.2.1 Sources of crop extension messages ..... 67
3.8.2.2 Quality of extension ..... 69

**3.9 Access to Inputs ..... 69**

3.9.2 Inorganic Fertilisers ..... 69

3.9.3 Improved Seeds ..... 70

3.9.4 Insecticides and Fungicide ..... 70

**3.10 Tree Planting ..... 71**

**3.11 Irrigation and Erosion Control Facilities ..... 72**

**3.12 Livestock Results ..... 74**

3.12.1 Cattle Production ..... 74
3.12.1.1 Cattle Population ..... 74
3.12.1.2 Herd size ..... 74
3.12.1.3 Cattle Population Trend ..... 76
3.12.1.4 Improved Cattle Breeds ..... 76

3.12.2 Goat Production ..... 76
3.12.2.1 Goat Population ..... 76
3.12.2.2 Goat Herd Size ..... 78
3.12.2.3 Goat Breeds ..... 78
3.12.2.4 Goat Population Trend ..... 78

3.12.3 Sheep Production ..... 78
3.12.3.1 Sheep Population ..... 78
3.12.3.2 Sheep Population Trend ..... 80

3.12.4 Pig Production ..... 80
3.12.4.1 Pig Population Trend ..... 80

3.12.5 Chicken Production ..... 82
3.12.5.1 Chicken Population ..... 82

3.12.5.2 Chicken Population Trend ..... 82
3.12.5.3 Chicken Flock Size ..... 82
3.12.5.4 Improved Chicken Breeds (layers and broilers) ..... 84

3.12.6 Other Livestock ..... 84

3.12.7 Pests and Parasites Incidences and Control ..... 84
3.12.7.1 Deworming ..... 86

3.12.8 Access to Livestock Services ..... 86
3.12.8.1 Access to livestock extension Services ..... 86
3.12.8.2 Access to Veterinary Clinic ..... 86
3.12.8.3 Access to village watering points/dam ..... 87

3.12.9 Animal Contribution to Crop Production ..... 87

3.12.9.1 Use of Draft Power ..... 87
3.12.9.2 Use of Farm Yard Manure ..... 88
3.12.9.3 Use of Compost ..... 88

3.12.10 Fish Farming ..... 88

**3.13 Poverty Indicators ..... 91**
3.13.1 Access to Infrastructure and Other Services ..... 91
3.13.2 Type of Toilets ..... 91
3.13.3 Household's assets ..... 91
3.13.4 Sources of Light Energy ..... 91
3.13.5 Sources of Energy for Cooking ..... 91
3.13.6 Roofing Materials ..... 94
3.13.7 Access to Drink Water ..... 94
3.13.8 Food Consumption Pattern ..... 95
3.13.8.1 Number of Meals per Day ..... 95
3.13.8.2 Meat Consumption Frequencies ..... 95
3.13.8.3 Fish Consumption Frequencies ..... 95

3.13.9 Food Security ..... 97
3.13.10 Main Source of Cash Income ..... 97

**PART IV: TANGA PROFILES ..... 99**

**4.1 Region Profile ..... 99**
**4.2 District Profiles ..... 100**
4.2.1 Lushoto ..... 100
4.2.2. Korogwe ..... 102
4.2.3 Muheza ..... 104
4.2.4 Tanga ..... 106
4.2.5 Pangani ..... 108
4.2.6 Handeni ..... 110
4.2.7 Kilindi ..... 111

## ACRONYMS

| | |
|---|---|
| *ASDP* | *Agricultural Sector Development Project* |
| *CSPro* | *Census and Survey Processing Program* |
| *DFID* | *Department For International Development* |
| *DIAS* | *District Integrated Agricultural Survey* |
| *DS* | *District Supervisor* |
| *EAS* | *Expanded Agricultural Survey* |
| *EAs* | *Enumeration Areas* |
| *EU* | *European Union* |
| *FE* | *Field Enumerator* |
| *GDP* | *Gross Domestic Product* |
| *Ha* | *Hectares* |
| *IAS* | *Integrated Agricultural Survey* |
| *ICR* | *Intelligent Character Recognition* |
| *IEC* | *Information, Education and Communication* |
| *JICA* | *Japanese International Cooperation Agency* |
| *LRS* | *Long Rainy Season,* |
| *MAFS* | *Ministry of Agriculture and Food Security* |
| *MCM* | *Ministry of Co-operatives and Marketing* |
| *MWLD* | *Ministry of Water and Livestock Development* |
| *NBS* | *National Bureau of Statistics* |
| *NGO* | *Non Governmental Organization* |
| *NMS* | *National Master Sample* |
| *NSCA* | *National Sample Census of Agriculture* |
| *NSGRP* | *National Strategy for Growth and Reduction of Poverty* |
| *PORALG* | *President's Office, Regional Administration and Local Government* |
| *PPS* | *Probability Proportional to Size* |
| *PSU* | *Primary Sampling Unit* |
| *RAAS* | *Rapid Appraisal Agricultural Survey* |
| *RS* | *Regional Supervisor* |
| *RSM* | *Regional Statistical Manager* |
| *SAC* | *Scotts Agriculture Consultancy Ltd* |
| *SPSS* | *Statistical Package for Social Science* |
| *SRS* | *Short Rainy Season* |
| *TOT* | *Training of Trainers* |
| *ULG* | *Ultek Laurence Gould* |
| *UNDP* | *United Nations Development Programme* |
| *UNFAO* | *United Nations Food and Agriculture Organization* |
| *VPO* | *Vice President Office* |

**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. 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. The census collected detailed data on crop production, crop marketing, crop storage, livestock production, fish farming, tree farming, access to infrastructures and services and poverty indicators.

In addition to this, the census was large in its coverage as it provides data that can be disaggregated at district level and thus 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 Tanga region data disaggregated to district level. It was very difficult to discuss all variables collected in a single report hence the analysis was based on the most important smallholder variables. The rest of the variables are found in the e attached annex of table of results. 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 is a result of the increasing demand for more detailed information to assist in the proper planning of this 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 and livestock keepers in the country.

On behalf of the Government of Tanzania, I wish to express my 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 (NBS), the Office of the Chief Government Statistician in Zanzibar (OCGS) and the Statistics Unit of the Ministry of Agriculture and Food Security (MAFS) with technical assistance provided by Ultec Lawrence Gould (ULG), Scotts Agriculture Consultancy Ltd and the Food and Agriculture Organisation of the United Nations (FAO).

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**

# EXECUTIVE SUMMARY

The executive summary highlights the main survey results obtained during the National Sample Census of Agriculture 2002/03. This report covers small-scale agriculture households in rural areas of Tanga region who were selected using statistical sampling techniques. The results in the report do not cover urban areas and large-scale farmers.

The highlights describe the important findings in relation to agricultural production, productivity, husbandry, access to resources, levels of involvement in agricultural related activities and poverty in Tanga region activities indicators for one to get an overview, at regional level, of the rural agricultural households and their levels of involvement in agricultural related activities.

## i) Household Characteristics

The number of agricultural households in Tanga region were 265,198 out of which 178,406 (67.3%) were involved in growing crops only, 1,477 (0.6%) rearing livestock only, 194 (0.1%) were pastoralist, and 85,121 (32%) were involved in crop production as well as livestock keeping. In summary, Tanga region had 263,527 households involved in crop production and 86,792 involved in livestock production.

Most of the agricultural households ranked annual crop farming as an activity that provides most of their cash income followed by off farm income, fishing/hunting tree/forest resources, permanent crop farming, livestock keeping/herding and remittances.

The region has a literacy rate of 70 percent. The highest literacy rate is in Pangani district (70%) followed by Tanga district (68%) and Lushoto district (65%). Kilindi and Handeni districts have the lowest literacy rates of 44 and 53 percent respectively. The literacy rate for the heads of households in the region was 73.6 percent.

The number of heads of agricultural households with formal education in Tanga region was 191,081 (72%), those without formal education were 70,819 (27%) and those with only adult education were 3,298 (1%). The majority of heads of agricultural households (69%) had primary level education whereas only 3 percent had post primary education.

In Tanga region 46,351 household members (76%) were involved in one off-farm income generating activity, 34,169 (18%) involved in two off-farm income generating activities and 12,023 (6%) involved in more than two off-farm income generating activities.

## ii) Crop Production

### ▪ Land Area

The total area of land available to smallholders was 524,451 ha. The regional average land area utilised for crop production per crop growing household was only 1.7 ha. This figure is below the national average of 2.0 hectares.

### ▪ Planted Area

The area planted with annual crops and vegetables was 428,533 hectares out of which 160,820 hectares (37.5%) were planted during short rainy season and 267,713 hectares (62.5%) during long rainy season.

An estimated area of 295,529 ha (69.0% of the total planted area with annual and vegetable crops) was with cereals, followed by 77,017 hectares (18.0%) of pulses, 47,614 ha (11.1%) of roots and tubers, 5,346 ha (1.2%) of fruit and vegetables, 2,564 ha (0.6%) of oil seed and 465 ha (0.1%) of cash crops.

- **Maize**

Maize is the dominant annual crop grown in Tanga region and it had a planted area 4.56 times greater than beans, which had the second largest planted area. The area planted with maize constitutes 67 percent of the total area planted with annual crops. Other crops in order of their importance (based on area planted) are cassava, Irish potatoes, cowpeas, paddy, tomatoes, green gram, groundnuts and sweet potatoes.

There was a sharp increase in maize production (122%) over the period of 1997 to 1999, whereas there was a sharp decrease in maize production (46%) over the period from 2000 to 2003. The total production of maize in 2002/03 was 173,602 tonnes. The average area planted with maize per household ranged from 0.5 hectares in Lushoto District to 1.3 hectares in Kilindi District. Handeni district had the largest planted area of maize (95,688 ha) followed by Lushoto (51,118 ha), Muheza (50,778 ha), Korogwe (46,369 ha), Kilindi (32,536 ha), Pangani (7,042 ha) and Tanga (3,946 ha).

- **Paddy**

Paddy is the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Tanga region during the long rainy season was 15,443. This represented 66 percent of the total crop growing households in Tanga Region in the long rainy season.

- **Cassava**

The area planted with cassava was larger than any other root and tuber crop in Tanga in terms of planted area (7.2% of the total area planted with annual crops and vegetables) and it accounted for 64.5 percent of the area planted with roots and tubers.

- **Fruit and Vegetables**

The total production of fruit and vegetables was 19,550 tonnes. The most cultivated fruit and vegetable crop was tomatoes. The production for this crop was 10,852 tonnes, which amounts to 55 percent of the total fruit and vegetable production, followed by cabbage 3,472 tonnes (18%) and chilies 1,973 tonnes (10%). The production of the other fruit and vegetable crops was relatively small.

- **Permanent Crops**

The area of smallholders planted area with permanent crops was 62,403 hectares which is 13 percent of the area planted with annual crops in the region. The most important permanent crop is coconuts which accounts for 24 percent of the total area planted with permanent crops followed by oranges (15%), banana (13%) and cashew (13%).

- **Improved Seeds**

The planted area using improved seeds was 52,089 ha which represents 13 percent of the total planted area with the annual crops and vegetables. The percentage use of improved seed in the short rainy season was 13.4 percent which is slightly higher than the corresponding percentage use for the long rainy season (12.73%).

- **Use of Fertilizers**

Most annual crop growing households do not use any fertiliser. The planted area without fertiliser for annual crops was 367,237 hectares representing 85.6 percent of the total planted area with annual crops. Of the planted area with fertiliser

application, farm yard manure was applied to 45,411 ha which represented 10.6 percent of the total planted area (73.3 % of the area planted with fertiliser application). This was followed by compost (12,491 ha, 20.1%). Inorganic fertilizers were used on a very small area and represented only 6.6 percent of the area planted with fertilizers.

- **Irrigation**

In Tanga region, the area of annual crops and vegetables under irrigation was 41,089 ha representing 9.6 percent of the total area planted. The area under irrigation during the short rainy season was 8,088 ha accounting for 20 percent of the total area under irrigation. However, the percentage of the planted area under irrigation during the long rainy season was 12.3 percent compared with 5 percent in the short rainy season.

- **Crop Storage**

There were 228,187 crop growing households (87% of the total crop growing households) that reported storing various agricultural products in the region.

The most important stored crop was maize with 220,402 households storing 28,187 tonnes as of 1st January 2004. This was followed by beans and pulses (104,155 households and 1,914 tonnes), paddy (14,828 households and 827 tonnes) and groundnuts and bambara nuts (1,674 households and 54 tonnes). The rest of the crops were stored in very small amounts.

- **Crop Marketing**

The number of households that reported selling crop was 197,168 which represent 74.8 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Muheza (84%) followed by Lushoto (80%), Tanga (77%), Kilindi (76%), Pangani (70%) Korogwe (65%) and Handeni (64%).

- **Agricultural Credit**

In Tanga region, few agricultural households (1,022, 0.4%) accessed credit, out of which 453 (44%) were male-headed households and 569 (56%) were female headed households. In Lushoto district only female headed households got credit for agriculture purposes, whereas in Korogwe, Tanga and Handeni districts only male households accessed credit. In Muheza district both male and female headed household's accessed credit.

- **Crop Extension Services**

The number of agricultural households that received crop extension was 121,486 (46% of total crop growing households in the region). Some districts have more access to extension services than others (Chart 3.96). Korogwe district had a relatively high proportion of households that received crop extension messages (84%), followed by Lushoto (49%), Muheza (43%), Pangani (39%), Kilindi (27%), Handeni (22%) and Tanga (14%).

- **Soil Erosion and Water Harvesting Facilities**

The number of agricultural households that reported the presence of soil erosion and water harvesting facilities in their farms was 30,288. This number represents 11 percent of total number of agricultural households in the region. The proportion of farmers with soil erosion control and water harvesting facilities was highest in Lushoto District (23%) followed by Korogwe (10%), Muheza (8%), Kilindi (3%), Handeni (2%), Tanga (1%) Pangani (0.5%).

**iii) Livestock and Poultry Production**

- **Cattle**

The total number of cattle in the region was 378,338. Cattle rearing are the dominant livestock type in the region followed by goats, sheep and pigs. The region had 2.2 percent of the total cattle population on the Tanzanian Mainland. The number

of indigenous cattle was 350,210 head (92.6% of the total number of cattle in the region), 27,829 (7%) were dairy breeds and only 298 (1.4%) were beef breeds.

- **Goats**

The number of goat-rearing-households in the region was 68,764 (26% of all agricultural households) with a total of 514,620 goats giving an average of 7 head of goats per goat-rearing-households.

- **Sheep**

The number of sheep-rearing households was 35,381 (13% of all agricultural households) with a total of 164,209 sheep giving an average of 5 heads of sheep per sheep-rearing household.

- **Pigs**

The number of pig-rearing households in the region was 2,601 (1% of the total agricultural households) rearing about 6,281 pigs. This gives an average of 2 pigs per pig-rearing household.

- **Chicken**

The number of households keeping chickens was 176,806, raising 1,788,767 chickens. This gives an average of 10 chickens per chicken-rearing household. In terms of total number of chickens in the country Tanga ranked eighth out of the 21 Mainland regions.

- **Use of Draft Power**

The region has 738 oxen and they were only found in two districts, Korogwe and Kilindi with 592 and 146 head respectively. Tanga region has 0.03 percent of the total 2,233,927 head of oxen found on the Mainland and were used to cultivate 2,653 hectares of land.

- **Fish Farming**

The number of households involved in fish farming was 1,423 (0.5 percent of the total agricultural households in the region). Korogwe was the leading district with 634 agricultural households involved in fish farming (1.4%) followed by Lushoto 430 (0.5%), Muheza 336 (0.7%) and Tanga 23 (0.3%). Fish farming was not practiced in Pangani and Handeni districts.

**iv) Poverty Indicators**

- **Availability of Toilets**

It was estimated that 86.5 percent of all rural agricultural households used the traditional pit latrines, 1.8 percent used improved pit latrine and 0.7 percent had flush toilets. The remaining 0.1 percent of households had other unspecified types of toilets. Households with no toilet facilities represent 11 percent of the total agriculture households in the region.

- **Household Assets**

Out of all assets, radios had the highest percent of households owning them (61.3% of households) followed by bicycle (32.1%), iron (18.9%), wheelbarrow (3.4%), mobile phone (1.9%), television/video (1.0%), vehicle (0.9%) and landline phone (0.5%).

- **Source of Lighting Energy**

Wick lamp is the most common source of lighting energy in the region. About 77 percent of the total rural households used this source of energy followed by hurricane lamp (16.6%), pressure lamp (4.2%), mains electricity (1.3%), firewood (0.3%), solar (0.1%), candle (0.1%) and gas or biogas (0.1%).

- **Energy for Cooking**

The most prevalent source of energy for cooking was firewood, which was used by 96.4 percent of all rural agricultural households. The second most common source of energy for cooking was charcoal (2.72%). The rest of energy sources accounted for 0.88 percent. These were bottled gas (0.28%), crop residues (0.28%), mains electricity (0.14%), solar (0.10%), livestock dung (0.04%), paraffin/kerosene (0.03%) and gas/biogas (0.01%).

- **Roofing Materials**

The most used roofing material (for the main dwelling) was grass and/or leaves and it was used by 49.2 percent of the rural agricultural households however, this was closely followed by iron sheets (43.6%). Other roofing materials are grass/mud (4.8%), asbestos (1.1%), tiles (1.0%), concrete (0.1%) and others (0.2%).

- **Number of Meals per Day**

About 72.3 percent of the holders in the region took three meals per day, 25.2 percent took two meals, 2.4 percent took one meal and 0.1 percent took four meals.

- **Food Security**

Households which seldom had problems in satisfying their food needs represent 42 percent of the total number of agriculture households in the region. Households with recurring food shortage problems represent 8.3 percent whereas those with little problems represent 7.6 percent. About 7 percent of agriculture households always faced food shortages whilst 35 percent had not experienced any food shortage problems.

- **Main Source of Cash Income**

Selling of food crops was the main cash income earning activity reported by 25.5 percent of all rural agricultural households. The second main cash income earning activity was casual labor (20.9%) followed by selling of cash crops (16.8%), businesses (14.3%) and cash remittances (7.4%). Other income earning activities were employment (5.0%), sale of livestock (4.0%), sale of forest products (2.5%), sale of livestock products (1.7%) and fishing (0.9%).

# ILLUSTRATIONS

## List of Tables


2.1 Census Sample Size ..... 6
3.1 The Livelihood Activities/Source of Income of the Households Raked in Order of Importance by District .. 11
3.2 Area, Production and Yield of cereal crops by Season ..... 22
3.3 Area, Production and Yield of Root and Tuber Crops by Season ..... 27
3.4 Area, Production and Yield of Pulse by Season ..... 28
3.5 Area, Quantity Harvested and Yield of Oil Seed Crops by Season ..... 32
3.6 Area, Production and Yield of Fruits and Vegetables by Season ..... 35
3.7 Area, Production and Yield of Annual Cash Crops by Season ..... 37
3.8 Land Clearing Methods ..... 48
3.9 Planted Area by Type of Fertiliser Use and District – Long and Short Rainy Season ..... 51
3.10 Number of Crop Growing Households and Planted Area (ha) by Fertilizer Use and District during the Long Rainy Season ..... 51
3.11 Number of Households Storing Crops by Estimated Storage Loss and District ..... 62
3.12 Reasons for Not Selling Crop Produce ..... 65
3.13 Number of Agricultural Households that Received Credit by Sex of Household head and District ..... 66
3.14 Access to Inputs ..... 69
3.15 Number of Households and Chickens Raised by Flock Size ..... 82
3.16 Number of Other Livestock by Type of Livestock and District ..... 84
3.17 Mean distances from dwellings to infrastructure and services by districts ..... 91
3.18 Number of Households by Number of meals the Household normally takes per Day and District ..... 95


## List of Charts


3.1 Agricultural Households by Type of Holdings ..... 11
3.2 Percentage Distribution of Agricultural Households by Sex of Household Head ..... 11
3.3 Percentage Distribution of Population by Age and Sex in 2003 ..... 15
3.4 Percentage Literacy Level of Household Members by District ..... 15
3.5 Literacy Rates for Heads of Household by Sex and District ..... 15
3.6 Percentage Distribution of Persons Aged 5 years and above in Agricultural Households by Education Status ..... 16
3.7 Percentage of Population Aged 5 years and above by District and Educational Status ..... 16
3.8 Percentage Distribution of Heads of Household by Educational Attainment ..... 16
3.9 Number of Households by number of members with Off Farm Income – Tanga Region ..... 17
3.10 Percentage Distribution of Agricultural Households by Number of Off-farm Activities ..... 17
3.11 Utilized and Usable Land per Household by District ..... 17
3.12 Land Area by Type of Land Use ..... 18
3.13 Area Planted with Annual Crops (ha) by Season ..... 18
3.14 Area Planted with Annual Crops by Season and Region ..... 18
3.15 Area Planted with Annual Crops per Household by Season and District ..... 20
3.16 Planted Area for the Main Annual Crops (ha) ..... 20
3.17a Planted Area per Household by Selected Crops ..... 20
3.17b Percentage Distribution of Area planted with Annual Crops by Crop Type ..... 22
3.18 Area planted with Annual Crops by Type of Crops and Season ..... 22
3.19 Area Planted and Yield of Major Cereal Crops ..... 22
3.20 Time Series Data on Maize Production – Tanga Region ..... 23
3.21 Maize: Total Area Planted and Planted Area per Household by District ..... 23
3.22 Time Series of Maize Planted Area and Yield – Tanga Region ..... 23
3.23 Total Planted Area and Area of Paddy per Household by District ..... 26
3.24 Time Series Data on Paddy Production – Tanga Region ..... 26
3.25 Time Series of Paddy Planted Area and Yield – Tanga Region ..... 26
3.26 Area Planted With Sorghum, Finger Millet and Wheat by District ..... 26
3.27 Area Planted and Yield of Major Root and Tuber Crops ..... 26
3.28 Area planted with Cassava during the census/survey years ..... 27
3.29 Percent of Cassava Planted Area and percent of Total Land with Cassava by District ..... 28
3.30 Cassava Planted Area per Cassava Growing Households by District ..... 28
3.31 Total Area Planted and Planted Area per Household by District ..... 28
3.32 Area Planted and Yield of Major Pulse Crops ..... 30
3.33 Percent of Bean Planted Area and Percent of Total Land with Beans by District ..... 30

3.34 Area Planted per Bean Growing Household by District (Long Rainy Season Only) ... 30
3.35 Time Series Data on Bean Production – Tanga Region ... 30
3.36 Time Series of Beans Planted Area and Yield - Tanga ... 32
3.37 Area Planted and Yield of Major Oil Seed Crops ... 32
3.38 Time Series Data on Groundnut planted area – Tanga Region ... 32
3.39 Percent of Groundnuts Planted Area and Percent of Total Land with Groundnuts by District ... 33
3.40 Area Planted per Groundnut Growing Household by District (Long Rainy Season Only) ... 33
3.42 Area Planted and Yield of Fruit and Vegetables ... 33
3.43 Percent of Tomato Planted Area and Percent of Total Land with Tomato by District ... 35
3.44 Area Planted per Tomato Growing Household by District (Short Rainy Season Only) ... 35
3.45 Percent of Cabbage Planted Area and Percent of Total Land with Cabbage by District ... 37
3.46 Percent of Chillies Planted Area and Percent of Total Land with Chillies by District ... 37
3.47 Area planted with Annual Cash Crops ... 40
3.48 Percent of Tobacco Planted Area and Percent of Total Land with Tobacco by District ... 40
3.49 Area Planted for Annual and Permanent Crops ... 40
3.50 Area Planted with the Main Permanent Crops ... 43
3.51 Percent of Area Planted and Average Planted Area with Permanent Crops by District ... 43
3.52 Percent of Area Planted with Coconuts and Average Planted Area per Household by District ... 43
3.53 Percent of Area Planted with Oranges and Average Planted Area per Household by District ... 45
3.54 Percent of Area Planted with Banana and Average Planted Area per Household by District ... 45
3.55 Percent of Area Planted with Cashew nuts and Average Planted Area per Household by District ... 48
3.56 Number of Households by Method of Land Clearing during the Long Rainy Season ... 48
3.57 Area Cultivated by Cultivation Method ... 48
3.58 Area Cultivated by Method of Cultivation and District ... 50
3.59 Planted Area of Improved Seeds – Tanga ... 50
3.60 Planted Area with Improved Seed by Crop Type ... 50
3.61 Percentage of Crop Type Planted Area with Improved Seed – Annuals ... 50
3.62 Area of Fertilizer Application by Type of Fertilizer ... 51
3.63 Area of Fertilizer Application by Type of Fertilizer and District ... 51
3.64 Planted Area with Farm Yard Manure by Crop Type - Long Rainy Season ... 52
3.65a Percentage of Crop Type Planted Area with Farm Yard Manure – Annuals ... 52
3.65b Proportion of Planted Area Applied with Farm Yard Manure by District ... 52
3.66 Planted Area with Inorganic Fertiliser by Crop type – Annuals ... 52
3.67a Percentage of Planted Area with Inorganic Fertiliser by Crop Type ... 53
3.67b Proportion of Planted Area Applied with Inorganic Fertiliser by District ... 53
3.68a Planted Area with Compost by Crop Type ... 53
3.68b Percentage of Planted Area with Compost by Crop Type ... 53
3.68c Proportion of Planted Area Applied with Compost by District ... 53
3.69 Planted area (ha) by Pesticide use ... 54
3.70 Planted Area applied with Insecticides by Crop Type ... 54
3.71 Percentage of Crop Type Planted Area applied with insecticides ... 54
3.72 Proportion of Planted Area applied with Insecticides by District during the Long Rainy Season ... 54
3.73 Planted Area applied with herbicides by Crop Type ... 55
3.74 Percentage of Crop Type Planted Area applied with herbicides ... 55
3.75 Proportion of Planted Area applied with Herbicides by District during the Long Rainy Season ... 55
3.76 Planted Area applied with Fungicides by Crop Type ... 55
3.77 Percentage of Crop Type Planted Area applied with Fungicides ... 56
3.78 Proportion of Planted Area applied with Fungicides by District during the Long Rainy Season ... 56
3.79 Area of Irrigated Land ... 56
3.80 Planted Area and Percentage of Planted Area with Irrigation by District ... 57
3.81 Time Series of Households with Irrigation – Tanga ... 57
8.82 Number of Households with Irrigation by Source of Water ... 57
3.83 Number of Households by Method of Obtaining Irrigation Water ... 57
3.84 Number of Households with Irrigation by Method of Field Application ... 59
3.85 Number of Households and Quantity Stored by Crop Type ... 59
3.86 Number of households by Storage Methods ... 60
3.87 Number of households by method of storage and District (based on the most important household crop) ... 60
3.88 Normal Length of Storage for Selected Crops ... 60
3.89 Quantity of Maize Produced (tonnes), Stored and Percent Stored by District ... 62
3.90 Number of Households by Purpose of Storage and Crop Type ... 62
3.91a Percentage of Households Processing Crops by District ... 63
3.91b Percent of Households Processing Crops by District ... 63
3.92 Percent of Crop Processing Households by Method of Processing ... 63

3.93 Percent of Households by Type of Main Processed Product ..... 63
3.94 Number of Households by Type of By-product ..... 64
3.95 Use of Processed Product ..... 64
3.96 Percentage of Households Selling Processed Crops by District ..... 64
3.97 Location of Sale of Processed Products ..... 64
3.98 Percent of Household selling Processed Products by Outlets for Sale and Distance ..... 65
3.99 Number of Crop Growing Households Selling Crops by District ..... 65
3.100 Percentage Distribution of Households that Reported Marketing Problems by Type of Problem ..... 65
3.101 Percentage Distribution of Households Receiving Credit by Main Sources ..... 66
3.102 Number of Households Receiving Credit by Main Source of Credit and District ..... 66
3.103 Proportion of Households Receiving Credit by Main Purpose of the Credit ..... 66
3.104 Reasons for Not using Credit (% of Household) ..... 66
3.105 Number of Households Receiving Extension Advice ..... 67
3.106 Number of Households Receiving Extension by District ..... 67
3.107 Number of Households Receiving Extension Messages by Type of Extension Provider ..... 67
3.108 Number of Households Receiving Extension by Quality of Services ..... 67
3.109 Number of Households by Source of Inorganic Fertiliser ..... 69
3.110 Number of Households Reporting Distance to Source of Inorganic Fertiliser ..... 69
3.111 Number of Households by Source of Improved Seed ..... 70
3.112 Number of Households reporting Distance to Source of Improved Seed ..... 70
3.113 Number of Households by Source of Insecticide/Fungicide ..... 70
3.114 Number of Households Reporting Distance to Source of Insecticides/Fungicides ..... 70
3.115 Number of Households with Planted Trees by District ..... 71
3.116 Number of Planted Trees by Species ..... 71
3.117 Number of Trees Planted by Smallholders by Species and District ..... 71
3.118 Number of Trees Planted by Location ..... 71
3.119 Number of Households by purpose of Planted Trees ..... 72
3.120 Number of Households with Erosion Control/Water Harvesting Facilities ..... 72
3.121 Number of Households with Erosion Control/Water Harvesting Facilities by District ..... 72
3.122 Number of Erosion Control/Water Harvesting structures by Type of Facility ..... 72
3.123 Total Number of Cattle ('000') by District ..... 74
3.124 Numbers of Cattle by Type and District ..... 74
3.125 Cattle Population Trend ..... 76
3.126 Improved Cattle Population Trend ..... 76
3.127 Total Number of Goats ('000') by District ..... 76
3.128 Goat Population Trend ..... 78
3.129 Total Number of Sheep by District ..... 78
3.130 Sheep Population Trend ..... 80
3.131 Total Number of Pigs by District ..... 80
3.132 Pig Population Trend ..... 80
3.133 Total Number of Chicken by District ..... 82
3.134 Chicken Population Trend ..... 82
3.135 Number of Improved Chicken by Type and District ..... 84
3.136 Improved Chicken Population Trend ..... 84
3.137 Percentage of Livestock Keeping Households Reporting Tsetse flies and Ticks Problems by District ..... 84
3.138 Percent of Livestock Rearing Households that Dewormed Livestock by Livestock Type and District ..... 86
3.139 Percentage Distribution of Livestock Rearing Households by Quality of Livestock Extension Services ..... 86
3.140 Number of Households by Distance to Veterinary Clinic ..... 87
3.141 Number of Households by Distance to Veterinary Clinic and District ..... 87
3.142 Number of Households by Distance to Village Watering Point ..... 87
3.143 Number of Households by Distance to Watering Point and District ..... 87
3.144 Number of Households using Draft Animals ..... 87
3.145 Number of Households using Draft Animals by District ..... 87
3.146 Number of Households using Organic Fertiliser ..... 88
3.147 Area of Application of Organic Fertiliser by District ..... 88
3.148 Number of Households Practicing Fish Farming – Tanga ..... 88
3.149 Number of Households Practicing Fish Farming by District – Tanga ..... 91
3.150 Fish Production ..... 91
3.151 Agricultural Households by Type of Toilet Facility ..... 92
3.152 Percentage Distribution of Households Owning the Assets ..... 92
3.153 Percentage Distribution of Households by Main Source of Energy for Lighting ..... 92
3.154 Percentage Distribution of Households by Main Source of Energy for Cooking ..... 92
3.155 Percentage Distribution of Households by Type of Roofing Material ..... 94

3.156 Percentage Distribution of Households with Grassy/Leafy Roofs by District ..... 94
3.157 Percentage of Households by Main Source of Drinking Water and Season ..... 94
3.158 Percentage of Households by Distance to Main Source of Water and Season ..... 94
3.159 Number of Agriculture Households by Number of Meals per day ..... 95
3.160 Number of Households by Frequency of Meat and Fish Consumption ..... 95
3.161 Percentage Distribution of the Number of Households by Main Source of Income ..... 97

**List of Maps**

3.1 Total Number of Agricultural Households by District ..... 12
3.2 Number of Agricultural Households per Square Km of Land by District ..... 12
3.3 Number of Crop Growing Households by District ..... 13
3.4 Percent of Crop Growing Households by District ..... 13
3.5 Number of Crop Growing Households per Square Kilometer of Land by District ..... 14
3.6 Percent of Crop and Livestock Households by District ..... 14
3.7 Utilized Land Area Expressed as a Percent of Available Land ..... 19
3.8 Total Planted Area (annual crops) by District ..... 19
3.9 Area planted and Percentage During the Short Rainy Season by District ..... 21
3.10 Area Planted with Cereals and Percent of Total Land Planted with Cereals by District ..... 21
3.11 Planted Area and Yield of Maize by District ..... 24
3.12 Area Planted per Maize Growing Household ..... 24
3.13 Planted Area and Yield of Paddy by District ..... 25
3.14 Area Planted per Paddy Growing Household ..... 25
3.15 Planted Area and Yield of Cassava by District ..... 29
3.16 Area Planted per Cassava Growing Household ..... 29
3.17 Planted Area and Yield of Beans by District ..... 31
3.18 Area Planted per Beans Growing Household ..... 31
3.19 Planted Area and Yield of Groundnuts by District ..... 34
3.20 Area Planted per Groundnuts Growing Household ..... 34
3.21 Planted Area and Yield of Tomato by District ..... 36
3.22 Area Planted per Tomato Growing Household ..... 36
3.23 Planted Area and Yield of Cabbage by District ..... 38
3.24 Area Planted per Cabbage Growing Household ..... 38
3.25 Planted Area and Yield of Chillies by District ..... 39
3.26 Area Planted per Chillies Growing Household ..... 39
3.27 Planted Area and Yield of Cotton by District ..... 41
3.28 Area Planted per Cotton Growing Household ..... 41
3.29 Planted Area and Yield of Tobbaco by District ..... 42
3.30 Area Planted per Tobacco Growing Household ..... 42
3.31 Planted Area and Yield of Coconuts by District ..... 44
3.32 Area Planted per Coconuts Growing Household ..... 44
3.33 Planted Area and Yield of Oranges by District ..... 46
3.34 Area Planted per Orange Growing Household ..... 46
3.35 Planted Area and Yield of Banana by District ..... 47
3.36 Area Planted per Banana Growing Household ..... 47
3.37 Planted Area and Yield of Cashew nut by District ..... 49
3.38 Area Planted per Cashew nut Growing Household ..... 49
3.39 Planted Area and Percent of Planted Area with No Application of Fertilizer by District ..... 58
3.40 Area Planted and Percent of Total Planted Area with Irrigation by District ..... 58
3.41 Percent of households storing crops for 3 to 6 weeks by district ..... 61
3.42 Number of Households and Percent of Total Households Selling Crops by District ..... 61
3.43 Number of Households and Percent of Total Households Receiving Crop Extension Services by District ..... 68
3.44 Number and Percent of Crop Growing Households using Improved Seed by District ..... 68
3.45 Number and percent of smallholder planted trees by district ..... 73
3.46 Number and Percent of Households with water Harvesting Bunds by District ..... 73
3.47 Cattle population by District as of 1st Octobers 2003 ..... 75
3.48 Cattle Density by District as of 1st October 2003 ..... 75
3.49 Goat population by District as of 1st Octobers 2003 ..... 77
3.50 Goat Density by District as of 1st October 2003 ..... 77
3.51 Sheep population by District as of 1st Octobers 2003 ..... 79
3.52 Sheep Density by District as of 1st October 2003 ..... 79
3.53 Pig population by District as of 1st Octobers 2003 ..... 81
3.54 Pig Density by District as of 1st October 2003 ..... 81

3.55 Number of Chickens by District as of 1st October 2003 ..... 83
3.56 Density of Chickens by District as of 1st October 2003 ..... 83
3.57 Number and Percent of Households Infected with Ticks by District ..... 85
3.58 Number and Percent of Households Using Draft Animals by District ..... 85
3.59 Number and Percent of Households Using Farm Yard Manure by District ..... 89
3.60 Number and Percent of Households using Compost by District ..... 89
3.61 Number and Percent of Households Practicing Fish Farming by District ..... 90
3.62 Number and Percent of Households without Toilets by District ..... 90
3.63 Number and Percent of Households using Grass/Leaves for roofing material by District ..... 93
3.64 Number and Percent of Households eating 3 meals per day by District ..... 93
3.65 Number and Percent of Households eating Meat Once per Week by District ..... 96
3.66 Number and Percent of Households eating Fish Once per Week by District ..... 96
3.67 Number and percent of Households Reporting food insufficiency by District ..... 98

# 1. BACKGROUND INFORMATION

## 1.1 Introduction

This part of the report presents a brief description of the regional profile by providing information on geographical location, land area, climate, administrative set up, population and socio-economic indicators. The information will provide the user with a general understanding of the region and its resources.

## 1.2 Geographical Location and Boundaries

Tanga region is situated at the North-East corner of Tanzania between $4^0$ and $6^0$degrees below the Equator and $37^0 – 39^010'$ degrees East of the Greenwich Meridian. Tanga shares borders with Kenya to the North, Morogoro and Coast regions to the South, Kilimanjaro and Arusha regions to the West and the Indian Ocean to the East.

The region comprises seven districts namely Lushoto, Korogwe, Muheza, Tanga, Pangani, Handeni and Kilindi. The region headquarters is located in Tanga District.

## 1.3 Land Area

The region has an area of 26,808 square kilometers, of which 17,000 square kilometers are arable land.

## 1.4 Climate

### 1.4.1 Temperature

The dominant climate is warm and wet along the coast and inland of the Tanga region. The Western Plateau of Handeni district has a hot and dry climate and in the Usambara Mountain range a temperate climate is found. In most cases, there is no big variation of temperature at the coast due to the influence of the Indian Ocean. The coolest month is June with minimum temperature of $20^0$C. The hottest month is December with maximum temperature of $32^0$C.

### 1.4.2 Rainfall

The region has two rainy seasons, the short and the long rainy seasons. The short rainy season (Vuli) is from October to November and the Long rainy season (Masika) from April to May.

In Tanga region, most areas get rainfall of at least 750mm per year. The amount of rainfall is about 1,100 to 1,400mm along the coast, decreasing inland with the exception of the Usambara Mountains, where, depending upon the slope position and height, the amount of rainfall may exceed 2000mm per year. In the Maasai Plains (North West of Handeni) and in the dry plains of Korogwe, the average rainfall is below 600mm.

## 1.5 Population

According to the 2002 Population and Housing Census, there were 1,642,015 inhabitants in Tanga region. The population of Tanga region ranked $10^{th}$ of the 21 regions in Tanzania.

## 1.6 Socio - Economic Indicators

The regional Gross Domestic Product (GDP) at current prices for the year 2003 was estimated to be TShs 418,816 million with a per capita income of shillings 236,115. The region held 10th position among regions on GDP and contributed about 4.3 percent to the national GDP[1]

Tanga region is famous for limestone and gypsum mineral deposits, all of which are used in the cement factory situated in the region.

It has many tourist attractions such as Mkomazi Game Reserve, Amboni Caves, Totten Islands, Tongoni Ruins, Pangani Beach and Hot Water Baths in Amboni and Amani Nature Reserve and has first class hotels (including Mkonge Hotel and Baobab Tree Inn) with conference facilities.

The region is famous for producing both food and cash crops. The main food crops produced in Tanga region include: maize, paddy, beans and sorghum. The main cash crops include sisal and tea. Livestock keeping is also an important economic activity in the region.

[1] Hali ya Uchumi wa Taifa Katika Mwaka 2003

## 2. INTRODUCTION

This part of the report provides the technical and operational description of the National Sample Census of Agriculture (NSCA), carried out in the rural areas of Tanzania Mainland and Zanzibar during the 2002/03 agricultural year. It details the background and the rationale for carrying out the NSCA in 2002/03 agricultural year. It also explains the sampling procedures, designing and implementation of the data processing system.

### 2.1 The Rationale for Conducting the National Sample Census of Agriculture

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 Agriculture Sector Development Programme (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.

This report (Volume V) is among the 21 regional reports for the mainland. Other Census reports include the Technical Report (Volume I), crop sector at national and regional levels including Zanzibar estimates (Volume II), 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.

The report is divided into five main sections: Background Information, Introduction, Results, Evaluation and Conclusion and Appendices. The definitions relating to all aspects of this report can be found in the questionnaire (Appendix III).

### 2.2 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, Non government Organisations (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.

## 2.3 Census Coverage and Scope

The census was conducted for both large and small scale farms. The National Sample Census of Agriculture covered a total of 3,221 selected rural villages of Tanzania Mainland out of which 215 villages were from Tanga region.

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

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

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

Identification (i.e. region, district, ward and village)

Household and holding characteristics

Household information

Land ownership/tenure

Land use

Access and use of resources

Crop and vegetable production

Agro processing and by-Products

Crop storage and marketing

On-farm investment

Access to farm inputs and implements

Use of credit for agricultural purposes

Tree farming/agro-forestry

Crop extension services

Livelihood constraints

Animal contribution to crop production

Livestock

Livestock products

Fish farming

Livestock extension

Labour use

Access to infrastructure and other services

Household facilities

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

The large scale farm questionnaire was administered to large scale farms that were either privately or corporately managed. There will be a national report on large scale farming on Tanzania Mainland.

### 2.4 Legal Authority of the National Sample Census of Agriculture

The NSCA 2002/03 was conducted under the legal authority of the 2000 National Bureau of Statistics Act which, among other things, makes data collected from individuals strictly confidential and to be used for statistical purposes only.

### 2.5 Reference Period

Two types of reference periods were used namely the agricultural year and the reference date for livestock enumeration. The agricultural year 2002/03 (that is October 2002 to September 2003) was used for the data items that are related to crop production. The reference date of enumeration for livestock and poultry count was 1st October 2003.

### 2.6 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 pre-testing 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 Arc View and Freehand.

- Report preparation using Word and Excel.

### 2.6.1 Census Organization

The Census was conducted by the National Bureau of Statistics in collaboration with the sector ministries of agriculture, and the Office of the Chief Government Statistician in Zanzibar. 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, made up of staff from the National Bureau of Statistics, Department of Agricultural Statistics and three representatives from the Ministry of Agriculture and Food Security (Department of Policy and Planning), oversaw the overall operational aspects of the Census. At the regional level, implementation of census activities was overseen by the Regional Statistical Officer of NBS and the Regional Agriculture Supervisor from the Ministry of Agriculture and Food Security. At the District level, two supervisors from the President's Office, Regional Administration and Local Government (PORALG), managed the enumerators who also came from the same ministry.

Members of the Planning Group had a minimum qualification of a bachelor degree; the regional supervisors were agricultural economists, statisticians or statistical officers. The district supervisors and enumerators had diploma level qualifications in agriculture.

The Census and Surveys Technical Working Group 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 (i.e. NBS, sector ministries of agriculture, President's Office, Planning and Privatization (POPP), PORALG, University of Dar es Salaam (UDSM), Tanzania Food and Nutrition Centre (TFNC) and the Office of Chief Government Statistician (OCGS) in Zanzibar). The main function of the committee 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.

### 2.6.2 Tabulation Plan

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.

### 2.6.3 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. In most cases, within each selected village, data was collected from a sub-sample of fifteen agricultural households. In few large villages thirty households were selected. The total Mainland sample was 48,315 agricultural households. In Zanzibar a total of 317 EAs were selected and 4,755 agricultural households were covered. Nationwide, all regions and districts were sampled with the exception of three urban districts (two from Mainland and one from Zanzibar).

In both Mainland and Zanzibar a stratified two stage sample was used. In the first stage, villages/enumeration areas (EAs) were selected with probability proportional to the number of villages in each district. In the second stage, 15 households were selected from a list of

**Table 2.1: Census Sample Size**

| Number of | 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 |

farming households in each Village/EA using systematic random sampling. Table 2.1 gives the sample size of households, villages and districts for Tanzania Mainland and Zanzibar.

### 2.6.4 Questionnaire Design and Other Census Instruments

The census questionnaires were designed following user/producer meetings to ensure that the information collected was in line with their data needs. Several features were incorporated into the design of the questionnaire 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 ICR technologies for data entry.

Skip patterns were used to avoid asking unnecessary questions

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.

Besides the questionnaires, there were other instruments used:

Village listing forms that were used for listing households in the villages and from this list a systematic sample of 15 agricultural households were selected from each village.

Training manual which was used by the trainers for the cascade/pyramid training of supervisors and enumerators. This manual was trainers guiding document on the procedures to follow during the training

Enumerator Instruction Manual which was used as reference material.

### 2.6.5 Field Pre-Testing of the Census Instruments

The Questionnaire was pre-tested in five locations (Arusha, Dodoma,,Tanga, Unguja and Pemba). This was done purposely 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.

### 2.6.6 Training of Trainers, Supervisors and Enumerators

Cascade/pyramid training techniques were employed to maintain statistical standards. The top level training was provided to 66 national and regional supervisors (3 per region plus Zanzibar). The trainers were members of the Planning Group and the trainees were from the National Bureau of Statistics and the sector ministries of agriculture. The second level training was for the district supervisors and enumerators. This training was conducted in the regions. In each region three training sessions were conducted for the district supervisors and enumerators. In addition to training in field level Census methodology and definitions, emphasis was placed on training the enumerators and supervisors in consistency checking. Tests were given to the enumerators and supervisors 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.

### 2.6.7 Information, Education and Communication (IEC) Campaign

Information, Education and Communication (IEC) is an important aspect of any census/survey undertaking. This is due to the fact that inadequately informed and hence uncooperative citizens may jeopardize the entire census/survey. As far as the 2002/03 Agricultural Sample Census was concerned, the main objective of the IEC program was to sensitize and mobilize Tanzanians to support, cooperate and participate in the census exercise.

Radio, television, newspapers, leaflets, t-shirts and caps were used to publicise the Sample Census. T-shirts and caps were used by the field staff and the village chairmen as official uniforms during the field work. The village chairmen helped to locate the selected households.

### 2.6.8 Household Listing

The household listing exercise was done in seven days. During the listing exercise, forms ACLF1 and ACLF2 were administered. The information collected included the number of fields operated by the household, the number of different types of livestock and poultry. This information was used to determine the agricultural households. From the list of agricultural households, 15 households were selected for the interview. The selection was done using the Random Number Table.

### 2.6.9 Data Collection

Data collection activities for the 2002/2003 Agricultural Sample Census took three months from January to March 2004. The data collection methods used during the census was by interview and 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 national, regional, and district supervisors.

The Mobile Response Team consisted of three principal supervisors who provided overall direction to the field operation and responded to queries arising outside the scope of the training exercise. The mobile response team consisted of the Manager of Agriculture Statistics Department, Long-term Consultant and Desk Officer for the Census. Decisions made on definitions and procedures were then communicated back to all enumerators via the national, regional and district supervisors.

District supervision and enumeration were done by staff from the President's Office, Regional Administration and Local Government (PORALG). National and regional supervisions were provided by senior staff of the National Bureau of Statistics and the sector ministries of agriculture. During the household listing exercise 3,221 extension staff was used. For the enumeration of the small holder questionnaire, 1,611 enumerators were used and additional 5 percent enumerators were held in reserve in case of drop outs during the enumeration exercise.

### 2.6.10 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 all supervisors in the district offices.

### 2.6.11 Data Processing

Data processing consisted of the following processes:

Manual editing
Data entry
Data structure formatting
Batch validation
Tabulation
Illustration production
Report formatting

***Manual Editing***

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.

***Data entry/Scanning and ICR extraction technologies***

Scanning and ICR data capture technology was used for the small holder questionnaire. This not only increased the speed of data entry, it also increased the accuracy due to the reduction in 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 that this technology be adopted for future censuses/surveys.

The Census and Surveys Processing Program (CSPro) was used to enter 2,880 of small holder questionnaires that were rejected by the Intelligent Character Recognition (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 Identification (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 more complexes checking between variables. It took six months to screen, edit and validate the data from the smallholder questionnaire. After the long process of data cleaning, the results were prepared based on a pre-designed tabulation plan.

***Tabulations***

Statistical Package for Social Sciences (SPSS) was used to produce the Census results and Microsoft Excel was used to organize the tables and compute additional indicators.

***Analysis and report preparation***

The analysis in this report focuses on regional and district production estimates, districts comparisons and time series analysis. Microsoft Excel was used to produce charts; 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 NBS believes 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 can be found in the Technical Report (Volume I).

## 2.7 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 was provided by the European Union (EU), Department for International Development (DFID) and Japanese International Cooperation Agency (JICA). Technical assistances were managed by Ultek Laurence Gould Consultants (ULG), Scotts Agriculture Consultancy Ltd (SAC) and the Food and Agriculture Organisation (FAO).

# 3. CENSUS RESULTS

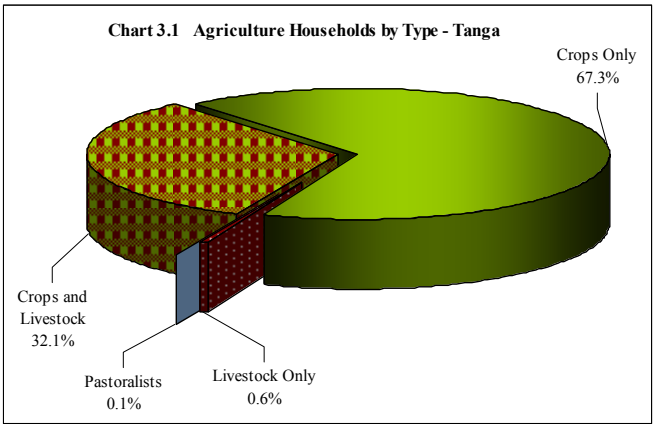
This part of the report presents the results of the census data for Tanga region. Which are based on the data tables presented in Appendix A2. The results are presented in different forms including brief summaries, charts, condensed tables and graphs and Maps in order to make it easier for the users to understand. Comparisons are made between related variables and between districts. Comparisons are also made with past censuses/surveys results such as the 1994/95 National Sample Census of Agriculture (NSCA), the 1995/96 and the 1996/97 Expanded Agricultural Surveys, the 1997/98 Integrated Agricultural Surveys, the 1998/99 District Integrated Agricultural Survey and the 1999/00 Rapid Agricultural Appraisal Survey. . The presentation of results is divided into four main sections which are household characteristics, crop results, livestock results and Poverty indicators. More effort has been placed in analyzing the results in order to formulate solid conclusions than in previous censuses and surveys.

## 3.1 Household Characteristics

### 3.1.1 Type of Household

The number of agricultural households in Tanga region was 265,198. The largest number of agriculture households was in Lushoto (86.580) followed by Muheza (49,195), Handeni (47739), Korogwe (45,990) Kilindi, (19,654) Tanga (8,914) and Pangani (7,128) (Map 3.1). The highest density of households was found in Tanga (74/km$^2$) and Lushoto (63%) (Map 3.2). Most households (178,406, 67.2%) were involved in growing crops only, 1,477 (0.6%) rearing livestock only, 194 (0.1%) pastoralists, and 85,121 (32.1%) were involved in crop production as well as livestock keeping (Chart 3.1) (Map 3.3, 3.4, 3.5 and 3.6).

**Chart 3.1 Agriculture Households by Type - Tanga**




### 3.1.2 Livelihood Activities/Source of Income

The census results for Tanga region indicates that most of the agricultural households ranked annual crop farming as an activity that provides most of their cash income followed by off farm Income, fishing/hunting tree/forest resources, permanent crop farming, livestock keeping/herding and remittances (Table 3.1). Tanga and Pangani districts are the only ones whereby annual crop farming was not the most important source of livelihood, being replaced by Off-farm income

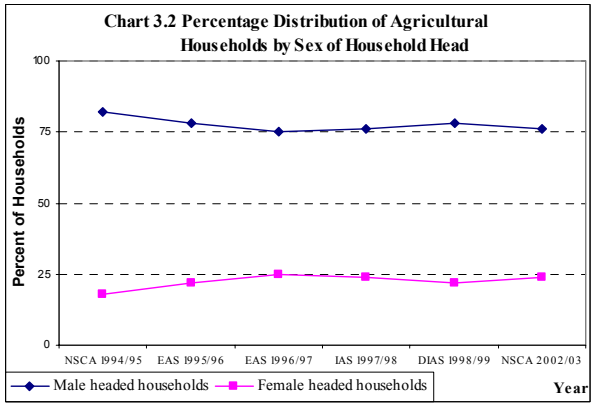
**Table 3.1 The Livelihood Activities/Source of Income of the Households Ranked in Order of Importance by District**

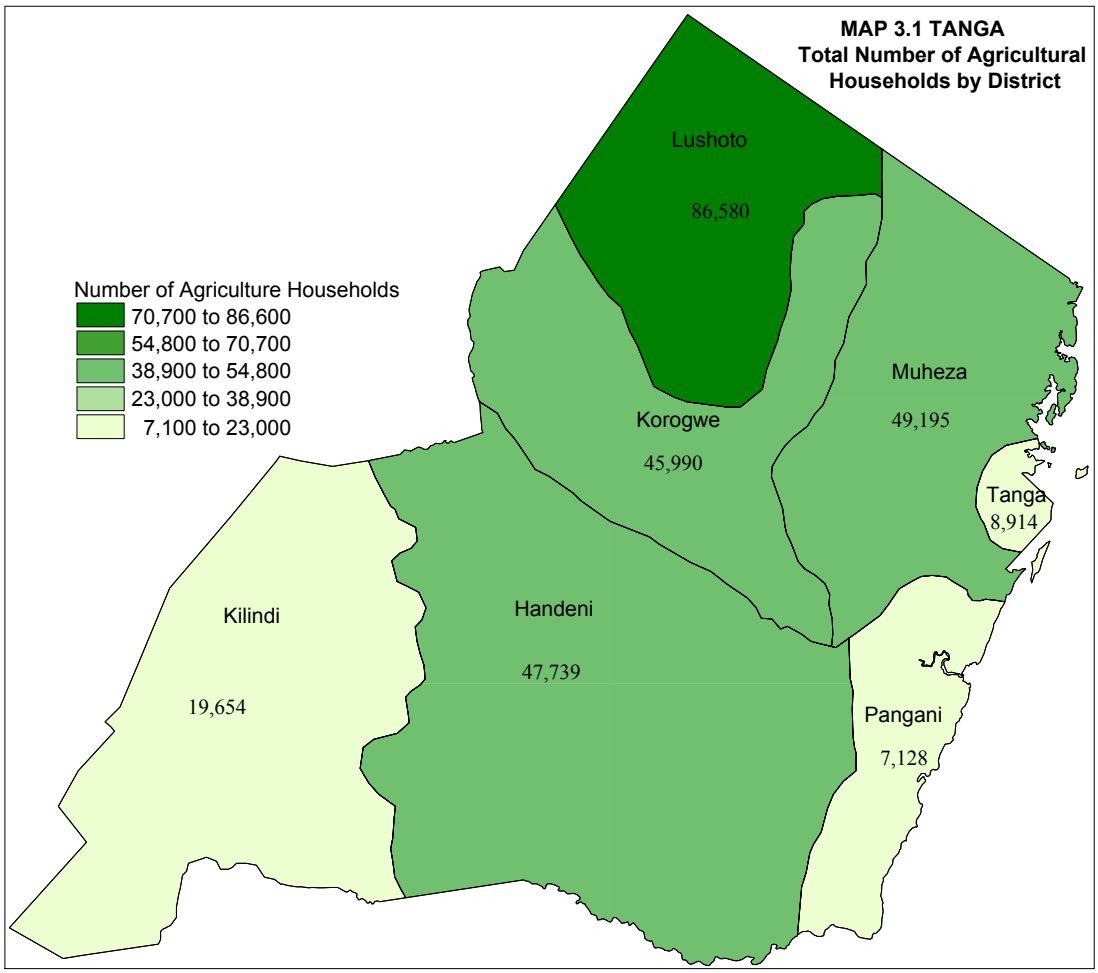
| District | Livelihood Activity | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remitt -ances | Fishing / Hunting & Gathering | Tree / Forest Resources |
| Lushoto | 1 | 3 | 6 | 2 | 7 | 4 | 5 |
| Korogwe | 1 | 5 | 6 | 2 | 7 | 3 | 4 |
| Muheza | 1 | 2 | 6 | 5 | 7 | 4 | 3 |
| Tanga | 3 | 2 | 5 | 1 | 6 | 7 | 4 |
| Pangani | 2 | 5 | 6 | 1 | 7 | 4 | 3 |
| Handeni | 1 | 6 | 5 | 2 | 7 | 3 | 4 |
| Kilindi | 1 | 6 | 5 | 2 | 7 | 3 | 4 |
| **Total** | **1** | **5** | **6** | **2** | **7** | **3** | **4** |

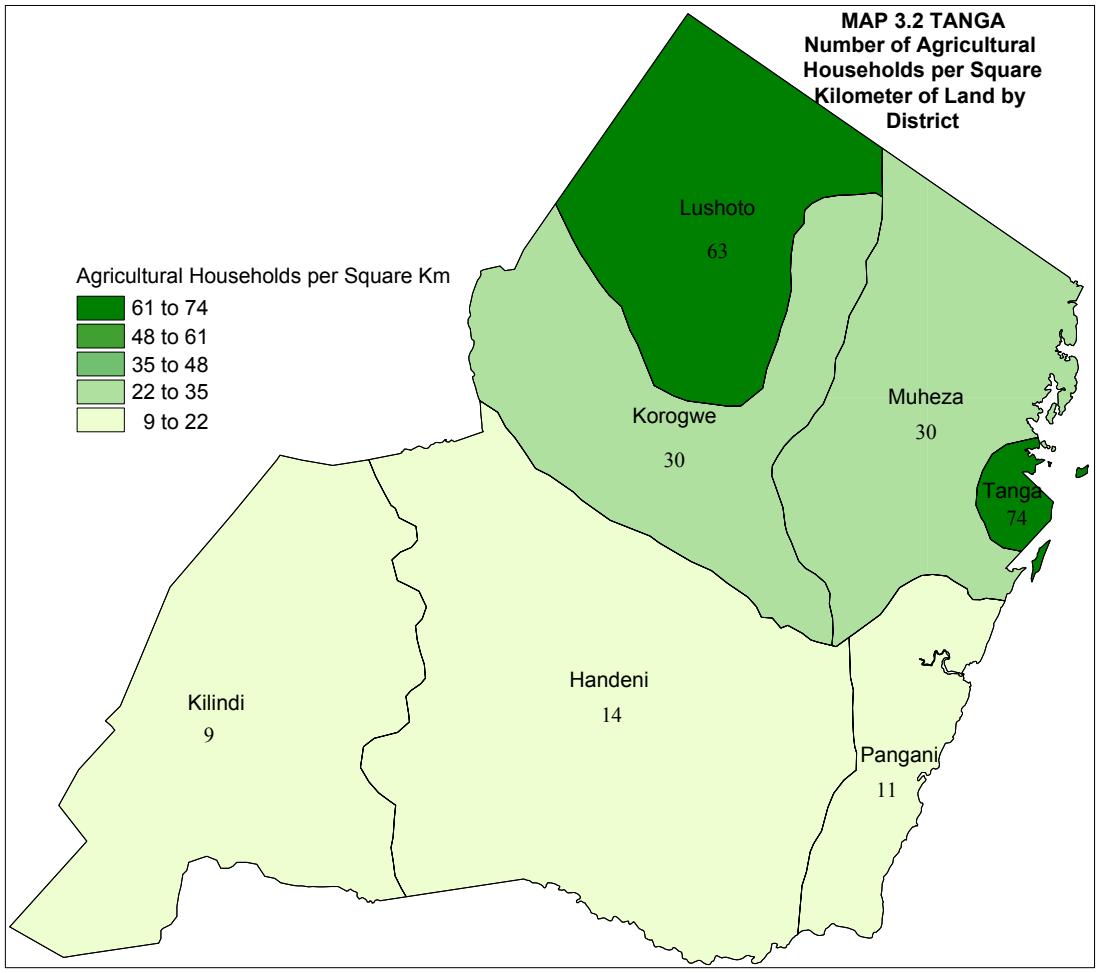
### 3.1.3 Sex and Age of Head of Households

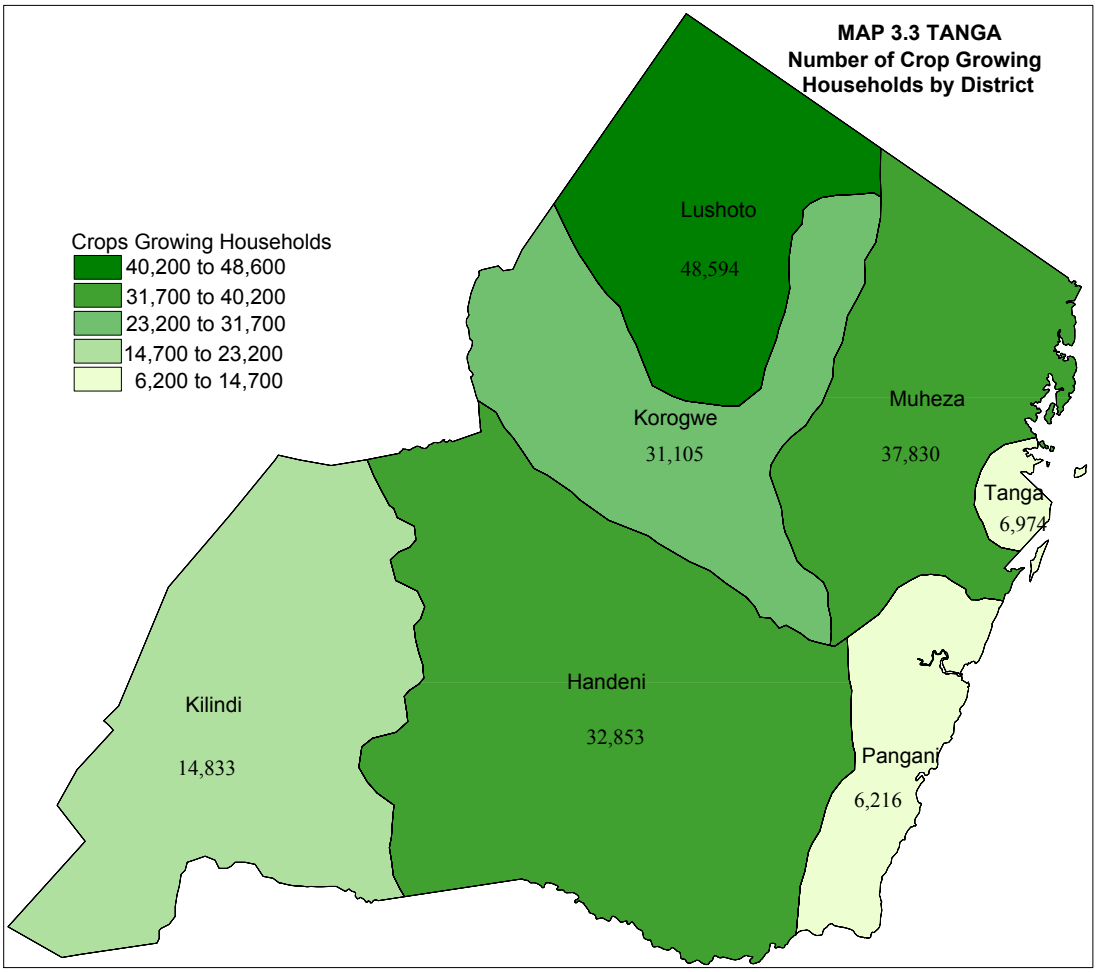
The number of male-headed agricultural households in Tanga region was 200,432 (76% of the total regional agricultural households) whilst in female-headed households it was 64,766 (24% of the total regional agricultural households). The mean age of household heads is 45 years (44 years for male heads and 49 years for female heads) (Chart 3.2)

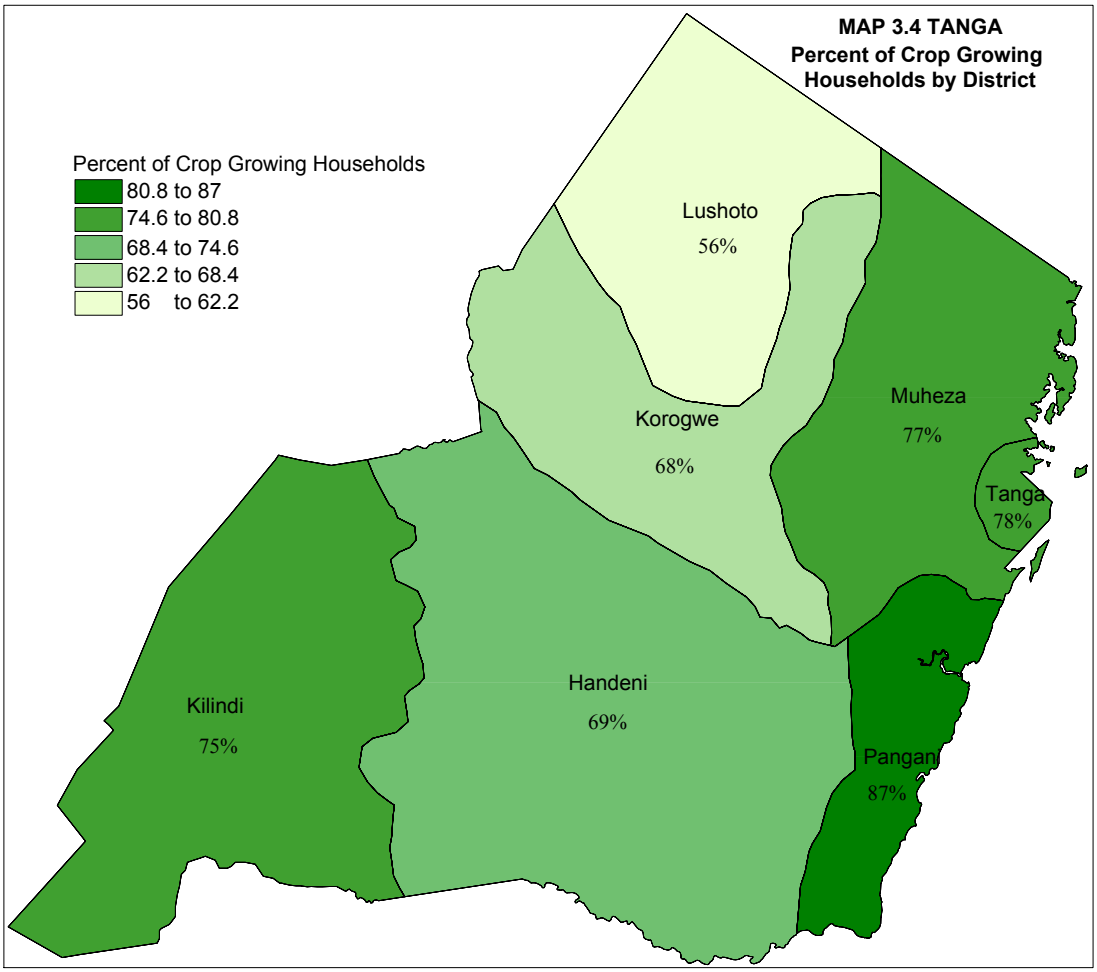
**Chart 3.2 Percentage Distribution of Agricultural Households by Sex of Household Head**

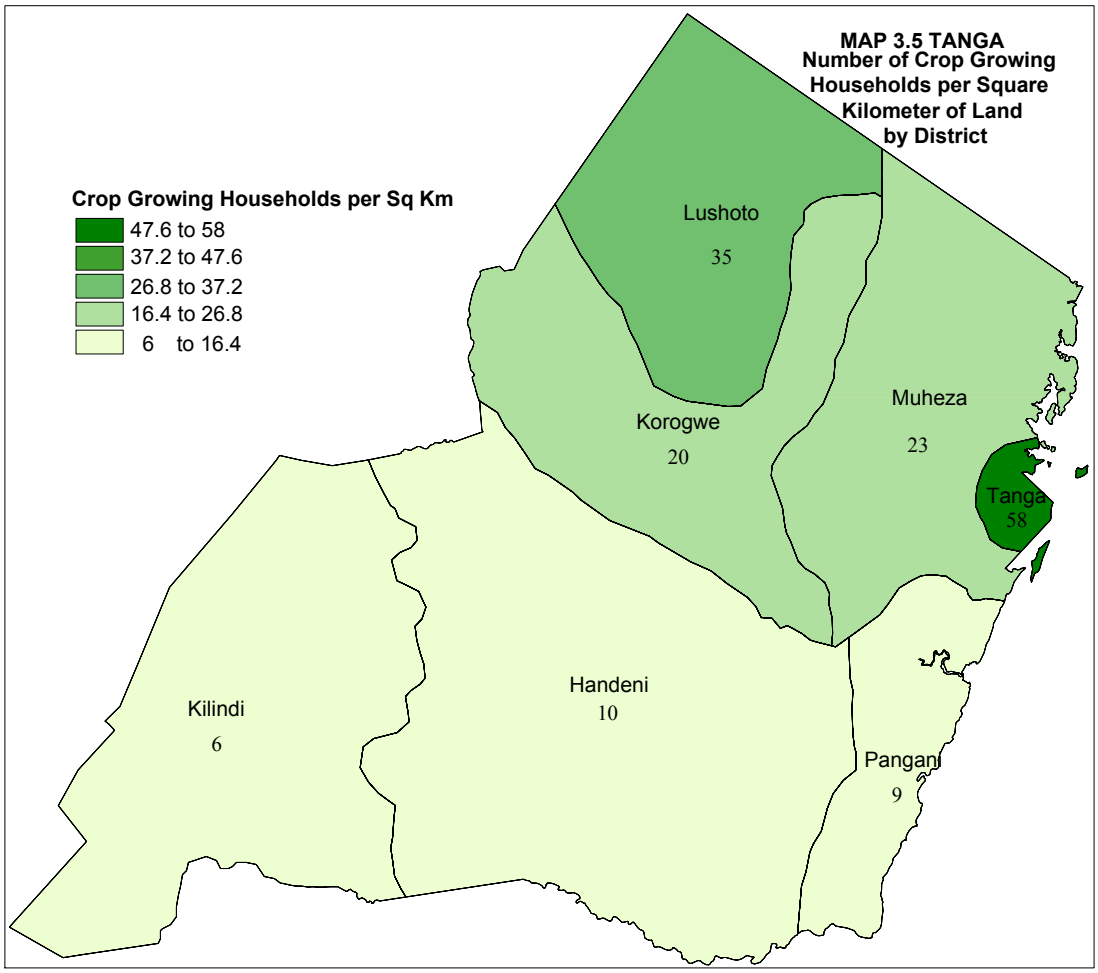


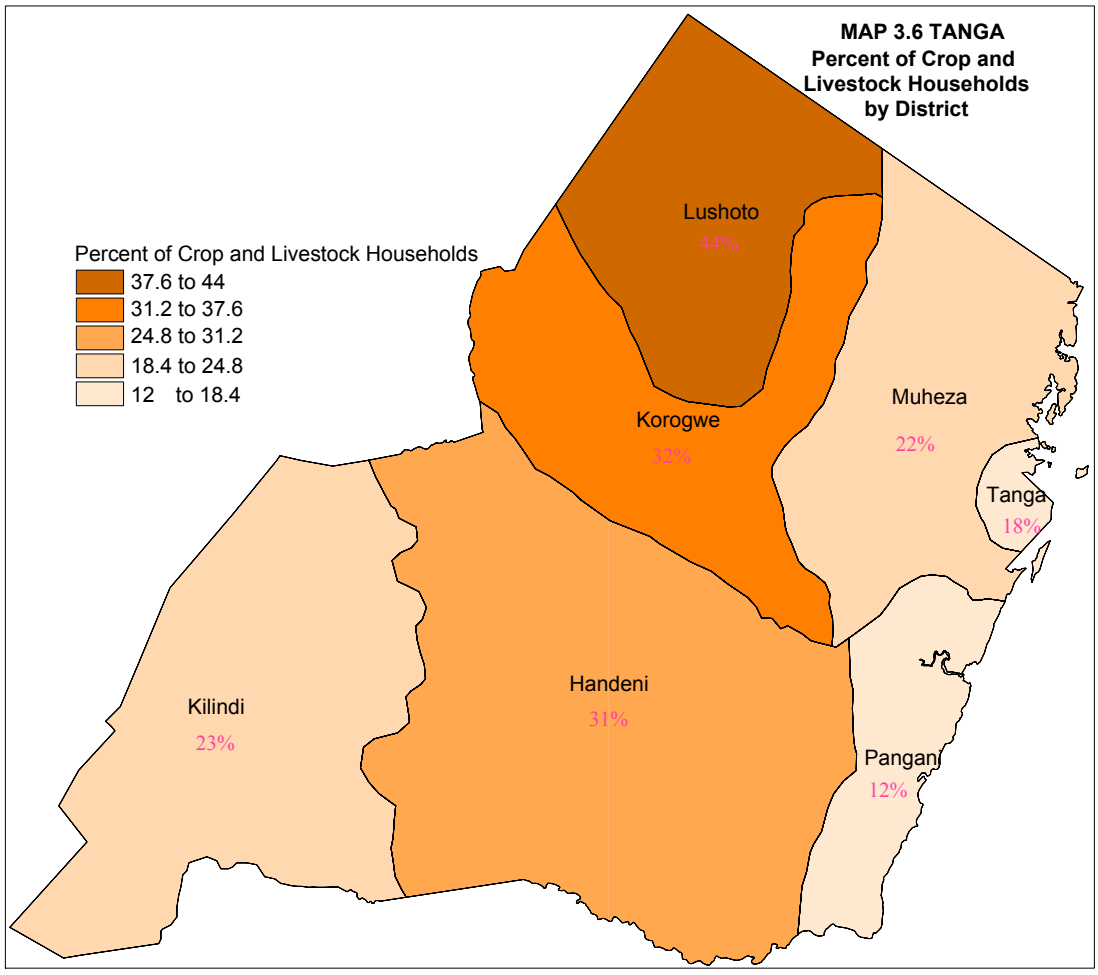

MAP 3.1 TANGA
Total Number of Agricultural Households by District
Number of Agriculture Households
70,700 to 86,600
54,800 to 70,700
38,900 to 54,800
23,000 to 38,900
7,100 to 23,000
Lushoto
86,580
Korogwe
45,990
Muheza
49,195
Tanga
8,914
Kilindi
19,654
Handeni
47,739
Pangani
7,128


MAP 3.2 TANGA
Number of Agricultural Households per Square Kilometer of Land by District
Agricultural Households per Square Km
61 to 74
48 to 61
35 to 48
22 to 35
9 to 22
Lushoto
63
Korogwe
30
Muheza
30
Tanga
74
Kilindi
9
Handeni
14
Pangani
11


MAP 3.3 TANGA
Number of Crop Growing Households by District
Crops Growing Households
40,200 to 48,600
31,700 to 40,200
23,200 to 31,700
14,700 to 23,200
6,200 to 14,700
Lushoto
48,594
Korogwe
31,105
Muheza
37,830
Tanga
6,974
Handeni
32,853
Kilindi
14,833
Pangani
6,216


MAP 3.4 TANGA
Percent of Crop Growing Households by District
Percent of Crop Growing Households
80.8 to 87
74.6 to 80.8
68.4 to 74.6
62.2 to 68.4
56 to 62.2
Lushoto
56%
Korogwe
68%
Muheza
77%
Tanga
78%
Handeni
69%
Kilindi
75%
Pangani
87%

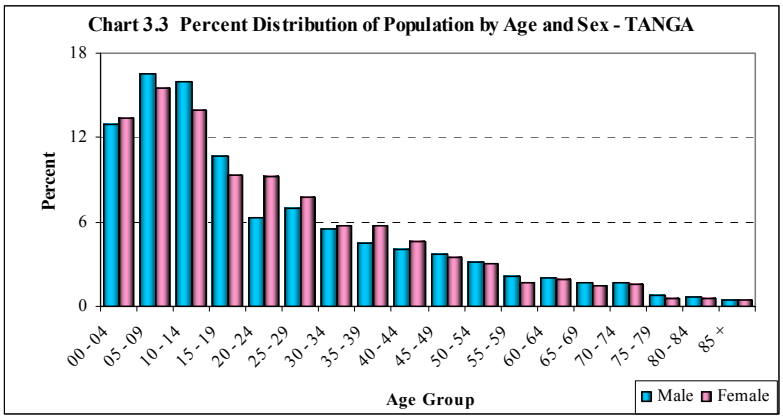

MAP 3.5 TANGA
Number of Crop Growing Households per Square Kilometer of Land by District
Crop Growing Households per Sq Km
47.6 to 58
37.2 to 47.6
26.8 to 37.2
16.4 to 26.8
6 to 16.4
Lushoto
35
Korogwe
20
Muheza
23
Tanga
58
Handeni
10
Kilindi
6
Pangani
9


MAP 3.6 TANGA
Percent of Crop and Livestock Households by District
Percent of Crop and Livestock Households
37.6 to 44
31.2 to 37.6
24.8 to 31.2
18.4 to 24.8
12 to 18.4
Lushoto
44%
Korogwe
32%
Muheza
22%
Tanga
18%
Handeni
31%
Kilindi
23%
Pangani
12%

The percentage trend for six censuses/surveys years shows that there has not been any significant change in the distribution of agricultural households between male and female headed households.

### 3.1.4 Number and Age of Household Members

Tanga region had a total rural agricultural population of 1,296,031 of which 633,967 (49%) were males and 662,064 (51%) were females. Whereas age group 0-14 constituted 44 percent of the total rural agricultural population, age group 15–64 (active population) was only 51 percent. Tanga region had an average household size of 5 with Pangani district having the lowest household size of 4 (Chart 3.3).




### 3.1.5 Level of Education

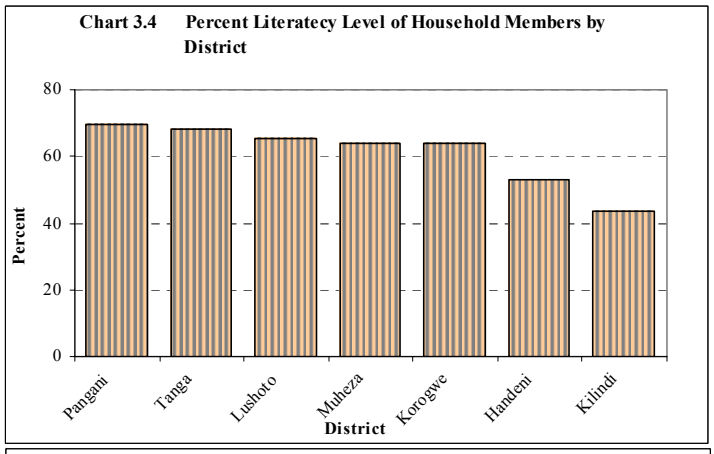
In order to obtain information on the level of education, information on literacy and education attainment were obtained for all persons aged five years and above in all households.

**Literacy**

The information on literacy level for family members aged five years and above was obtained by asking individual private households if their respective family members could read and write in Kiswahili only, English only, both English and Swahili or in any other language. Literacy is based on the ability to read and write Swahili, English or both.

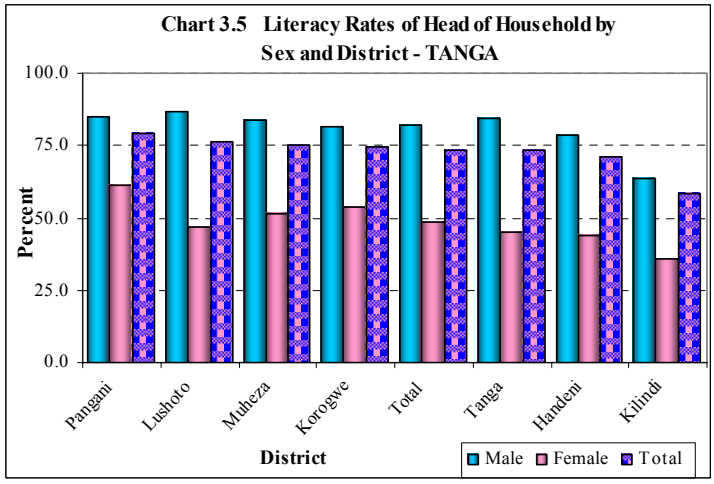
**Literacy Level for Household Members**

Tanga region had a total literacy rate of 70 percent. The highest literacy rate was found in Pangani district (70%) followed by Tanga district (68%) and Lushoto district (65%). Kilindi and Handeni districts had the lowest literacy rates of 44 and 53 percent respectively (Chart 3.4).



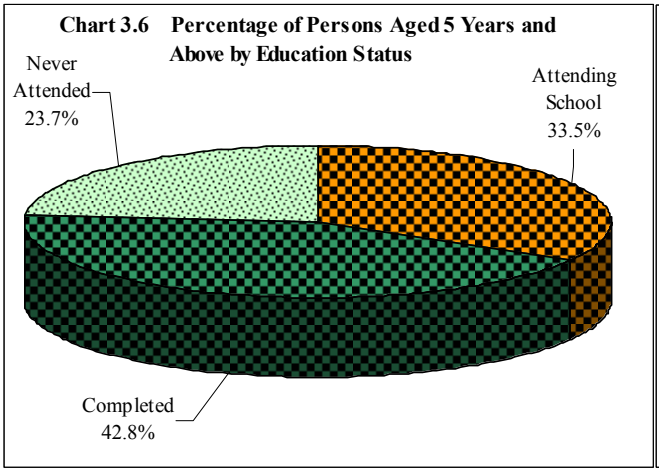

**Literacy Rates for Heads of Households**

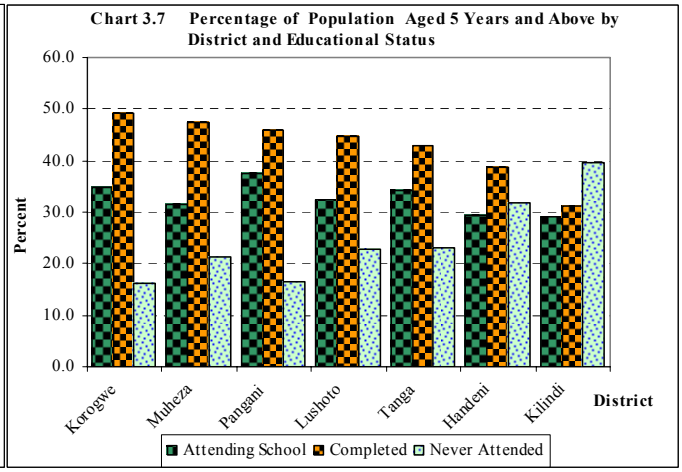
The literacy rate for the heads of households in the region was 73.6 percent. The literacy rates among the male and female heads of households were 82 and 48 percent respectively. Male head of household literacy rate was higher than that of females in all districts. The district with the highest literacy rate amongst heads of households was Pangani (79.4%) followed by Lushoto (76.4%), Muheza (75.4%), Korogwe (74.8%), Tanga (73.5%), Handeni (71.3%) and Kilindi (58.4%) (Chart 3.5).



**Educational Status**

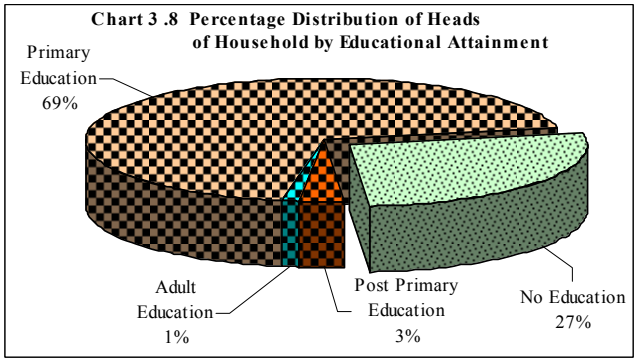
Information on educational status was collected from individual agricultural households. The results show that 42.8 percent of the population aged 5 years and above in agricultural households in the region had completed different levels of education and 33.5 percent were still attending school. Those who have never attended school were 23.7 percent (Chart 3.6).




Agricultural households in Korogwe district had the highest percentage (49.2%) of population aged 5 years and above who had completed different levels of education. This was followed by Muheza and Pangani districts with 47.3 and 46 percent respectively. Kilindi and Handeni districts had the lowest percentages of 31.2 and 38.7.

The number of heads of agricultural households with formal education in Tanga region was 191,081 (72%), those without formal education were 70,819 (27%) and those with only adult education were 3,298 (1%). The majority of heads of agricultural households (69%) had primary level education whereas only 3 percent had post primary education.




With regard to the heads of agricultural households with primary or secondary education in Tanga region, Lushoto district had the highest percentages (34% for primary and 26% for secondary). This was followed by Muheza (19% primary and 20% secondary), Korogwe (18% primary and 26% secondary) and Handeni (17% primary and 11% secondary). Pangani had the lowest percentage of heads of agricultural households with both primary education (3%) and secondary education (3%) (Chart 3.8).

### 3.1.6 Off-farm Income

Off-farm income refers to cash generated from non-agricultural activities. This can be either from permanent employment (i.e., government, private sector or other), temporary employment or labourers. It also includes cash generated from working on farms belonging to other farmers. Off-farm income is important amongst agriculture households in Tanga with 73 percent of households having at least one member with off-farm income. In Tanga region 146,351 households (55%) had only one member aged 5 and above involved in only one off-farm income generating activity, 34,169 households (13%) had two members involved in off-farm income generating activities and 12,023 households (5%) had more than two members involved in off-farm income generating activities.

**Chart 3.9 Number of Household by Number of Members with Off-farm Income**

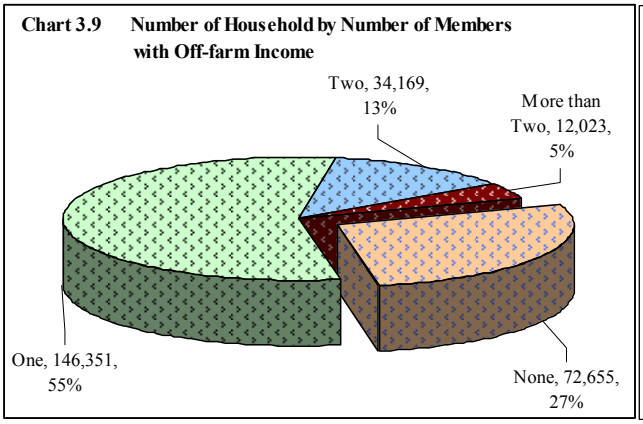
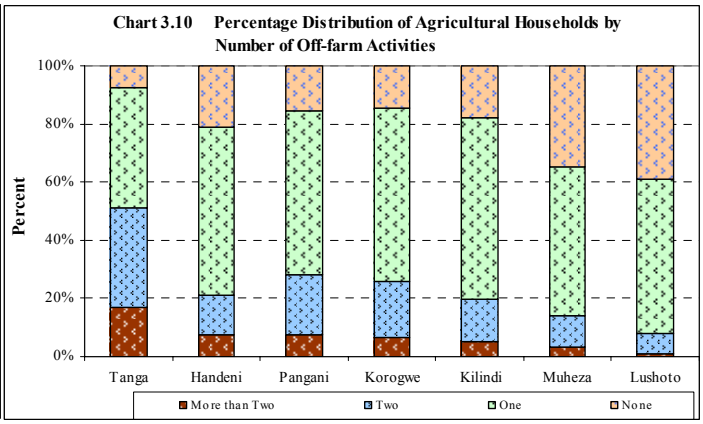



**Chart 3.10 Percentage Distribution of Agricultural Households by Number of Off-farm Activities**




Tanga district had the highest percentage of agriculture households with off-farm income (over 90% of total agriculture households in the district). Other districts with high percent of agriculture households with off-farm income were Pangani (85%), Korogwe (85%), Kilindi (82%) and Handeni (80%). Muheza and Lushoto districts had the lowest percent of agriculture households with off-farm income (63% and 60% respectively). The district with the highest percent of agriculture households with more than one member with off-farm income was Tanga (50%). Lushoto district had very few households with more than one member having off-farm income (9%).

## 3.2 Land Use

Land area and planted area are two different types of area measurements. Land area refers to the physical area of land and is the same regardless of the number of crops planted on the land in one year. Planted area is the total area of crops planted in a year and the area is summed if there were more than one crop on the same land per year. A number of terms are used in this section which requires defining for clarification as follows:

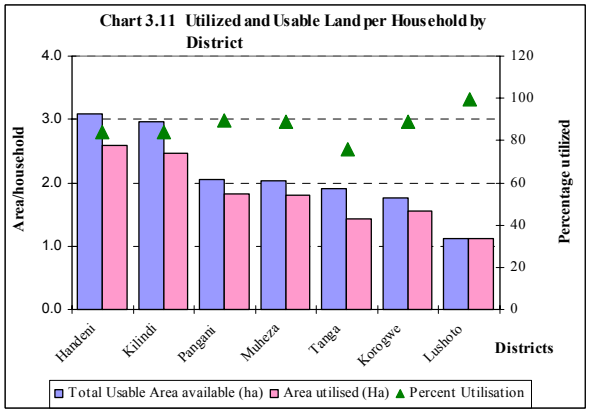
Land available refers to the area of land that has been allocated to smallholders through customary law, official title or other forms of ownership. Land available does NOT mean the total area of land that is designated as agriculture land in the country; however it is the land that is available to smallholders given the location of villages and lack of access to more remote parcels of unused agriculture designated land.

Usable land refers to the available land minus the land that cannot be used e.g. bare rock, shallow soils, steep slopes, swamp areas etc. It does however include un-cleared bush, Utilised land refers to the land that was used during the year.

### 3.2.1 Area of Land Utilised

The total area of land available to smallholders was 524,451 ha. The regional average land area utilised for agriculture per household was only 1.7 ha. This figure is below the national average which is estimated at 2.0 hectares. Eighty eight percent of the total land available to smallholders was utilised. Only 11.1 percent of usable land available to smallholders was not used (Chart 3.11).

**Chart 3.11 Utilized and Usable Land per Household by District**



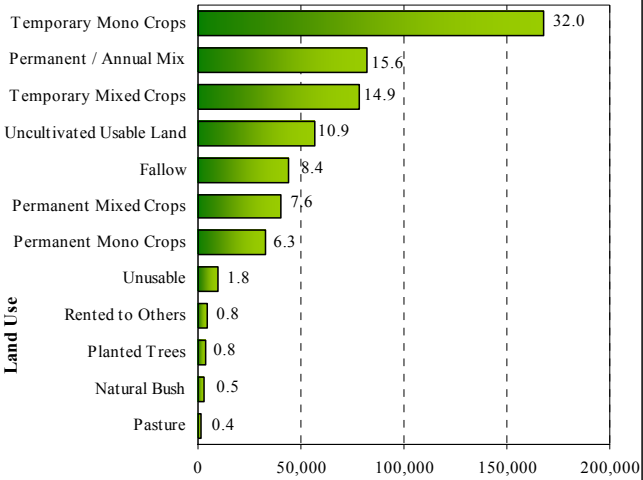

Large differences in land area utilised per household exist between districts with Handeni and Kilindi utilizing between 2.5 and 2.6 ha per household. The smallest land area utilised per household is found in Lushoto (1.1 ha). The percentage utilized of the usable land per household is highest in Lushoto (99%)

and lowest in Tanga (76%). Eighty eight percent of the total land available to smallholders was utilised. Only 11.1 percent of usable land available to smallholders was not used (Chart 3.11 and Map 3.7).

### 3.2.2 Types of Land Use

The area of land under temporary monocrop was 167,575 hectares (32% of the total land available to smallholders in Tanga), followed by permanent/annual mix (81,938 ha, 15.6%), temporary mixed crops (78,356 ha, 14.9%), uncultivatable usable land (57,053 ha, 10.9%), area under fallow (43,926 ha, 8.4%), permanent mixed crop (40,080 ha, 7.6%), permanent monocrop (33,108 ha, 6.3%), unusable area (9,597 ha, 1.8%), area rented to others (4,236 ha, 0.8%), area planted with trees (3,959 ha, 0.8%), area under natural bush (2,771 ha, 0.5%) and area under pasture (1,852 ha, 0.4%).

**Chart 3.12 Land Area by Type of Use**




## 3.3 Annual Crop and Vegetable Production

Tanga region has two rainy seasons, namely the short rainy season (October to November) and the long rainy season (April to May). The quantity of crops produced in both seasons will be used as a base for comparison with the past surveys and censuses.

### 3.3.1 Area Planted

The area planted with annual crops and vegetables was 428,533 hectares out of which 160,820 hectares (37.5%) were planted during short rainy season and 267,713 hectares (62.5%) during long rainy season. The average areas planted per household during the short and long rainy seasons was 0.8 and 1.0 ha respectively (Chart 3.13). The districts with the largest area planted per household (the average of the two seasons) were Kilindi (1.5 ha) followed by Handeni (1.3 ha). The district with the smallest average area planted was Tanga (0.77ha). While in Lushoto district the average area planted during the short rainy season in higher than that of the long rainy season the reverse is true in the rest of the districts (Chart 3.14 and Map 3.8).

**Chart 3.13 Area Planted with Annual Crops by Season (hectares)**

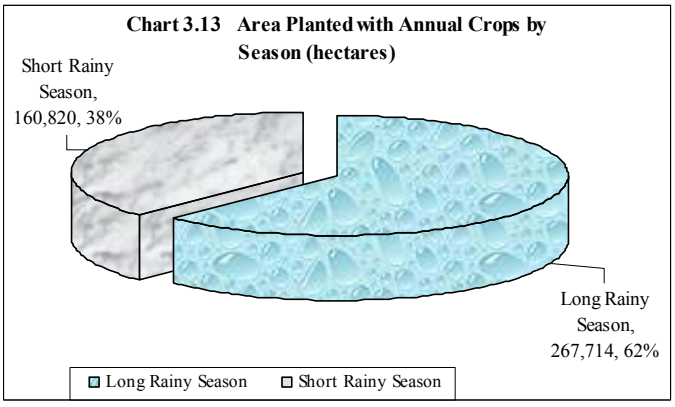
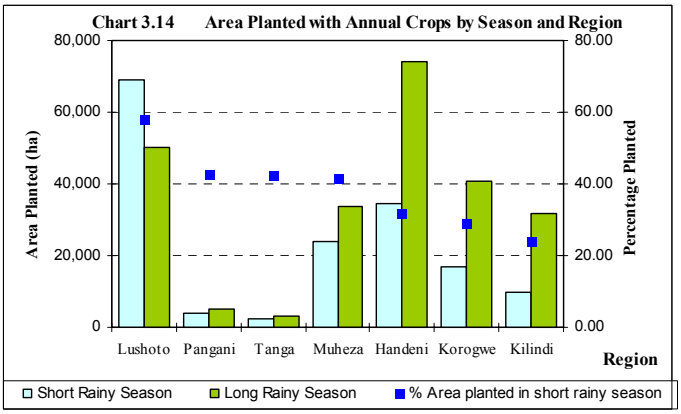
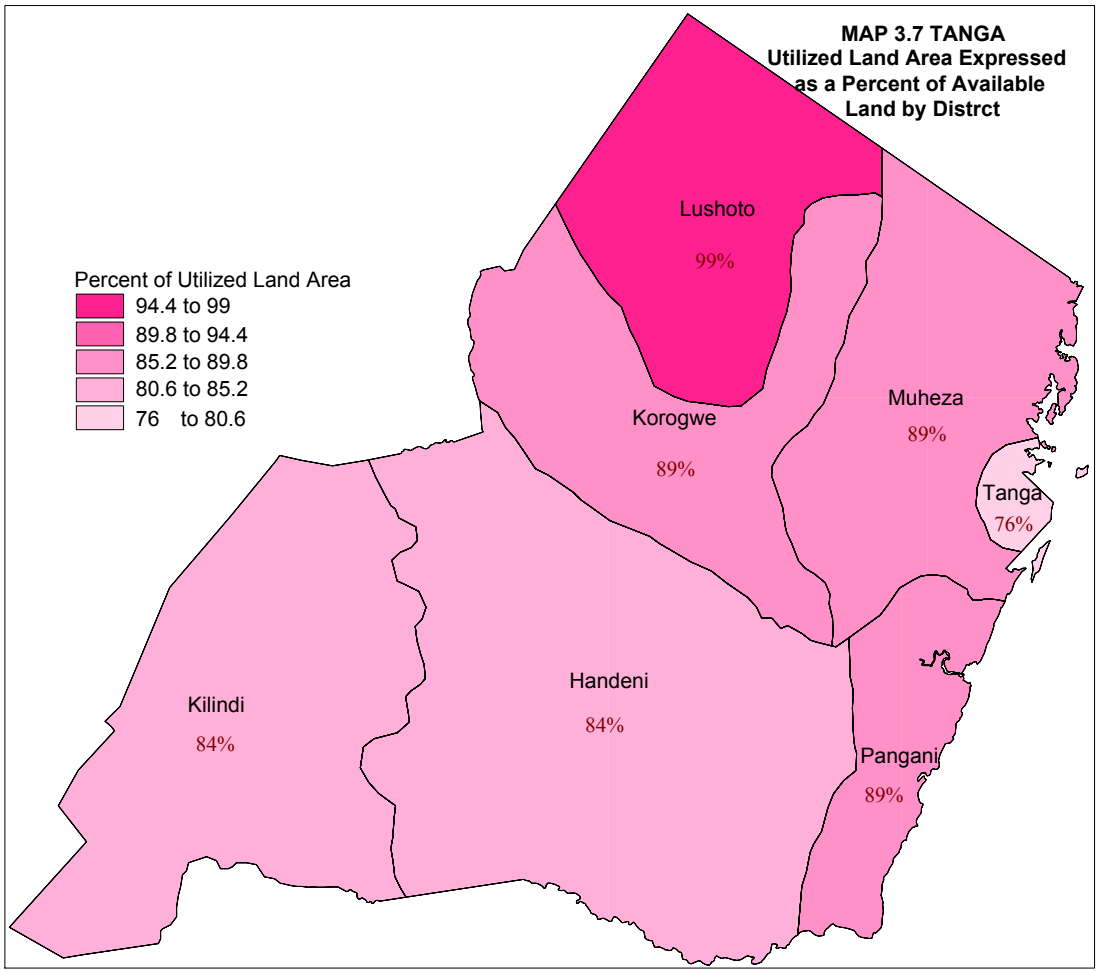
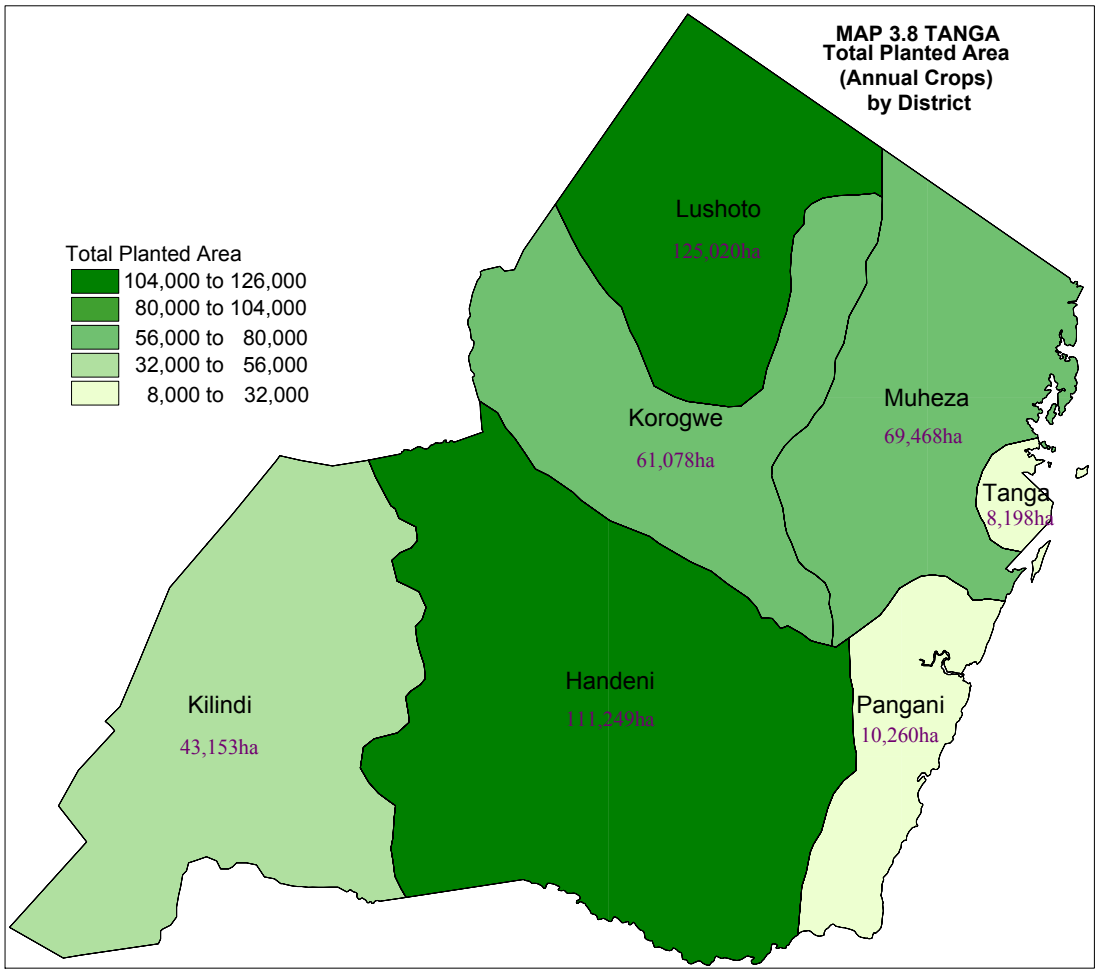



**Chart 3.14 Area Planted with Annual Crops by Season and Region**



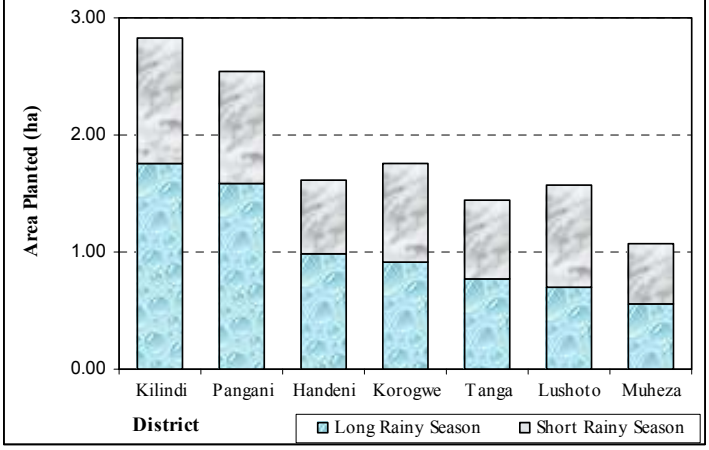

The planted area occupied by cereals was 295,529 ha (69.0%of the total area planted with annuals). This was followed by pulses (77,017 hectares, 18.0%), roots and tubers (47,614 hectares, 11.1%), fruit and vegetables (5,346 hectares, 1.2%), oil seeds (2,564 hectares, 0.6%) and cash


MAP 3.7 TANGA
Utilized Land Area Expressed as a Percent of Available Land by Distrct
Percent of Utilized Land Area
94.4 to 99
89.8 to 94.4
85.2 to 89.8
80.6 to 85.2
76 to 80.6
Lushoto
99%
Korogwe
89%
Muheza
89%
Tanga
76%
Handeni
84%
Kilindi
84%
Pangani
89%


MAP 3.8 TANGA
Total Planted Area (Annual Crops) by District
Total Planted Area
104,000 to 126,000
80,000 to 104,000
56,000 to 80,000
32,000 to 56,000
8,000 to 32,000
Lushoto
125,020ha
Korogwe
61,078ha
Muheza
69,468ha
Tanga
8,198ha
Handeni
111,249ha
Kilindi
43,153ha
Pangani
10,260ha

Crops (465 hectares, 0.1%). The average area planted per household during the long rainy season in Tanga region was 0.82 hectares, however, there were large district differences. Kilindi had the largest planted area per household (2.8 ha) followed by Pangani (2.5 ha) and Korogwe (1.7 ha). The smallest planted area per household is in Muheza (1.1 ha). In Lushoto the area planted per household in the short rainy season represents 58 percent of the total planted area per household, whereas in Kilindi the corresponding figure is 24 percent (Chart 3.15 and Map 3.9).

**Chart 3.15 Area Planted with Annual Crops per Household by Season and District**




**Analysis of the Most Important Crops**

Results on crop production are presented in two different sections. The first section compares the importance of each crop regardless of whether they are annual or permanent. The second section contains a more detailed analysis on production based on crop types.

### 3.3.2 Crop Importance

Maize is the dominant annual crop grown in Tanga region and it had a planted area 4.56 times greater than beans, which had the second largest planted area. The area planted with maize constitutes 67 percent of the total area planted with annual crops in the region. Other crops in order of their importance (based on area planted) are cassava, Irish potatoes, cowpeas, paddy and tomatoes (Chart 3.16). Households that grow sorghum, maize and cowpeas have larger planted areas per household than for other crops (Chart 3.17a).

**Chart 3.16 Planted Area (ha) for the Main Crops Tanga**

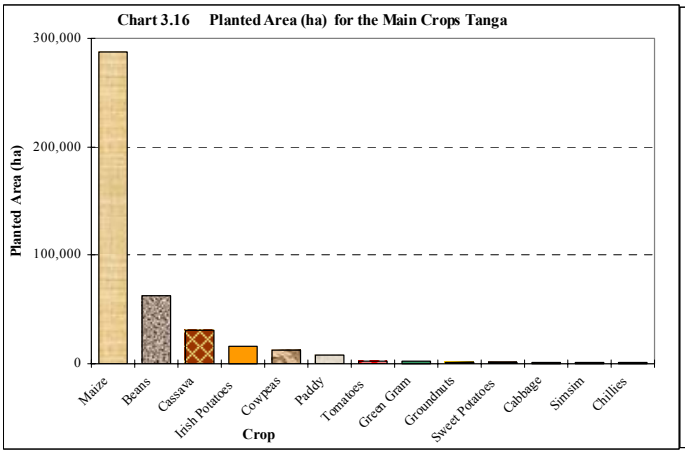
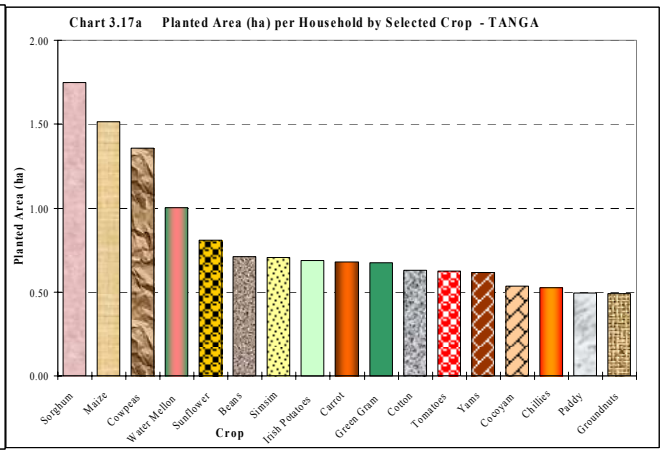
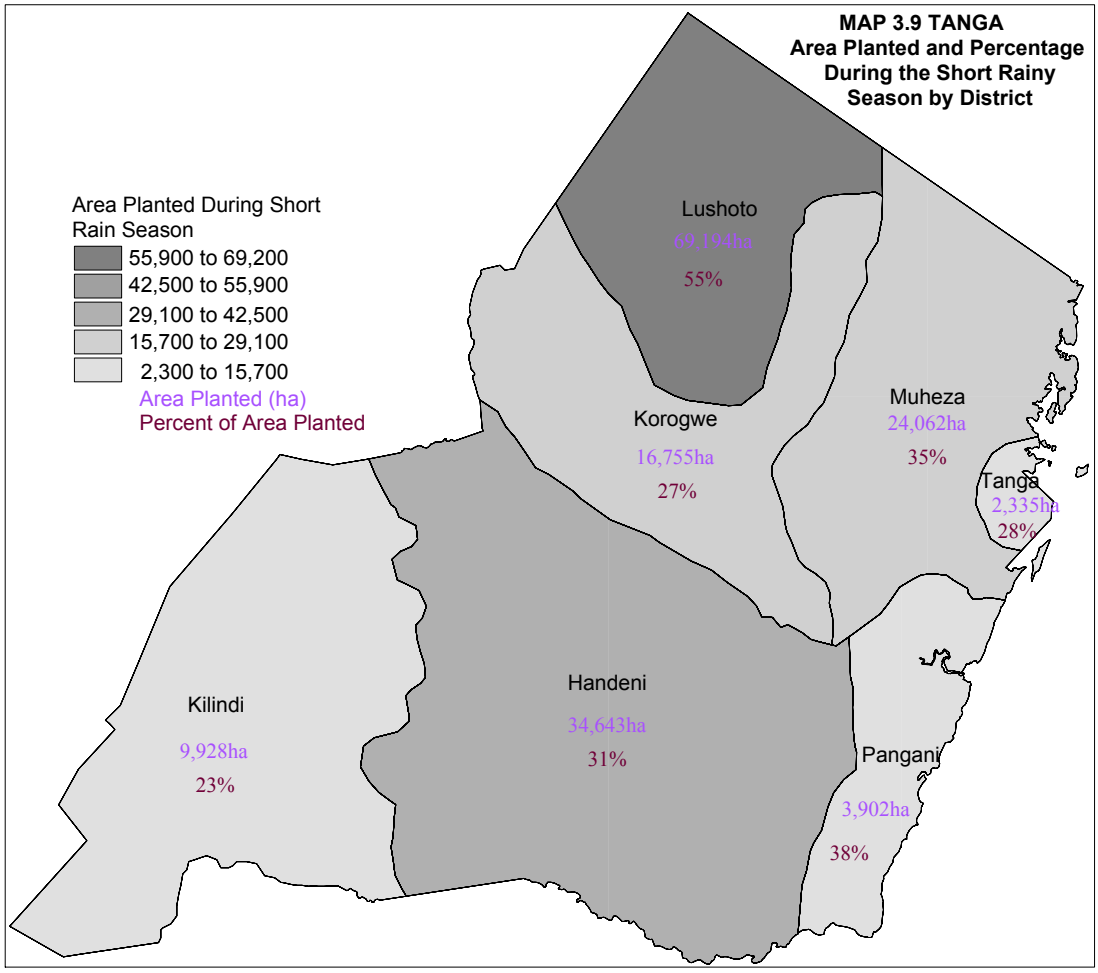


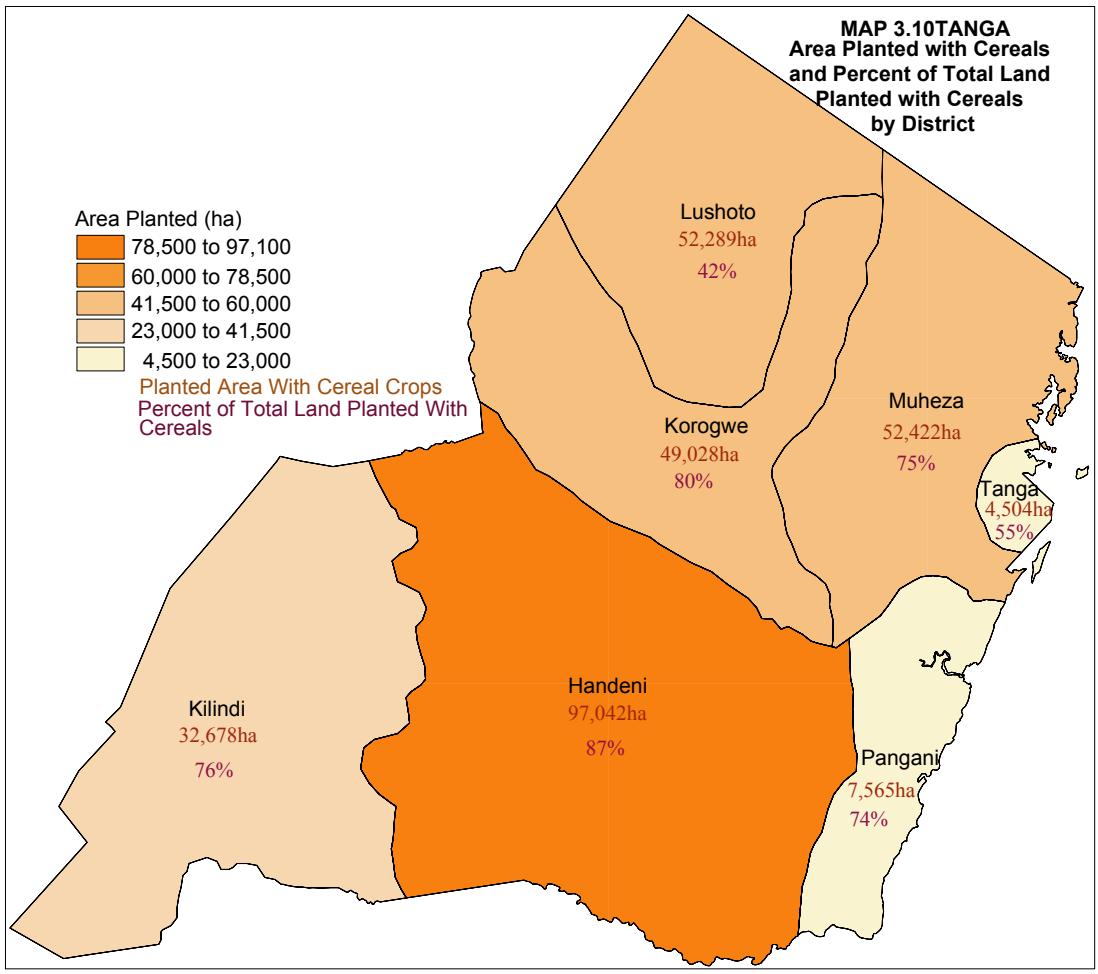

**Chart 3.17a Planted Area (ha) per Household by Selected Crop - TANGA**



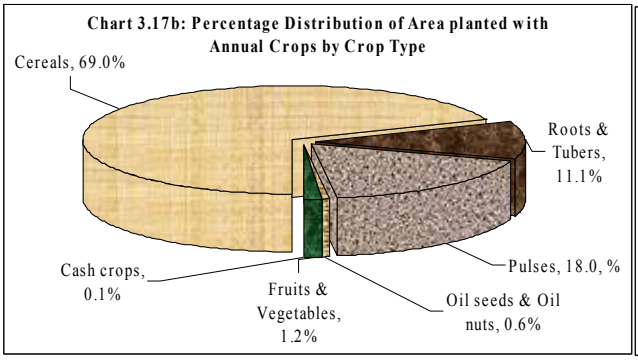

### 3.3.3 Crop Types

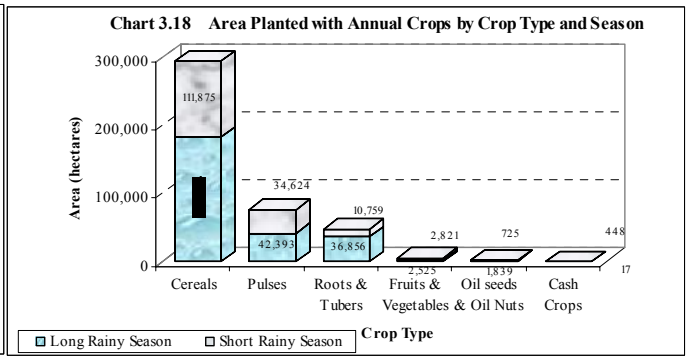
Cereals are the main crops grown in Tanga region. The area planted with cereals was 295,529 ha (69.0% of the total planted area), followed by pulses with 77,017 ha (18.0%), root and tubers 47,614 ha (11.1%), fruits and vegetables 5,346 ha (1.2%) and oil seeds 2,564 ha (0.6%). Annual cash crops that are mainly constituted of cotton and tobacco had got the least planted area of about 465 ha (0.1%) (Chart 3.17b).


MAP 3.9 TANGA
Area Planted and Percentage During the Short Rainy Season by District
Area Planted During Short Rain Season
55,900 to 69,200
42,500 to 55,900
29,100 to 42,500
15,700 to 29,100
2,300 to 15,700
Area Planted (ha)
Percent of Area Planted
Lushoto
69,194ha
55%
Korogwe
16,755ha
27%
Muheza
24,062ha
35%
Tanga
2,335ha
28%
Handeni
34,643ha
31%
Kilindi
9,928ha
23%
Pangani
3,902ha
38%


MAP 3.10TANGA
Area Planted with Cereals and Percent of Total Land Planted with Cereals by District
Area Planted (ha)
78,500 to 97,100
60,000 to 78,500
41,500 to 60,000
23,000 to 41,500
4,500 to 23,000
Planted Area With Cereal Crops
Percent of Total Land Planted With Cereals
Lushoto
52,289ha
42%
Korogwe
49,028ha
80%
Muheza
52,422ha
75%
Tanga
4,504ha
55%
Handeni
97,042ha
87%
Kilindi
32,678ha
76%
Pangani
7,565ha
74%

Cereals and pulses are the dominant crops in both seasons and other crop types are of minor importance in comparison. There is little difference in the proportions of the different crop types grown between seasons and because short rainy season production was very small compared to long rainy season it is inappropriate to make detailed comparisons between the two seasons (Chart 3.18).



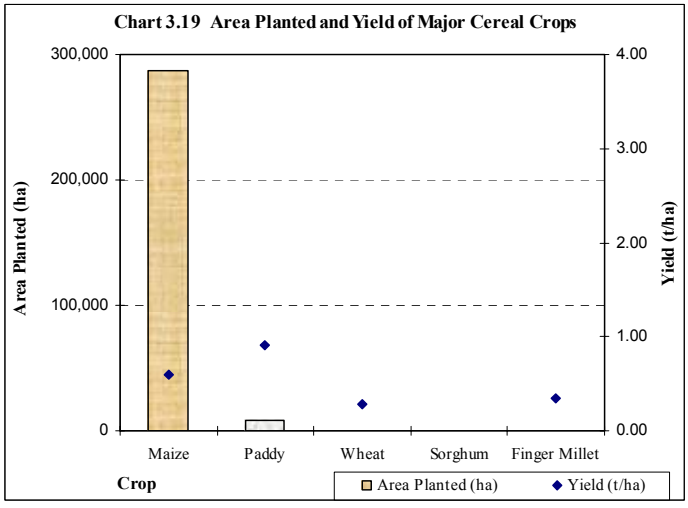

### 3.3.4 Cereal Crop Production

The total production of cereals was 180,987 tonnes. Maize was the dominant cereal crop at 173,602 tonnes which was 96 percent of total cereal crops produced, followed by paddy (4%) sorghum (0.19%), wheat (0.03%) and finger millet (0.01%).Handeni district had the largest planted area of Cereals in the region (97,042ha) followed by Lushoto, (51,118ha), Muheza (50,778ha) and Korogwe 46,369) (Map 3.10).

**Table 3.2: Area, Production and Yield of Cereal Crops by Season**

| Crop | Short Rainy Season | | | Long Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area Planted (ha) | Quantity Harvested (tonnes) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tonnes) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) |
| Maize | 110,043 | 61,910 | 563 | 177,433 | 111,692 | 629 | 287,476 | 173,602 | 604 |
| Paddy | 1,735 | 3,488 | 2,010 | 5,930 | 3,472 | 585 | 7,665 | 6,960 | 908 |
| Sorghum | 97 | 338 | 3,485 | 19 | 7 | 357 | 116 | 345 | 2969 |
| Finger Millet | 0 | 0 | 0 | 66 | 23 | 346 | 66 | 23 | 346 |
| Wheat | 0 | 0 | 0 | 205 | 57 | 280 | 205 | 57 | 280 |
| **Total** | **111,875** | **65,736** | | **183,654** | **115,251** | | **295,529** | **180,987** | |

The total area planted with cereals during the short and long rainy seasons was 295,529 ha out of which 111,875 ha (37.8%) were planted in short rainy season and 183,654 ha (62.1%) were planted during the long rainy season. The long rainy season accounts for 64 percent of the total cereals produced in both seasons. The area planted with maize during the short rainy season was 98.4 percent of the total area planted with cereals in that season followed by Paddy (1.6%) and Sorghum (0.1%) (Table 3.2).



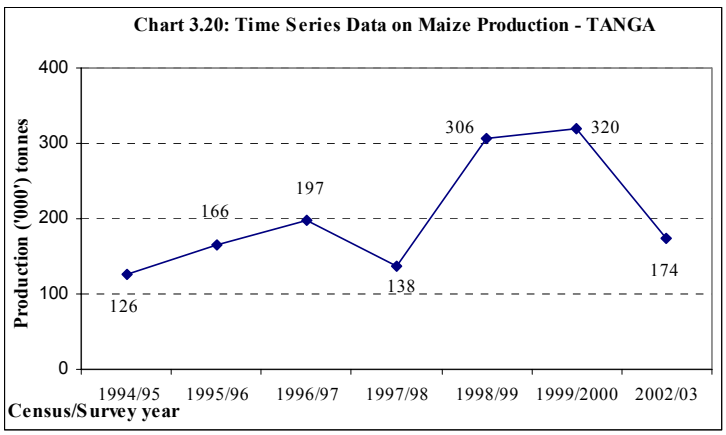

The area planted with maize was dominant and it represented 97.3 percent of the total area planted with cereal crops, then followed by paddy (2.59%), wheat 0.07%), Sorghum 0.04%) and finger millet 0.02%).

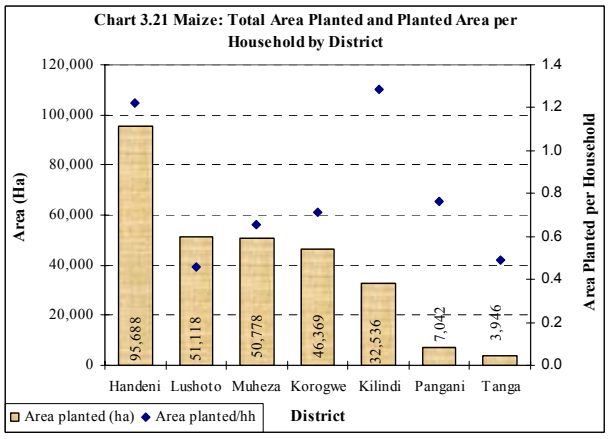
The yield of paddy was 908 kg/ha, followed by maize (604 kg/ha), finger millet (346 kg/ha) and wheat (280 kg/ha). Bulrush millet and barley were not grown in the region (Chart 3.19).

### 3.3.4.1 Maize

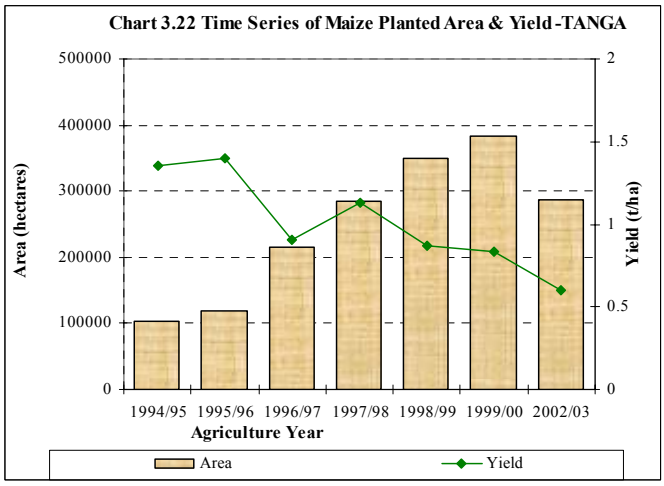
Maize dominates the production of cereal crops in the region. The number of households growing maize in Tanga region during the long rainy season was 189,772, (81% of the total crop growing households in the region during the long rainy season). The total production of maize was 173,602 tonnes from a planted area of 287,476 hectares resulting in a yield of 0.6 t/ha.

Chart 3.20 indicates maize production trend (in thousand metric tonnes) for the combined long and short rainy seasons. There was a sharp increase in maize production (122%) over the period of 1998 to 1999 after which the production remained constant until 2003. The average area planted with maize per household was 0.91 hectares; however it ranged from 0.4 hectares in Lushoto district to 1.4 hectares in Kilindi district (Map 3.12). Handeni district had the largest area of maize (95,688 ha) followed by Lushoto (51,118 ha), Muheza (50,778 ha), Korogwe (46,369 ha), Kilindi (32,536 ha), Pangani (7,042 ha) and Tanga (3,946 ha) (Chart 3.21 and Map 3.11).



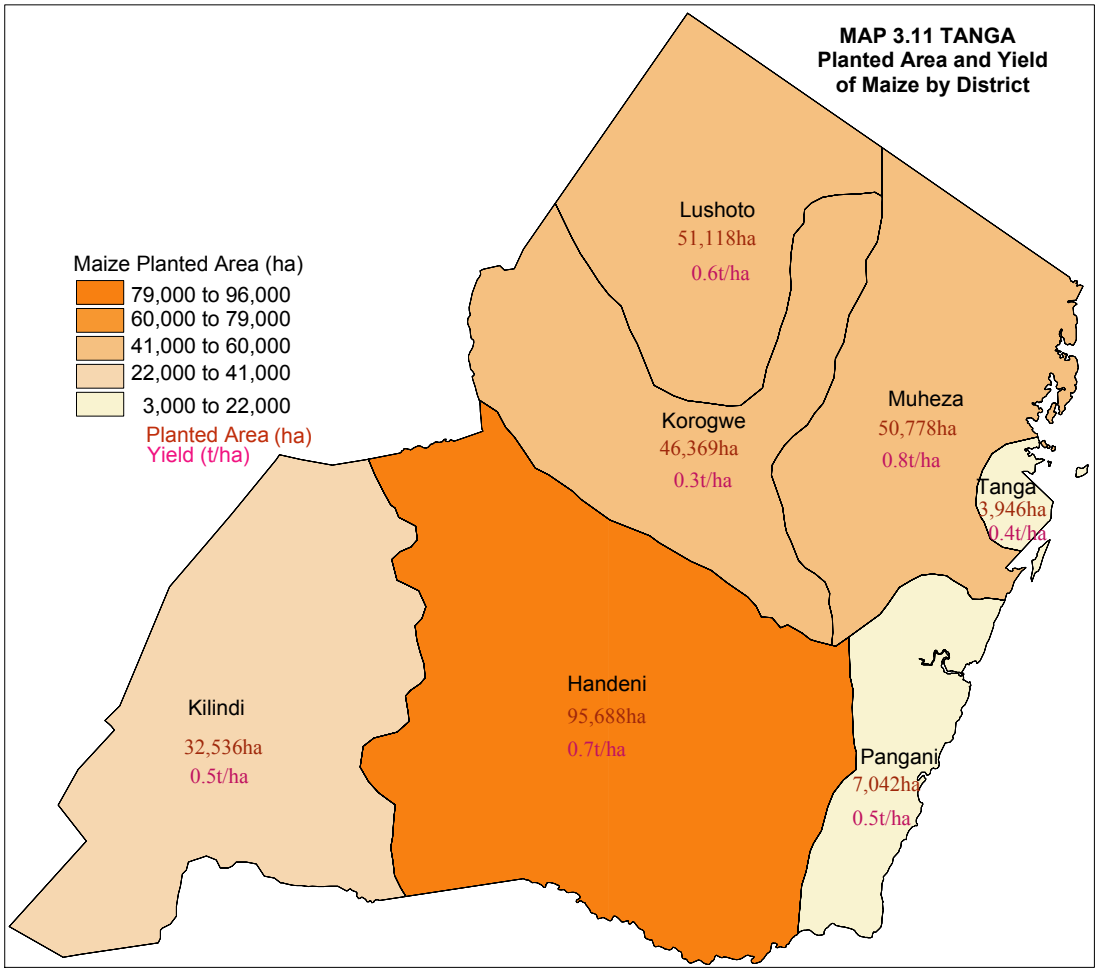



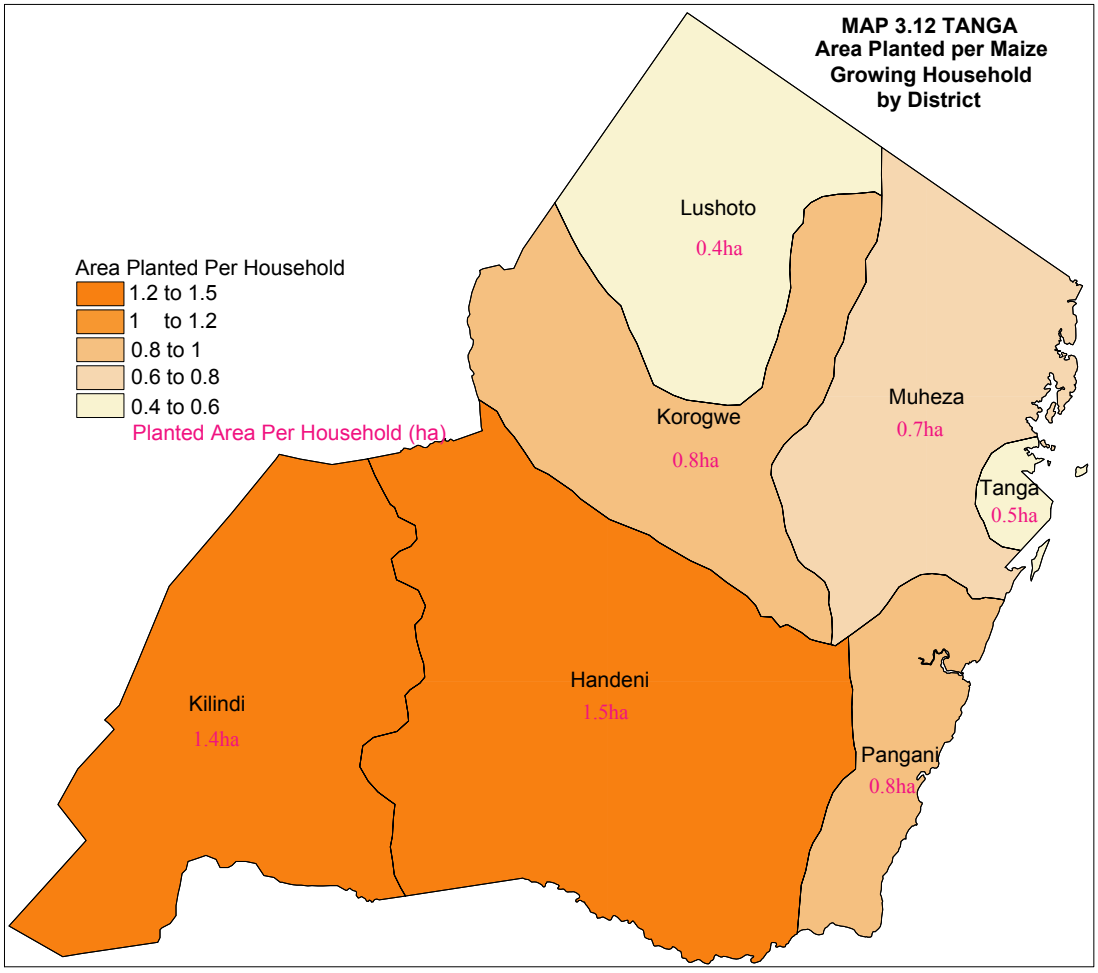

Charts 3.20 and 3.22 show that, whilst the yield of maize has dropped over the previous 10 years, the quantity produced has increased and this has been due to a large increase in the area under production. The area planted with maize remained constant over the period from 1994 to 1996 after which the area under production expanded gradually until 2000 and the area has remained constant ever since. However, the yield of maize has shown a gradual decline over the period 1996 to 2003 (from 1.3t/ha in 1995 to 0.6 t/ha in 2003) (Chart 3.22).

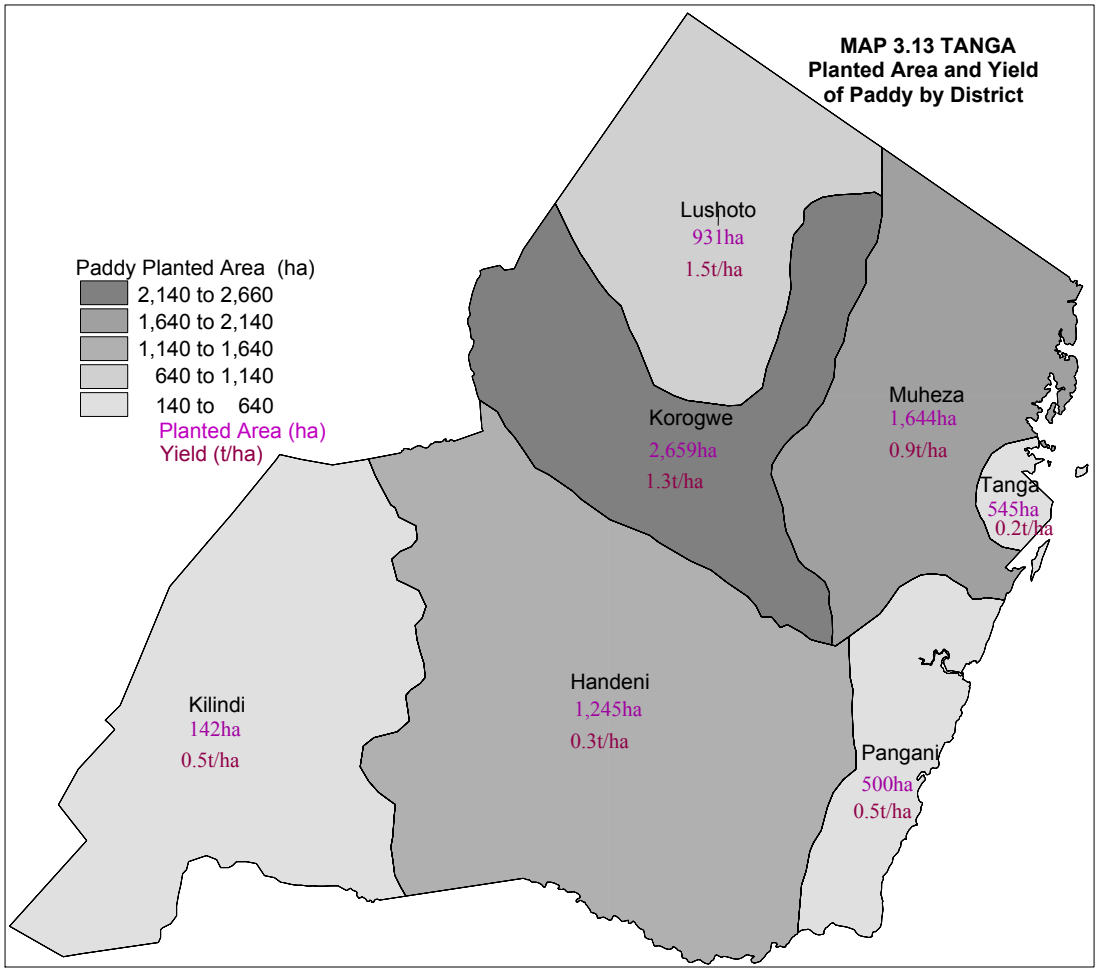


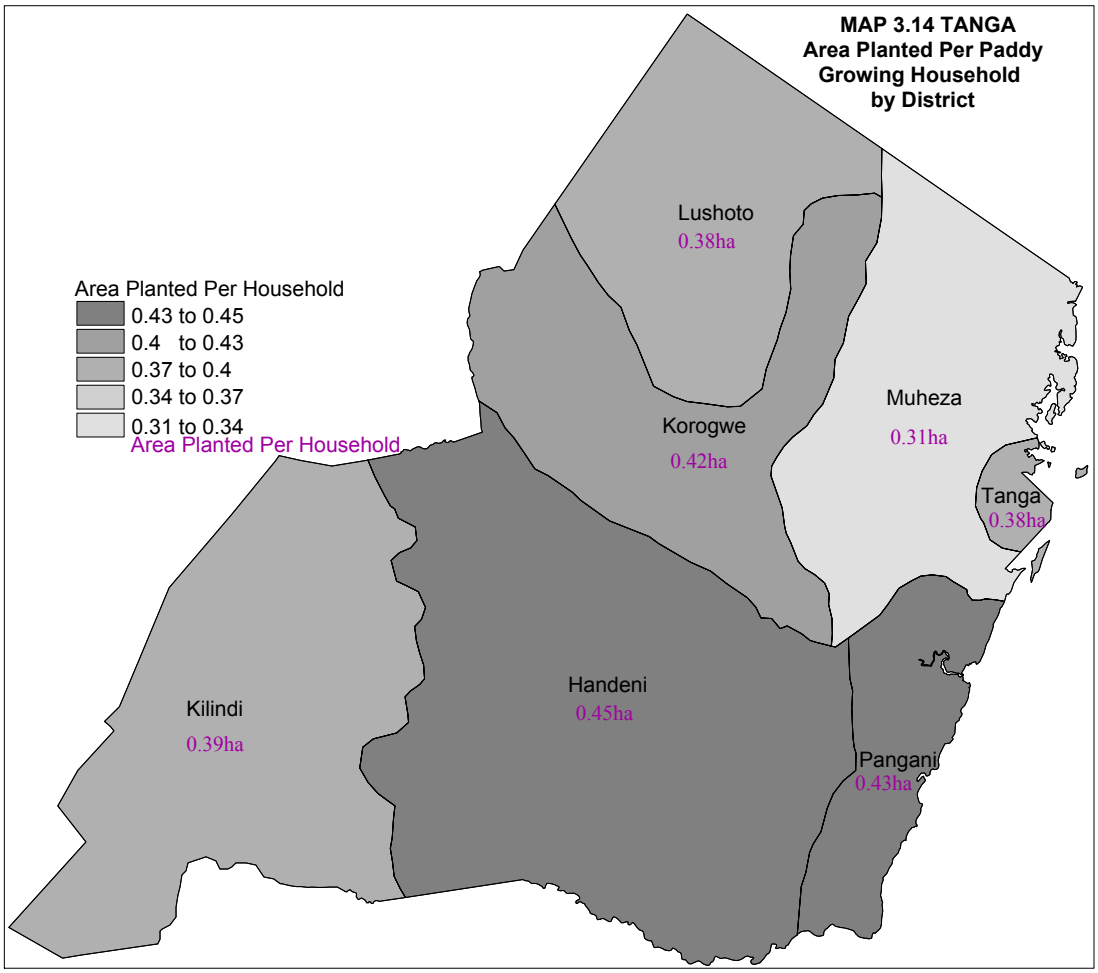

### 3.3.4.2 Paddy

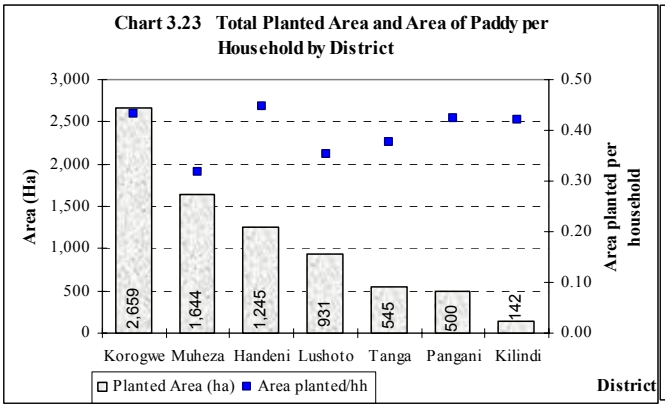
Paddy is the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Tanga region during the long rainy season was 15,443. This represents 66 percent of the total crop growing households in Tanga region in the long rainy season. The total production of paddy was 6,960 tonnes from a planted area of 7,665 hectares resulting in a yield of 0.91 t/ha. The district with the largest area planted with Paddy was Korogwe (2,659 ha) followed by Muheza (1,644 ha), Handeni (1,245 ha), Lushoto (931 ha), Tanga (545 ha), Pangani (500 ha) and Kilindi (142 ha) (Map 3.13). There are small insignificant variations in the average area planted per crop growing household among the districts ranging from 0.32 ha in Muheza to 0.45 ha in Handeni (Chart 3.23 and Map 3.14)

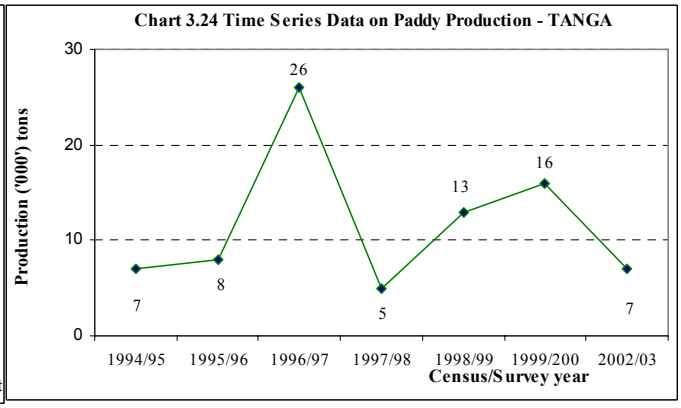

MAP 3.11 TANGA
Planted Area and Yield of Maize by District
Maize Planted Area (ha)
79,000 to 96,000
60,000 to 79,000
41,000 to 60,000
22,000 to 41,000
3,000 to 22,000
Planted Area (ha)
Yield (t/ha)
Lushoto
51,118ha
0.6t/ha
Korogwe
46,369ha
0.3t/ha
Muheza
50,778ha
0.8t/ha
Tanga
3,946ha
0.4t/ha
Handeni
95,688ha
0.7t/ha
Kilindi
32,536ha
0.5t/ha
Pangani
7,042ha
0.5t/ha


MAP 3.12 TANGA
Area Planted per Maize Growing Household by District
Area Planted Per Household
1.2 to 1.5
1 to 1.2
0.8 to 1
0.6 to 0.8
0.4 to 0.6
Planted Area Per Household (ha)
Lushoto
0.4ha
Korogwe
0.8ha
Muheza
0.7ha
Tanga
0.5ha
Handeni
1.5ha
Kilindi
1.4ha
Pangani
0.8ha


MAP 3.13 TANGA
Planted Area and Yield
of Paddy by District
Paddy Planted Area (ha)
2,140 to 2,660
1,640 to 2,140
1,140 to 1,640
640 to 1,140
140 to 640
Planted Area (ha)
Yield (t/ha)
Lushoto
931ha
1.5t/ha
Korogwe
2,659ha
1.3t/ha
Muheza
1,644ha
0.9t/ha
Tanga
545ha
0.2t/ha
Kilindi
142ha
0.5t/ha
Handeni
1,245ha
0.3t/ha
Pangani
500ha
0.5t/ha

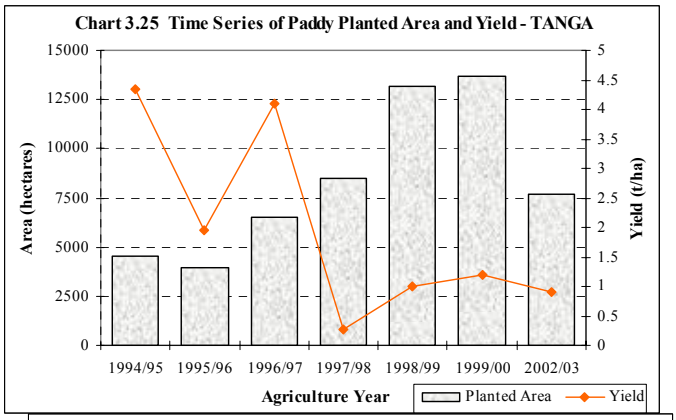

MAP 3.14 TANGA
Area Planted Per Paddy
Growing Household
by District
Area Planted Per Household
0.43 to 0.45
0.4 to 0.43
0.37 to 0.4
0.34 to 0.37
0.31 to 0.34
Area Planted Per Household
Lushoto
0.38ha
Korogwe
0.42ha
Muheza
0.31ha
Tanga
0.38ha
Kilindi
0.39ha
Handeni
0.45ha
Pangani
0.43ha



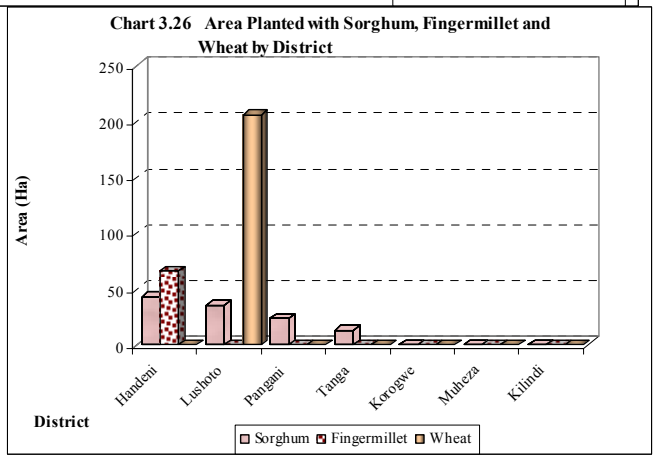

There was a sharp rise in the production of paddy in 1996/97 compared to 1995/96. The production rose from 8,000 tons in 1995/96 to 26,000 tonnes in 1996/97 after which it dropped to 5,000 tonnes in the following year. Thereafter the yield increased gradually to 16,000 tonnes in 1999/2000 and this was followed by another decline in 2002/03 to 7,000 tonnes.

Charts 3.23 and 3.25 show that, whilst the yield of paddy 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 paddy remained constant over the period from 1995 to 2003 after which the area under production expanded rapidly until 1999 after which it declined to 7,500 ha in 2003. Over the period 1995 to 1997 the yield of paddy fluctuated at around 3t/ha. However, there was a sharp decline in yield over the period 1996 to 1998 (down to 0.5 t/ha) and it has remained at this low level since then (Chart 3.25).



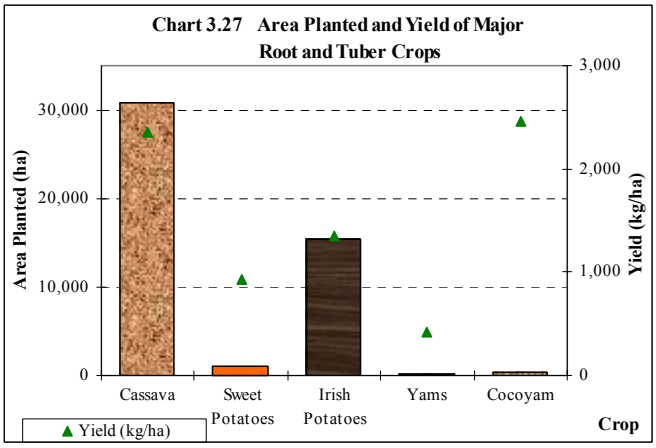

### 3.3.4.3 Other Cereals

Other cereals are produced in small quantities. A small quantity of Sorghum is produced in Handeni (43 ha), Lushoto (35 ha), Pangani (24 ha) and Tanga (14 ha). Fingermillet is produced in Handeni district only (66 ha) and wheat is produced in Lushoto district only (205 ha) (Chart 3.26).




### 3.3.5 Roots and Tuber Crops Production

The total production of roots and tubers was 66,967 tonnes. Cassava production was higher than any other root and tuber crop in the region with a total production of 44,500 tonnes representing 67.5 percent of the total root and tuber crops production. This was followed by Irish potatoes with 20,736 tonnes (30%), sweet potatoes (1,002t, 1.4%), coco yams (675t, 1.0%) and yams (55t, 0.1%) (Table 3.3). The area planted



with cassava was larger than any other root and tuber crops and it was the most important root and tuber crop in Tanga in terms of planted area accounting for 64.5 percent of the area planted with roots and tubers, followed by Irish potatoes (32.3%), sweet potatoes (2.3%), cocoyams (0.6%) and yams (0.3%).

**Table 3.3: Area, Production and Yield of Root and Tuber Crops by Season**

| Crop | Short Rainy Season | | | Long Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) |
| Cassava | 1,725 | 2,131 | 1,235 | 29,007 | 43,368 | 2,358 | 30,732 | 45,499 | 2,358 |
| Sweet Potatoes | 480 | 537 | 1,119 | 593 | 465 | 784 | 1,073 | 1,002 | 934 |
| Irish Potatoes | 8,314 | 11,973 | 1,440 | 7,089 | 8,763 | 1,236 | 15,402 | 20,736 | 1,346 |
| Yams | 51 | 0 | 0 | 80 | 55 | 684 | 132 | 55 | 417 |
| Cocoyam | 188 | 574 | 3,045 | 86 | 101 | 1,169 | 275 | 675 | 2,455 |
| **TOTAL** | **10,759** | **15,214** | | **36,856** | **52,752** | | **47,614** | **67,966** | |

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

It is difficult to determine the total planted area and production for the short and long rainy seasons for roots and tubers as the total production of cassava was reported under the long rainy season. However, excluding cassava, 54 percent of the area planted with roots and tubers was during the short rainy season. Cocoyams and Irish potatoes had a larger planted area in the short rainy season (68 percent and 54 respectively). However sweet potatoes had a larger planted area in the long rainy season (55.3%). The percentage planted area of yams during the short rainy season was estimated at 39 percent.

There was a significant increase in area planted with cassava and Irish potatoes from 1994/95 to 2002/03. The area for sweet potato and yams remained more or less constant.

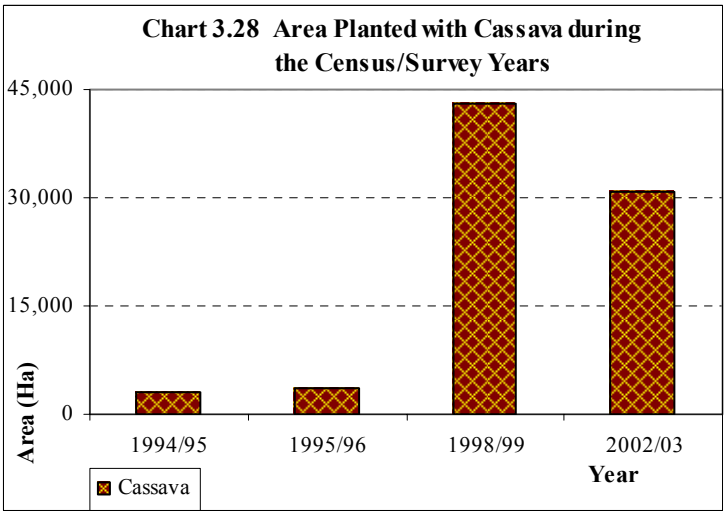
The total production of roots and tubers was estimated at 66,966 tonnes. Cassava with an estimate of 44,500 tonnes was the most important root and tuber crop. It accounted for 66.9 percent of the total roots and tubers production, followed by Irish potatoes with 20,736 tonnes (30.5%), sweet potatoes with 1,002 tonnes (1.5%), cocoyams with 675 tonnes (1.0%) and yams with 55 tonnes (0.1%).

The estimated yield was high for cocoyams (2.5 t/ha) and cassava (2.3 t/ha), followed by Irish potatoes (1.3 t/ha), sweet potatoes (0.9 t/ha) and yams (0.4 t/ha).

### 3.3.5.1 Cassava

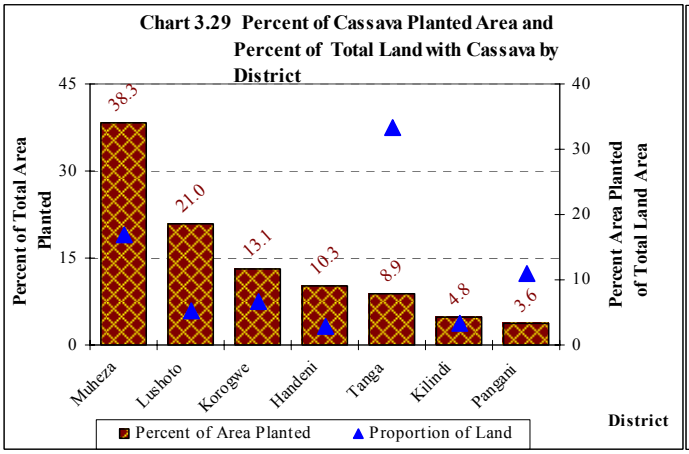
The number of households growing cassava in the region was 78,627. This represents 30 percent of the total crop growing households in the region. The total production of cassava during the census year was 45,499 tonnes from a planted area of 30,732 hectares resulting in a yield of 2.4t/ha.

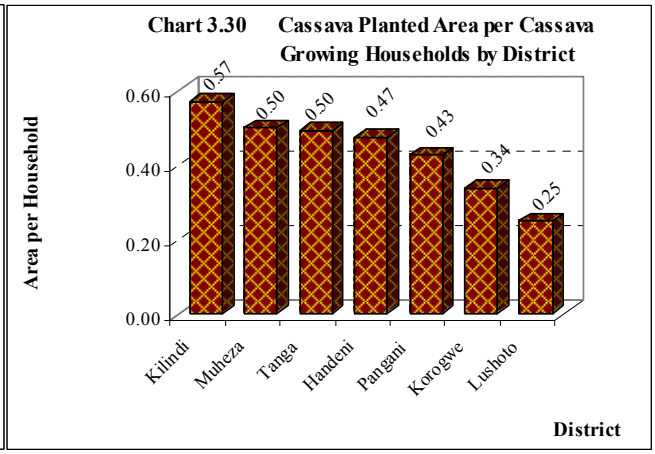
**Chart 3.28 Area Planted with Cassava during the Census/Survey Years**




Previous censuses and surveys indicate that the area planted with cassava increased for the period 1996 to 1999. Since 1999 the area planted with cassava dropped from 43,000 ha to 30,732 ha (Chart 3.28). The area planted with cassava accounted for 7 percent of the total area planted with annual crops and vegetables in the census year. Muheza district had the largest planted area of cassava (11,772 ha, 38% of the cassava planted area in the region), followed by Lushoto (6,457 ha, 21%), Korogwe (4,020 ha, 13%), Handeni (3,162 ha, 10%) Tanga (2,730 ha, 9%), Kilindi (1,475 ha, 5%) and Pangani (1,117 ha, 4%) (Map

3.15). However, the highest proportion of land planted with cassava, expressed as a percent of the total land area was in Tanga district (33%). This was followed by Muheza (17%), Pangani (11%), Korogwe (7%), Lushoto (5%), Handeni (3%) and Kilindi (3%) (Chart 3.29).

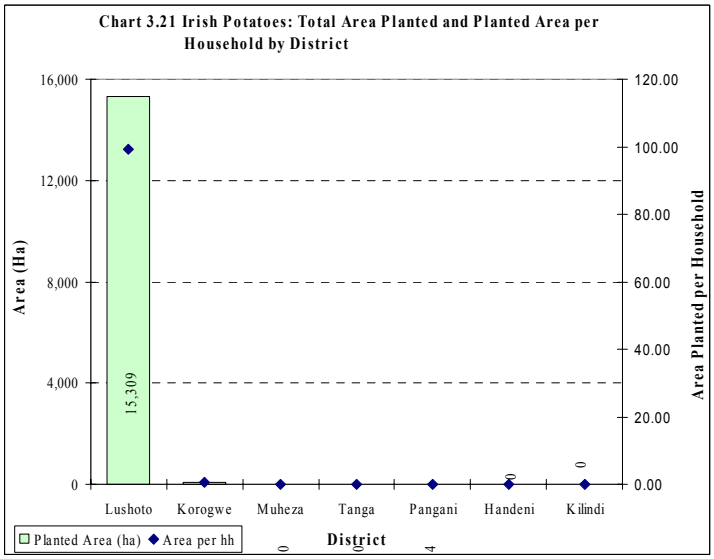



The average cassava planted area per cassava growing household was 0.4 hectares. However, there were small district variations. The area planted per cassava growing household was greatest in Kilindi (0.6 ha). This was followed by Muheza (0.5 ha), Tanga (0.5 ha), Handeni (0.5 ha), Pangani (0.4 ha), Korogwe (0.3 ha) and Lushoto (0.2 ha) (Chart 3.30 and Map 3.16).

### 3.3.5.2 Irish Potatoes

The number of households growing Irish potatoes in Tanga region was 52,200. This was 2.5 percent of the total root and tuber crop growing households during the long rainy season. The total production of Irish potatoes during the census year was 20,736 tonnes from a planted area of 15,402 hectares resulting in a yield of 1.3t/ha.



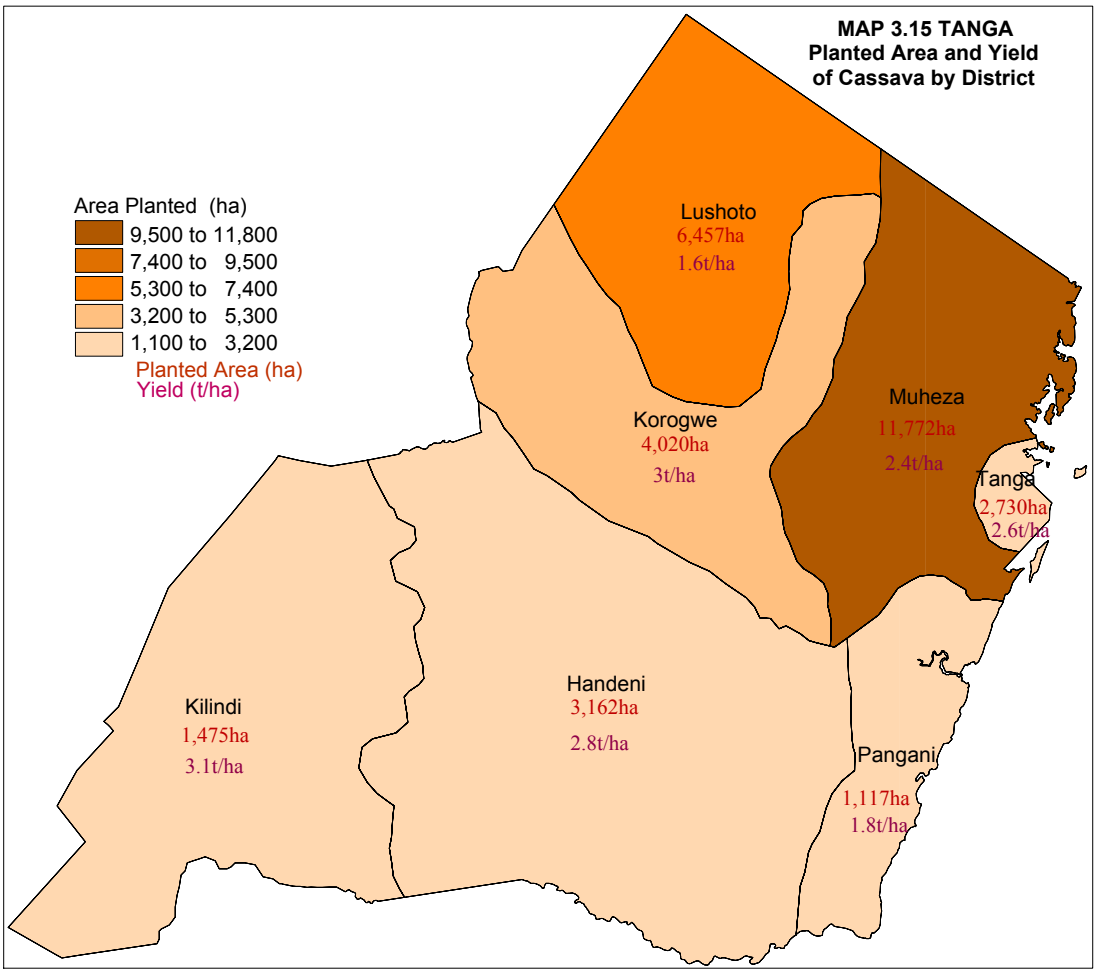

Lushoto District has the largest planted area for Irish potatoes (15,309 ha, 99.39%), followed by Korogwe (90 ha, 0.58%) and Pangani (4 ha, 0.02%). Irish potatoes were not grown in the other districts of Tanga region(Chart 3.31).Other root and tuber crops are of minor important in terms of area planted compared to cassava and Irish potatoes.

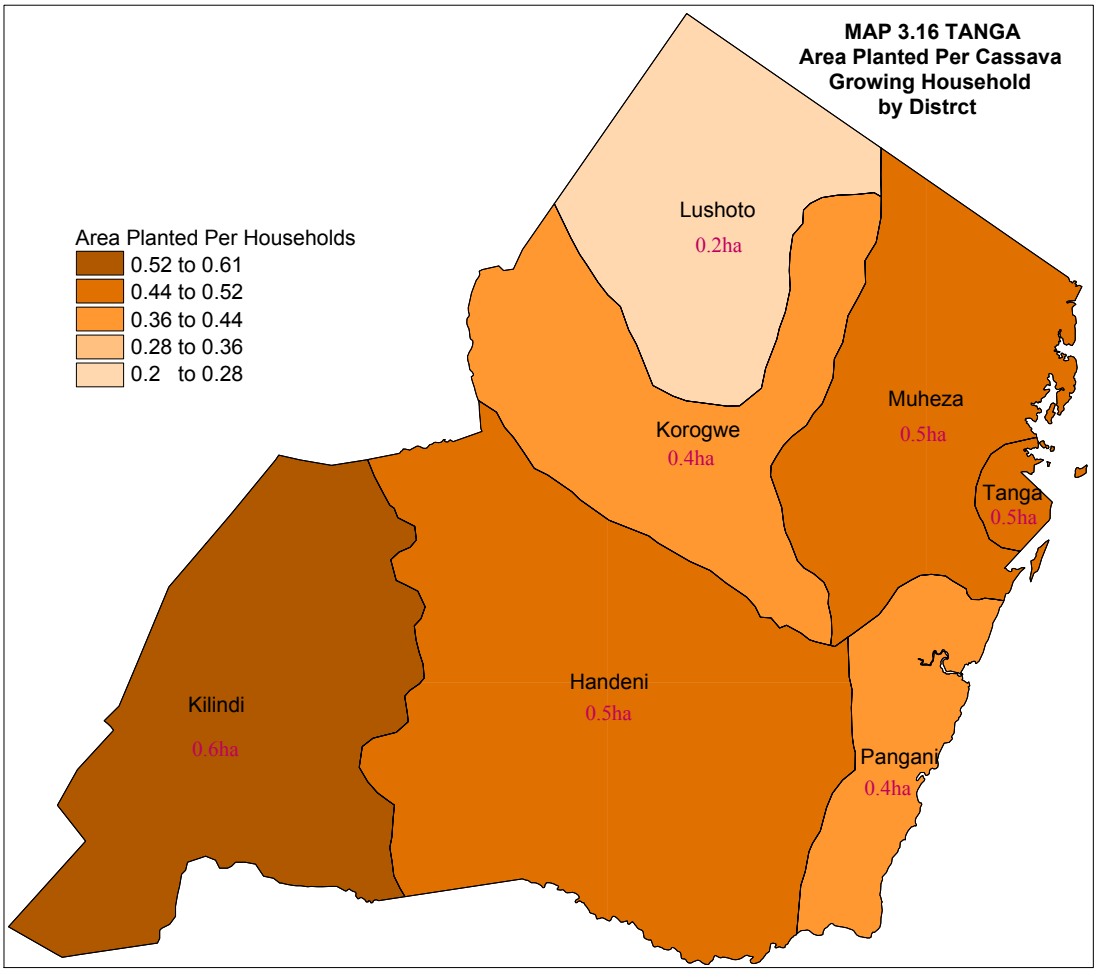
### 3.3.6 Pulse Crops Production

The total area planted with pulses was 77,017 hectares out of which 63,028 ha were planted with beans (82 percent of the total area planted with pulses), followed by cow peas (12,007 ha, 15.6%), green gram (1,863 ha, 2.4%), mung beans (64 ha, 0.1%) and field peas (50 ha, 0.1%). Pigeon peas and soya beans were not cultivated in the region.

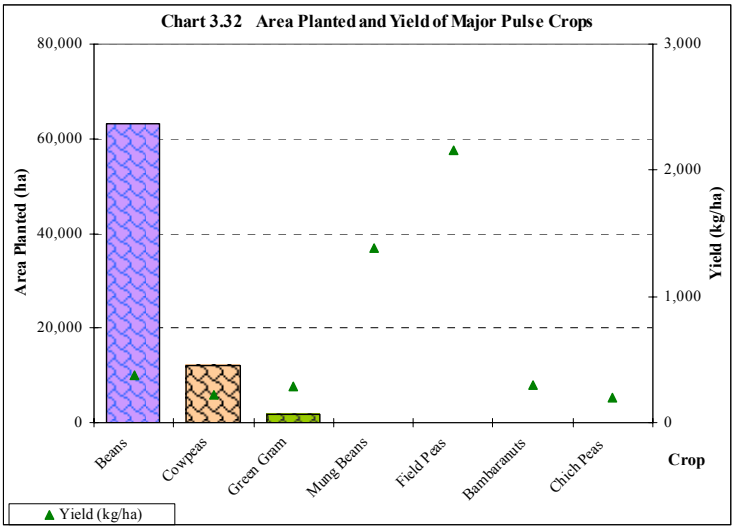
**Table 3.4: Area, Production and Yield of Pulses by Season**

| Crop | Short Rainy Season | | | Long Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) |
| Mung Beans | 0 | 0 | 0 | 64 | 88 | 1,385 | 64 | 88 | 1,385 |
| Beans | 24,185 | 8,699 | 360 | 38,843 | 15,325 | 395 | 63,028 | 24,023 | 381 |
| Cowpeas | 9,276 | 2,125 | 229 | 2,731 | 499 | 183 | 12,007 | 2,624 | 219 |
| Green Gram | 1,108 | 288 | 260 | 755 | 248 | 329 | 1,863 | 536 | 288 |
| Chich Peas | 2 | 0 | 198 | 0 | 0 | 0 | 2 | 0 | 198 |
| Bambaranuts | 2 | 1 | 296 | 0 | 0 | 0 | 2 | 1 | 296 |
| Field Peas | 50 | 109 | 2,159 | 0 | 0 | 0 | 50 | 109 | 2,159 |
| **TOTAL** | **34,624** | **11,221** | | **42,393** | **16,160** | | **77,017** | **27,381** | |


MAP 3.15 TANGA
Planted Area and Yield
of Cassava by District
Area Planted (ha)
9,500 to 11,800
7,400 to 9,500
5,300 to 7,400
3,200 to 5,300
1,100 to 3,200
Planted Area (ha)
Yield (t/ha)
Lushoto
6,457ha
1.6t/ha
Korogwe
4,020ha
3t/ha
Muheza
11,772ha
2.4t/ha
Tanga
2,730ha
2.6t/ha
Kilindi
1,475ha
3.1t/ha
Handeni
3,162ha
2.8t/ha
Pangani
1,117ha
1.8t/ha


MAP 3.16 TANGA
Area Planted Per Cassava
Growing Household
by Distrct
Area Planted Per Households
0.52 to 0.61
0.44 to 0.52
0.36 to 0.44
0.28 to 0.36
0.2 to 0.28
Lushoto
0.2ha
Korogwe
0.4ha
Muheza
0.5ha
Tanga
0.5ha
Kilindi
0.6ha
Handeni
0.5ha
Pangani
0.4ha

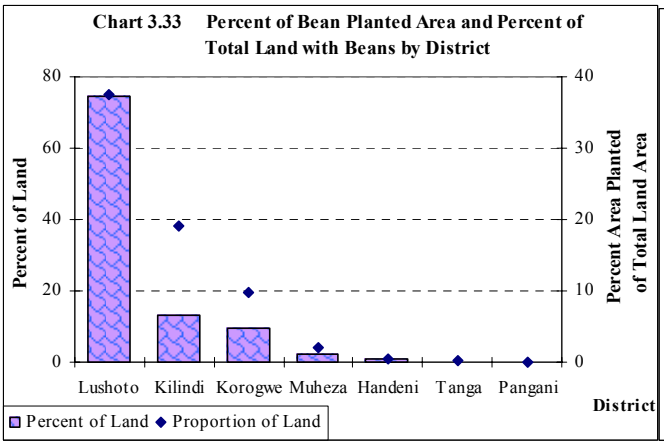
The area planted with pulses in the short rainy season was 34,624 ha which represented 45 percent of total area planted with pulses during the year. Beans was the most dominant crop during long rainy season with 38,843 ha (91.2 % of the total area planted with pulses in that particular season), followed by cow peas (2,731 ha, 6.4%), green gram (755 ha, 1.8%) and mung beans 64 ha (0.2%).

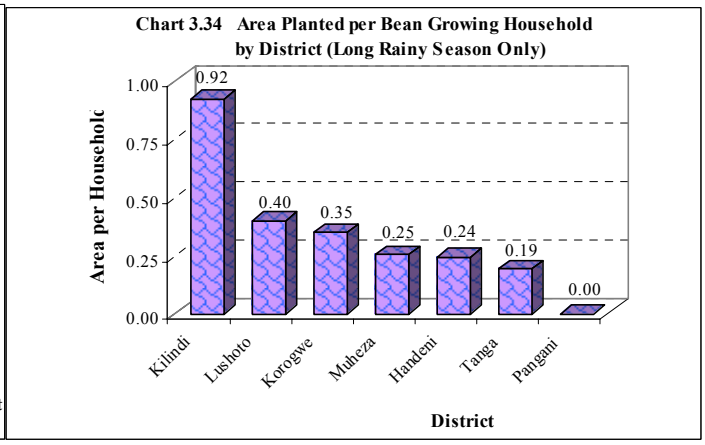



The total production of pulses was 27,381 tonnes. Beans were the most cultivated crop producing 24,023 tonnes which accounted for 88 percent of the total pulse production. This was followed by cow peas (2,624t, 10%), green gram (536t, 1.9%), field peas (109t, 0.4%), mung beans (88t, 0.3%), bambaranuts (1t, 0.002%) and chick peas (0.4t, 0.002%). Field peas and mung beans had relatively higher yields of 2,159 and 1,385 kgs/ha respectively. The yields of the rest of the pulses in kilograms per hectare were beans 381 kgs/ha, bambaranuts 296 kgs/ha, green gram 288 kgs/ha, cowpeas 219 kgs/ha and chick peas 198 kgs/ha (Chart 3,32).

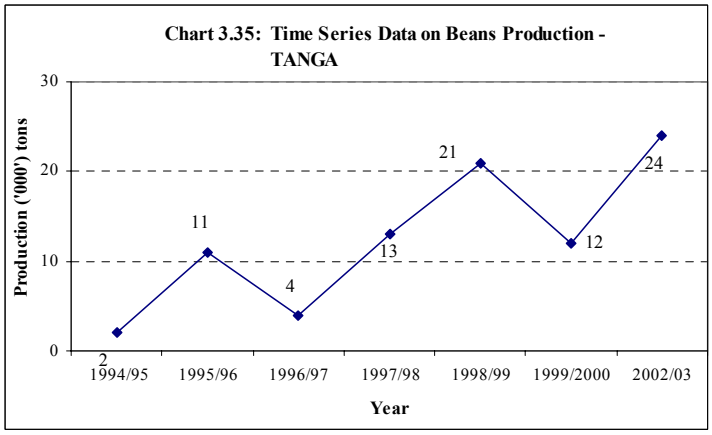
### 3.3.6.1 Beans

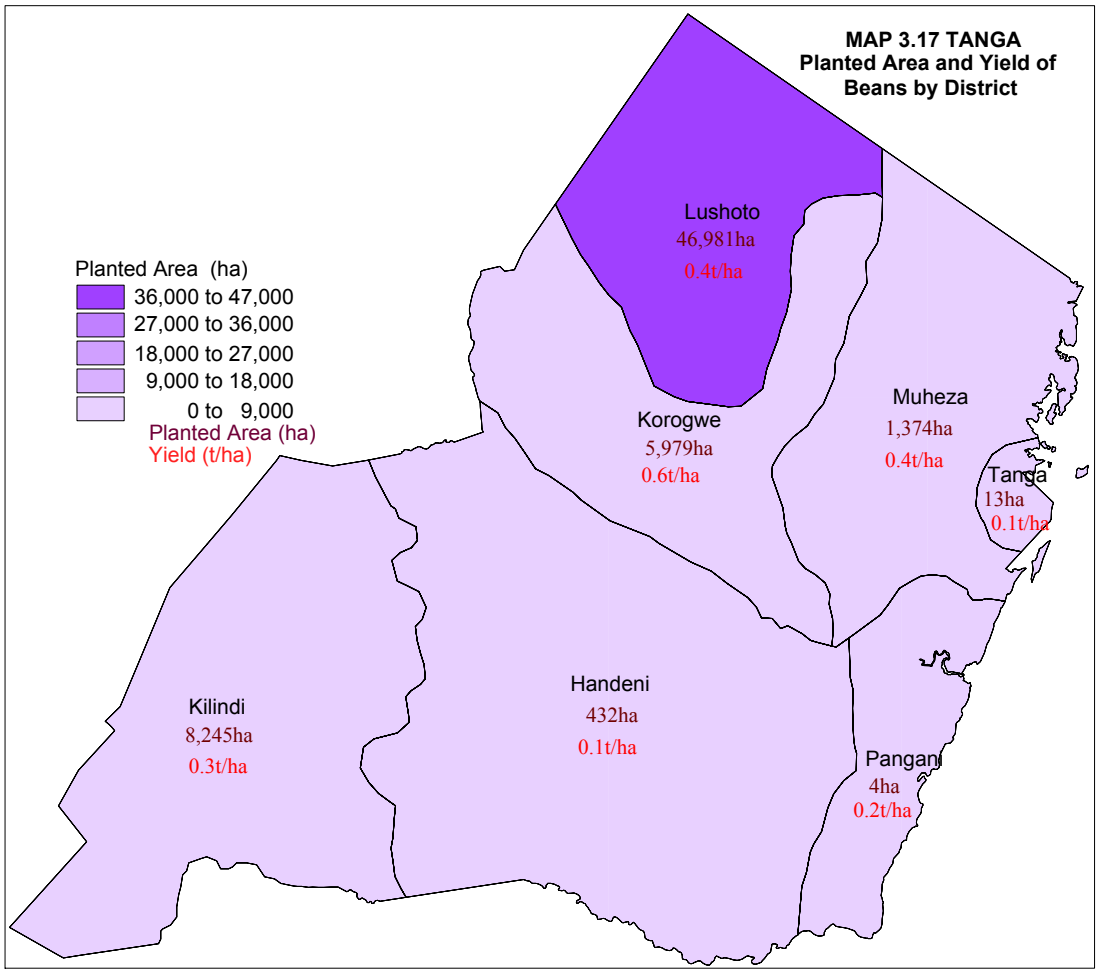
Beans dominate the production of pulse crops in the region. The number of households growing beans in Tanga region was 166,192. The total production of beans in the region was 24,023 tonnes from a planted area of 63,028 hectares resulting in a yield of 0.4 t/ha.

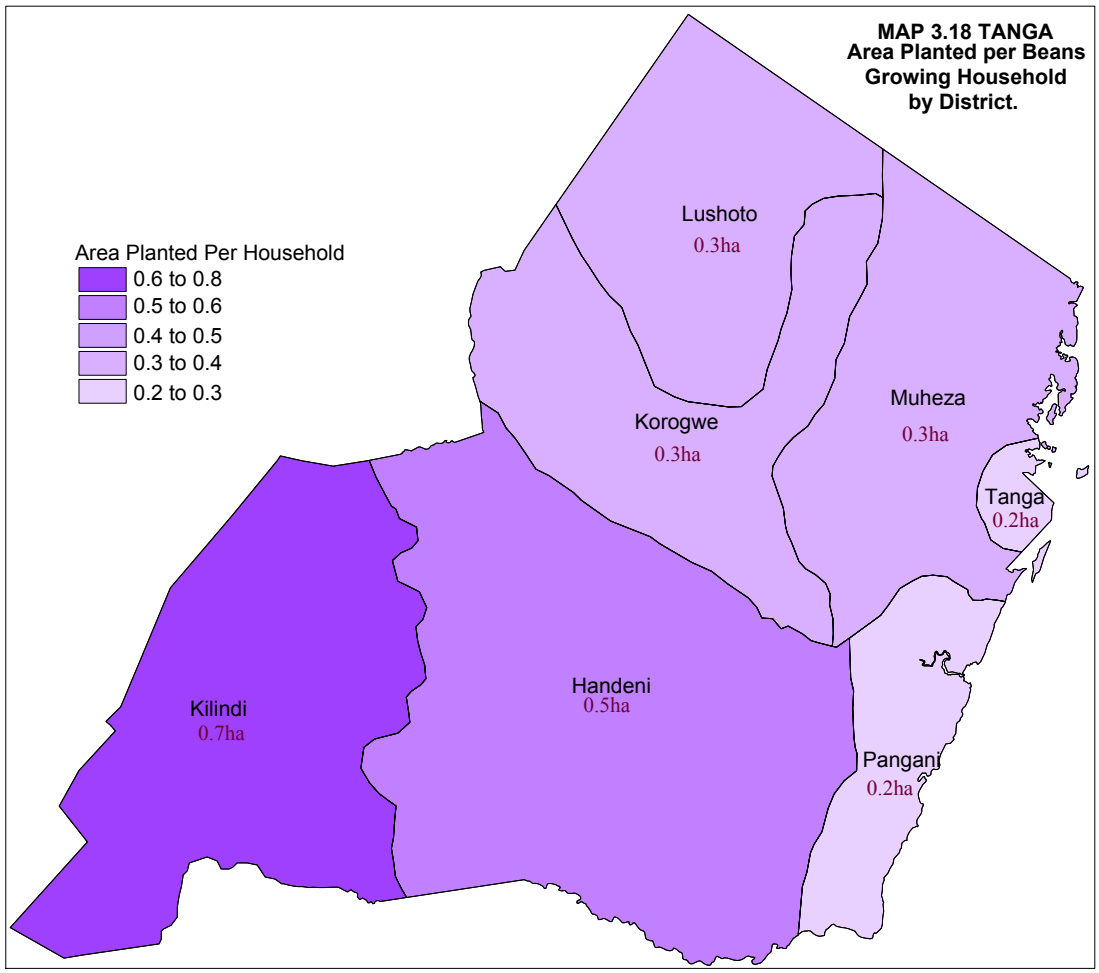



The largest area planted with beans in the region was in Lushoto (46,981 ha, 74.5%) (Chart 3.33 and Map 3.17), however, the largest area planted with beans per household was in Kilindi district (0.92 ha) (Chart 3.34). The average area planted per household in the region during the long rainy season was 0.4 ha. With exception of Kilindi district, the variations in area planted with beans for the rest of the districts were small ranging from 0.2 ha in Tanga and Pangani districts to 0.4 ha in Lushoto district (Map 3.18).



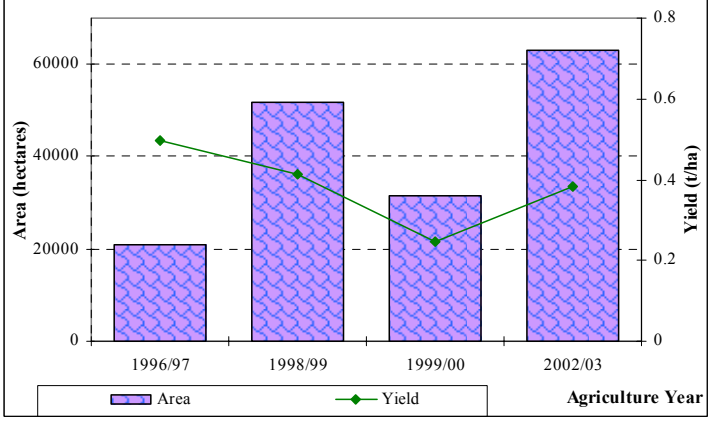

MAP 3.17 TANGA
Planted Area and Yield of Beans by District
Planted Area (ha)
36,000 to 47,000
27,000 to 36,000
18,000 to 27,000
9,000 to 18,000
0 to 9,000
Planted Area (ha)
Yield (t/ha)
Lushoto
46,981ha
0.4t/ha
Korogwe
5,979ha
0.6t/ha
Muheza
1,374ha
0.4t/ha
Tanga
13ha
0.1t/ha
Handeni
432ha
0.1t/ha
Kilindi
8,245ha
0.3t/ha
Pangani
4ha
0.2t/ha


MAP 3.18 TANGA
Area Planted per Beans Growing Household by District.
Area Planted Per Household
0.6 to 0.8
0.5 to 0.6
0.4 to 0.5
0.3 to 0.4
0.2 to 0.3
Lushoto
0.3ha
Korogwe
0.3ha
Muheza
0.3ha
Tanga
0.2ha
Handeni
0.5ha
Kilindi
0.7ha
Pangani
0.2ha

In Tanga region, bean production has increased steadily over the period 1995 to 2003 from 2,000 tonnes in 1995 to 24,000 tonnes in 2003 (Chart 3.35).

Charts 3.35 and 3.36 show that, whilst the yield of beans remained fairly constant the previous 8 years, the quantity produced has increased and this has been due to a large increase in the area under production. The area planted with beans has increased erratically over the period from 1986 to 2003. Over the period 1997 to 2003 the yield of beans remained constant at around 0.4 t/ha. (Chart 3.36).

**Chart 3.36 Time Series of Beans Planted Area & Yield - TANGA**




### 3.3.7 Oil Seed Production

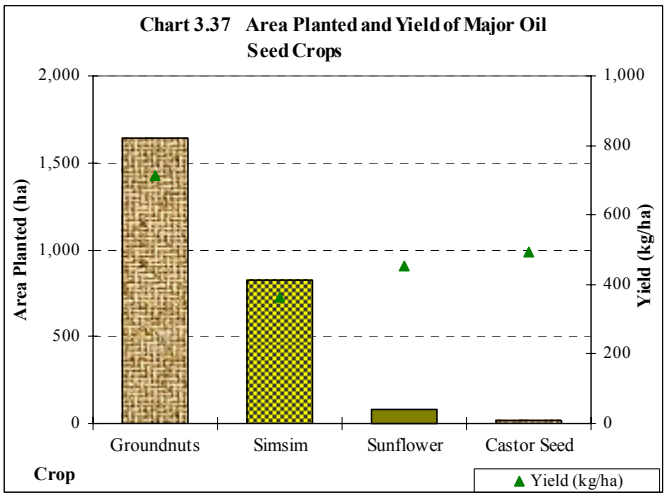
The total production of oilseed crops was 1,516 tonnes planted on an area of 2,564 hectares... The total planted area of oilseeds in the long rainy season was 1,839 ha representing 72 percent of the total area planted with oil seeds.

**Table 3.5: Area, Quantity Harvested and Yield of Oil Seed Crops by Season**

| Crop | Short Rainy Season | | | Long Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) |
| Sunflower | 0 | 0 | 0 | 78 | 35 | 451 | 78 | 35 | 451 |
| Simsim | 92 | 26 | 281 | 729 | 271 | 372 | 822 | 297 | 362 |
| Groundnuts | 613 | 212 | 346 | 1,032 | 961 | 932 | 1,645 | 1,174 | 714 |
| Castor Seed | 20 | 10 | 494 | 0 | 0 | 0 | 20 | 10 | 494 |
| **Total** | **725** | **248** | | **1,839** | **1,268** | | **2,564** | **1,516** | |

Groundnuts were most important oilseed crop with 1,645 ha (64% of the total area planted with oil seeds), followed by simsim (32%), sunflower (3%) and castor seed (0.8%) (Chart 3.37). The yield of groundnuts was moderate (714 kg/ha). Castor seed had a yield of 498 kg/ha, sunflower of 451 kg /ha and simsim 362 kg/ha.

**Chart 3.37 Area Planted and Yield of Major Oil Seed Crops**

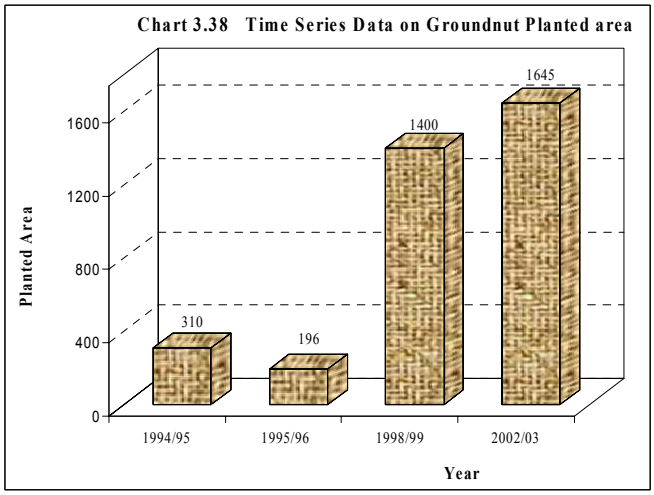



In terms of production, groundnuts were 1,174 tonnes and accounted for 77 percent of the total production of oil seeds, followed by simsim (20%), sunflower (2%) and castor seed (1%).

#### 3.3.7.1 Groundnuts

The number of households growing groundnuts in Tanga region was only 5,645. The total production of groundnuts in the region was 1,174 tonnes from a planted area of 1,645 hectares resulting in a yield of 0.7 t/ha. Area planted dropped from 310 hectares in 1994/95 to 196 hectares in 1995/96 after which it increased to 1,645 hectares in 2002/03 (Chart 3.38)

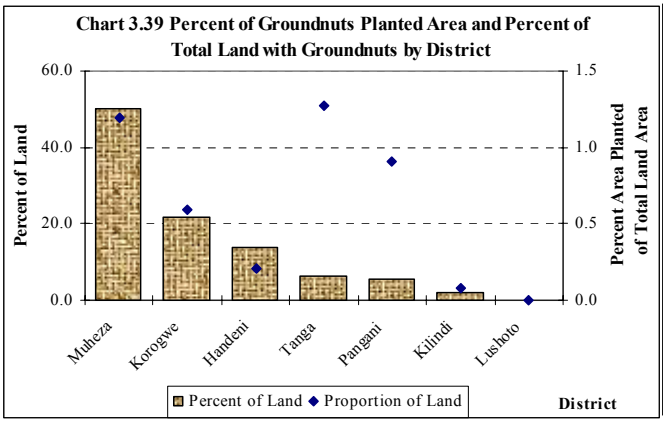
**Chart 3.38 Time Series Data on Groundnut Planted area**

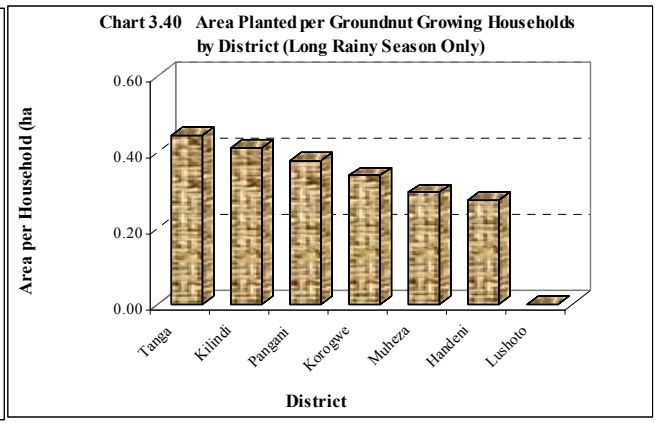


There has been a large increase in production of groundnuts over the period 1995 to 2003, from 310 tonnes in 1994/95 to 1,174 tonnes in 2002/03. Area planted dropped from 310 hectares in 1994/95 to 196 hectares in 1995/96 after which it increased to 1,645 hectares in 2002/03 (Chart 3.38).

Fifty percent of the area planted with groundnuts was located in Muheza District (828 ha) followed by Korogwe (359 ha, 21.8%), Handeni (228 ha, 13.8%), Tanga (104 ha, 6.3%), Pangani (93 ha, 5.6%) and Kilindi (34 ha, 2.0%). Groundnuts were not grown in Lushoto district (Map 3.19). The highest proportion of land with groundnuts was found in Tanga followed by Muheza, Pangani, Korogwe, Handeni and Kilindi (Chart 3.39 and Map 3.20).

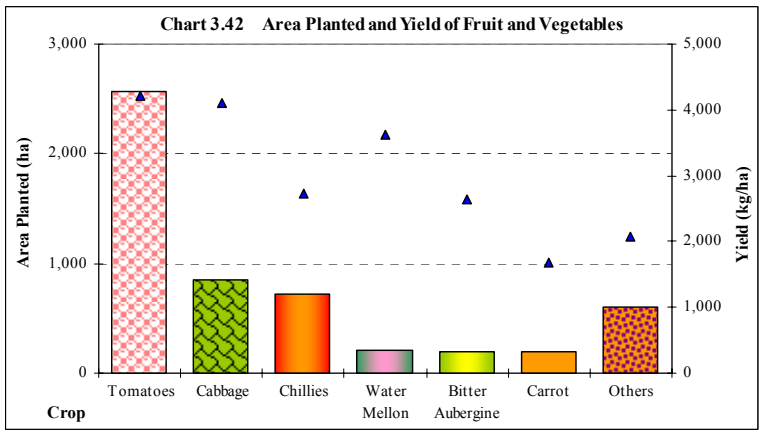
The largest area planted per groundnut growing household was found in Tanga District (0.43 ha) and the lowest was in Handeni (0.27). The range between the district with the highest and the lowest area planted per household depicts small variations in area planted among the districts (Chart 3.40).

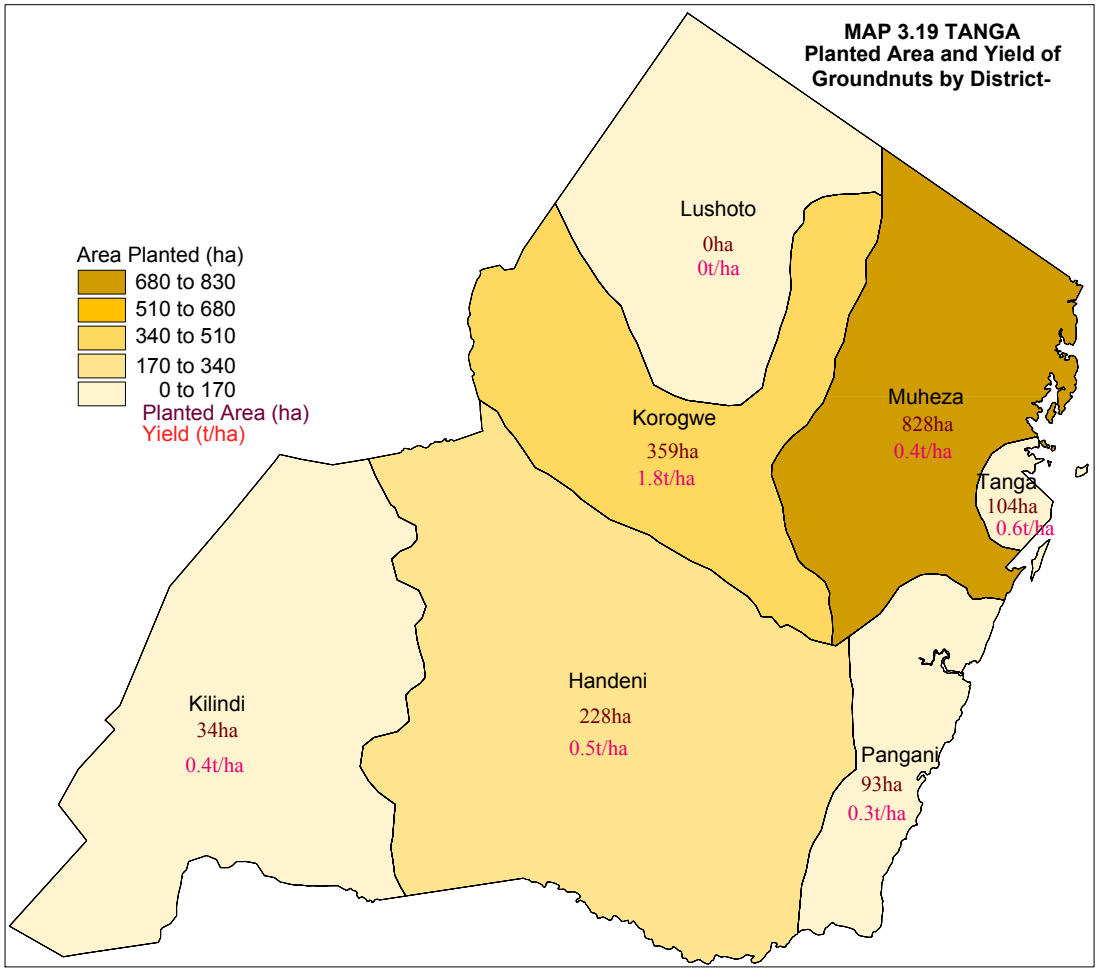


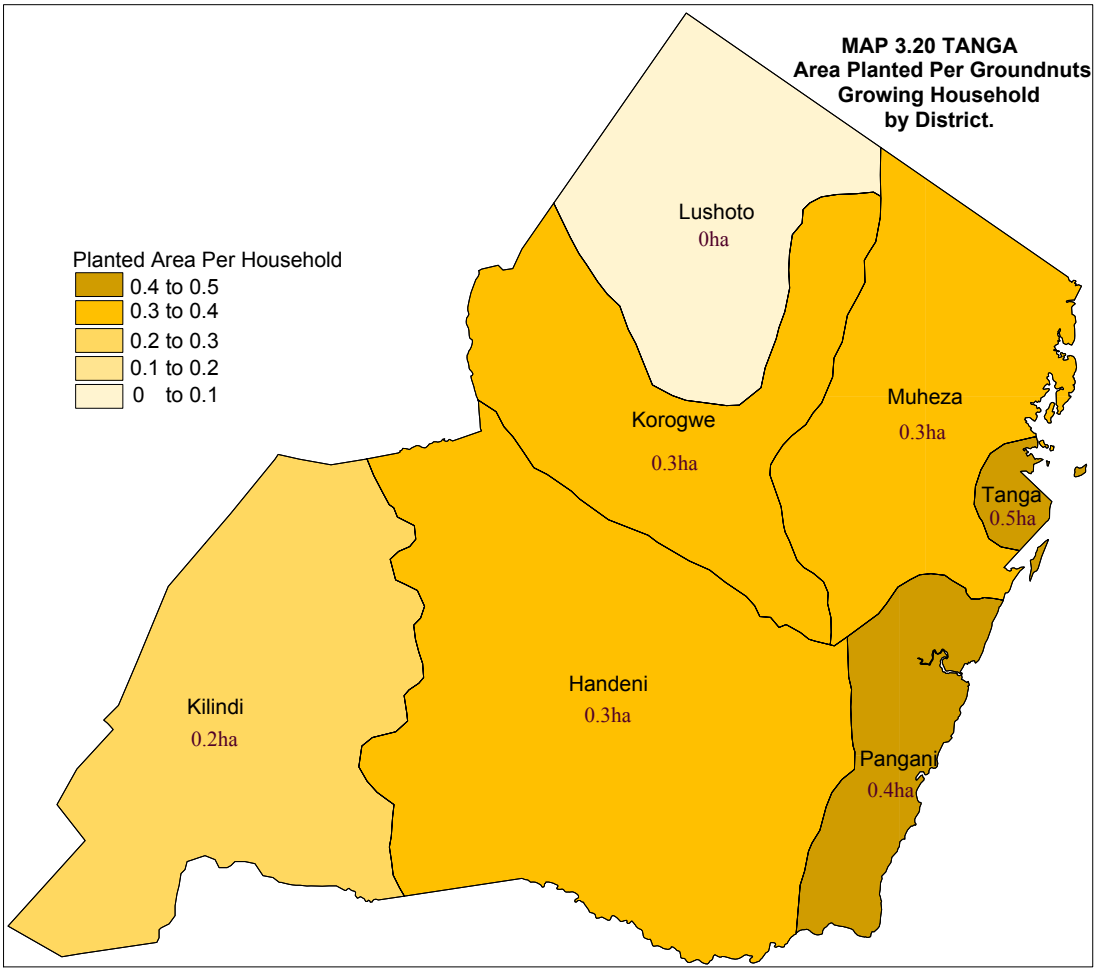




### 3.3.8 Fruit and Vegetables

The collection of fruit and vegetables production data was difficult due to the small quantities produced per household. Most of the data presented here gives the production of smallholders who grew these crops as cash crops and not merely for household consumption. Most fruit production is from permanent crops and only water melon is reported as an annual crop in this section. The short rainy season is relatively important for fruit and vegetables production since 53 percent of the total area planted with fruit and vegetables was during the short rainy season. For tomatoes, water Mellon, ginger, spinach and radish over 60 percent of the planted area of each crop was during the short rainy season. The planted area for cucumber in the long rainy season was abnormally large (100% of the total planted area was in the long rainy season). Reliable historical data for time series analysis of fruit and vegetables were not available.




MAP 3.19 TANGA
Planted Area and Yield of
Groundnuts by District-
Area Planted (ha)
680 to 830
510 to 680
340 to 510
170 to 340
0 to 170
Planted Area (ha)
Yield (t/ha)
Lushoto
0ha
0t/ha
Korogwe
359ha
1.8t/ha
Muheza
828ha
0.4t/ha
Tanga
104ha
0.6t/ha
Handeni
228ha
0.5t/ha
Kilindi
34ha
0.4t/ha
Pangani
93ha
0.3t/ha


MAP 3.20 TANGA
Area Planted Per Groundnuts
Growing Household
by District.
Planted Area Per Household
0.4 to 0.5
0.3 to 0.4
0.2 to 0.3
0.1 to 0.2
0 to 0.1
Lushoto
0ha
Korogwe
0.3ha
Muheza
0.3ha
Tanga
0.5ha
Handeni
0.3ha
Kilindi
0.2ha
Pangani
0.4ha

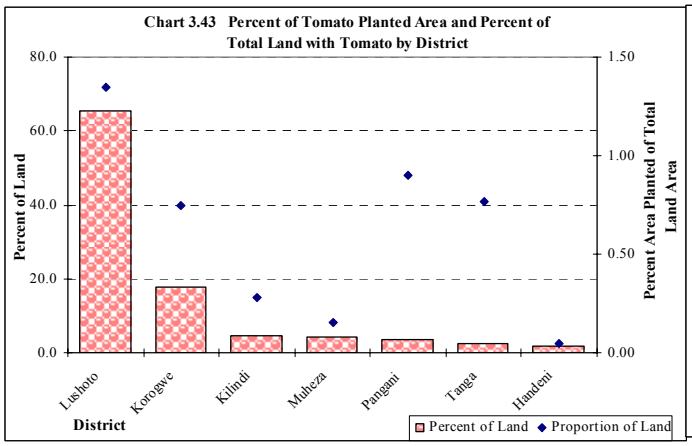
The total production of fruits and vegetables was 19,550 tonnes. The most cultivated fruit and vegetable crop was tomatoes with a production of 10,852 tonnes (55% of the total fruit and vegetables produced) followed by cabbage (3,472t, 18%) and chilies (1,973t, 10%). The production of the other fruit and vegetables crops was relatively small (Table 3.6).

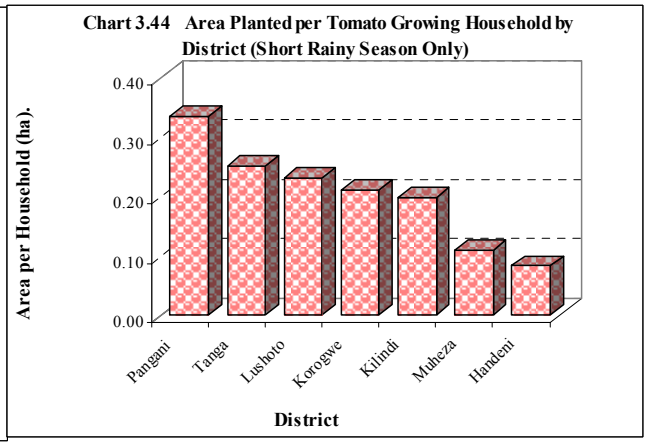
The yield of tomatoes was 4,225 kg/ha, cabbage (4,105 kg/ha), water melon (3,634 kg/ha) and pumpkins (3,384 kg/ha). Radish and spinach had yields of 529 and 251 kg/ha respectively (Chart 3.42).

### 3.3.8.1 Tomatoes

The number of households growing tomatoes in the region during the long rainy season was 4,100 and 7,462 households in the short rainy season. This represented 1.7 percent of the total crop growing households in the region during the long rainy season and 3.8 percent during the short rainy season.

Lushoto district had the largest planted area of tomatoes (65.4% of the total area planted with tomatoes in the region), followed by Korogwe (17.8%), Kilindi (4.7%), Muheza (4.2%), Pangani (3.6%), Tanga (2.5%) and Handeni (1.9%) (Map 3.21).

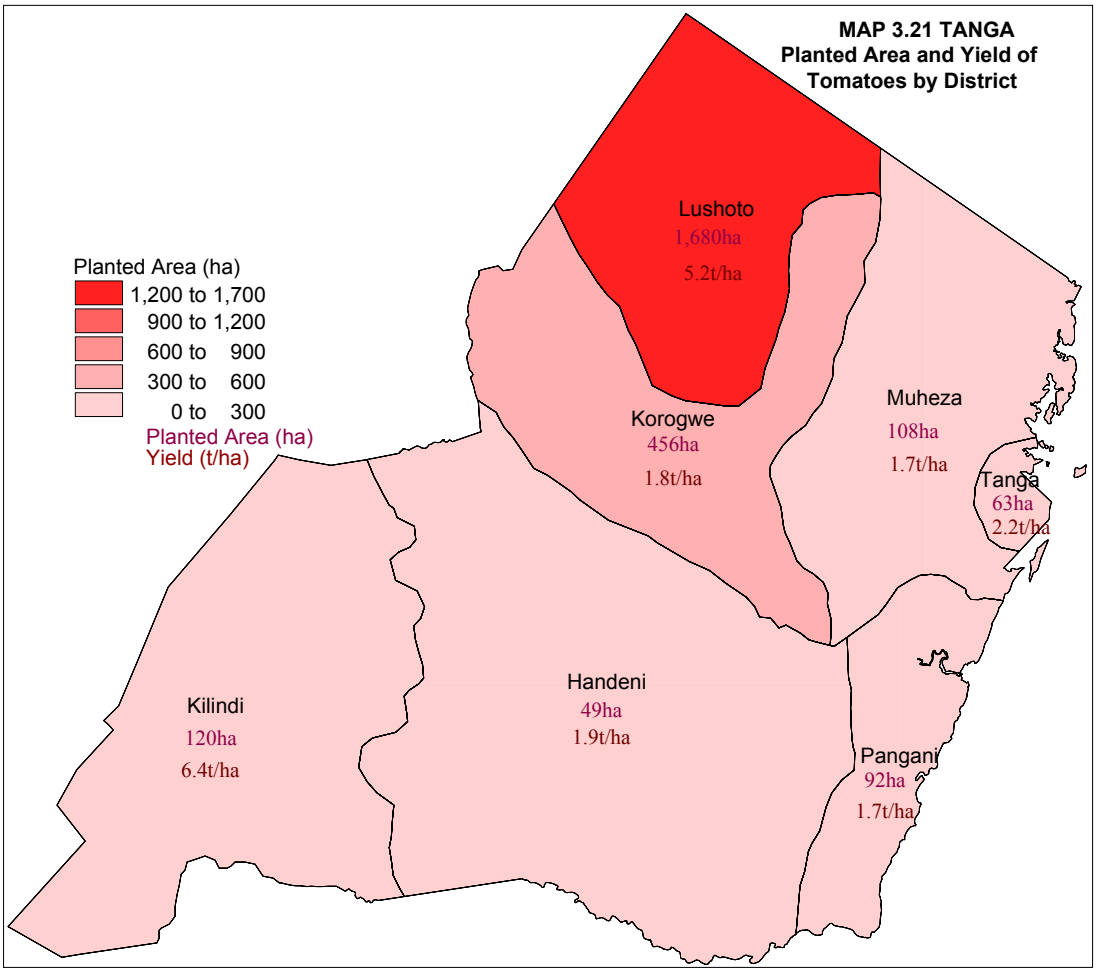


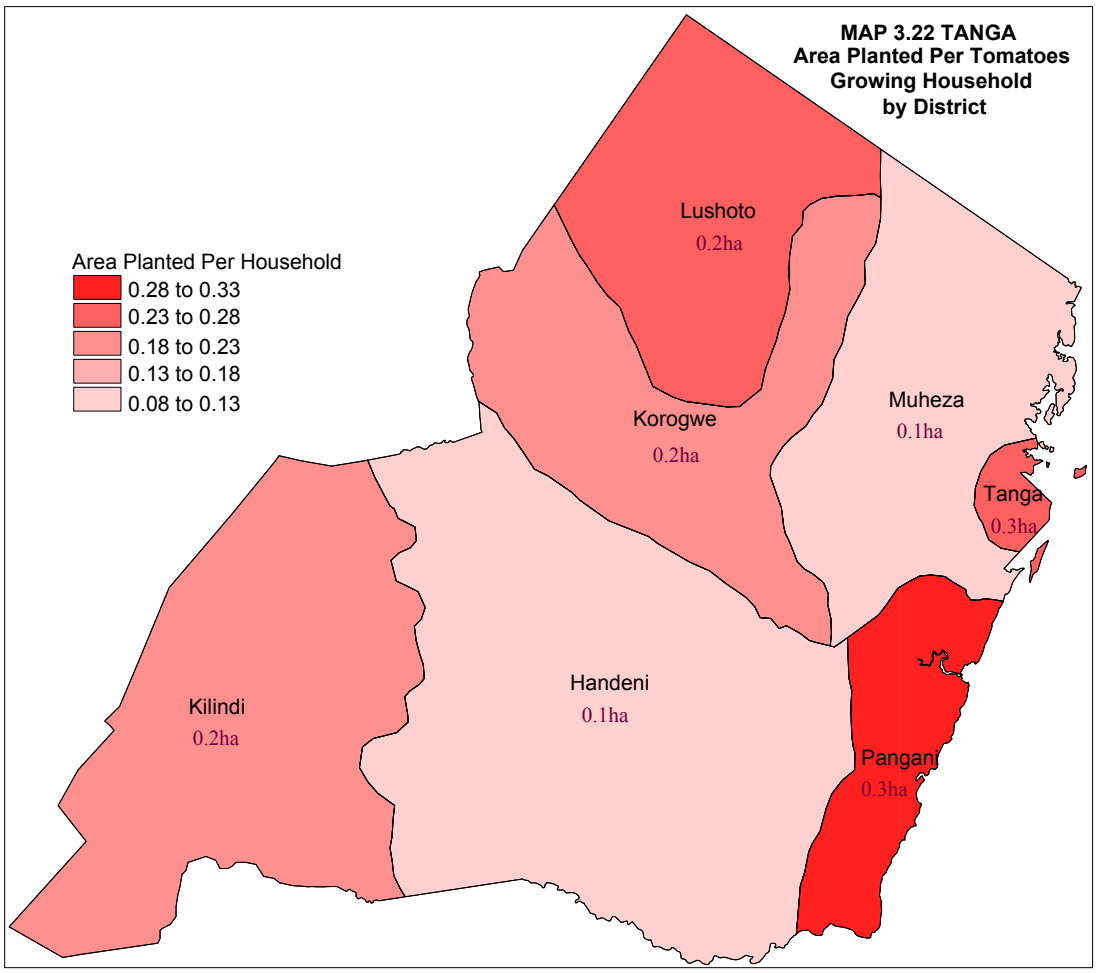




The highest percentage of land with tomatoes was found in Lushoto, followed by Pangani district. With exception of Lushoto district, the rest of the districts have relatively low percentage of land used for tomato production (Chart 3.43). The largest area planted per tomato growing household was found in Pangani district (0.34 ha) followed by Tanga (0.25 ha), Lushoto (0.23 ha), Korogwe (0.21 ha), Kilindi (0.20 ha), Muheza (0.11 ha) and Handeni (0.08 ha) (Chart 3.44 and Map 3.22). The total area planted with tomatoes accounted for 0.6 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.

**Table 3.6: Area, Production and Yield of Fruits and Vegetables by Season**

| Crop | Short Rainy Season | | | Long Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) |
| Okra | 9 | 13 | 1,422 | 26 | 17 | 629 | 35 | 29 | 831 |
| Radish | 4 | 2 | 529 | 0 | 0 | 0 | 4 | 2 | 529 |
| Bitter Aubergine | 18 | 216 | 11,856 | 176 | 296 | 1,685 | 194 | 512 | 2641 |
| Onions | 18 | 85 | 4,681 | 100 | 279 | 2,782 | 119 | 364 | 3072 |
| Ginger | 88 | 66 | 746 | 0 | 0 | 0 | 88 | 66 | 746 |
| Cabbage | 344 | 1,410 | 4,099 | 502 | 2,062 | 4,109 | 846 | 3,472 | 4105 |
| Tomatoes | 1,621 | 7,220 | 4,455 | 948 | 3,632 | 3,832 | 2,569 | 10,852 | 4225 |
| Spinnach | 30 | 8 | 251 | 0 | 0 | 0 | 30 | 8 | 251 |
| Carrot | 51 | 182 | 3,584 | 143 | 145 | 1,017 | 194 | 328 | 1691 |
| Chillies | 414 | 1,054 | 2,549 | 307 | 919 | 2,990 | 721 | 1,973 | 2737 |
| Amaranths | 65 | 140 | 2,153 | 66 | 59 | 886 | 131 | 199 | 1515 |
| Pumpkins | 13 | 234 | 17,324 | 65 | 31 | 475 | 78 | 265 | 3384 |
| Cucumber | 0 | 0 | 0 | 90 | 668 | 7,390 | 90 | 668 | 7390 |
| Egg Plant | 9 | 11 | 1,227 | 23 | 20 | 856 | 32 | 31 | 960 |
| Water Mellon | 137 | 82 | 599 | 78 | 699 | 8,936 | 215 | 781 | 3634 |
| **Total** | **2,821** | **10,723** | | **2,525** | **8,827** | | **5,346** | **19,550** | |


MAP 3.21 TANGA
Planted Area and Yield of
Tomatoes by District
Planted Area (ha)
1,200 to 1,700
900 to 1,200
600 to 900
300 to 600
0 to 300
Planted Area (ha)
Yield (t/ha)
Lushoto
1,680ha
5.2t/ha
Korogwe
456ha
1.8t/ha
Muheza
108ha
1.7t/ha
Tanga
63ha
2.2t/ha
Handeni
49ha
1.9t/ha
Kilindi
120ha
6.4t/ha
Pangani
92ha
1.7t/ha


MAP 3.22 TANGA
Area Planted Per Tomatoes
Growing Household
by District
Area Planted Per Household
0.28 to 0.33
0.23 to 0.28
0.18 to 0.23
0.13 to 0.18
0.08 to 0.13
Lushoto
0.2ha
Korogwe
0.2ha
Muheza
0.1ha
Tanga
0.3ha
Handeni
0.1ha
Kilindi
0.2ha
Pangani
0.3ha

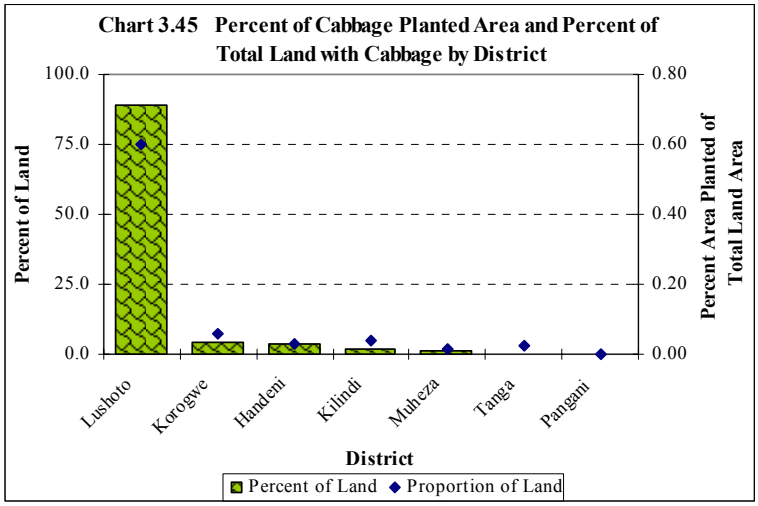
### 3.3.8.2 Cabbage

**able 3.7: Area, Production and Yield of Annual Cash Crops by Season**

| Crop | Short Rainy Season | | | Long Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) |
| Seaweed | 2 | 7 | 2,964 | 0 | 0 | 0 | 2 | 7 | 2,964 |
| Cotton | 0 | 0 | 0 | 264 | 165 | 625 | 264 | 165 | 625 |
| Tobacco | 15 | 3 | 198 | 166 | 70 | 422 | 180 | 73 | 404 |
| Jute | 0 | 0 | 0 | 18 | 12 | 642 | 18 | 12 | 642 |
| **TOTAL** | **17** | **10** | | **448** | **247** | | **465** | **256** | |

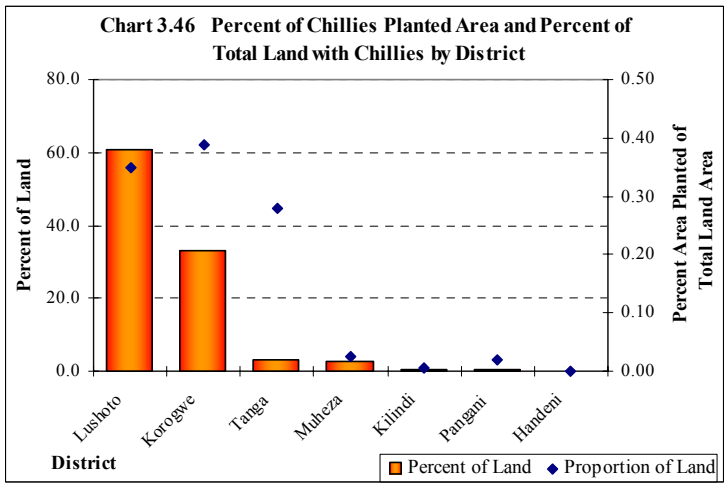
The number of households growing cabbages in the region during the long rainy season was 2,277 and 1,582 in the short rainy season. This represented 0.97 percent of the total crop growing households in the region in the long rainy season and 0.8 percent in the short rainy season.

Lushoto district had the largest planted area of cabbage (751 ha, 88.8% of the total area planted with cabbage in the region), followed by Korogwe (35 ha, 4.1%), Handeni (32 ha, 3.8%), Kilindi (17 ha, 2.0%), Muheza (9 ha, 1.1%) and Tanga (2 ha, 0.2%) (Chart 3.45 and Map 3.23 and 2,24). The total area planted with cabbages accounted for 0.2 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.

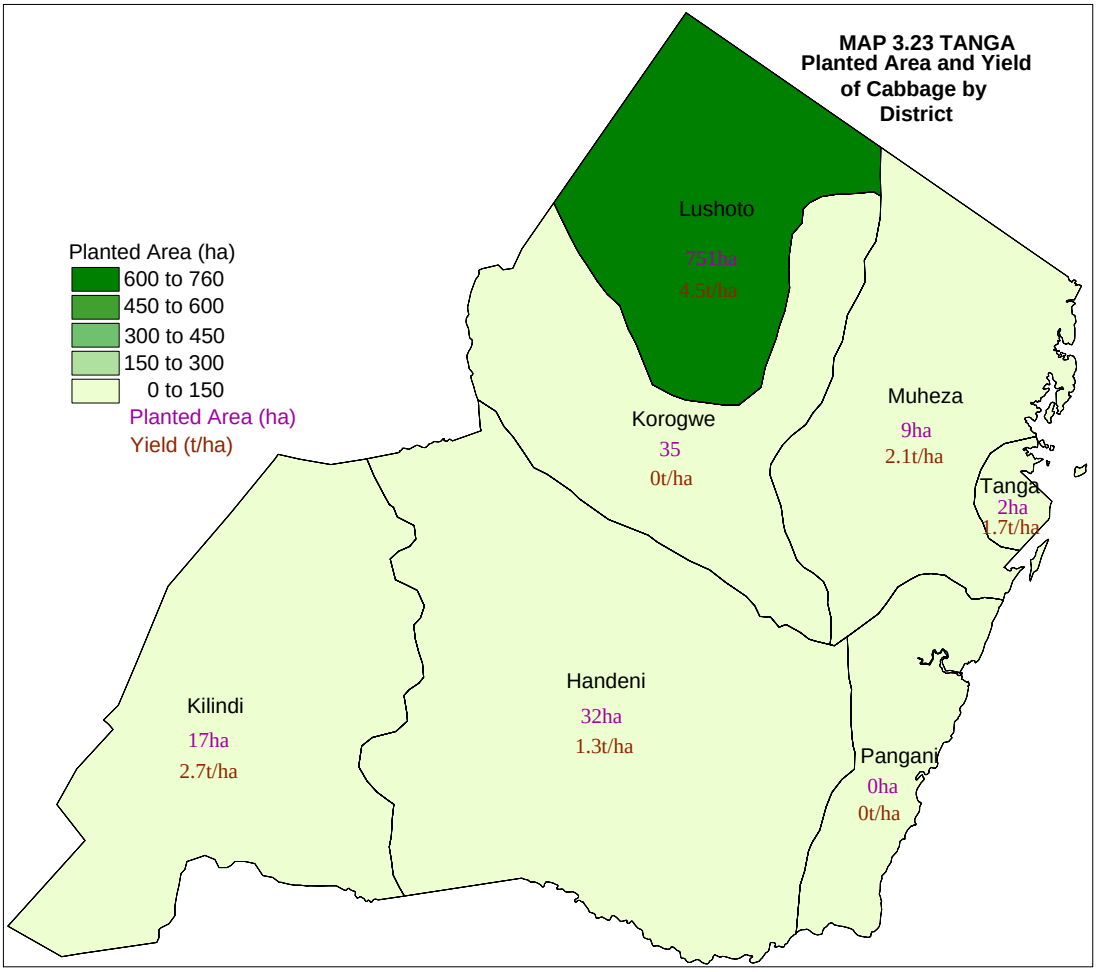


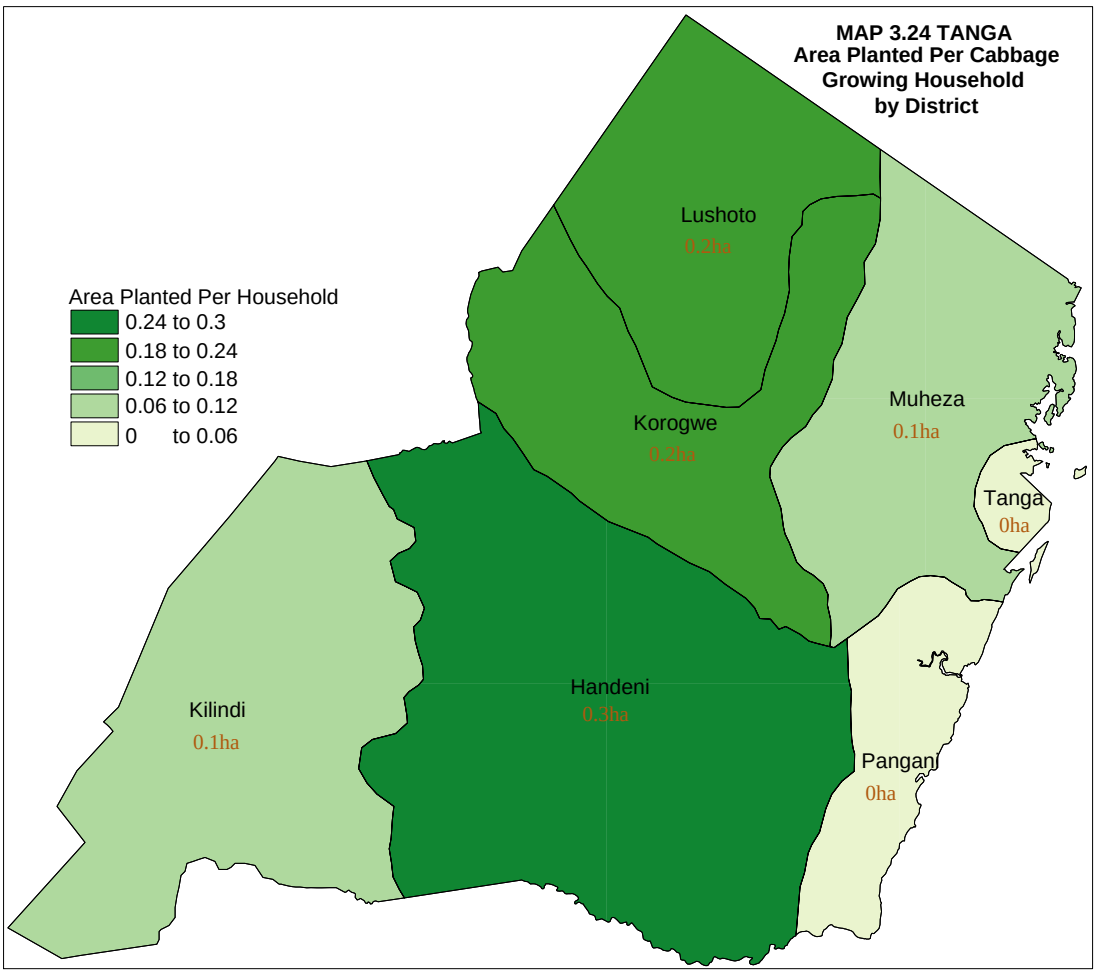

### 3.3.8.3 Chillies

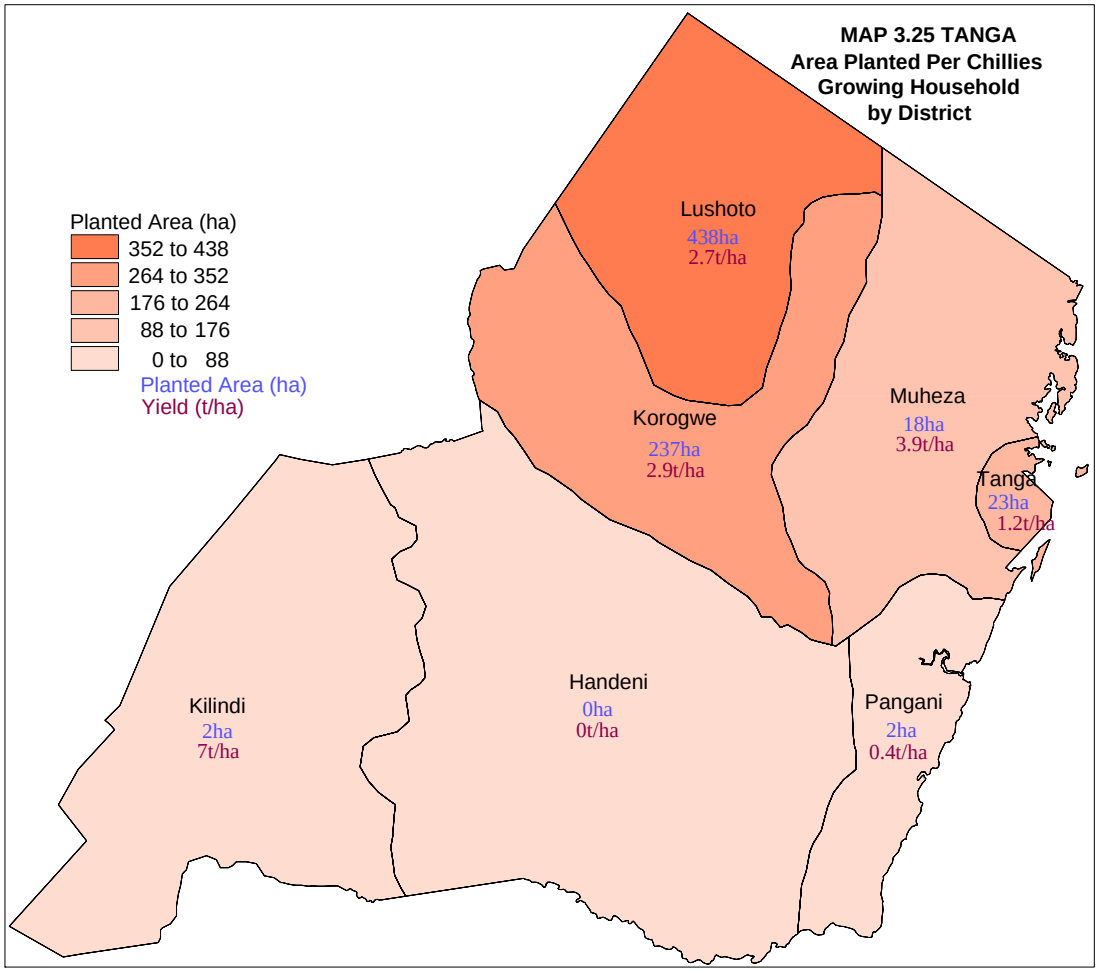
The number of households growing chillies in the region during the long rainy season was 1,367 households and 1,691 in the short rainy season. This represents 0.58 percent of the total crop growing households in the region in the long rainy season and 0.86 percent in the short rainy season. Lushoto district had the largest planted area of chillies (438 ha, 60.8% of the total area planted with chillies in the region), followed by Korogwe (237 ha, 32.9%), Tanga (23 ha, 3.2%), Muheza (18ha, 2.5%), Kilindi (2 ha, 0.3%) and Pangani (2 ha, 0.3%) districts (Map 3.25 and 3.26). Chillies are not produced in Handeni district. The largest proportion of the area planted with chillies was found in Korogwe district (0.39%), followed by Lushoto (0.35%), Tanga (0.28%), Muheza (0.03%), Pangani (0.02%) and Kilindi (0.005) (Chart 3.46).

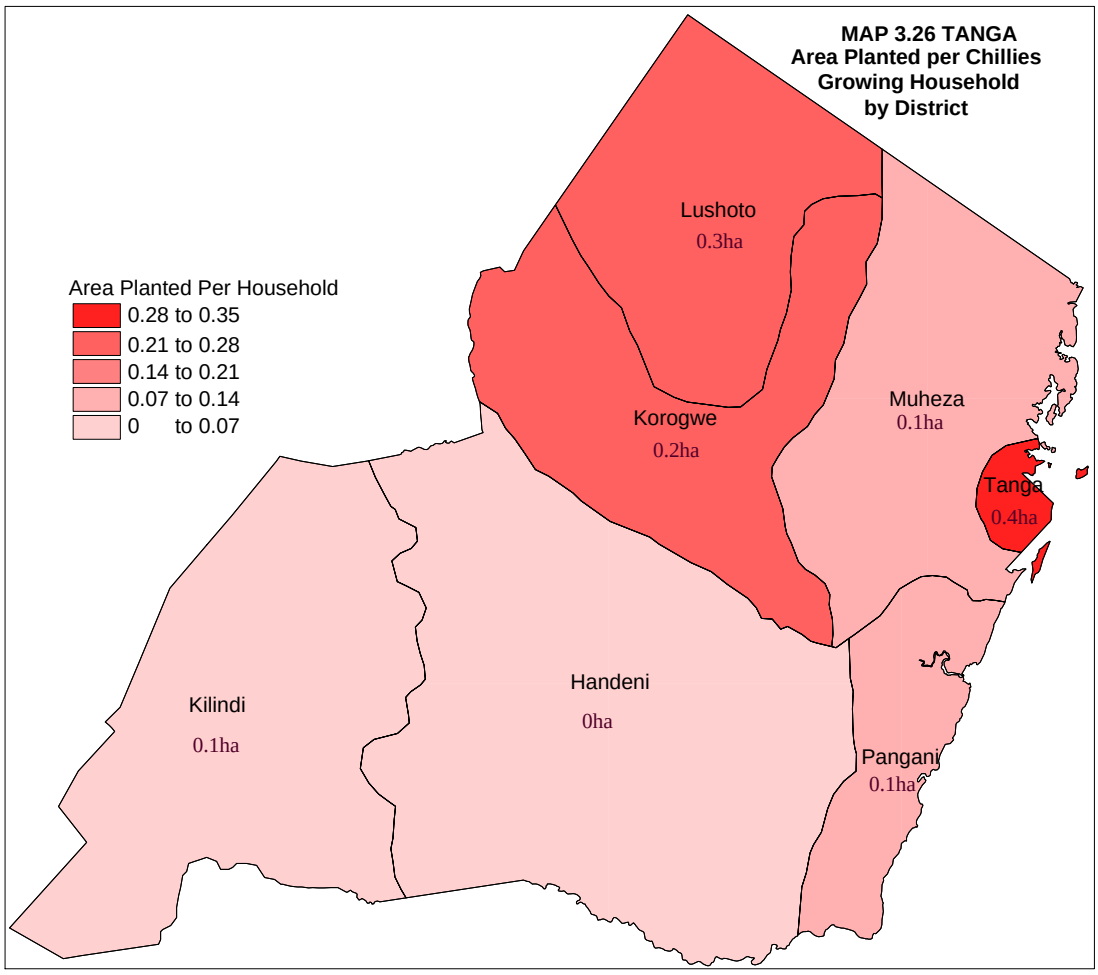



The total area planted with chillies accounted for 0.17 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.


MAP 3.23 TANGA
Planted Area and Yield of Cabbage by District
Planted Area (ha)
600 to 760
450 to 600
300 to 450
150 to 300
0 to 150
Planted Area (ha)
Yield (t/ha)
Lushoto
751ha
4.5t/ha
Korogwe
35
0t/ha
Muheza
9ha
2.1t/ha
Tanga
2ha
1.7t/ha
Handeni
32ha
1.3t/ha
Kilindi
17ha
2.7t/ha
Pangani
0ha
0t/ha


MAP 3.24 TANGA
Area Planted Per Cabbage Growing Household by District
Area Planted Per Household
0.24 to 0.3
0.18 to 0.24
0.12 to 0.18
0.06 to 0.12
0 to 0.06
Lushoto
0.2ha
Korogwe
0.2ha
Muheza
0.1ha
Tanga
0ha
Handeni
0.3ha
Kilindi
0.1ha
Pangani
0ha

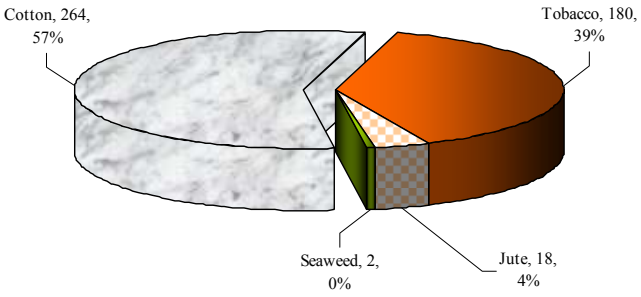

MAP 3.25 TANGA
Area Planted Per Chillies Growing Household by District
Planted Area (ha)
352 to 438
264 to 352
176 to 264
88 to 176
0 to 88
Planted Area (ha)
Yield (t/ha)
Lushoto
438ha
2.7t/ha
Korogwe
237ha
2.9t/ha
Muheza
18ha
3.9t/ha
Tanga
23ha
1.2t/ha
Kilindi
2ha
7t/ha
Handeni
0ha
0t/ha
Pangani
2ha
0.4t/ha


MAP 3.26 TANGA
Area Planted per Chillies Growing Household by District
Area Planted Per Household
0.28 to 0.35
0.21 to 0.28
0.14 to 0.21
0.07 to 0.14
0 to 0.07
Lushoto
0.3ha
Korogwe
0.2ha
Muheza
0.1ha
Tanga
0.4ha
Kilindi
0.1ha
Handeni
0ha
Pangani
0.1ha

### 3.3.9 Other Annual Crop Production

Most of the other annual crops are cash crops. An area of 465ha was planted with other annual crops and cotton was the most prominent followed by tobacco, jute and seaweed. The area planted with annual cash crops in short rainy season was 17 ha which represents 3.6 percent of the total area planted with other annual cash crops in short and long rainy season.

**Chart 3.47 Area planted with Annual Cash Crops**



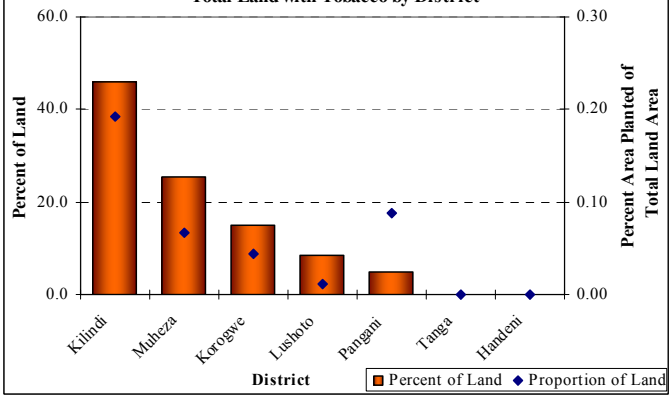

#### 3.3.9.1 Cotton

Only 165 tonnes of cotton was produced in Tanga Region on a planted area of 264 ha it was produced during the long rainy season only. The crop is grown in Handeni district only (Map 3.27) and only 0.6 ha was grown per household (Map 3.28).

#### 3.3.9.2 Tobacco

The quantity of tobacco produced was 73 tonnes. Tobacco had a planted area of 180 ha, most of which was planted in the long rainy season. Tobacco production is concentrated in 4 districts with Kilindi having the largest planted area (46.1% of total area planted with tobacco in the region), followed by Muheza (25.6%), Korogwe (15.0%), Lushoto (8.3%) and Pangani (5.0%) (Chart 3.43) (Map 3.29 and 3.30).

**Chart 3.48 Percent of Tobacco Planted Area and Percent of Total Land with Tobacco by District**

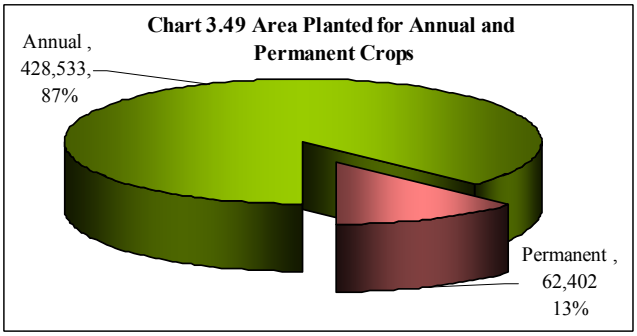


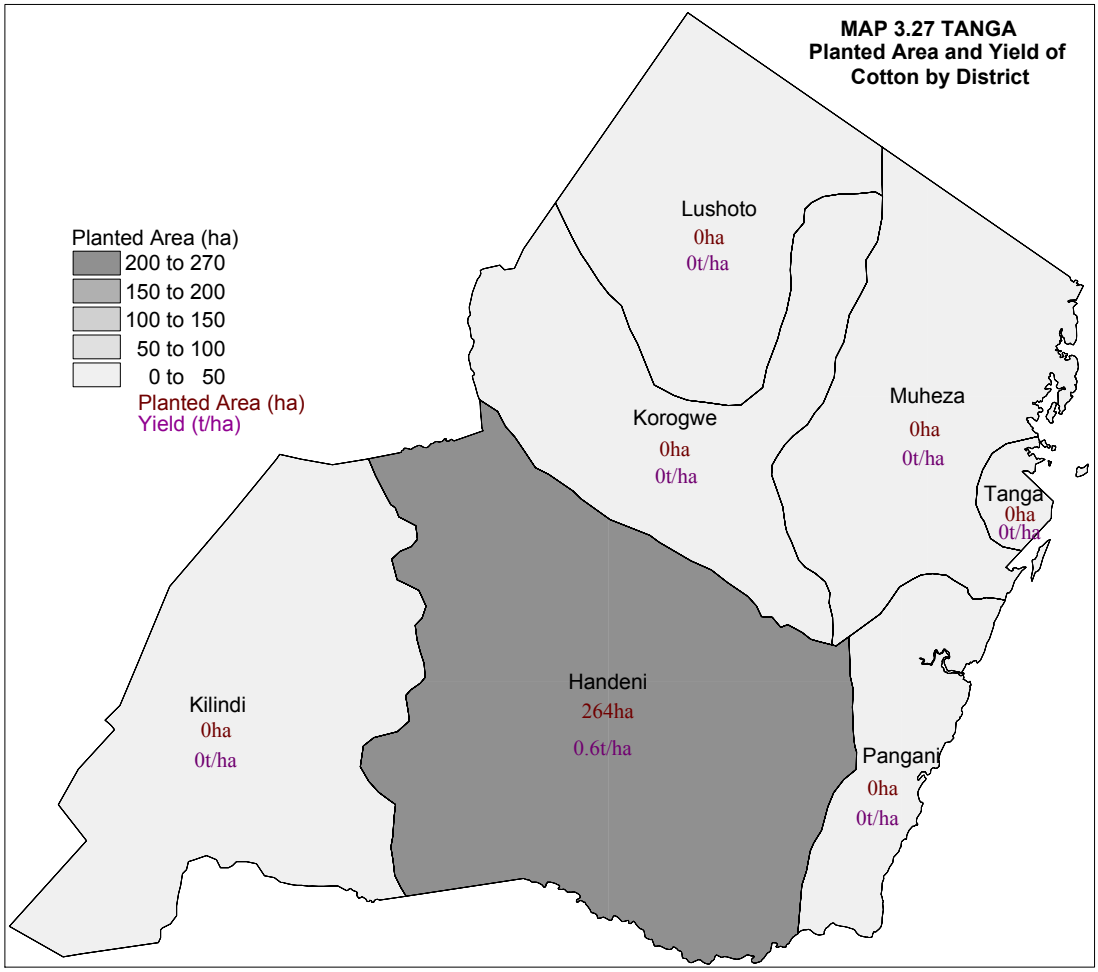

## 3.4 Permanent Crops

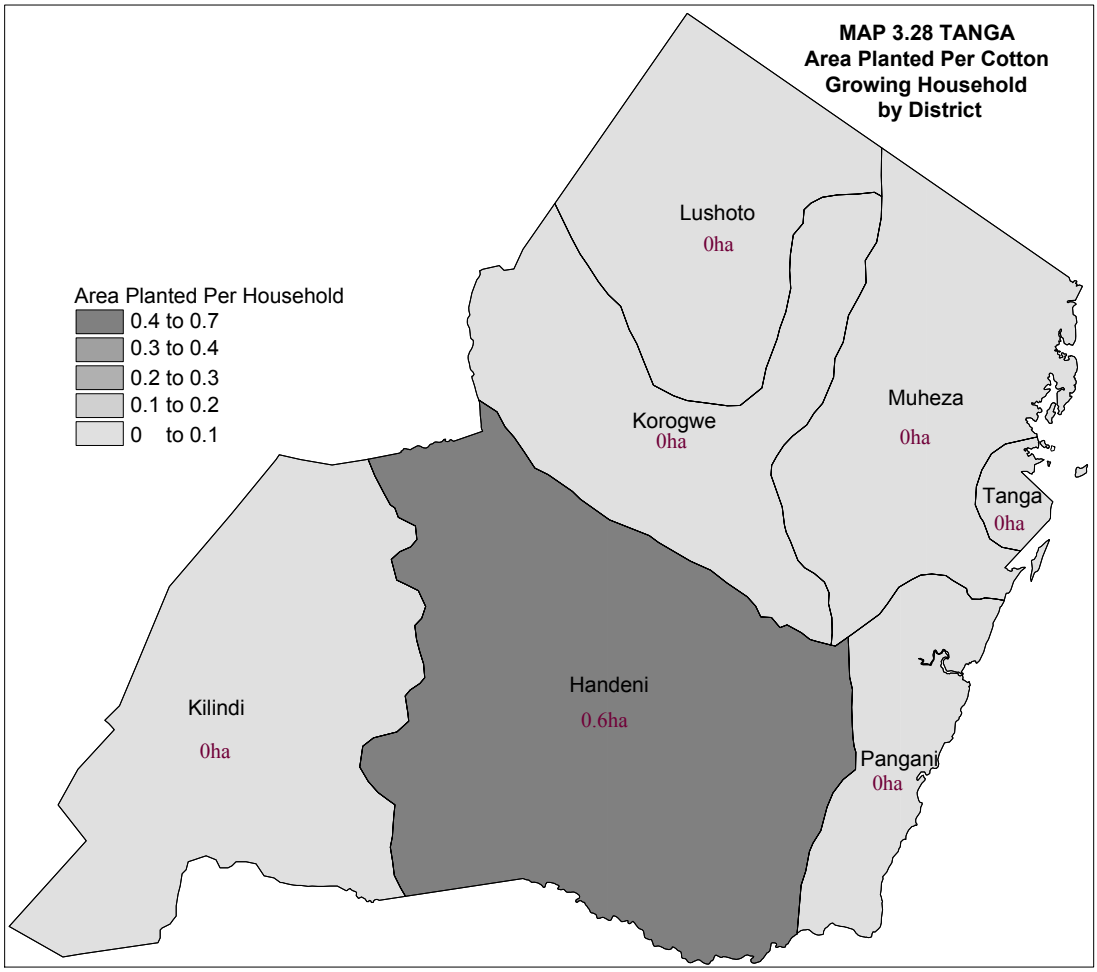
Permanent crops (sometimes referred as permanent crops) are crops that normally take over a year to mature and once mature can be harvest for a number of years. For most crops, it is easy to determine if they are annual or permanent. However, for crops like cassava and bananas the distinction is not 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. Conversely, bananas normally take less than a year to mature, survive for more than one year and are thus treated as a permanent crop. In this report the agriculture census results are presented for the most important permanent crops in terms of production, yield and area planted. Previous censuses and surveys did not measure these variables for permanent crops, therefore any time series analysis is made in this section.

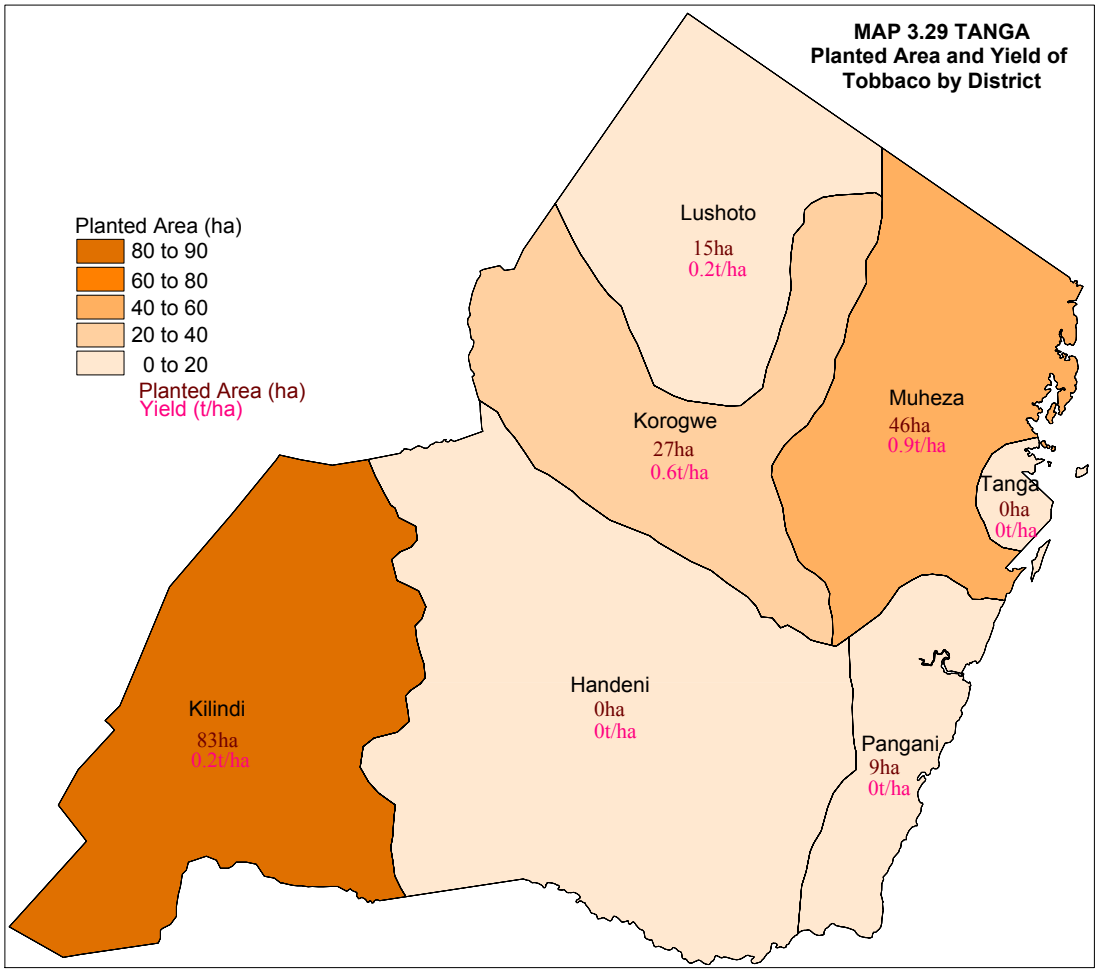
The area of smallholders planted with permanent crops was 62,403 hectares (13% of the area planted with annual crops in the region). However, the area planted with annual crops is not the actual physical land area as it includes the area planted more than once on the same land, whilst for the planted area for permanent crops is the same as physical planted land area. So the percentage physical area planted with permanent crops would be higher than indicated in Chart 3.49.

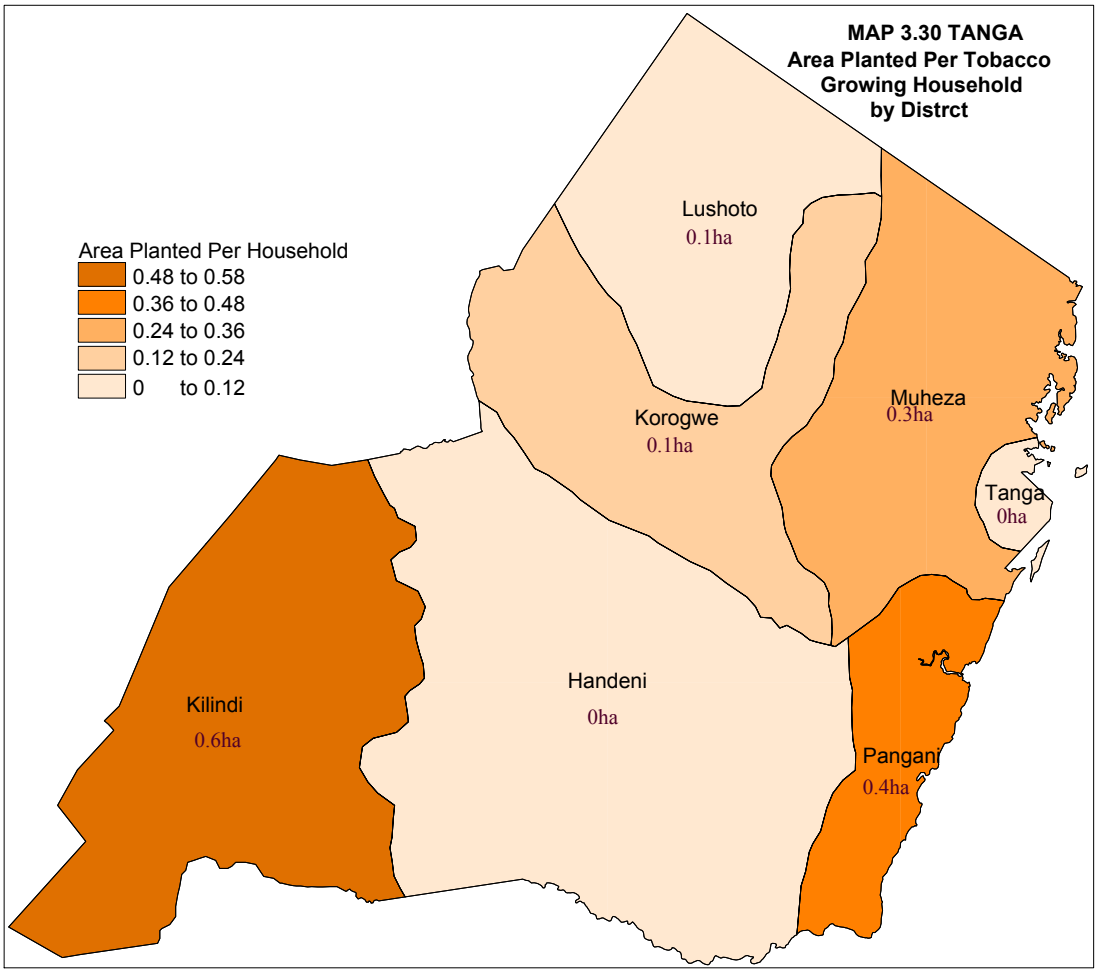
**Chart 3.49 Area Planted for Annual and Permanent Crops**




MAP 3.27 TANGA
Planted Area and Yield of Cotton by District
Planted Area (ha)
200 to 270
150 to 200
100 to 150
50 to 100
0 to 50
Planted Area (ha)
Yield (t/ha)
Lushoto
0ha
0t/ha
Korogwe
0ha
0t/ha
Muheza
0ha
0t/ha
Tanga
0ha
0t/ha
Handeni
264ha
0.6t/ha
Kilindi
0ha
0t/ha
Pangani
0ha
0t/ha

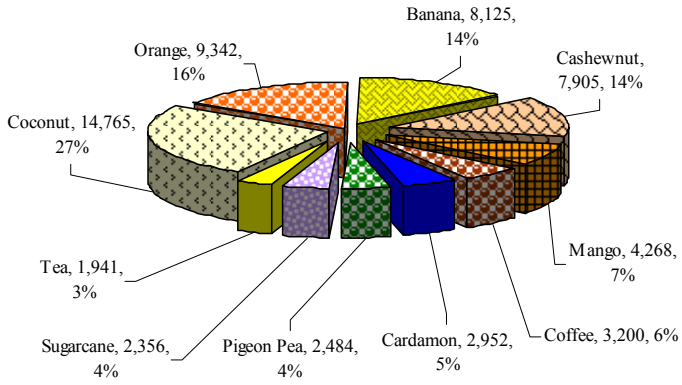

MAP 3.28 TANGA
Area Planted Per Cotton Growing Household by District
Area Planted Per Household
0.4 to 0.7
0.3 to 0.4
0.2 to 0.3
0.1 to 0.2
0 to 0.1
Lushoto
0ha
Korogwe
0ha
Muheza
0ha
Tanga
0ha
Handeni
0.6ha
Kilindi
0ha
Pangani
0ha


MAP 3.29 TANGA
Planted Area and Yield of
Tobbaco by District
Planted Area (ha)
80 to 90
60 to 80
40 to 60
20 to 40
0 to 20
Planted Area (ha)
Yield (t/ha)
Lushoto
15ha
0.2t/ha
Korogwe
27ha
0.6t/ha
Muheza
46ha
0.9t/ha
Tanga
0ha
0t/ha
Handeni
0ha
0t/ha
Kilindi
83ha
0.2t/ha
Pangani
9ha
0t/ha


MAP 3.30 TANGA
Area Planted Per Tobacco
Growing Household
by Distrct
Area Planted Per Household
0.48 to 0.58
0.36 to 0.48
0.24 to 0.36
0.12 to 0.24
0 to 0.12
Lushoto
0.1ha
Korogwe
0.1ha
Muheza
0.3ha
Tanga
0ha
Handeni
0ha
Kilindi
0.6ha
Pangani
0.4ha

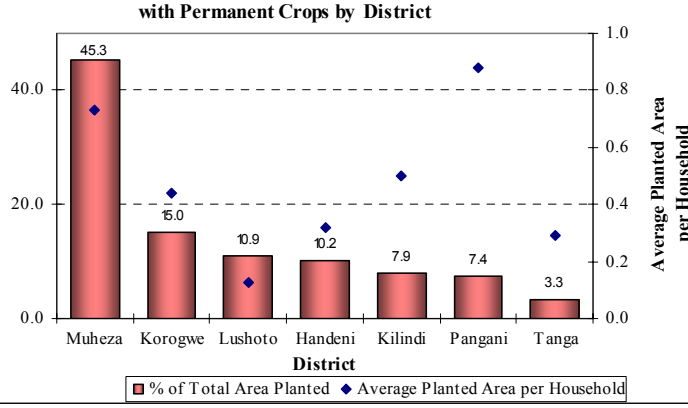
The most important permanent crop in Tanga region is coconuts which accounts for a planted area of 14,765 ha, (23.7% of the planted area of all permanent crops) followed by orange (9,342 ha, 15%), banana (8,125 ha, 13%), cashew nuts (7,905 ha, 12.7%), mango 4,268 ha, 6.8%) and coffee (3,199 ha, 5.1%). Each of the remaining permanent crops had an area of less than 5 percent of the total area planted with permanent crops (Chart 3.50).

**Chart 3.50 Area Planted with the Main Perennial Crops**




Muheza district had the largest area under smallholder permanent crops (28,263 ha, 45%). This is followed by Korogwe (9,357 ha, 15%), Lushoto (6,808 ha, 11%), Handeni (6,360 ha, 10%), Kilindi (4,914 ha, 8%), Pangani (4,623 ha, 7%) and Tanga (2,078 ha, 3%). However, Pangani had the largest area per permanent crop growing household (0.9 ha) followed by Muheza (0.7 ha), Kilindi (0.5 ha), Korogwe (0.4 ha), Handeni (0.3 ha), Tanga (0.3 ha) and Lushoto (0.1 ha) (Chart 3.51).

**Chart 3.51 Percent of Area Planted and Average Planted Area with Permanent Crops by District**

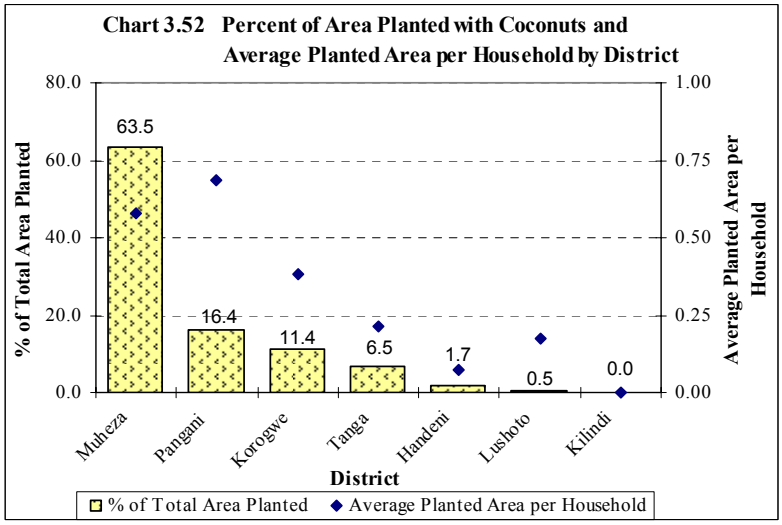



In terms of area of permanent crops planted expressed as a percentage of the total area planted with crops per district, Pangani had the highest (31%) followed by Muheza (29%), Tanga (20%), Korogwe (13%), Kilindi (10%), Handeni (5%) and Lushoto (5%).

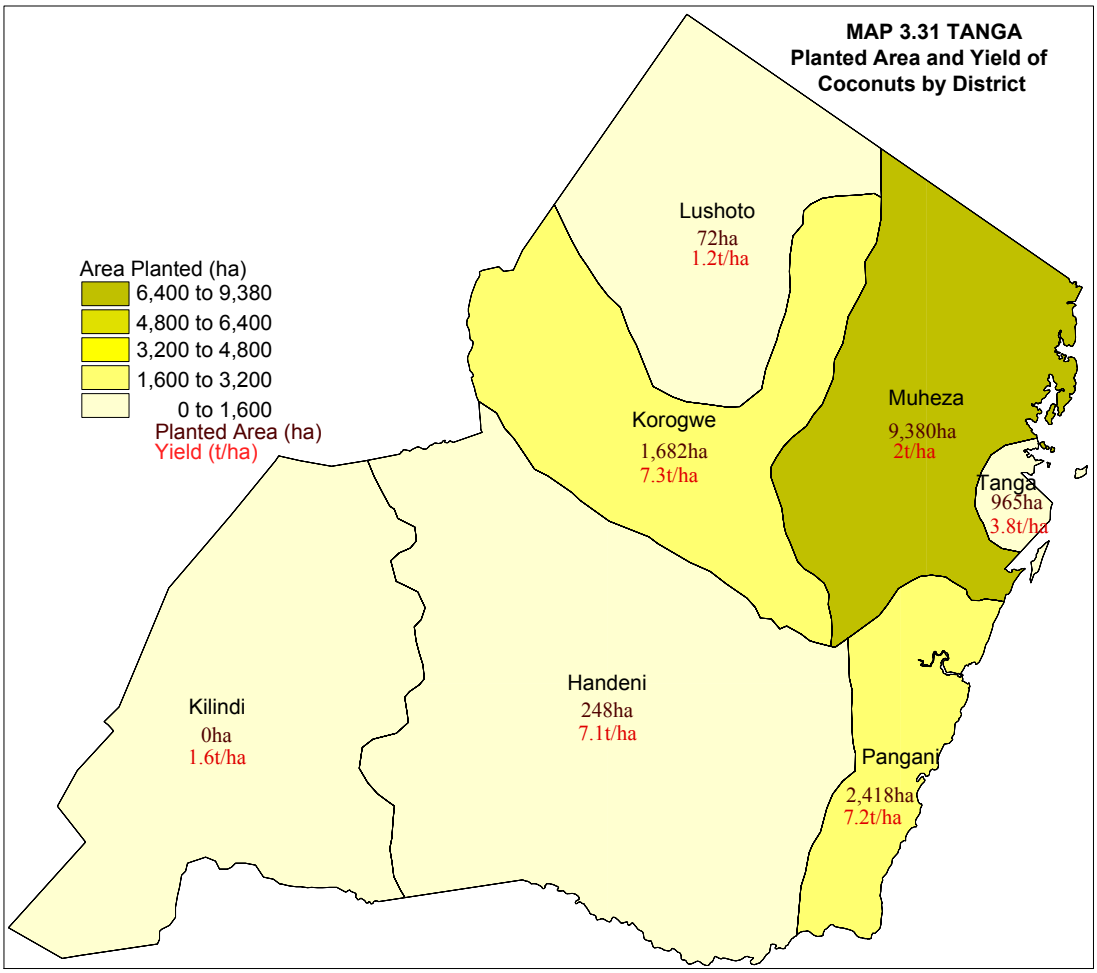
### 3.4.1 Coconuts

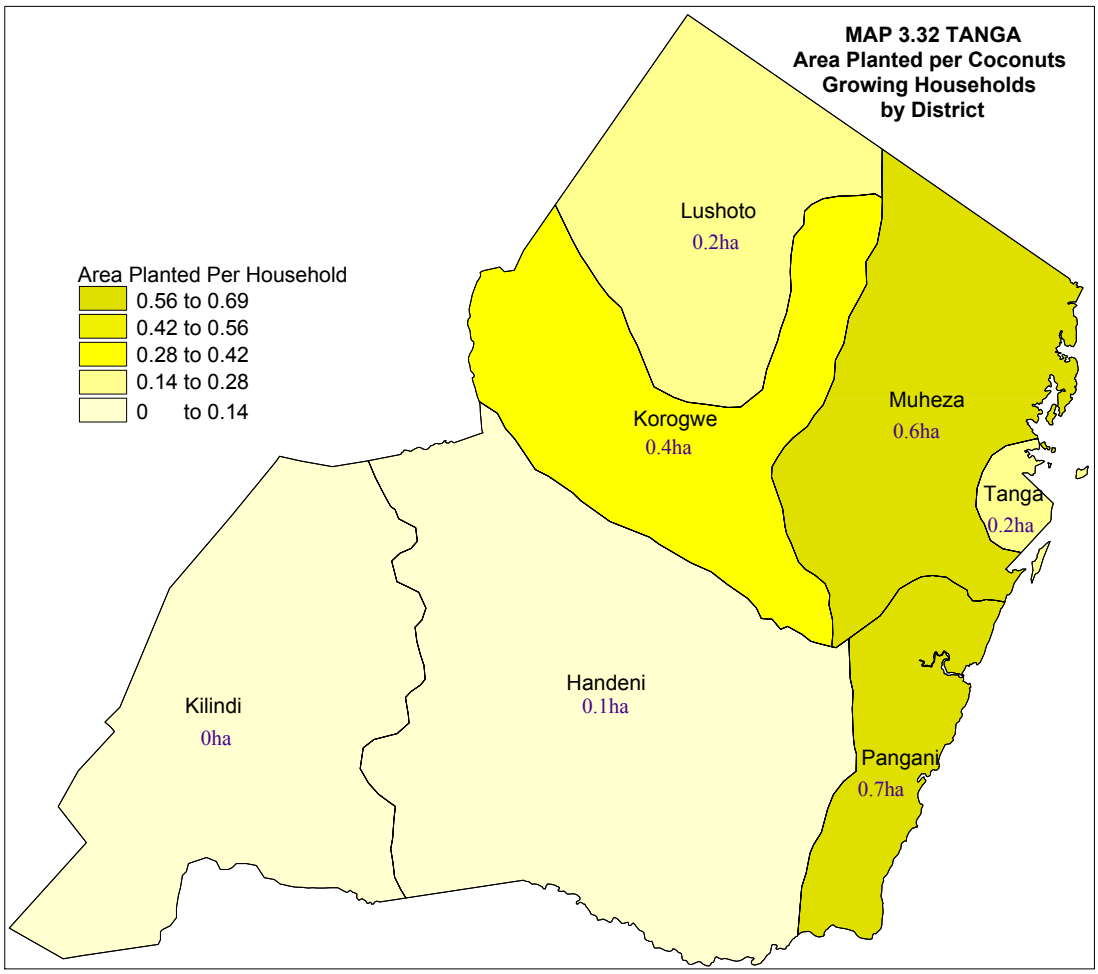
The total production of coconuts by smallholders was 26,328 tonnes. In terms of area planted, coconut was the most important permanent crop grown by smallholders in the region. They were grown by 32,814 households (12.4% of the total crop growing households). The average area planted with coconuts per household was relatively small at around 0.45 ha per cashew nut growing household and the average yield obtained by smallholders was 3,479 kg/ha from a harvest area of 7,568 hectares.

**Chart 3.52 Percent of Area Planted with Coconuts and Average Planted Area per Household by District**



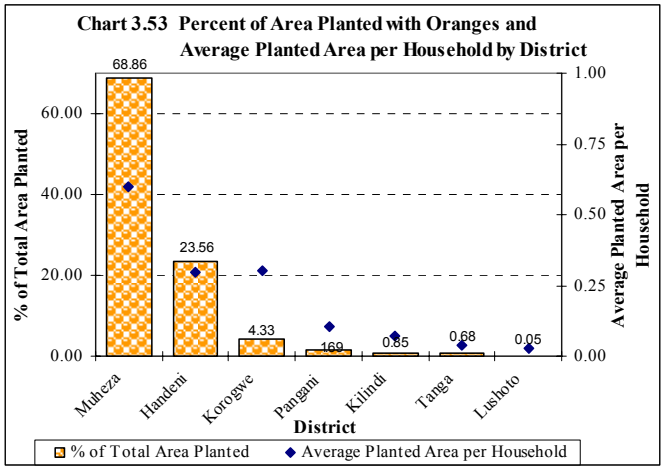

Muheza had the largest area of coconuts in the region (9,380 ha, 63.5%) followed by Pangani (2,417 ha, 16.4%), Korogwe (1,682.1 ha, 11.4%), Tanga (964.6 ha, 6.5%), Handeni (248.1 ha, 1.7%) and Lushoto (72.4 ha, 0.5%). There was no coconut production in Kilindi district (Map 3.31). However, the average area planted with coconuts per coconut growing household was highest in Pangani (0.69 ha) followed by Muheza (0.58 ha), Korogwe (0.38 ha), Tanga (0.22 ha), Lushoto (0.18 ha) and Handeni (0.07 ha) (Chart 3.52 and Map 3.32).


MAP 3.31 TANGA
Planted Area and Yield of Coconuts by District
Area Planted (ha)
6,400 to 9,380
4,800 to 6,400
3,200 to 4,800
1,600 to 3,200
0 to 1,600
Planted Area (ha)
Yield (t/ha)
Lushoto
72ha
1.2t/ha
Korogwe
1,682ha
7.3t/ha
Muheza
9,380ha
2t/ha
Tanga
965ha
3.8t/ha
Handeni
248ha
7.1t/ha
Kilindi
0ha
1.6t/ha
Pangani
2,418ha
7.2t/ha


MAP 3.32 TANGA
Area Planted per Coconuts Growing Households by District
Area Planted Per Household
0.56 to 0.69
0.42 to 0.56
0.28 to 0.42
0.14 to 0.28
0 to 0.14
Lushoto
0.2ha
Korogwe
0.4ha
Muheza
0.6ha
Tanga
0.2ha
Handeni
0.1ha
Kilindi
0ha
Pangani
0.7ha

### 3.4.2 Oranges

The total production of oranges by smallholders was 65,210 tonnes. In terms of area planted, orange was the second most important permanent crop grown by smallholders in the region. It was grown by 9,342 households (3.5% of the total crop growing households). The average area planted with oranges per household was relatively small at around 0.39 ha per orange growing household and the average yield obtained by smallholders was 10,952 kg/ha from a harvest area of 5,954 hectares.

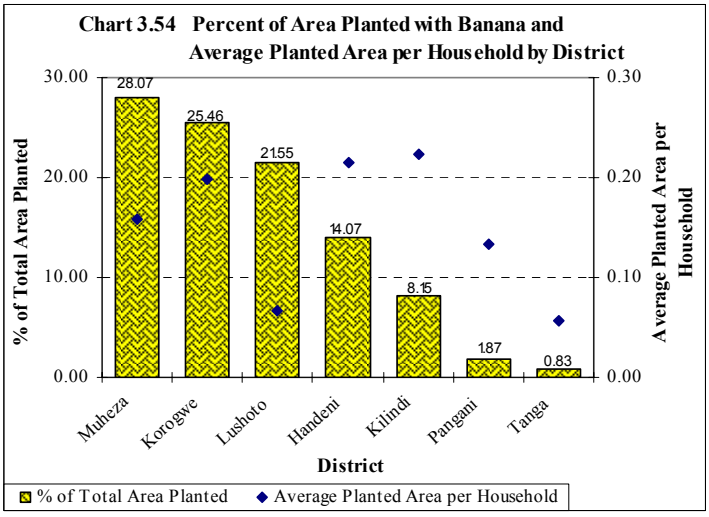



Muheza had the largest area of oranges in the region (6,433 ha, 68.9%) followed by Handeni (2,201 ha, 23.6%), Korogwe (404 ha, 4.3%), Pangani (158 ha, 1.7%), Kilindi (79 ha, 0.9%), Tanga (63 ha, 0.7%) and Lushoto (4.3ha, 0.1%) (Map 3.33). However, the average area planted with oranges per orange planting household was highest in Muheza (0.6 ha) followed by Handeni (0.3 ha), Korogwe (0.3 ha), Pangani (0.1 ha), Kilindi (0.07 ha), Tanga (0.04 ha) and Lushoto (0.03 ha) (Chart 3.53 and Map 3.34).

### 3.4.3 Banana

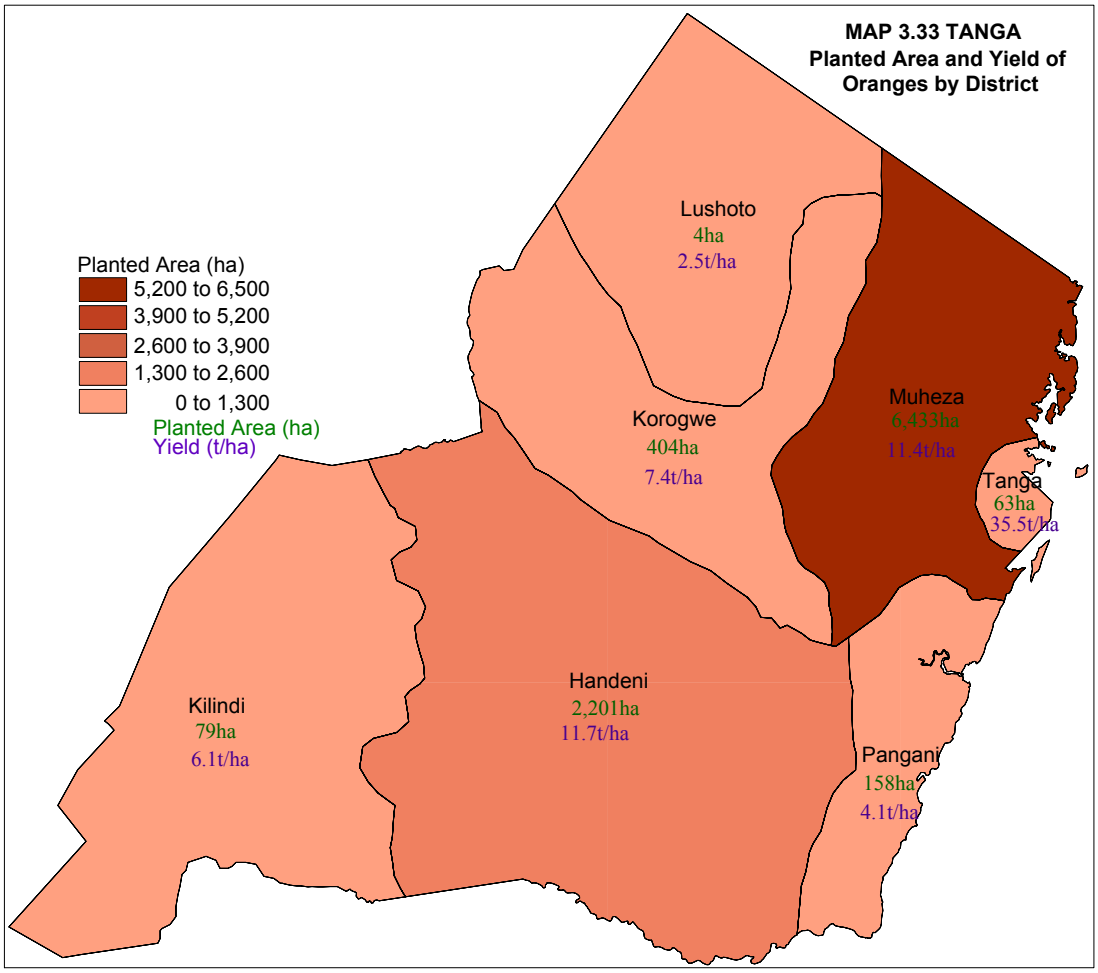
The total production of banana by smallholders was 34,126 tonnes. In terms of area planted, banana was the third most important permanent crop grown by smallholders in the region. It was grown by 61,464 households (23.3% of the total crop growing households). The average area planted with banana per household was relatively small at around 0.13 ha per banana growing household and the average yield obtained by smallholders was 6,311 kg/ha from a harvested area of 5,408 hectares.

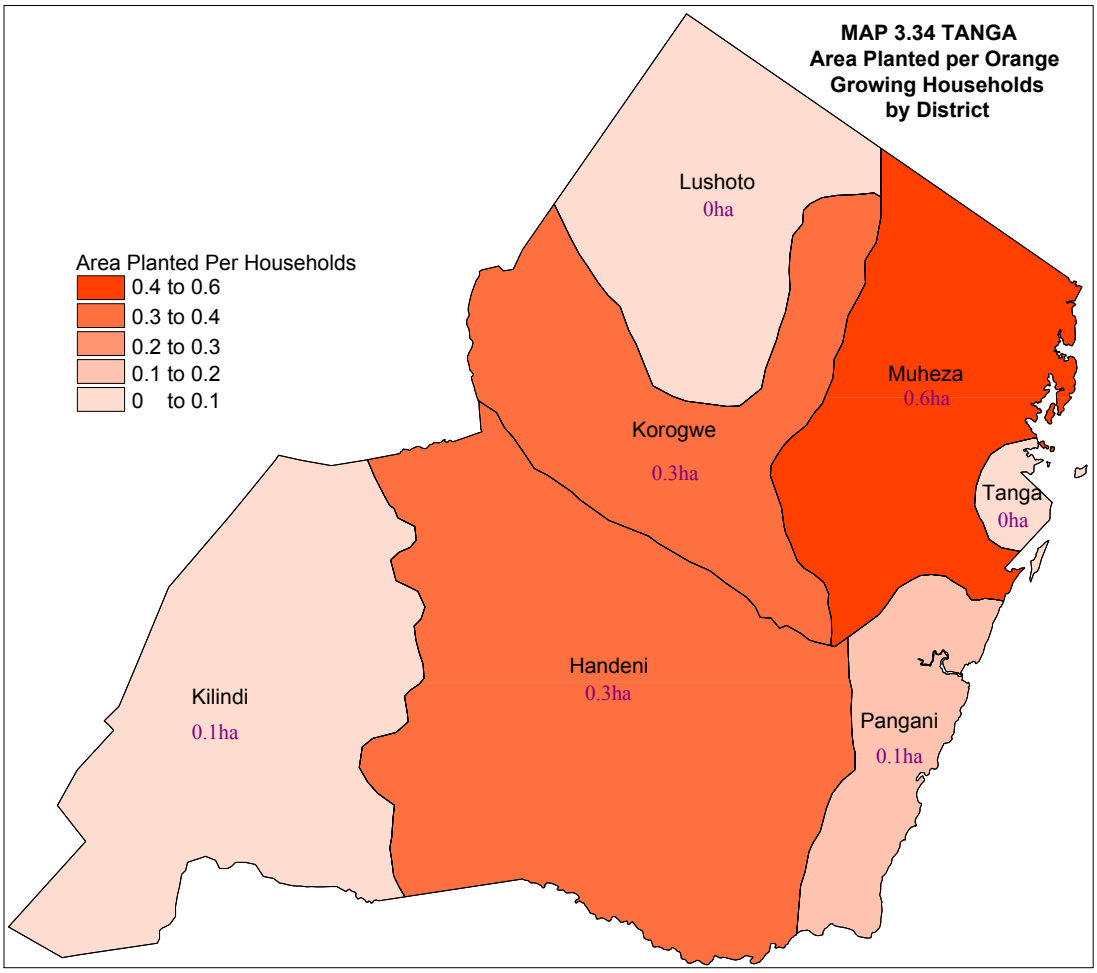
Muheza had the largest planted area of bananas in the region (2,281 ha, 28%) followed by Korogwe (2,069 ha, 25%), Lushoto (1,751 ha, 22%), Handeni (1,143 ha, 14%), Kilindi (662 ha, 8%), Pangani (152 ha, 2%) and Tanga (68 ha, 1%) (Map 3.35). However, the area planted with banana per banana growing household was highest in Kilindi (0.22 ha), followed by Handeni (0.21 ha), Korogwe (0.20 ha), Muheza (0.16 ha), Pangani (0.13 ha), Lushoto (0.07 ha) and Tanga (0.06 ha) (Chart 3.49 and Map 3.36).

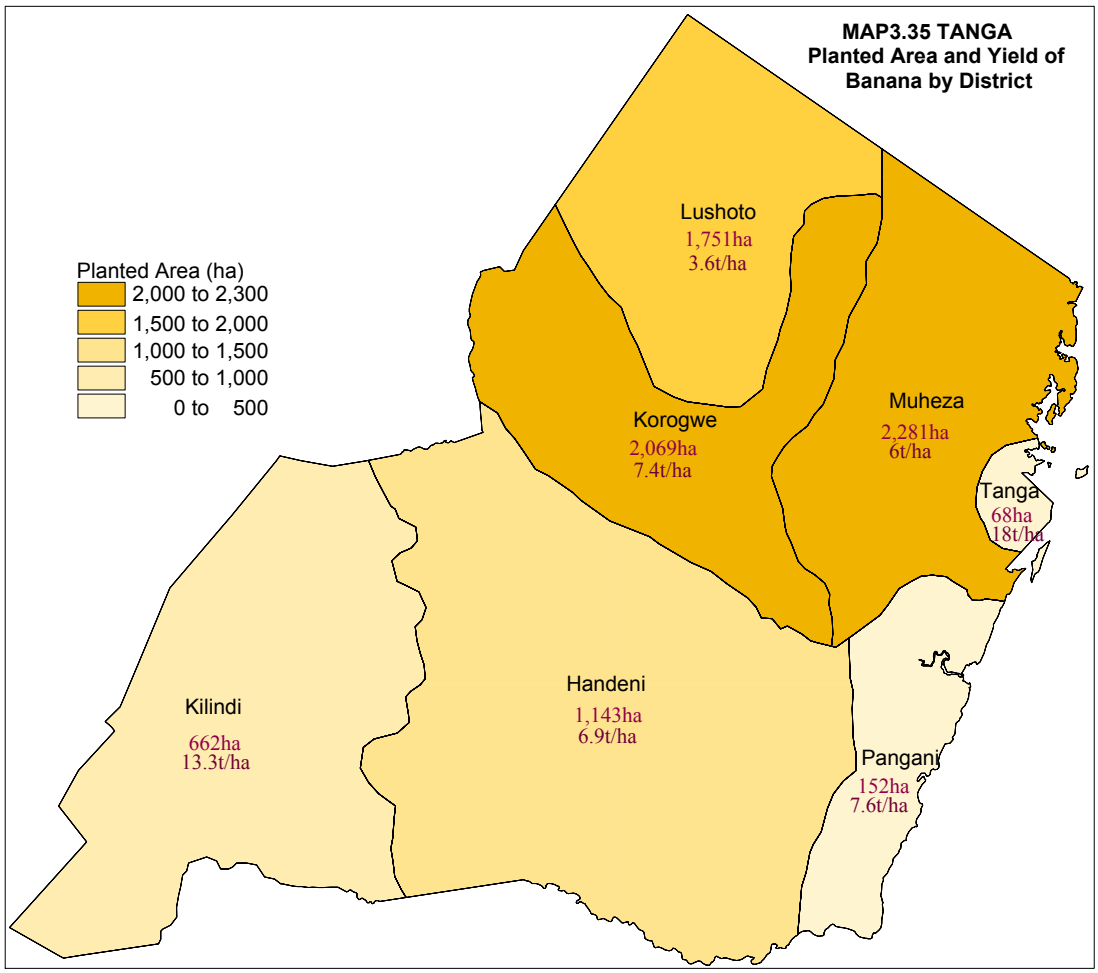


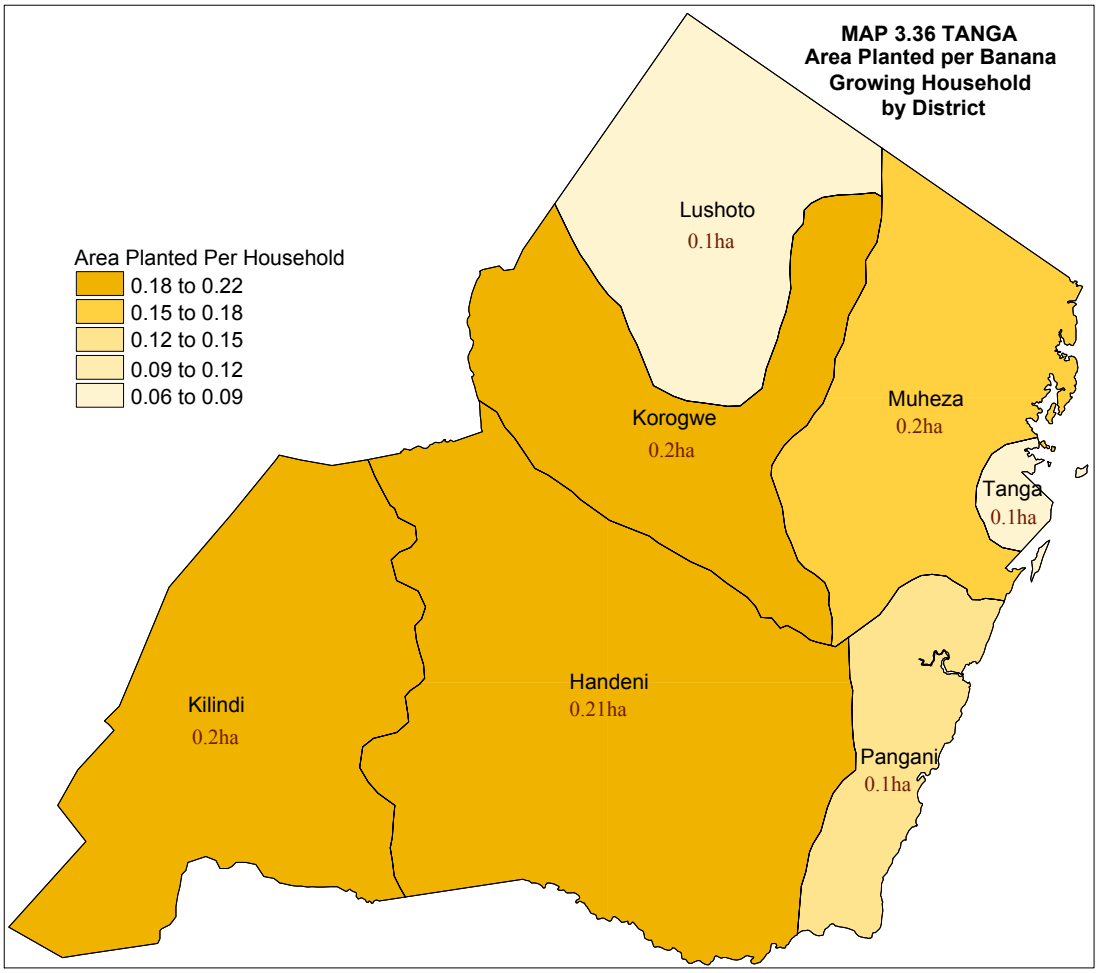

### 3.4.4 Cashew Nuts

The total production of cashew nuts by smallholders was 4,557 tonnes. In terms of area planted, cashew nut was the fourth most important permanent crop grown by smallholders in the region. It was grown by 16,074 households (6.1% of the total crop growing households). The average area planted with cashew nuts per household was relatively small at around 0.49 ha per cashew nut growing household and the average yield obtained by smallholders was 977 kg /ha from a harvest area of 4,664 hectares.

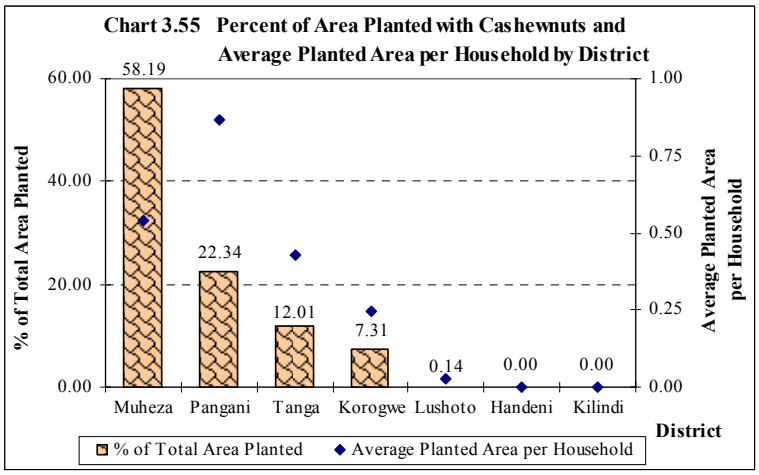

MAP 3.33 TANGA
Planted Area and Yield of Oranges by District
Planted Area (ha)
5,200 to 6,500
3,900 to 5,200
2,600 to 3,900
1,300 to 2,600
0 to 1,300
Planted Area (ha)
Yield (t/ha)
Lushoto
4ha
2.5t/ha
Korogwe
404ha
7.4t/ha
Muheza
6,433ha
11.4t/ha
Tanga
63ha
35.5t/ha
Kilindi
79ha
6.1t/ha
Handeni
2,201ha
11.7t/ha
Pangani
158ha
4.1t/ha


MAP 3.34 TANGA
Area Planted per Orange Growing Households by District
Area Planted Per Households
0.4 to 0.6
0.3 to 0.4
0.2 to 0.3
0.1 to 0.2
0 to 0.1
Lushoto
0ha
Korogwe
0.3ha
Muheza
0.6ha
Tanga
0ha
Kilindi
0.1ha
Handeni
0.3ha
Pangani
0.1ha


MAP3.35 TANGA
Planted Area and Yield of Banana by District
Planted Area (ha)
2,000 to 2,300
1,500 to 2,000
1,000 to 1,500
500 to 1,000
0 to 500
Lushoto
1,751ha
3.6t/ha
Korogwe
2,069ha
7.4t/ha
Muheza
2,281ha
6t/ha
Tanga
68ha
18t/ha
Kilindi
662ha
13.3t/ha
Handeni
1,143ha
6.9t/ha
Pangani
152ha
7.6t/ha


MAP 3.36 TANGA
Area Planted per Banana Growing Household by District
Area Planted Per Household
0.18 to 0.22
0.15 to 0.18
0.12 to 0.15
0.09 to 0.12
0.06 to 0.09
Lushoto
0.1ha
Korogwe
0.2ha
Muheza
0.2ha
Tanga
0.1ha
Kilindi
0.2ha
Handeni
0.21ha
Pangani
0.1ha

Muheza has the largest area of cashew nuts in the region (4,600 ha, 58%) followed by Pangani (1,766 ha, 22%), Tanga (950 ha, 12%), Korogwe (578 ha, 7%) and Lushoto (11 ha, 0.1%) (Map 3.37). However, the average area planted per cashewnut growing household was highest in Pangani (0.87 ha), followed by Muheza (0.54 ha), Tanga (0.43 ha), and Korogwe (0.25 ha) (Map 3.38). Handeni and Kilindi districts reported no cashew nuts production.




## 3.5 Input/Implement Use

### 3.5.1 Methods of Land Clearing

Land clearing is a common pre-tillage operation practiced by most farmers in the region. 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.

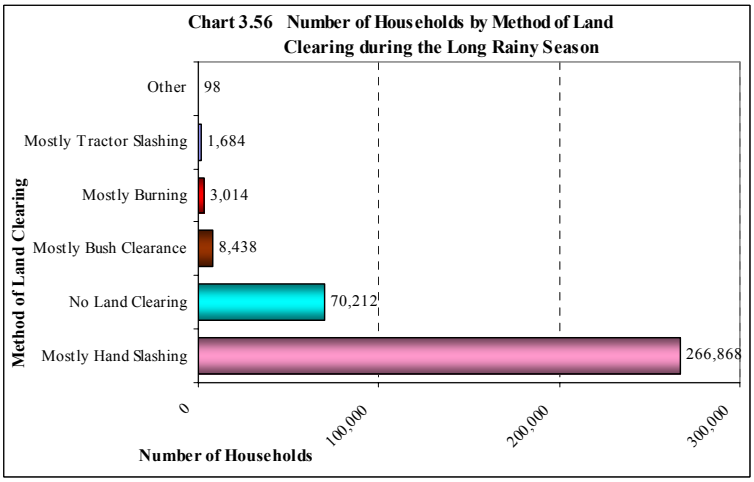
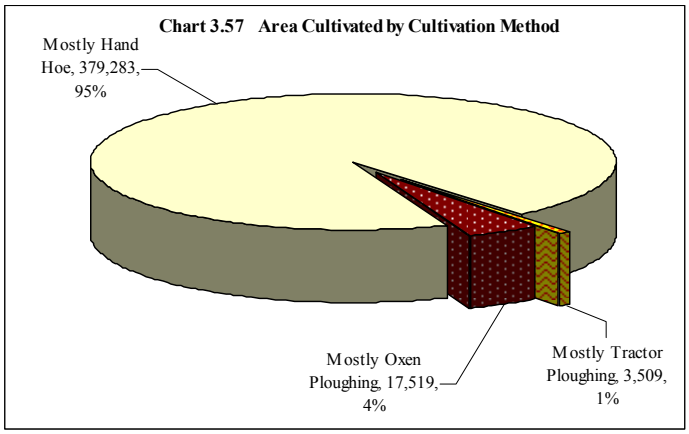



**Table 3.8: Land Clearing Methods**

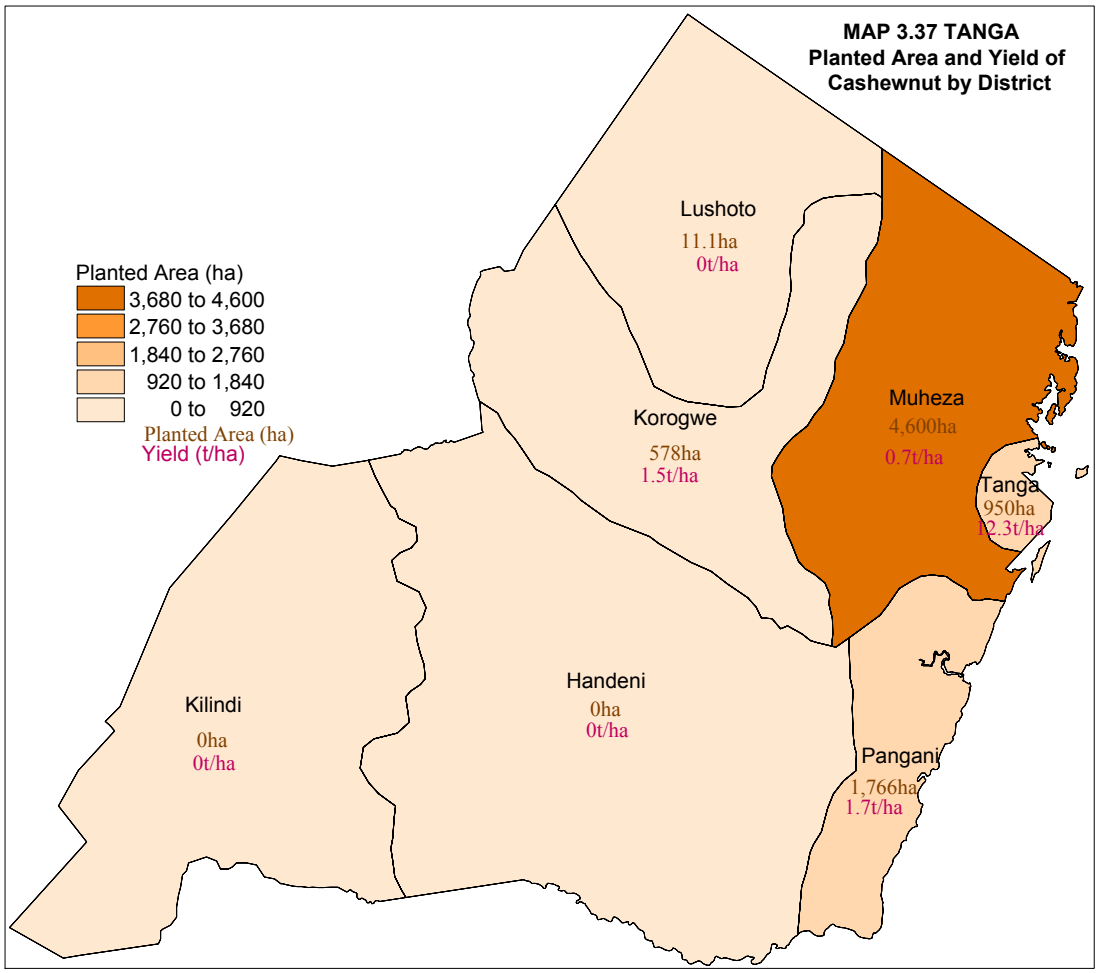
| Method of Land Clearing | Long Rainy Season | | | Short Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Number of Households | Area Planted | % | Number of Households | Area Planted | % | Number of Households | Area Planted | % |
| Mostly Hand Slashing | 266,868 | 172,247 | 72.2 | 288,964 | 127,858 | 79.7 | 555,831 | 300,105 | 75.2 |
| No Land Clearing | 70,212 | 54,961 | 23.0 | 48,698 | 25,488 | 15.9 | 118,910 | 80,450 | 20.2 |
| Mostly Bush Clearance | 8,438 | 8,584 | 3.6 | 8,307 | 4,180 | 2.6 | 16,745 | 12,764 | 3.2 |
| Mostly Burning | 3,014 | 1,896 | 0.8 | 2,579 | 1,682 | 1.0 | 5,593 | 3,577 | 0.9 |
| Mostly Tractor Slashing | 1,684 | 875 | 0.4 | 1,267 | 457 | 0.3 | 2,951 | 1,332 | 0.3 |
| Other | 98 | 56 | 0.0 | 998 | 691 | 0.4 | 1,096 | 747 | 0.2 |
| **Total** | **350,314** | **238,619** | **100.0** | **350,812** | **160,357** | **100.0** | **701,126** | **398,976** | **100.0** |

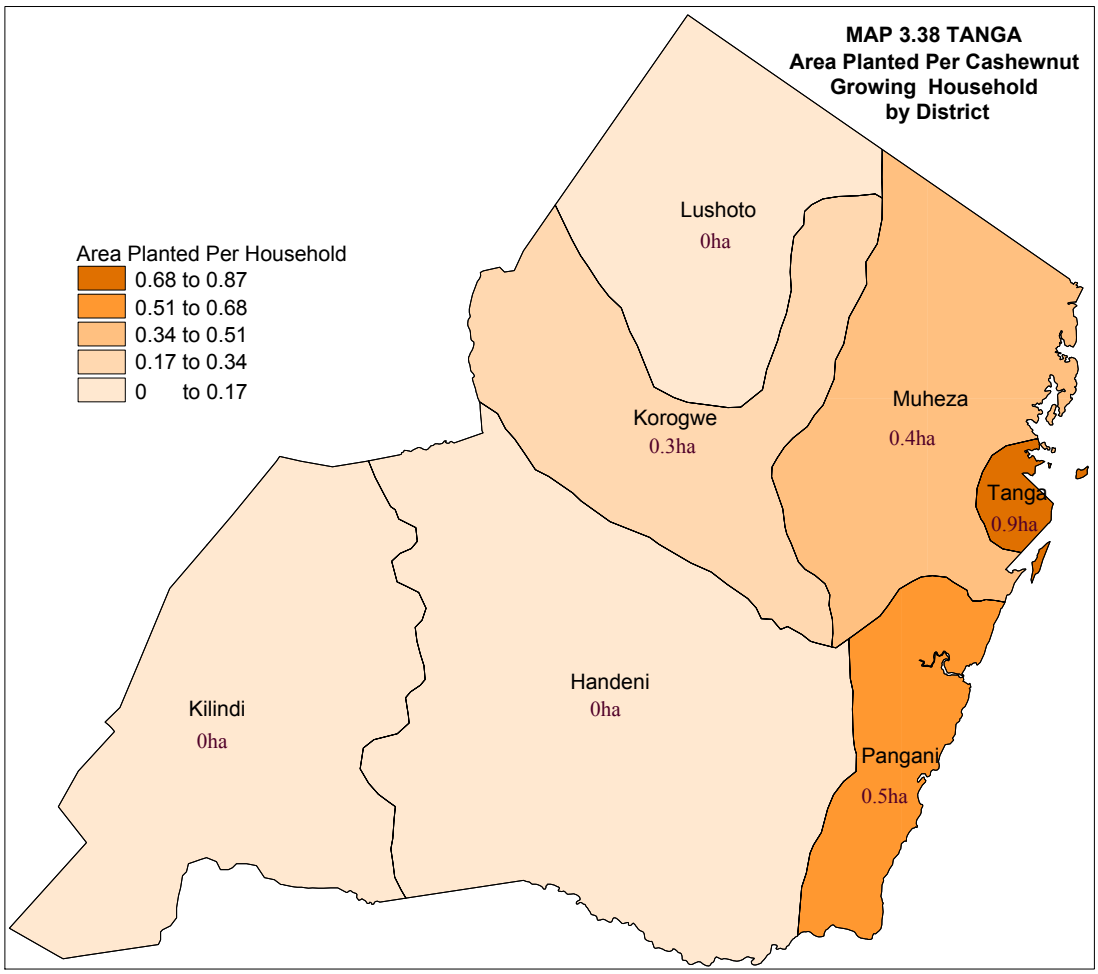
Hand slashing is the most widespread method used for land clearing. The area cleared by hand slashing in the region during the long rainy season was 172,247 ha which represented 72.2 percent of the total planted area. Bush clearance, burning and tractor slashing are less important methods for land clearing and they represent 3.6, 0.8 and 0.4 percent respectively (Chart 3.56 and Table 3.8 ).



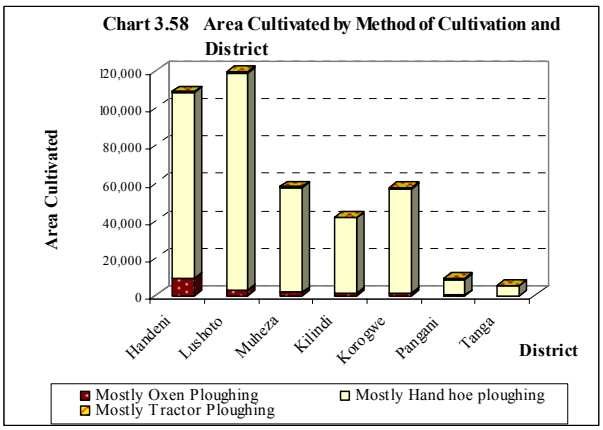

### 3.5.2 Methods of Soil Preparation

Hand cultivation is mostly used for soil preparation as it has been used in an area of 379,283 ha which represented 95 percent of the total planted area, followed by ox-ploughing (17,519 ha, 4%) and tractor ploughing (3,509 ha, 1%) (Chart 3.57).


MAP 3.37 TANGA
Planted Area and Yield of Cashewnut by District
Planted Area (ha)
3,680 to 4,600
2,760 to 3,680
1,840 to 2,760
920 to 1,840
0 to 920
Planted Area (ha)
Yield (t/ha)
Lushoto
11.1ha
0t/ha
Korogwe
578ha
1.5t/ha
Muheza
4,600ha
0.7t/ha
Tanga
950ha
2.3t/ha
Handeni
0ha
0t/ha
Kilindi
0ha
0t/ha
Pangani
1,766ha
1.7t/ha


MAP 3.38 TANGA
Area Planted Per Cashewnut Growing Household by District
Area Planted Per Household
0.68 to 0.87
0.51 to 0.68
0.34 to 0.51
0.17 to 0.34
0 to 0.17
Lushoto
0ha
Korogwe
0.3ha
Muheza
0.4ha
Tanga
0.9ha
Handeni
0ha
Kilindi
0ha
Pangani
0.5ha

Slightly more hand cultivation was used during short rainy season at 96 percent against 94 percent for the long rainy season, whereas, oxen and tractor ploughing was more common in the long rainy season with 5 percent and 1 percent respectively. For the short rainy season the corresponding percentages are 3 and 1 respectively.

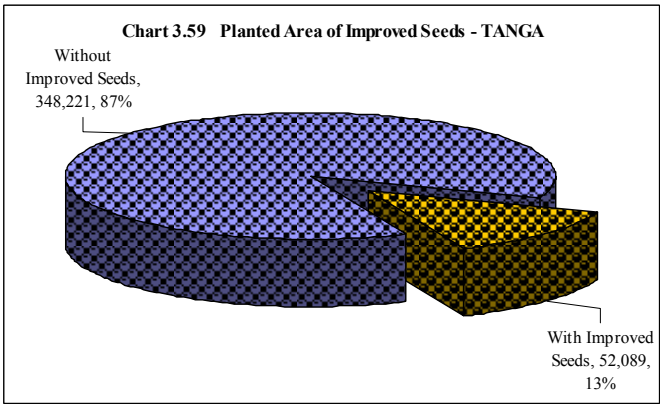



In Tanga region, Handeni district has the largest planted area cultivated with oxen (9,515 hectares, 8.8%) followed by Kilindi (1,570 ha, 3.8%), Muheza (1,830 ha, 3.2%), Pangani (244 ha, 2.7%), Lushoto (2,919 ha, 2.44%), Korogwe (1,386 ha, 2.4%) and Tanga (55 ha, 1%).

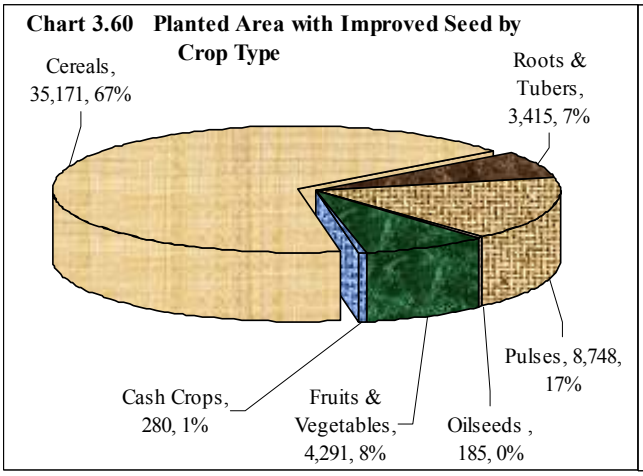
During the long rainy season, 91.7 percent of the total area cultivated by using oxen was planted with cereals followed by pulses (5.0%), fruit and vegetables (1.1%), roots and tubers (1.0%), oil seeds (0.6%) and cash crops (0.5%).

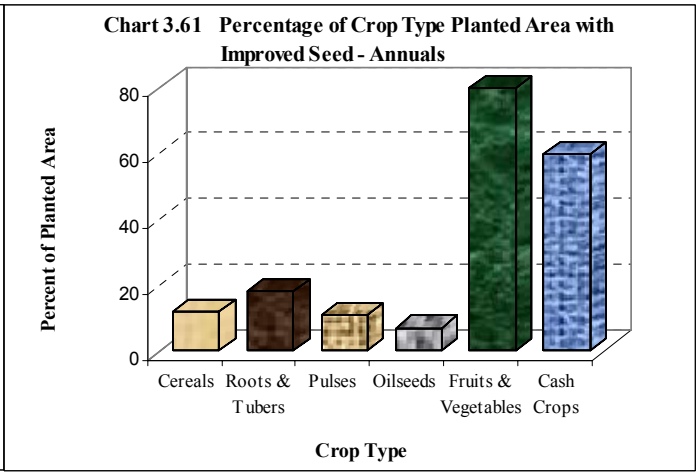
### 3.5.3 Improved Seed Use

The planted area using improved seeds was estimated at 52,089 ha which represents 13 percent of the total planted with the annual crops and vegetables area. The percentage use of improved seed in the short rainy season was 13.4 percent, slightly higher than the corresponding percentage use for the long rainy season (12.73%).




Cereals had the largest planted area with improved seeds (35,171 ha, 67% of the planted area with improved seeds) followed by pulses (8,748 ha, 17%), fruit and vegetables (4,291 ha, 8%), roots and tubers (3,415 ha, 7%), cash crops (280 ha, 1%) and Oil seed (185 ha, 0.3%) (Chart 3.54). However, the use of improved seed in fruit and vegetables and cash crops is much greater than in other crop types (80% and 60% respectively), only 7 percent of the planted area for oil seed crops used improved seed (Chart 3.55).



### 3.5.4 Fertilizer Use

The use of fertilisers on annual crops is very small with a planted area of only 57,966 ha (15.6% of the total planted area in the region). The planted area without fertiliser for annual crops was 370,460 hectares representing 86.5 percent of the total planted area with annual crops. Of the planted area with fertiliser application, farm yard manure was applied to 40,772 ha which represents 9.5 percent of the total planted area (70.3% of the area planted with fertiliser application in the region). This was followed by compost (12,226 ha, 21.1%). Inorganic fertilizers were used on a very small area and represented only 8.6 percent of the area planted with fertilizers.

**Chart 3.62 Area of Fertiliser Application by Type of Fertiliser**

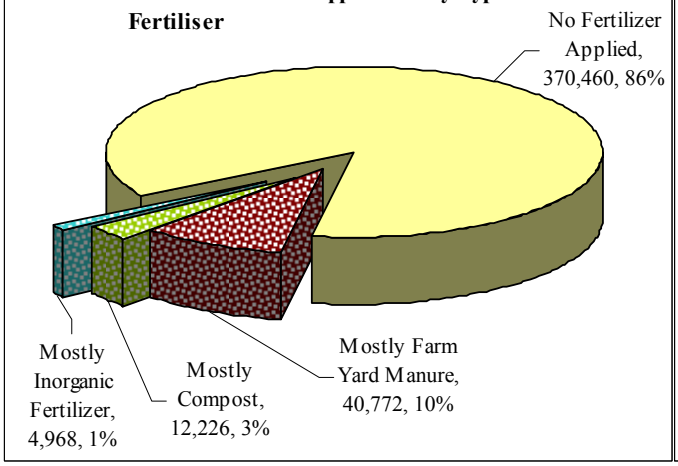
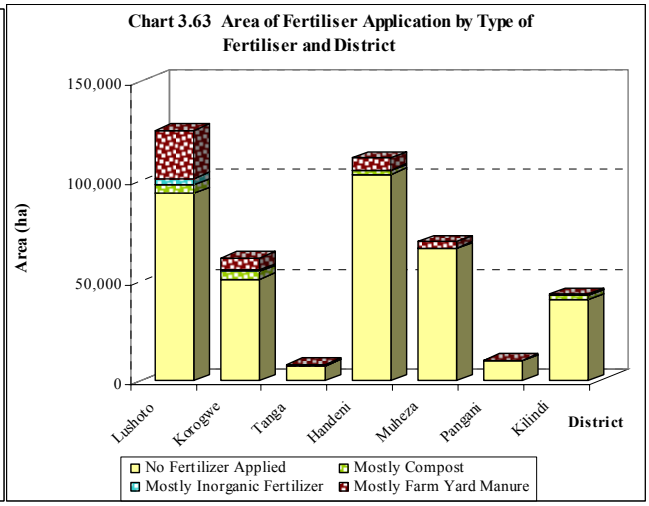



**Chart 3.63 Area of Fertiliser Application by Type of Fertiliser and District**




The highest percentage of the area planted with fertilizer (all types) was in Lushoto district (54.3%) followed by Korogwe (18%), Handeni (14%), Muheza (6%), Kilindi (5%), Tanga (1.4%) and Pangani (0.7%) (Table 3.9 and Charts 3.62 and 3.63).

**Table3.9 Planted Area by Type of Fertiliser Use and District - Long and Short Rainy Season**

| District | Fertilizer Use | | | | No Fertilizer Applied |
|---|---|---|---|---|---|
| | Mostly Farm Yard Manure | Mostly Compost | Mostly Inorganic Fertilizer | Total | |
| Lushoto | 24,102 | 3,971 | 3,386 | 31,459 | 93,561 |
| Korogwe | 5,830 | 3,677 | 913 | 10,419 | 50,659 |
| Muheza | 3,226 | 248 | 95 | 3,570 | 65,898 |
| Tanga | 656 | 142 | 22 | 819 | 7,379 |
| Pangani | 209 | 182 | 0 | 391 | 9,869 |
| Handeni | 6,051 | 1,810 | 482 | 8,343 | 102,906 |
| Kilindi | 699 | 2,197 | 69 | 2,965 | 40,188 |
| Total | 40,772 | 12,226 | 4,968 | 57,966 | 370,460 |

Most annual crop growing households do not use any fertiliser (approximately 27,847 households, 11.5%) (Map 3.39). The percentage of the planted area with applied fertiliser was highest for fruit and vegetables (78% of the area planted with these fruit and vegetables during the long rainy season had an application of fertilizers). This was followed by roots and tubers (17%), pulses (13%), cereals (12%) and oil seeds (6%). There was no fertiliser application in cash crops (Table 3.10).

**Table 3.10: Number of Crop Growing Households and Planted Area by Type of Fertiliser Use and District – Long Rainy Season**

| District | Fertiliser Use | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mostly Farm Yard Manure | | Mostly Compost | | Mostly Inorganic Fertiliser | | No Fertiliser Applied | | Total | |
| | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area |
| Lushoto | 12,690 | 9,955 | 2,039 | 1,259 | 1,153 | 817 | 58,902 | 43,795 | 74,784 | 55,826 |
| Korogwe | 3,590 | 4,259 | 2,243 | 1,944 | 403 | 379 | 36,599 | 37,741 | 42,835 | 44,323 |
| Muheza | 1,411 | 1,549 | 79 | 32 | 0 | | 43,881 | 43,825 | 45,371 | 45,406 |
| Tanga | 523 | 291 | 174 | 121 | 52 | 7 | 6,959 | 5,445 | 7,708 | 5,863 |
| Pangani | 99 | 123 | 44 | 110 | 0 | | 5,779 | 6,125 | 5,922 | 6,357 |
| Handeni | 1,491 | 4,772 | 632 | 1,570 | 204 | 366 | 44,453 | 69,898 | 46,779 | 76,606 |
| Kilindi | 243 | 629 | 729 | 1,933 | 49 | 30 | 17,273 | 30,633 | 18,294 | 33,225 |
| Total | 20,047 | 21,577 | 5,939 | 6,968 | 1,861 | 1,598 | 213,846 | 237,462 | 241,693 | 267,605 |

#### 3.5.4.1 Farm Yard Manure Use

The total planted area applied with farm yard manure in Tanga region was 45,375 ha. The number of households that applied farm yard manure in their annual crops during the long rainy season was 20,047 and it was applied to 25,286 ha representing

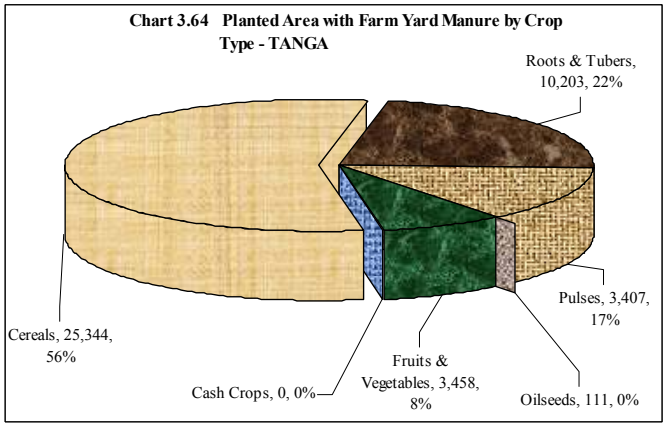


**Chart 3.64 Planted Area with Farm Yard Manure by Crop Type - TANGA**

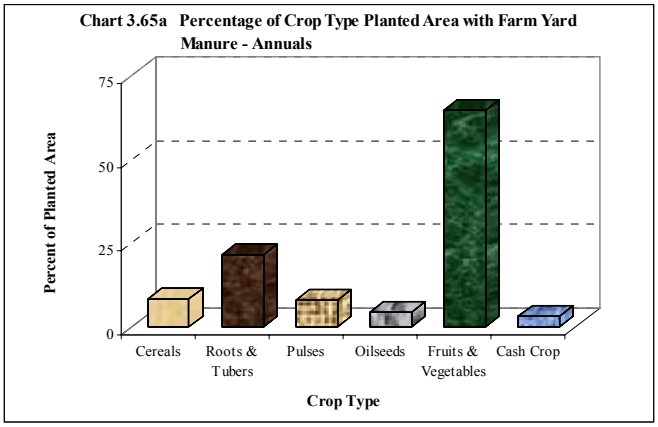


**Chart 3.65a Percentage of Crop Type Planted Area with Farm Yard Manure - Annuals**

7.5 percent of the total area planted during that season (Table 3.10). Cereals had the highest percent of the total area planted with applied farm yard manure (56%), followed by roots and tubers (22%), pulses (17%) and fruit and vegetables (8%).

However, fruit and vegetables had the highest percent of the planted area with farm yard manure (65.8% of the total area of fruit and vegetables in Tanga). This was followed by roots and tubers (21%), cereals (9%), pulses (8.0%) and oil seeds (4%) (Charts 3.64 and 3.65a).

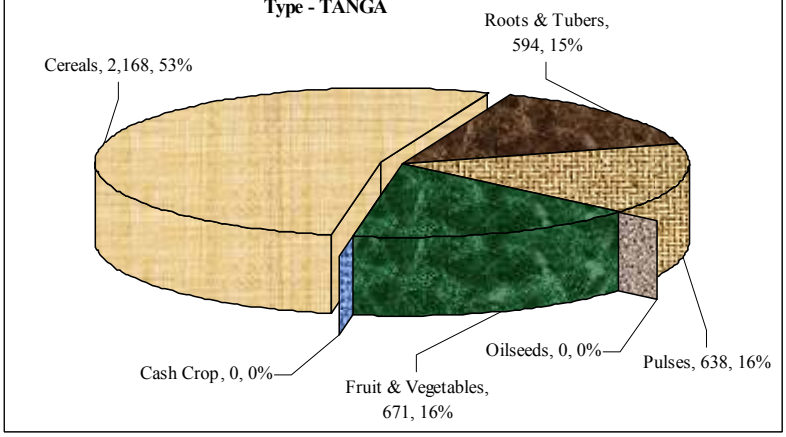
Farm yard manure is mostly used in Lushoto (18.5% of the total planted area in the district), followed by Korogwe (9.5%), Tanga (7.5%), Handeni (5.0%), Muheza (4.5%), Pangani (2.0%) and Kilindi (1.6%) (Chart 3.65b).

For permanent crops, most farm yard manure is used for the production of passion fruits (40.8%), followed by apples (31.8%) and coffee (25.7%).

### 3.5.4.2 Inorganic Fertiliser Use

**Chart 3.65b Proportion of Planted Area Applied with Farm Yard Manure by District - TANGA**

**Chart 3.66 Planted Area with Inorganic Fertilizer by Crop Type - TANGA**




The total planted area applied with inorganic fertilisers in Tanga region was 4,071 ha which represents 0.95 percent of the total planted area with annuals in the region and 6.6 percent of the total planted area with fertiliser. The number of households that applied inorganic fertilizer on their annual crops during the long rainy season was 1,861 and it was applied to 1,687 ha representing 0.6 percent of the total area planted during that season (Table 3.10). The largest area applied with inorganic fertilizers was on cereals (53% of the total area applied with inorganic fertilizers), followed by pulses (16%), fruit and vegetables (16%) and roots and tubers (15%) (Chart 3.66). However, the proportion of fruit and vegetables with inorganic fertilizers was 12.7 percent higher than other crop types, followed by roots and tubers (1.1%), Pulses (0.8%) and cereals (0.3%) (Chart 3.67a). Inorganic fertiliser is mostly used in Lushoto (2.7% of the total planted area in the district), followed

by Korogwe (1.5%). Other districts used virtually no inorganic fertiliser and Pangani recorded zero inorganic fertiliser use (Chart 3.67b).

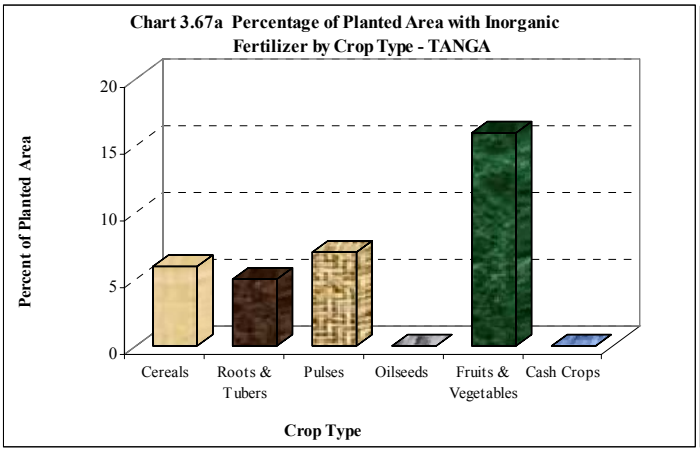



Chart 3.67a Percentage of Planted Area with Inorganic Fertilizer by Crop Type - TANGA

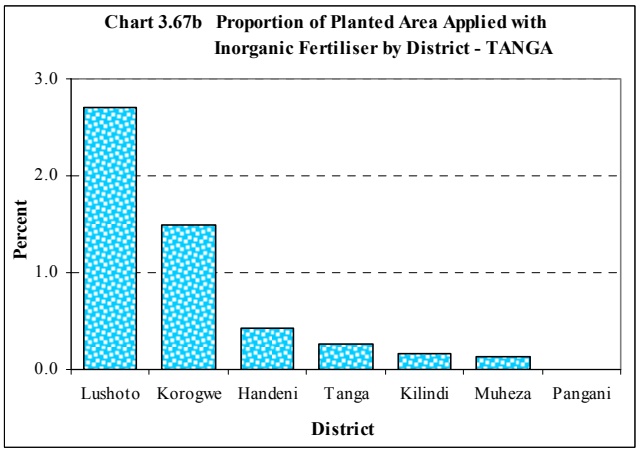



Chart 3.67b Proportion of Planted Area Applied with Inorganic Fertiliser by District - TANGA

In permanent crops inorganic fertiliser were used on tea (5.2%), followed by sugarcane (1.1%), coconut (0.3%), mangoes (0.15%) and oranges (0.14%).

### 3.5.4.3 Compost Use

The total planted area applied with compost was 12,490 ha which represents only 2.9 percent of the total planted area with annual crops in the region and 20 percent of the total planted area with fertiliser in the region. The number of households that applied compost on their annual crops during the long rainy season was 6,818 and it was applied to 7,650 ha representing 3.0 percent of the total area planted (Table 3.10 and Chart 3.68a). The proportion of area applied with compost was very low for each type of crop (0 to 4%); however the distribution of the total area using compost shows that 71 percent of this area was cultivated with cereals, followed by pulses (17%), roots & tubers (9%) and fruit and vegetables (0.5%)(Chart 3.68b).

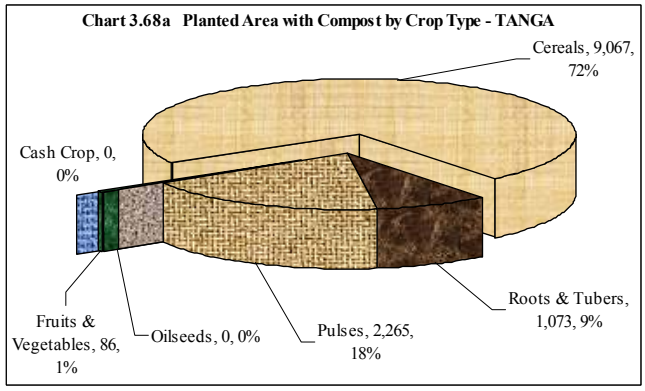



Chart 3.68a Planted Area with Compost by Crop Type - TANGA

Compost is mostly used in Lushoto (6% of the total planted area in the district), and this is closely followed by Korogwe (5%). Other districts, like Kilindi used the least compost (0.2%) (Chart 3.67b).

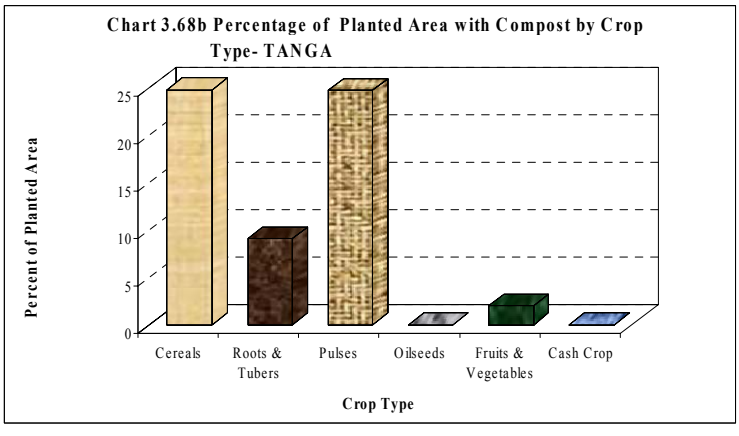



Chart 3.68b Percentage of Planted Area with Compost by Crop Type- TANGA

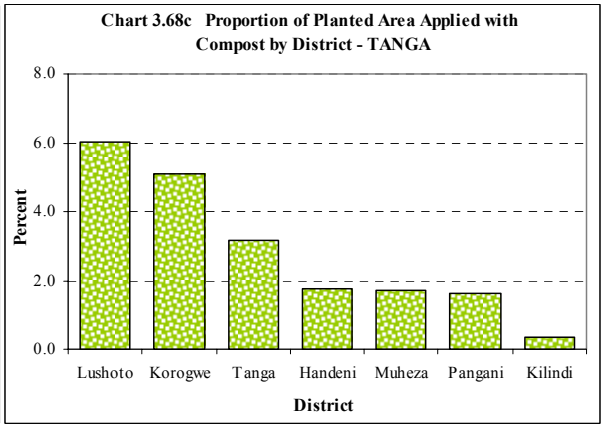


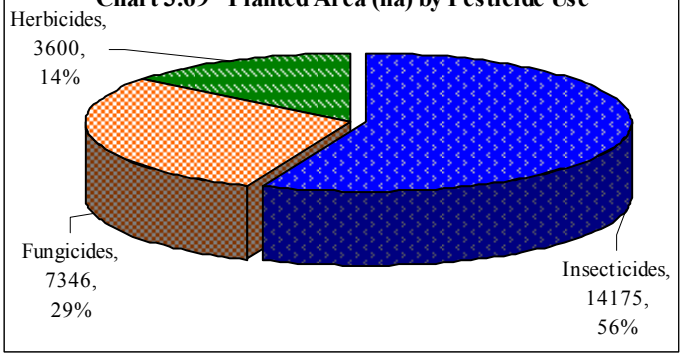

Chart 3.68c Proportion of Planted Area Applied with Compost by District - TANGA

In permanent crops, compost was mostly used to durian (100.0%) followed by cloves (8.6%), pears (7.8%), avocado (5.3%) cinnamon (4.7%) and mango (4.0%).

### 3.5.5 Pesticide Use

Pesticides are chemicals used for controlling insects, diseases and weeds. This section analyses the use of these chemicals by smallholders on both annual and permanent crops in the region. Pesticides were applied to a planted area of 25,121 ha of annual crops and vegetables.

**Chart 3.69 Planted Area (ha) by Pesticide Use**




Insecticides are the most common pesticide used in the region (56% of the total area applied with pesticides). This was followed by fungicides (29%) and herbicides (14%) (Chart 3.69).

#### 3.5.5.1 Insecticide Use

The planted area applied with insecticides was estimated at 14,175 ha which represented 3.3 percent of the total planted area for annual crops and vegetables.

**Chart 3.70 Planted Area Applied with Insecticides by Crop Type**

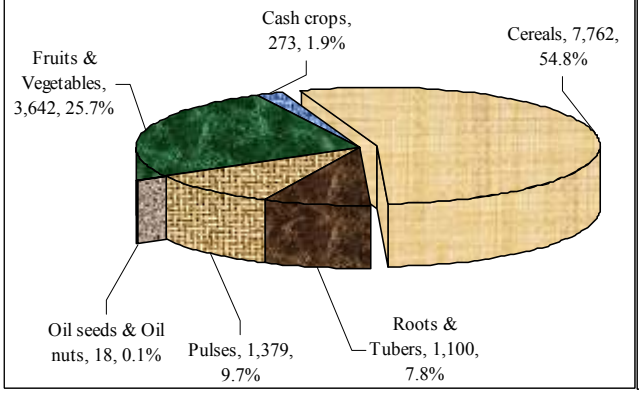
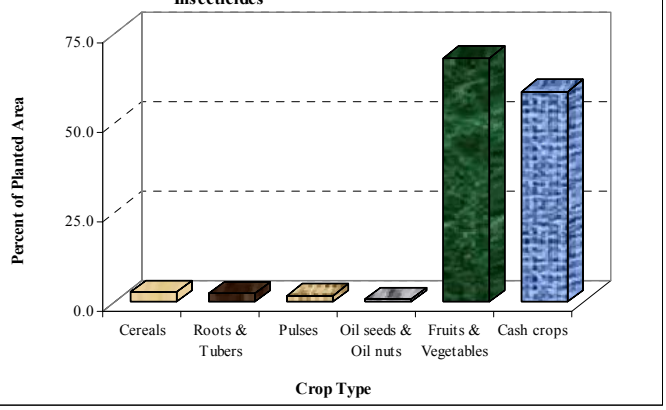


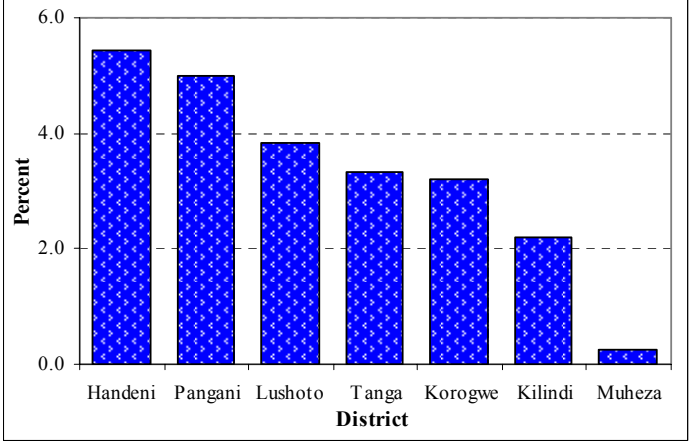

**Chart 3.71 Percentage of Crop Type Planted Area Applied with Insecticides**




Cereals had the largest planted area applied with insecticides (7,762 ha, 54% of the total planted area with insecticides) followed by fruit and vegetables (3,642 ha, 26%), pulses (1,379 ha, 10%), roots and tubers (1,100 ha, 8%), cash crops (273 ha, 2%) and oil seed (18 ha, 0.1%) (Chart 3.70). However, the percent of insecticides used in fruits and vegetables and cash crops is much greater than in other crop types (68 and 59% respectively), while only 0.7 percent of oil seed crops were applied with insecticides (Chart 3.71).

Annual Crops with more than 50 percent insecticide use were spinach (100%), cucumber (100%), cotton (100%), water mellon (85.4%), tomatoes (83.3%), onions (75.7%), cabbage (71.3%), field peas (56.6%) and chillies (52.2%).

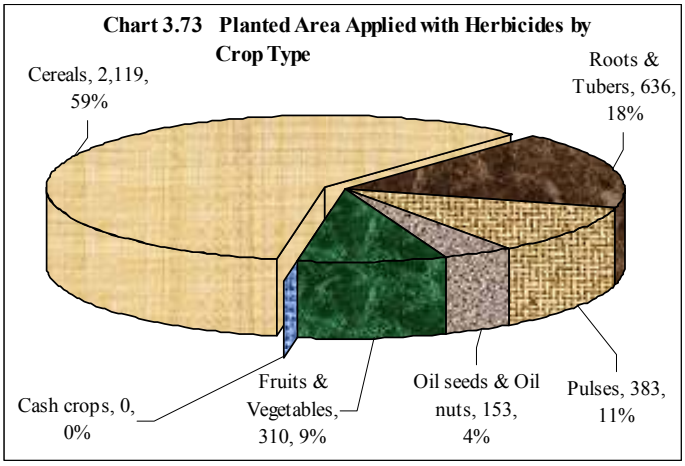
**Chart 3.72 Percent of Planted Area Applied with Insecticides by District - TANGA**



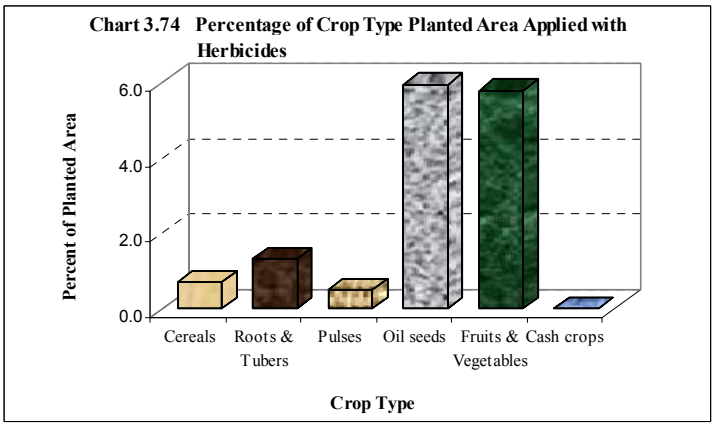

Handeni had the highest percent of planted area with insecticides (5.4% of the total planted area with annual crops in the district). This was closely followed by Pangani (5%) then Lushoto (3.8%), Tanga (3.3%) and Korogwe (3.2%). The smallest percentage use was recorded in Muheza district (0.3%) (Chart 3.72).

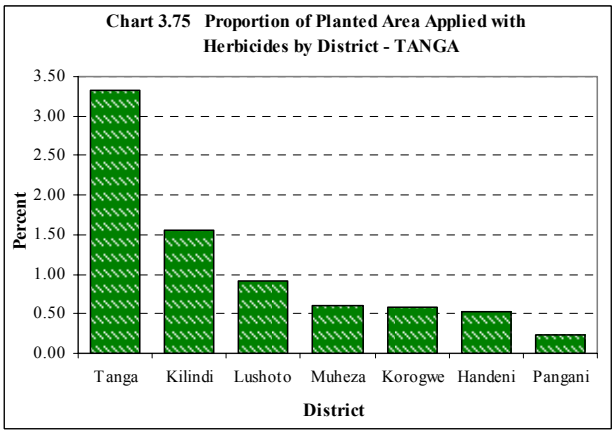
### 3.5.5.2 Herbicide Use

The planted area applied with herbicides was 3,207 ha which represented 0.8 percent of the total planted area annual crops and vegetables. Cereals had the largest planted area applied with herbicides (2,119 ha, 59%) followed by roots and tuber (636 ha, 18%), pulses (383 ha, 11%), fruits and vegetables (310 ha, 9%) and oil seed (153 ha, 4%) (Chart 3.73).




However, the percent of herbicide use on oil seeds and fruit and vegetables was much greater than in other crop types (6.0% and 5.8% respectively) while only 0.5 percent of pulses was applied with herbicides (Chart 3.74). The top six annual crops with highest percentage use of herbicides in terms of planted area were amaranths (13.0%), eggplant (10.3%), groundnuts (9.3%), onions (9.2%), tomatoes (8.2%) and cabbages (5.6%).

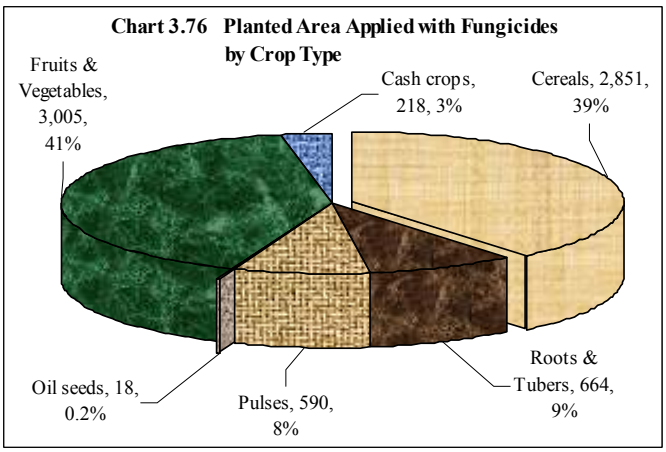



Tanga had the highest percent of planted area with herbicides (3.3% of the total planted area with annual crops in the district). This was followed by Kilindi (1.5%) then Lushoto (0.9%), Muheza (0.6%) and Korogwe (0.6%). The smallest percentage use was recorded in Pangani district (0.2%) (Chart 3.75).

### 3.5.5.3 Fungicide Use

The planted area applied with fungicides was 7,346 ha which represented 1.7 percent of the total planted area for annual crops and vegetables. The percentage use of fungicides in the short rainy season at (2.5%) was higher than the corresponding percentage for the long rainy season (1.2%). Fruits and vegetables had the largest planted area applied with fungicides (3,005ha, 40.9%) followed by cereals (2,851 ha, 38.8%), roots and tubers (664 ha, 9.0%), pulses (590 ha, 8.0%), cash crops (218 ha, 3.0%) and oil seeds (18 ha, 0.2%) (Chart 3.76).



However, the percentage use of fungicide in fruits and vegetables and cash crops was much greater than in other crop types (0.562% and 0.470% respectively), while only 0.008 percent of pulses was applied with fungicides (Chart 3.77).

Annual crops with more than 40 percent fungicide use were field peas (100%), tomatoes (81%), cotton (79%), cucumber (78%), Onions (74%), chillies (43%) and egg plants (42%).

Pangani had the highest percent of planted area with fungicides (3.8% of the total planted area with annual crops in the district). This was closely followed by Tanga (3.4%) and Lushoto (3.0%). The smallest percentage use was recorded in Muheza district (0.3%) (Chart 3.78).

**Chart 3.77 Percentage of Crop Type Planted Area Applied with Fungicides**

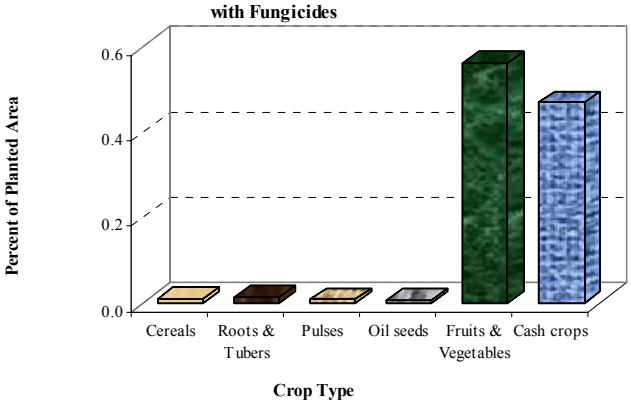
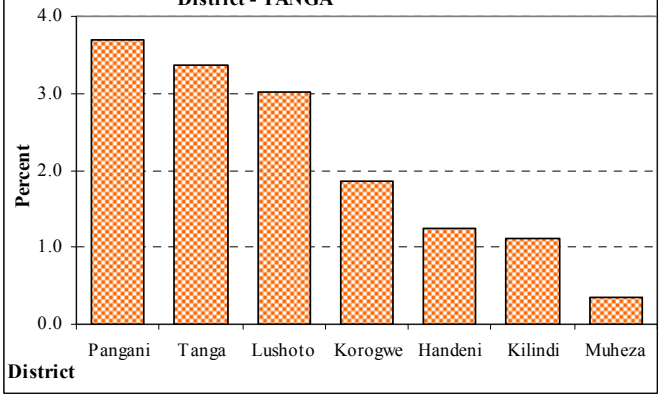



**Chart 3.78 Proportion of Planted Area with Fungicides by District - TANGA**




### 3.5.6 Harvesting Methods

The main harvesting method for cereals was reported to be by hand. Very small amounts of maize were harvested by machine (0.2%) All other cereals and annual crops were harvested by hand.

### 3.5.7 Threshing Methods

Hand threshing was the most common method used, with 89 percent of the total area planted with cereals during the long rainy season was threshed by hand. Draft animals, human powered tools and engine driven machines were only used on crops harvested from 0.1%, 0.1 percent and 0.2 percent of the total planted area respectively.

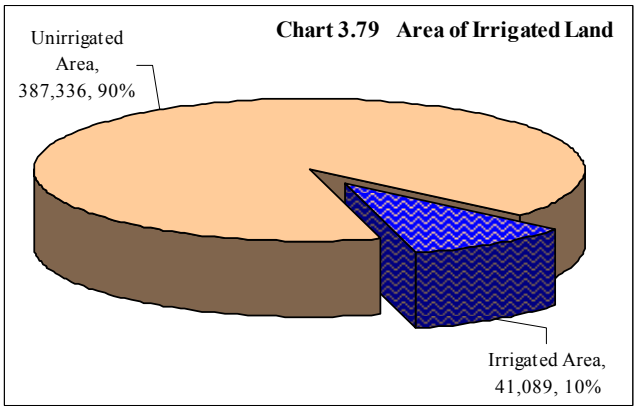
## 3.6 Irrigation

Water is the limiting factor to crop production in the majority of areas in Tanzania and without water most other cultural practices applied to crops do not result in significant increases in yields. This section deals with the area under irrigation by different crops and the means by which water was extracted from the source and applied to the field.

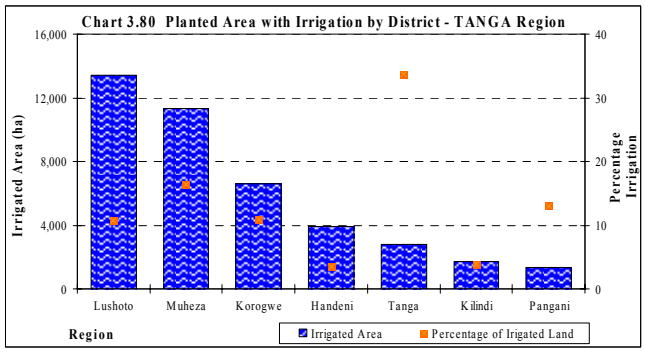
### 3.6.1 Area Planted with Annual Crops and Under Irrigation

In Tanga region, the area of annual crops under irrigation was 41,089 ha representing 9.6 percent of the total area planted (Chart 3.79). The area under irrigation during the short rainy season was 8,088 ha accounting for 20 percent of the total area under irrigation. Some crops, especially vegetables, were predominantly grown in the short rainy season with irrigation. In the short rainy season, 84 percent of the area planted with vegetables was irrigated, whilst 74 percent of the vegetables were irrigated in the long rainy season.

**Chart 3.79 Area of Irrigated Land**



The district with the largest planted area under irrigation with annual crops was Lushoto (13,424 ha, 33% of the total irrigated planted area with annual crops in the region). This is closely followed by Muheza with (11,336 ha, 28%) and then Korogwe (6,600 ha, 16%). When expressed as a percentage of the total area planted in each district, Tanga had the highest with 34 percent of the planted area in the district under irrigation. This is followed by Muheza (16%), Pangani (13%), Korogwe (11%), Lushoto (11%), Kilindi (4%) and Handeni (4%) (Chart 3.80 and Map 3.40).

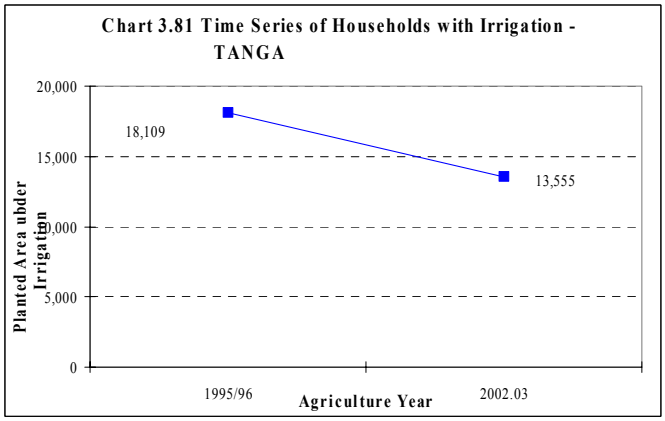



Of all the different crops and in terms of proportion of the irrigated planted area, field peas and spinach were the most irrigated crops with 100 percent irrigation followed by cabbage (96%), onions (96%), Amaranths (89%) and tomatoes (89%).

In terms of crop type, the area under irrigation with roots and tubers was 47,505 ha (71% of the total area under irrigation), followed by cereals with 5,858 ha (14%), fruit and vegetables (4,218 ha,10%) and pulses (1,754 ha, 4%). All of the irrigation on cereals was applied to maize and paddy.

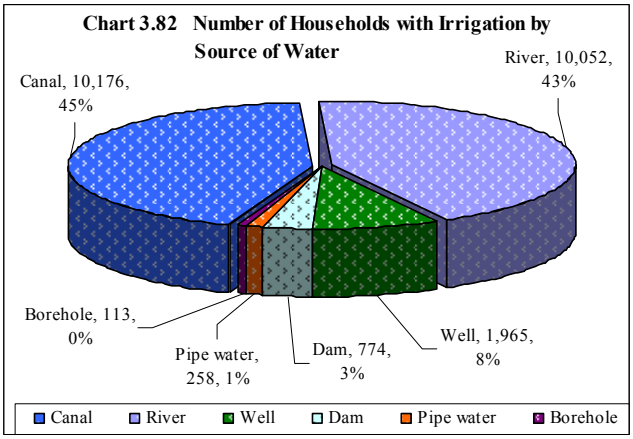
The area of fruit and vegetables under irrigation was 4,218 ha which represents 79 percent of the total planted area with fruit and vegetables. Tomatoes, cabbages and chillies were the most irrigated crops. Irrigation was not used on annual cash crops.

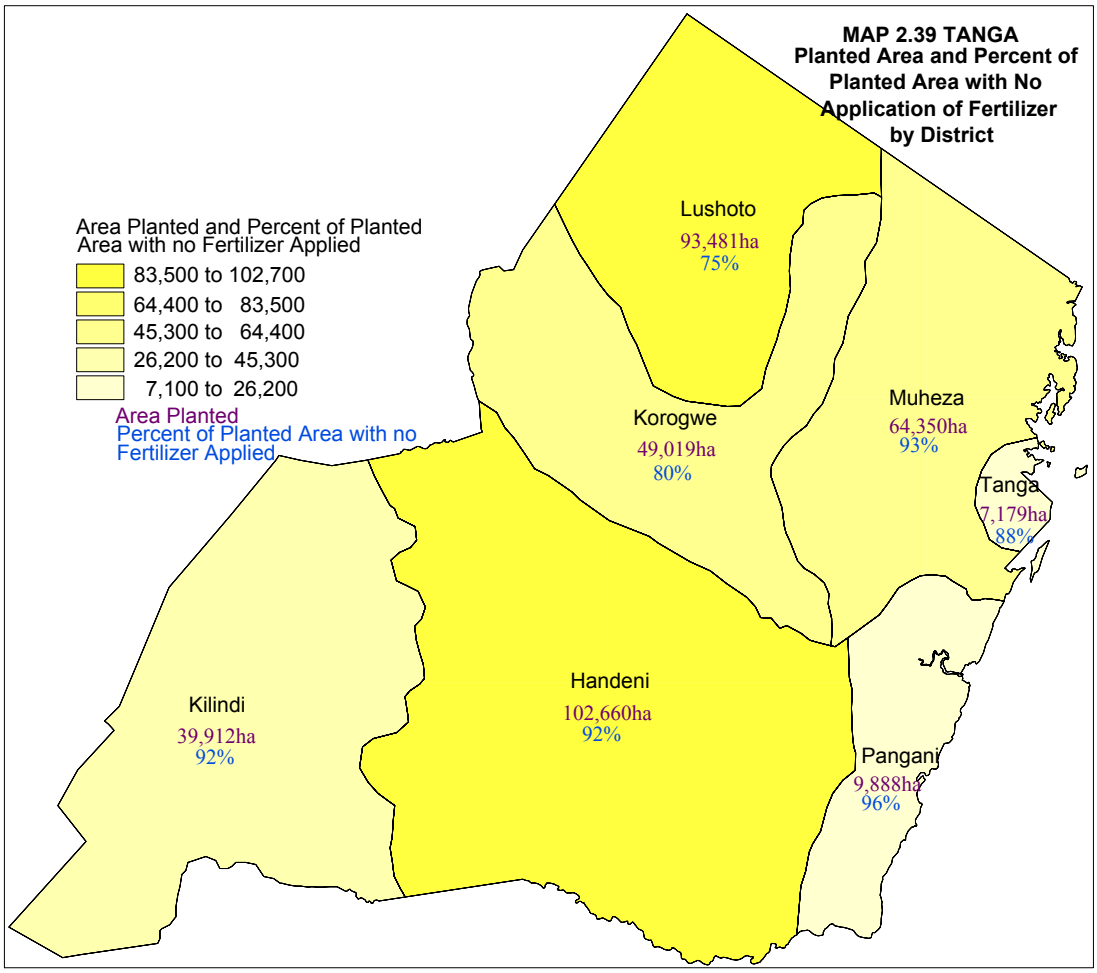
The Planted area with irrigation in Tanga region appears to have decreased over the 10 year intercensal period from 18,109 to 13,555 hectares. This may not be statically significant due to the small number of households sampled with irrigation.

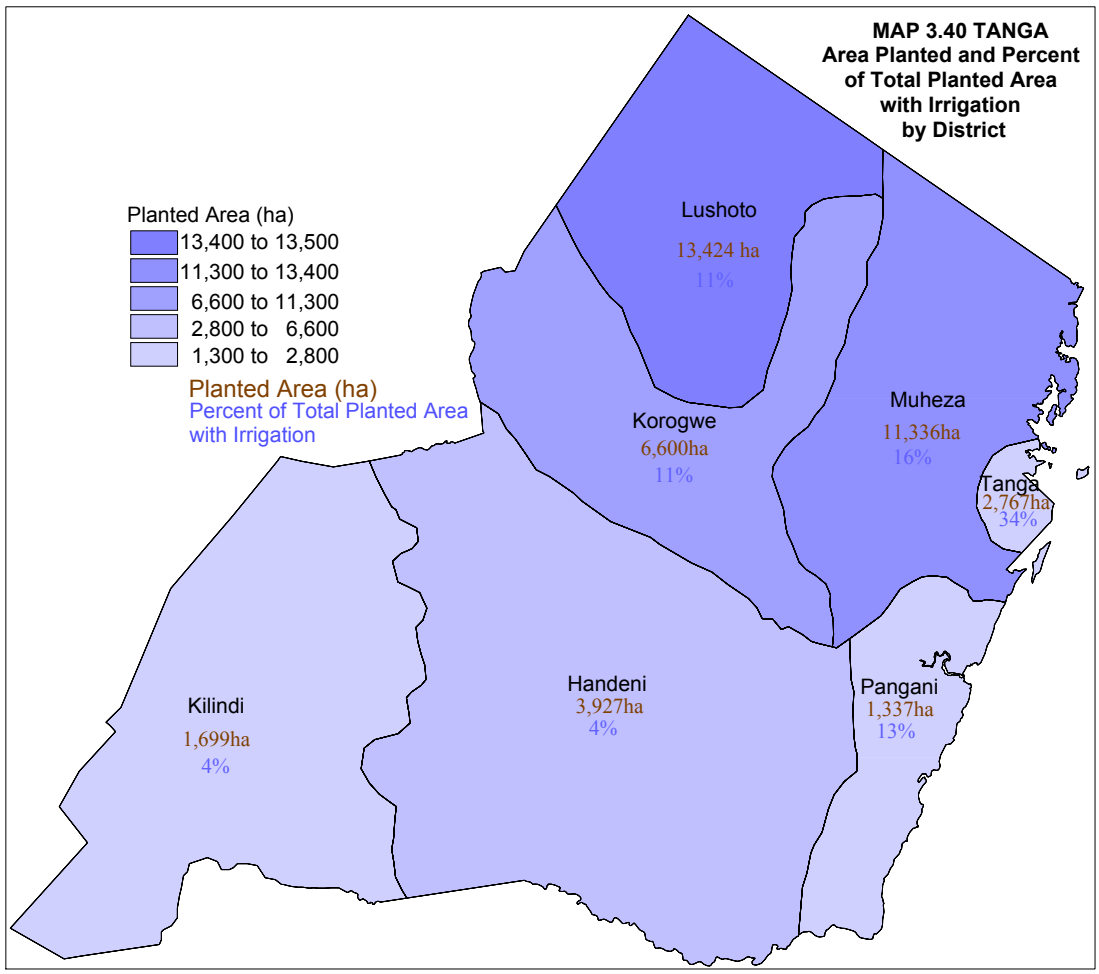



### 3.6.2 Sources of Water Used for Irrigation

The main source of water used for irrigation was from canals (45% of households with irrigation). This was followed by river (43%) and wells (8%). Only 0.5 percent of the households used water from boreholes and the proportion of households that used wells, dams and pipe water as a source of water for irrigation were very few (8.4%, 3.3% and 1.1% respectively). Most households using irrigation in Lushoto and Korogwe get their irrigation water from rivers (90 and 92 % respectively)



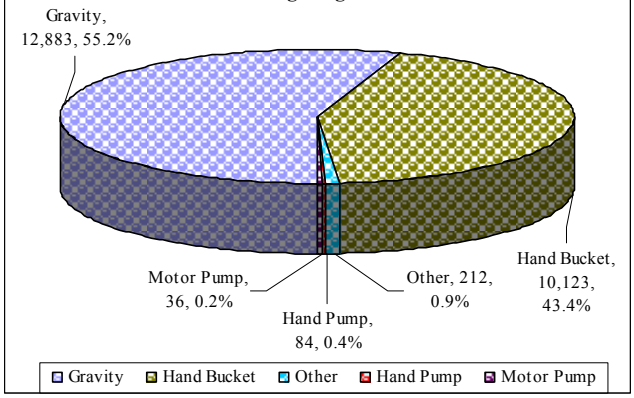

MAP 2.39 TANGA
Planted Area and Percent of Planted Area with No Application of Fertilizer by District
Area Planted and Percent of Planted Area with no Fertilizer Applied
83,500 to 102,700
64,400 to 83,500
45,300 to 64,400
26,200 to 45,300
7,100 to 26,200
Area Planted
Percent of Planted Area with no Fertilizer Applied
Lushoto
93,481ha
75%
Korogwe
49,019ha
80%
Muheza
64,350ha
93%
Tanga
7,179ha
88%
Handeni
102,660ha
92%
Kilindi
39,912ha
92%
Pangani
9,888ha
96%


MAP 3.40 TANGA
Area Planted and Percent of Total Planted Area with Irrigation by District
Planted Area (ha)
13,400 to 13,500
11,300 to 13,400
6,600 to 11,300
2,800 to 6,600
1,300 to 2,800
Planted Area (ha)
Percent of Total Planted Area with Irrigation
Lushoto
13,424 ha
11%
Korogwe
6,600ha
11%
Muheza
11,336ha
16%
Tanga
2,767ha
34%
Handeni
3,927ha
4%
Kilindi
1,699ha
4%
Pangani
1,337ha
13%

### 3.6.3 Methods of Obtaining Water for Irrigation

Gravity was the most common means of getting water for irrigation with 55.2 percent of households using this method. This was closely followed by hand bucket with 43.4 percent of households. The remaining methods (hand pump, motor pump and others) were of minor importance (Chart 3.76).

**Chart 3.83 Number of Households by Method of Obtaining Irrigation Water**



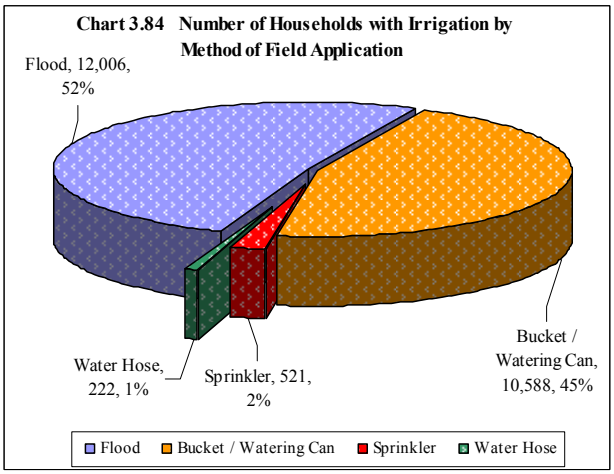

Gravity was used by most households with irrigation in Lushoto (65.8%), followed by Korogwe (32.2%), Muheza (1.3%), Kilindi (0.4%), Tanga (0.2%) and Pangani (0.1%). Hand bucket was more common in Lushoto with 68.3 percent of households using the method to get water for irrigation, followed by Korogwe (13.2), Muheza (7.6%), Kilindi (4.3%), Handeni (3.2%), Tanga (2.4%) and Pangani (1.1%).

Although the method of obtaining irrigation water by hand bucket was the most common method in all seven districts, Tanga and Korogwe districts used some hand and motor pumps for obtaining water.

### 3.6.4 Methods of Water Application

Most households used flood irrigation (52% of households using irrigation) as a method of field application. This was closely followed by hand bucket/watering can (45%). Sprinklers and water hose were not widely used (2.2% and 0.9% respectively).

**Chart 3.84 Number of Households with Irrigation by Method of Field Application**

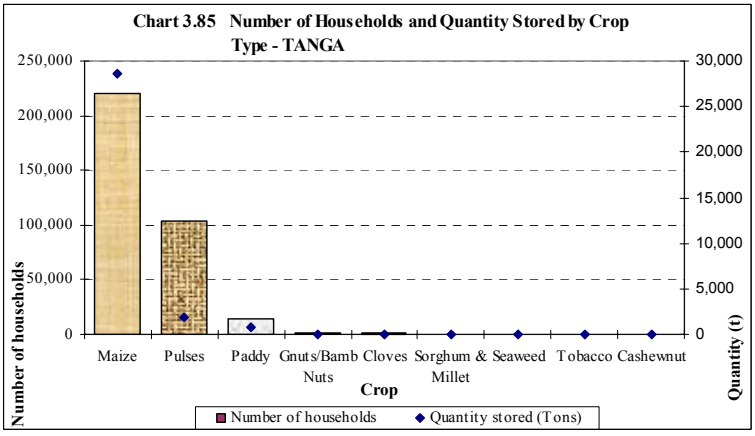



## 3.7 Crop Storage, Processing and Marketing

### 3.7.1 Crop Storage

Crop storage means keeping a crop for a certain period of time as food for the household, in order to sell at higher prices and as seed for planting in the following season.

**Chart 3.85 Number of Households and Quantity Stored by Crop Type - TANGA**



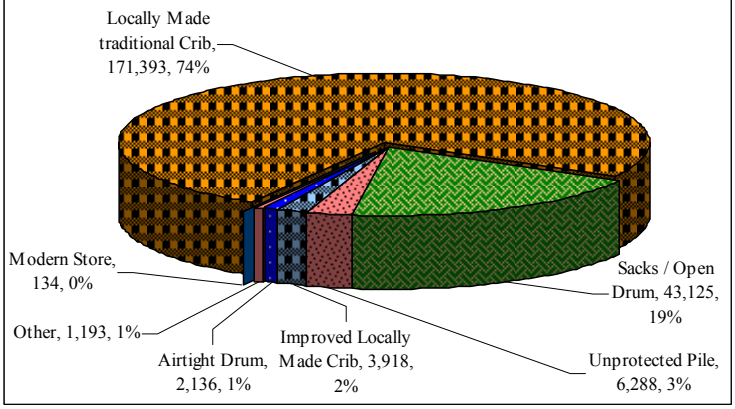

The results for Tanga region show that there were 228,187 crop growing households (87% of the total crop growing households) that stored various agricultural products in the region.

The most important stored crop was maize with 220,402 households storing 28,187 tonnes as of 1st January 2004. This was followed by beans and other pulses (104,155 households, 1,914t), paddy (14,828 households, 827t) and groundnuts and bambara nuts (1,674 households, 54t). Other crops were stored in very small amounts.

### 3.7.1.1 Methods of Storage

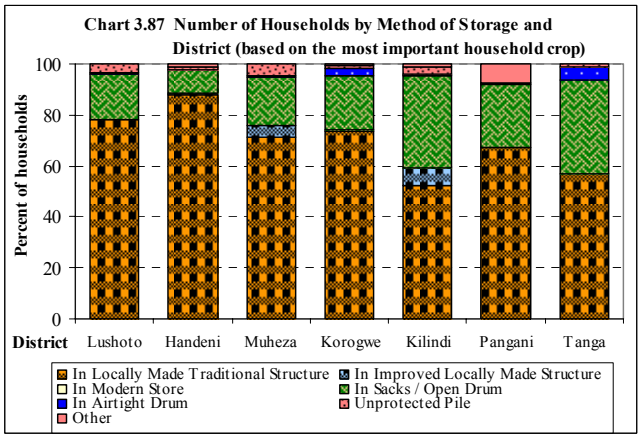
The region had 171,393 crop growing households storing their produce in locally made traditional structures (74% of households that stored crops in the region). The number of households that stored their produce in sacks and/or open drums was 43,125 (19%). This was followed by : unprotected piles (6,288 households, 3%), improved locally made structures (3,918 households, 2%), air tight drums (2,136 households, 1%) and modern stores (134 households, 0.1%).

**Chart 3.86 Number of households by Storage Methods - TANGA**




Locally made traditional structures were the dominant storage method in all districts, with the highest percent of households in Handeni using this method (88% of the total number of households storing crop products). This is followed by Lushoto (78%), Korogwe (73.5%), Muheza (71.3%), Pangani (67%), Tanga (57%) and Kilindi (52.4%) (Chart 3.80).

**Chart 3.87 Number of Households by Method of Storage and District (based on the most important household crop)**



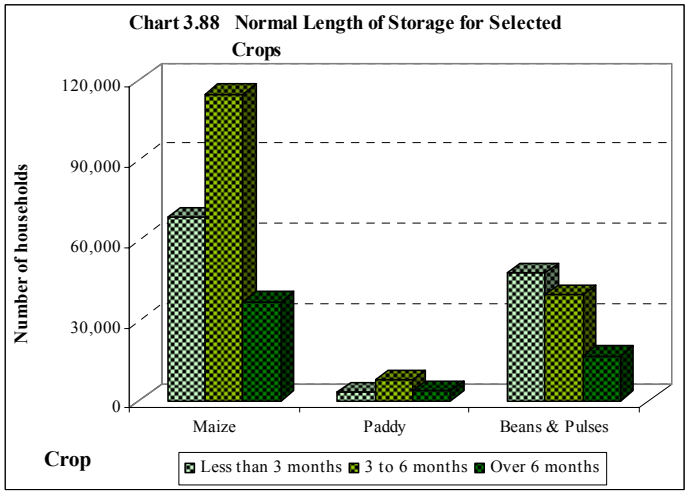

The highest percent of households using sacks and open drum was in Tanga and Kilindi districts (37% and 36% of the total number of households storing crops), followed by Pangani (24.7%), Korogwe (21.5%), Muheza (18.6%), Lushoto (17.4%) and Handeni (9.6%).

### 3.7.1.2 Duration of Storage

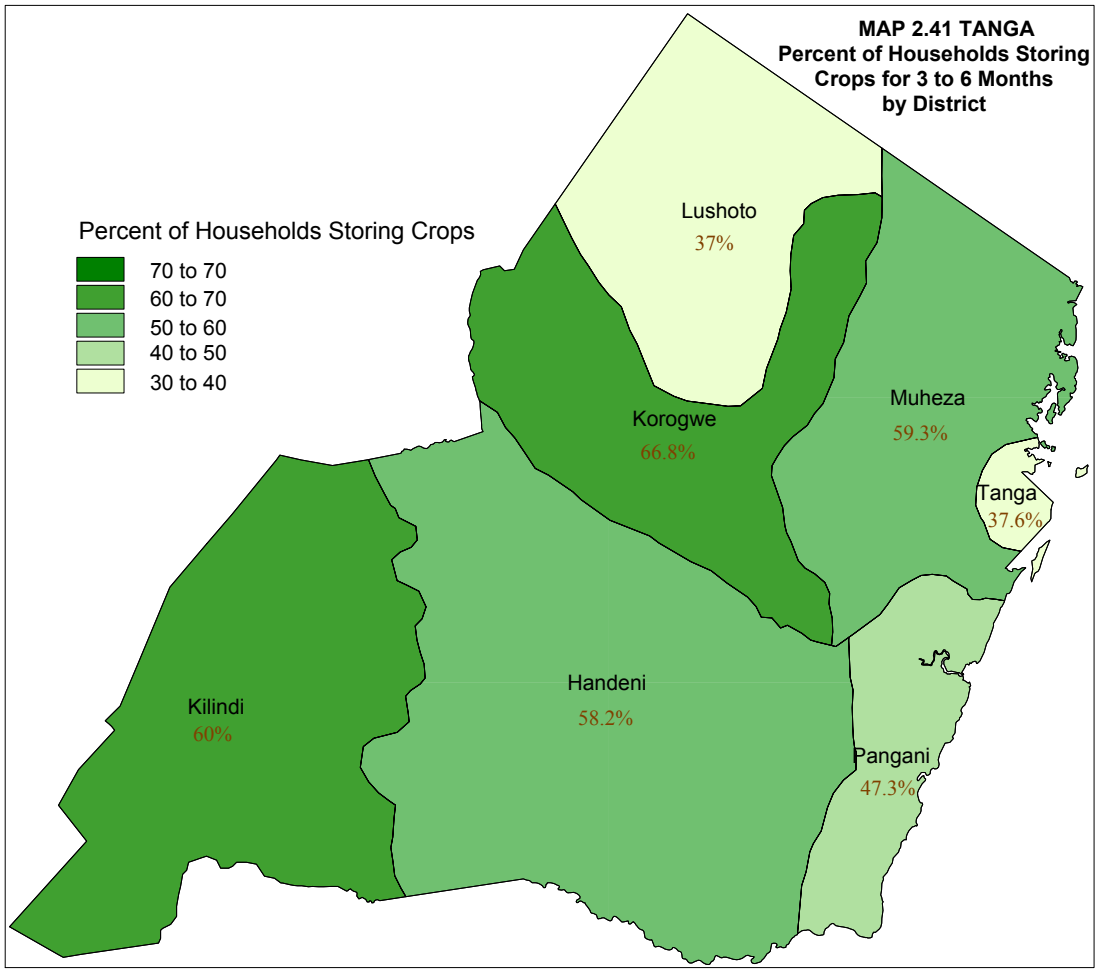
Most households (52% of the households storing crops) stored their produce for a period of 3 to 6 months followed by those who stored for a period of less than 3 months. The minority of households stored their crop for a period of over 6 months (17%).

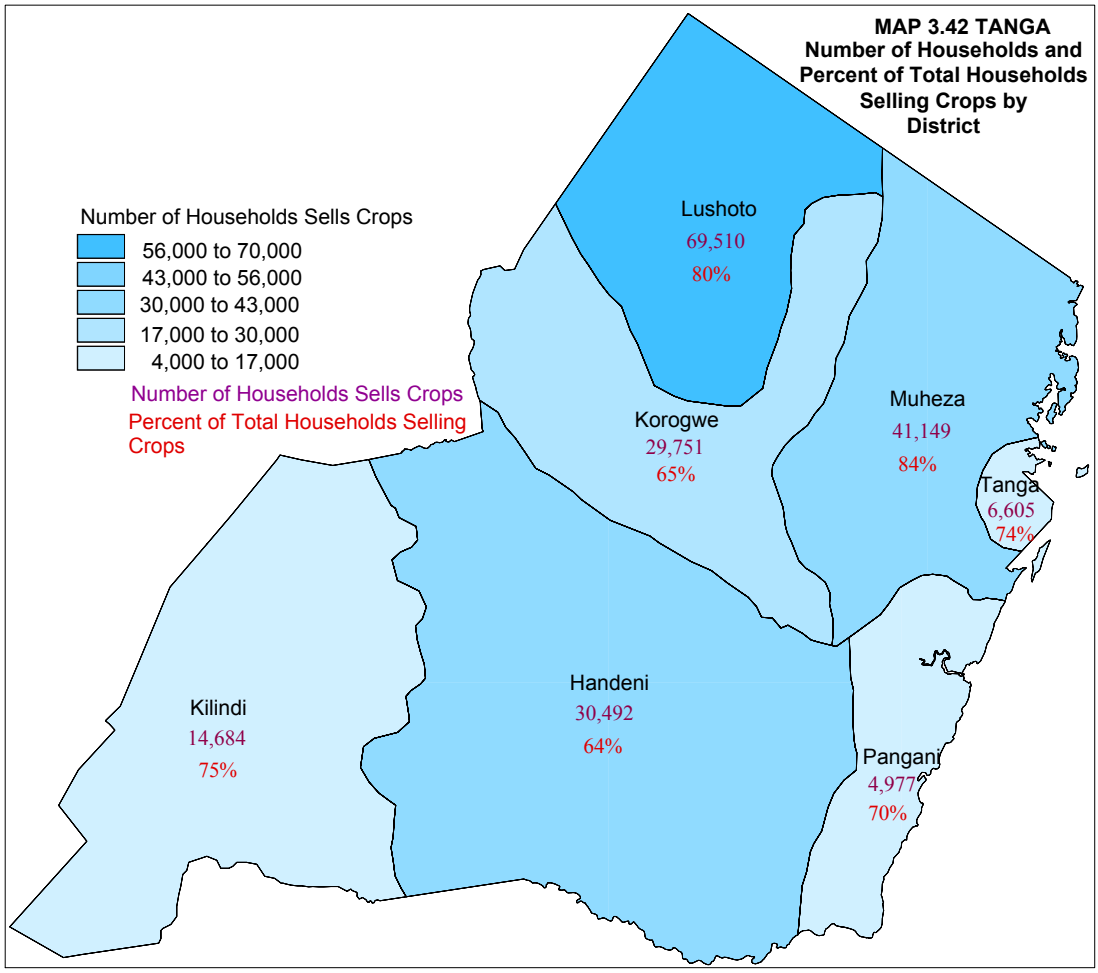
Most households that stored pulses stored for a period of less than 3 months followed by 3 to 6 months. A small number of households stored pulses for the period of over 6 months (Chart 3.88).

**Chart 3.88 Normal Length of Storage for Selected Crops**



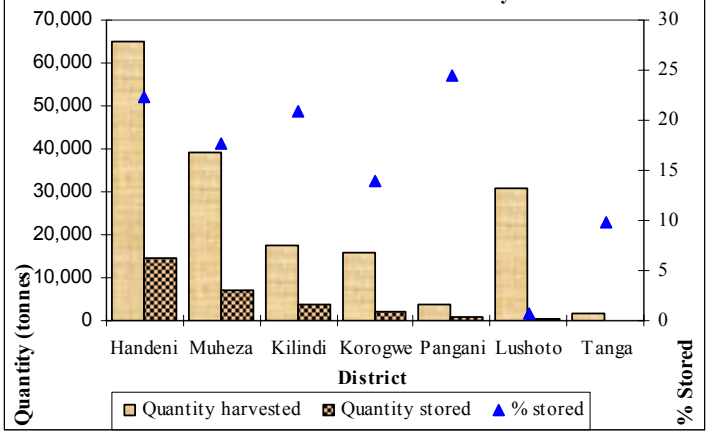

The proportion of households that stored their produce for the duration of 3 to 6 months was highest in Korogwe district (67%) followed by Kilindi (60%), Muheza (59%), Handeni (58%), Pangani (47%), Tanga (38%) and Lushoto (37%) (Map 3.41).


MAP 2.41 TANGA
Percent of Households Storing Crops for 3 to 6 Months by District
Percent of Households Storing Crops
70 to 70
60 to 70
50 to 60
40 to 50
30 to 40
Lushoto
37%
Korogwe
66.8%
Muheza
59.3%
Tanga
37.6%
Handeni
58.2%
Kilindi
60%
Pangani
47.3%


MAP 3.42 TANGA
Number of Households and Percent of Total Households Selling Crops by District
Number of Households Sells Crops
56,000 to 70,000
43,000 to 56,000
30,000 to 43,000
17,000 to 30,000
4,000 to 17,000
Number of Households Sells Crops
Percent of Total Households Selling Crops
Lushoto
69,510
80%
Korogwe
29,751
65%
Muheza
41,149
84%
Tanga
6,605
74%
Handeni
30,492
64%
Kilindi
14,684
75%
Pangani
4,977
70%

District comparison of duration of storage cannot be done for all crops combined. However, the analysis has been done for maize only as it is the most commonly stored crop. In general, quantity stored was related to the quantity produced. Districts with greater production had a higher percent of their crop stored as on 1st October 2003 (Chart 3.89). However, households in Lushoto district stored relatively little maize in comparison to the quantity produced indicating that the quantity stored was 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.

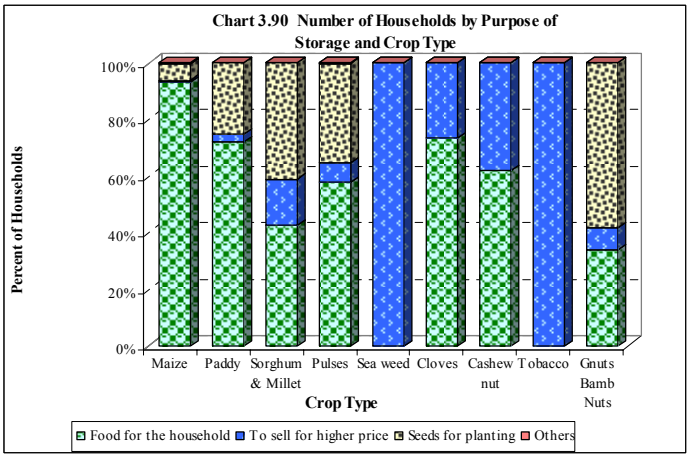
**Chart 3.89 Quantity of Maize Produced (tonnes), Stored and Percent Stored by District**




### 3.7.1.3 Purposes of Storage

Subsistence food crops (maize, paddy, sorghum and millet, beans and pulses) are mainly stored for household consumption. The percent of households that stored maize for household consumption as the main purpose of storage was 93.4 percent followed by seed for planting. Practically all stored annual cash crops were stored for selling at higher price. A high percent of the stored permanent crops was used for household consumption as was the case of cloves and cashew nuts (73.5% and 62% respectively). This is followed by selling at a higher price (26,5% and 38% respectively) (Chart 3.90).

**Chart 3.90 Number of Households by Purpose of Storage and Crop Type**




### 3.7.1.4 The Magnitude of Storage Loss

About 69 percent of households that stored crops had little or no loss, however the proportion of households that experienced a loss of more than a quarter was higher for food crops than crops that are produced for sale such as coffee, tobacco, cashew nut, groundnut and bambara nuts.

**Table 3.11: Number of Households Storing Crops by Estimated Storage Loss and District**

| District | Estimate Storage Loss | | | | |
|---|---|---|---|---|---|
| | Little or no Loss | Up to 1/4 Loss | Between 1/4 and 1/2 Loss | Over 1/2 Loss | Total |
| Lushoto | 72,408 | 8,108 | 1,276 | 426 | 82,219 |
| Korogwe | 31,199 | 4,146 | 693 | 213 | 36,251 |
| Muheza | 21,120 | 15,921 | 3,756 | 792 | 41,589 |
| Tanga | 3,641 | 800 | 213 | 0 | 4,654 |
| Pangani | 2,870 | 1,713 | 140 | 66 | 4,788 |
| Handeni | 15,611 | 17,138 | 7,113 | 968 | 40,831 |
| Kilindi | 10,642 | 4,920 | 1,953 | 340 | 17,855 |
| Total | 157,491 | 52,746 | 15,145 | 2,806 | 228,187 |

The proportion of households that reported a loss of more than a quarter was greatest for sorghum and millet (9.3% of the total number of households that stored crops). This was followed by maize (9.1%), groundnuts and bambaranut (5.4%), beans and pulses (2.9%) and paddy (1.1%). All households that stored cash crops such as seaweed, cloves, cashew nut and tobacco had no loss. Most households storing groundnuts and bambara nuts had little or no storage loss (94%) (Table 3.10).

### 3.7.2 Agro processing and By-products

Agro processing refers to a process that converts a crop product from one form to another form in order to add value or increase the palatability of the product. Agro-processing was practiced in most crop growing households in Tanga region (235,784 households, 89% of the total crop growing households) (Chart 3.91a).

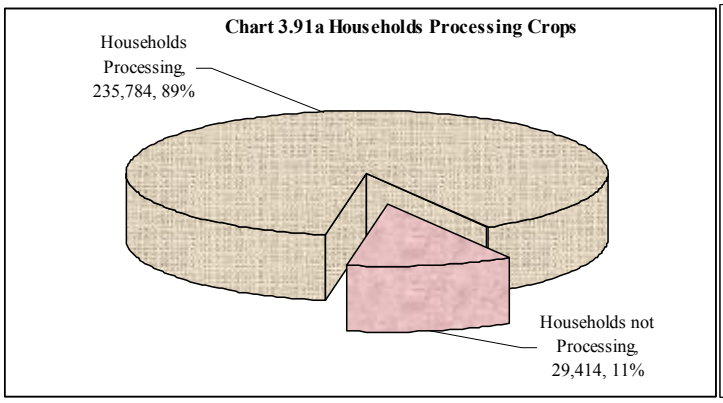


Chart 3.91a Households Processing Crops

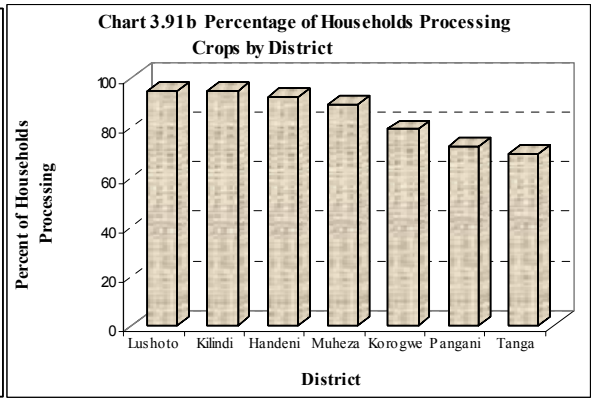


Chart 3.91b Percentage of Households Processing Crops by District

The percent of households processing crops was very high in most districts (above 80%). Tanga amd Pangani had the lowest percent of households processing crops (69% and 72% of crop growing households respectively) (Chart 3.91b).

#### 3.7.2.1 Processing Methods

Most crop processing households processed their crops using neighbour's machines representing 86 percent (202,137 households). This was followed by those processing on-farm by hand (16,189 households, 6.9%), trader (9,495 households, 4%) and on-farm by machine (7,094 households, 3%). The remaining methods of processing were used by very few households (less than 1%).

Although processing by machine was the most common processing method in all districts in Tanga region, however district differences existed. Pangani has a higher percent of hand processing than other districts.(27.2%), followed by Tanga (13.4%), and Handeni (13.2%). Processing by trader was more common in Muheza and Kilindi (10% and 6% respectively), whilst processing on farm by machine was more prevalent in Tanga, Pangani and Handeni (Chart 3.92).

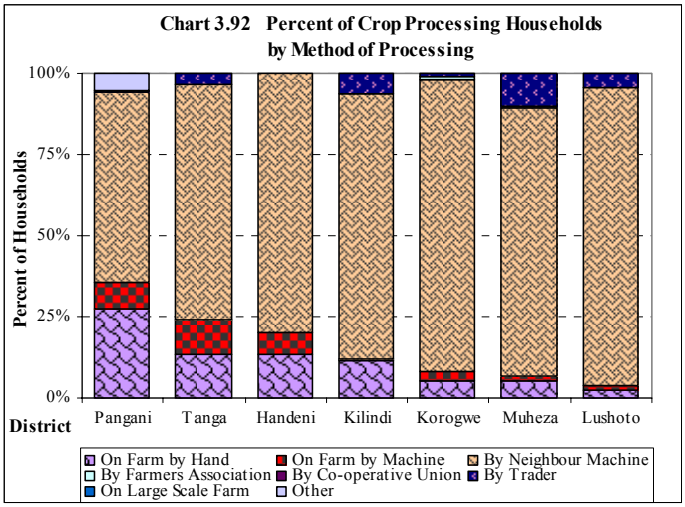


Chart 3.92 Percent of Crop Processing Households by Method of Processing

#### 3.7.2.2 Main Agro-processing Products

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

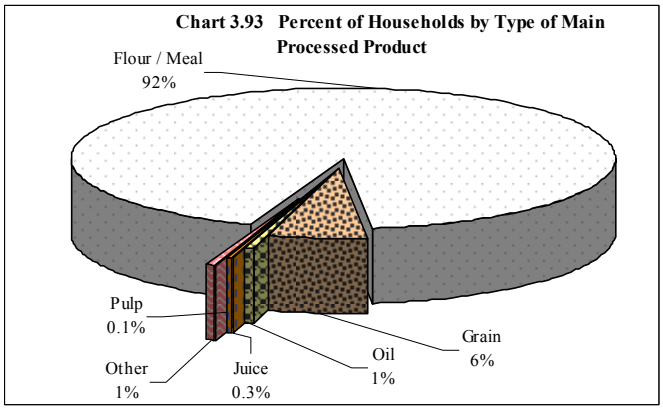


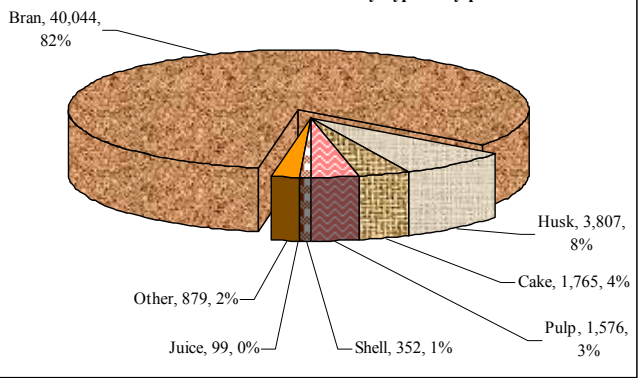
Chart 3.93 Percent of Households by Type of Main Processed Product

The main processed product was flour/meal with 218,715

households processing crops into flour (93%) followed by grain with 13,494 households (5.7%). The remaining products were produced by a small number of households (Chart 3.93).

The number of households producing by-products accounted for 20.6 percent of the households processing crops. The most common by-product produced by crop processing households was bran with 40,044 households (82%) followed by Husks (3,807 households, 8%), cake (1,765 households, 4%) and pulp (1,576 households, 3%). The remaining by-products were produced by a small number of households (Chart 3.94).

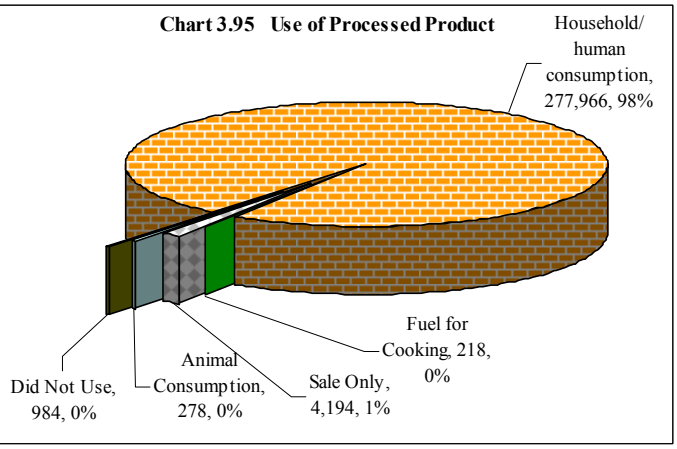
**Chart 3.94 Number of Households by Type of By-product**




### 3.7.2.3 Main Use of Primary Processed Products

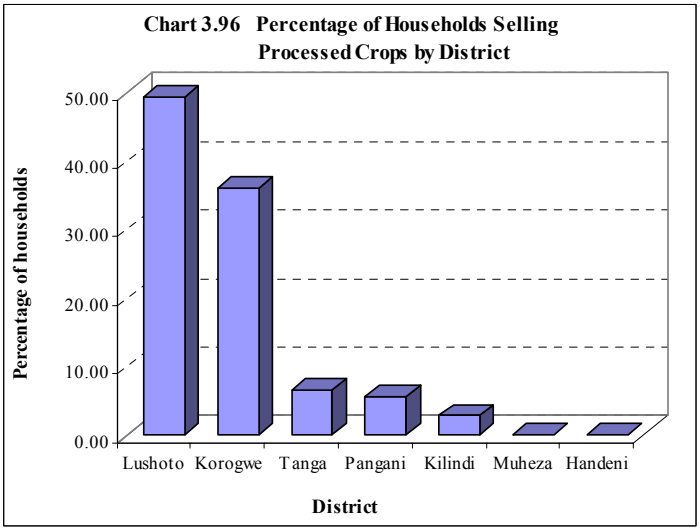
Primary processed products were used for households or human consumption, fuel for cooking, for selling and for animal consumption. The most important use was for household/human consumption which represented 98 percent of the total households that used primary processed product (Chart 3.95). Korogwe was the only district that used primary products as fuel for cooking.

**Chart 3.95 Use of Processed Product**




Out of 1,768 households that sold processed products, 871 were from Lushoto (49% of the total number of households selling processed products in the region), followed by Korogwe with 636 households (36%), Tanga with 115 households (6.5%), Pangani with 98 households (5.5%) and Kilindi with 49 households (2.8%) (Chart 3.96). Compared to other districts in Tanga region, Pangani had the highest percent of households that sold processed products. This is followed by Tanga (1.86), Korogwe (1.75%), Lushoto (1.06%) and Kilindi (0.28%).

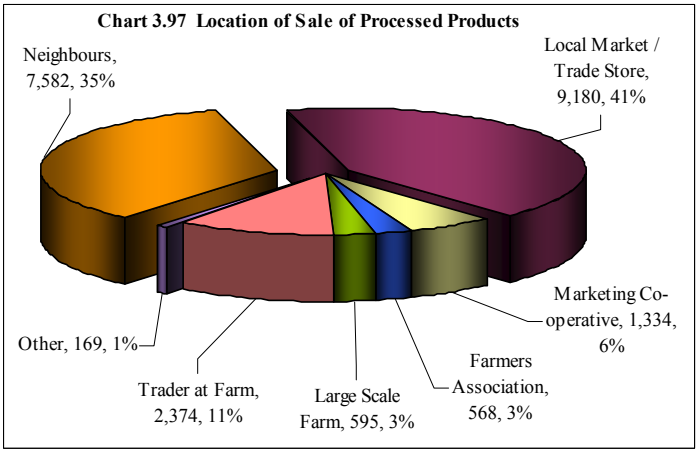
**Chart 3.96 Percentage of Households Selling Processed Crops by District**




### 3.7.2.4 Outlets for Sale of Processed Products

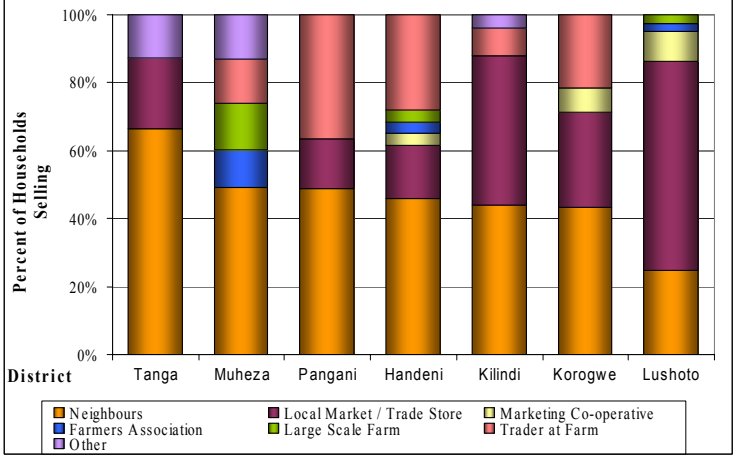
Most houseyholds that sold processed products sold to local market and trade stores (9,180 households, 41% of households that sold crops). This was followed by selling to neighbours (7,582 households, 35%), trader at farm (2,374 households, 11%), marketing co-operatives (1,334 households, 6%), large scale farm (595 households, 2.7%) and Farmers Associations (568 households, 2.6%) (Chart 3.97).

**Chart 3.97 Location of Sale of Processed Products**



There are large differences between districts in the proportion of households selling processed products to neighbours with Tanga district having the largest percent of households in the district selling to neighbours (65%), whereas Lushoto had only 24 percent. Lushoto had a higher percent of households relying on local markets/trade stores than other outlets.

**Chart 3.98 Percent of Households Selling Processed Products by Outlet for Sale and District**

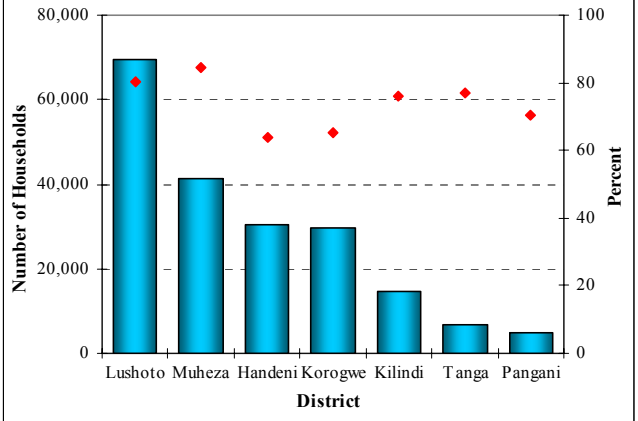



Compared to other districts, Pangani had the highest percent of households selling processed products to traders at farm. In Muheza, the sale of processed produce to farmer associations was most prominent compared to other districts. The districts that had the highest proportion of households selling processed products to marketing cooperative were Lushoto and Korogwe.

### 3.7.3 Crop Marketing

The number of households that reported selling crops was 197,168 which represent 74.8 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Muheza (84%) followed by Lushoto (80%), Tanga (77%), Kilindi (76%), Pangani (70%) Korogwe (65%) and Handeni (64%) (Chart 3.99 and Map 3.42).

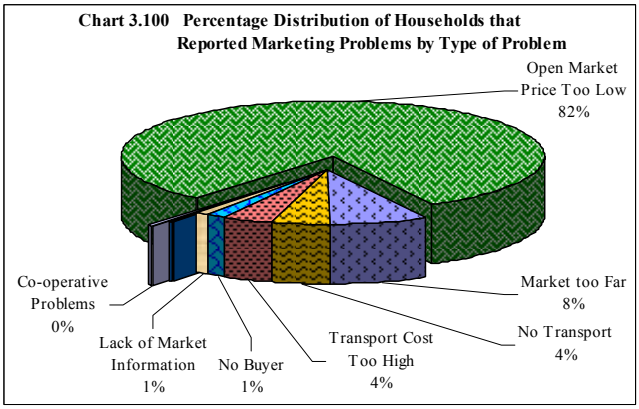
**Chart 3.99 Number of Crop Growing Households Selling Crops by District**




#### 3.7.3.1 Main Marketing Problems

Low price for agricultural produce was the main marketing problem reported by households (82% of crop growing households). Apart from low market prices, other problems were longer distances to the markets (8%), lack of transport (4%), high transport costs (4%), lack of buyers (1%) and lack of market information (1%). Other marketing problems are minor and represented less than 1 percent of the total reported problems.

**Chart 3.100 Percentage Distribution of Households that Reported Marketing Problems by Type of Problem**




#### 3.7.3.2 Reasons for Not Selling Crops

The main reason for not selling crops was reported as "insufficient production to sell", representing 86 percent of the smallholders. The remaining reasons for not selling are in such low numbers that it is not appropriate to rank their importance (Table 3.11). This general trend applies to all districts except for Pangani and Korogwe where the proportion of households reporting other reasons for not marketing their agricultural products is relatively high (16% and 12% respectively).

**Table 3.12 Reasons for Not Selling Crop Produce**

| Main Reason | Household Number | % |
|---|---|---|
| Production Insufficient to Sell | 72,966 | 86.3 |
| Other | 6,735 | 8.0 |
| Price Too Low | 2,253 | 2.7 |
| Trade Union Problems | 1,668 | 2.0 |
| Co-operative Problems | 491 | 0.6 |
| Market Too Far | 284 | 0.3 |
| Government Regulatory Board Problems | 146 | 0.2 |
| **Total** | **84,543** | **100.0** |

## 3.8 Access to Crop Production Services

### 3.8.1 Access to Agricultural Credit

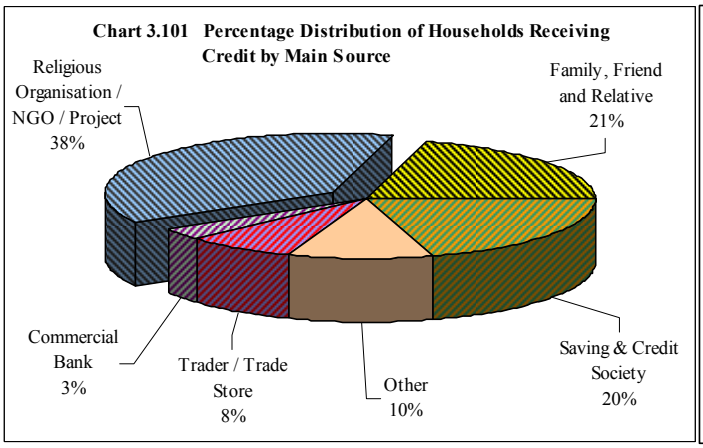
The census result shows that in Tanga region very few agricultural households (1,022, 0.4%) accessed credit out of which 453 (44%) were male-headed households and 569 (56%) were female headed households. In Lushoto district only female headed households got agricultural credit whereas in Korogwe, Tanga and Handeni districts only male households accessed credit. In Muheza district both male and female headed households accessed agricultural credit (Table 3.12).

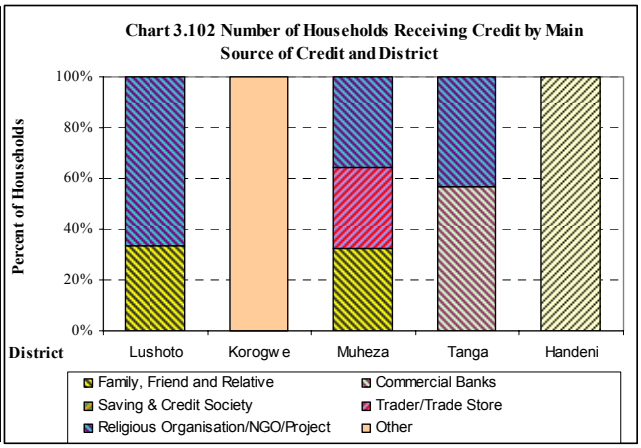
Table 3.13 Number of Agricultural Households that Received Credit by Sex of Household Head and District

| District | Male | | Female | | Total |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 0 | 0 | 404 | 100 | 404 |
| Korogwe | 107 | 100 | 0 | 0 | 107 |
| Muheza | 78 | 32 | 165 | 68 | 243 |
| Tanga | 61 | 100 | 0 | 0 | 61 |
| Handeni | 208 | 100 | 0 | 0 | 208 |
| Total | 453 | 44 | 569 | 56 | 1,022 |

#### 3.8.1.1 Source of Agricultural Credit

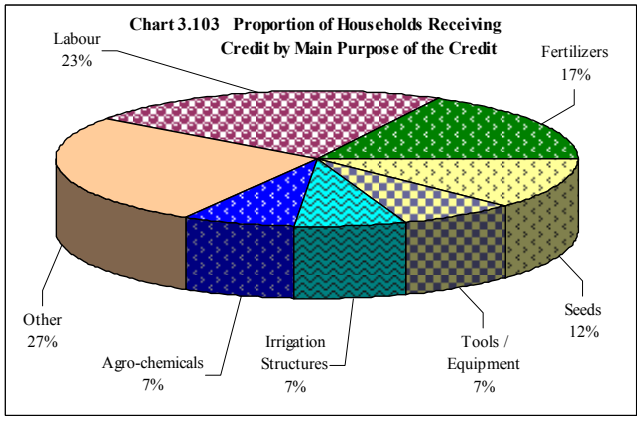
The major agricultural credit provider in Tanga region were Religious Organizations/Non Governmental Organizations/ projects which collectively provided credit to 382 agricultural households (38% of the total number of households that accessed credit), followed by family, friends and relatives (21%), saving and credit society (20%), trader/trade store (8%), commercial bank (3%) and other sources (10%) (Chart 3.101). Commercial banks were the sole source of credit in Tanga district and savings and credit societies were found in Handeni district only. Trader/trader store was a major credit provider in Muheza district. Religious organization, NGO and projects were more involved in funding a relatively great number of households in Lushoto disrtict (Chart 3.102).

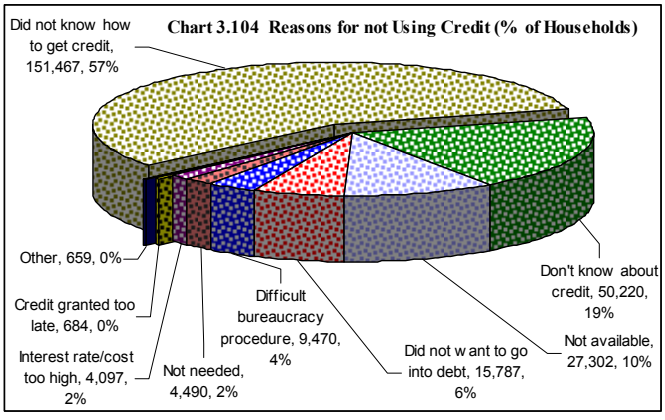



#### 3.8.1.2 Use of Agricultural Credit

A large proportion of the agricultural credit provided to agricultural households in the region were used on unspecified activities (24%), followed by hiring labour (22%), fertilizers (16%) and seeds (12%). The proportion of credits intended to be used for livestock rearing, irrigation structures, tools, equipment and agro-chemicals was very low (Chart 3.103).



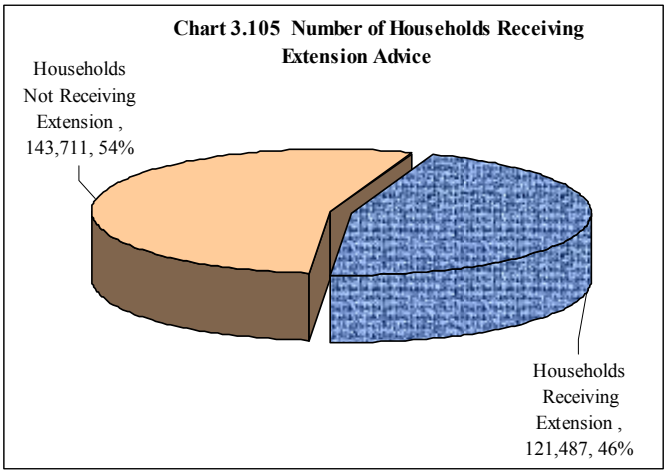



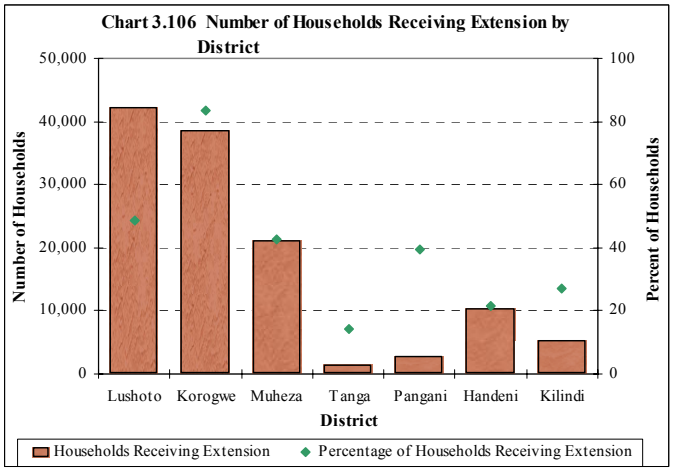
### 3.8.1.3 Reasons for Not Using Agricultural Credit

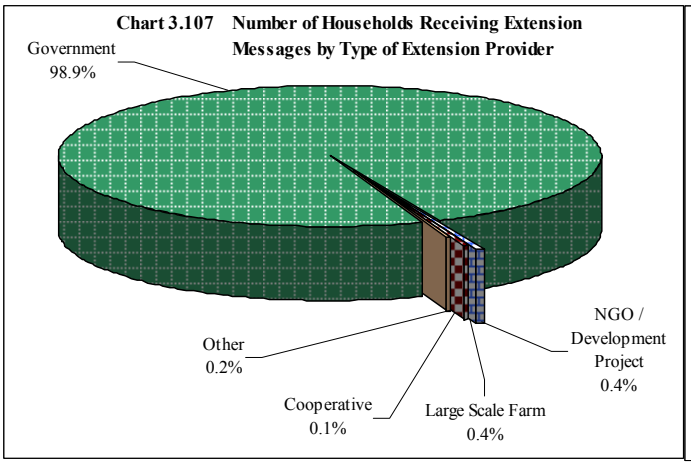
The main reason for not using agricultural credit as a source of finance was little credit awareness accounting to 76 percent of the agricultural households ("did not know how to get credit" and "don't know about credit"). This was followed by households reporting the un-availability of credit (10.3%), followed by "not wanting to go into debt" (6.0%) The rest of the reasons were collectively less than 8 percent of the households.

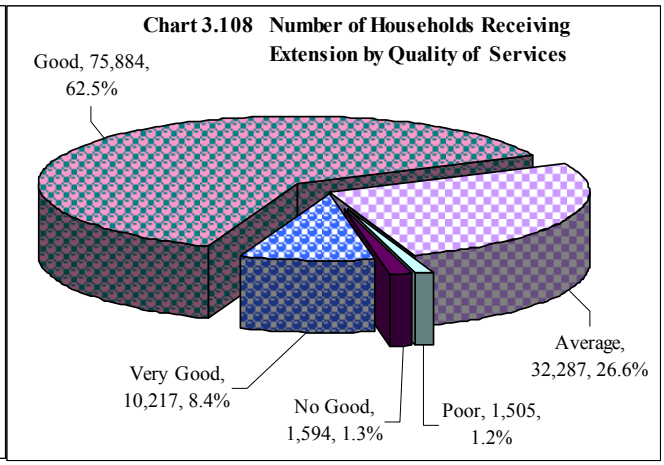
### 3.8.2 Crop Extension

The number of Agricultural households that received crop extension was 121,486 (46% of total crop growing households in the region) (Chart 3.105). Some districts have more access to extension services than others, with Korogwe having a relatively high proportion of households (84%) that received crop extension messages in the district followed by Lushoto (49%), Muheza (43%), Pangani (39%), Kilindi (27%), Handeni (22%) and Tanga (14%) (Chart 3.106 and Map 4.43).



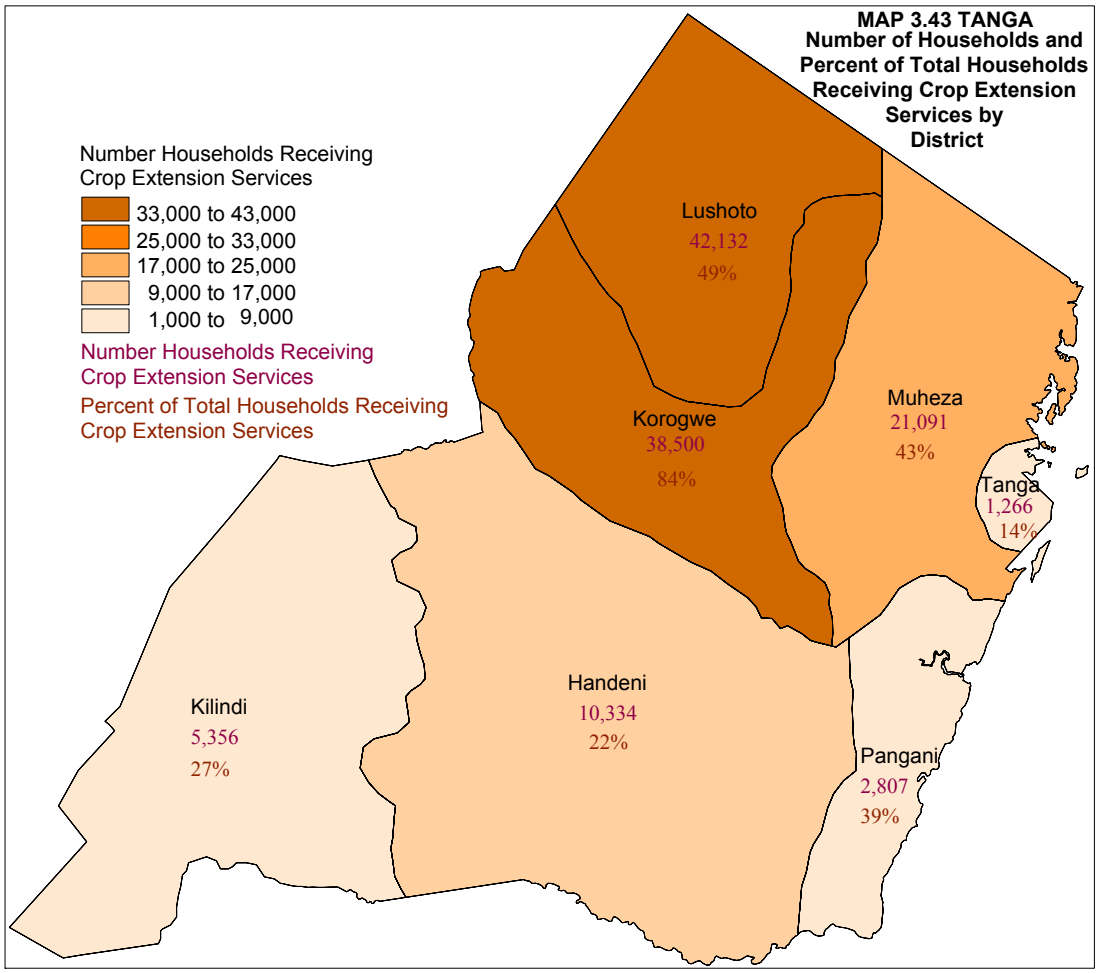



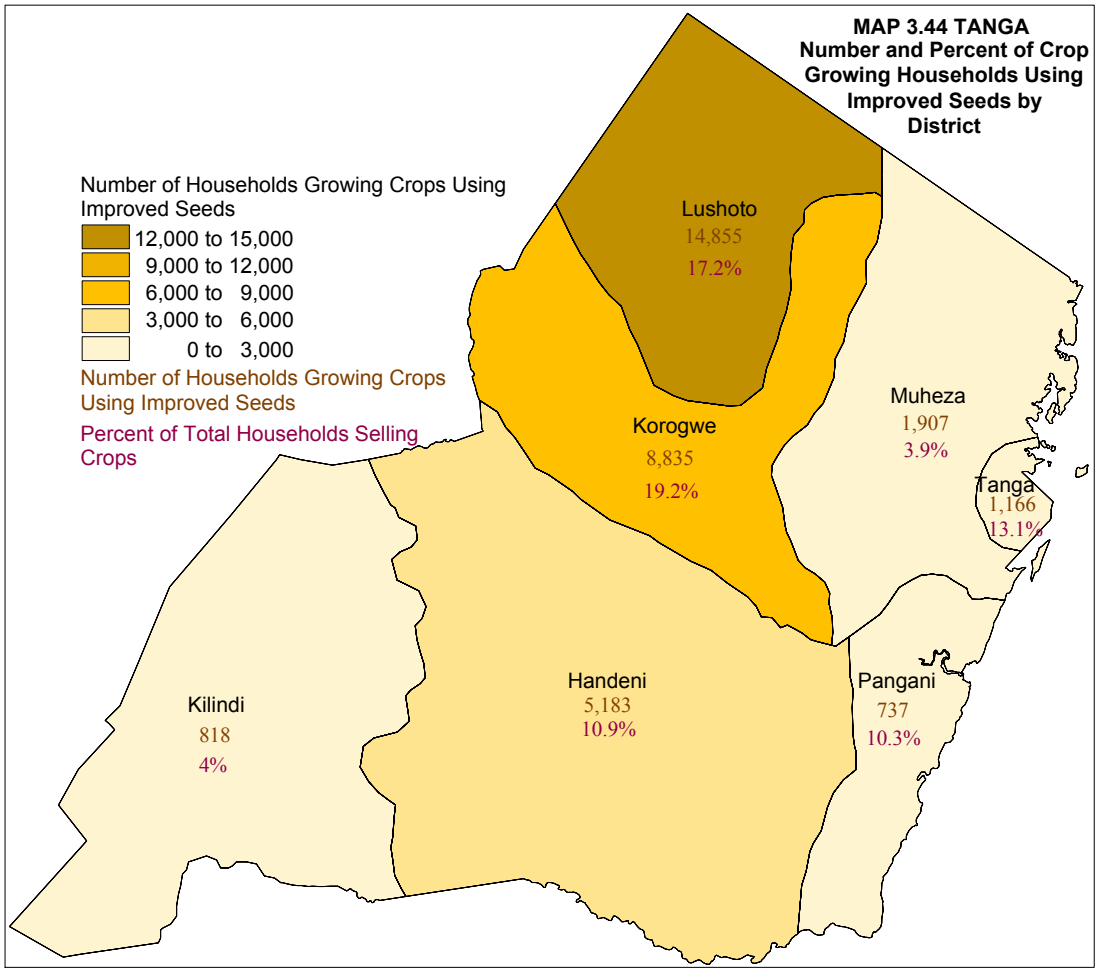




### 3.8.2.1 Sources of Crop Extension Messages

Of the households receiving extension advice the Government provided the greatest proportion (98.9%, 119,592 households). NGOs provided 0.4 percent, large scale farms 0.4 percent and the remaining providers less than 0.3 percent (Chart 3.107), however district differences exist with the proportion of the households receiving advice from government services ranging from between 94.0 percent and 100 percent in Handeni and Lushoto respectively.


MAP 3.43 TANGA
Number of Households and Percent of Total Households Receiving Crop Extension Services by District
Number Households Receiving Crop Extension Services
33,000 to 43,000
25,000 to 33,000
17,000 to 25,000
9,000 to 17,000
1,000 to 9,000
Number Households Receiving Crop Extension Services
Percent of Total Households Receiving Crop Extension Services
Lushoto
42,132
49%
Korogwe
38,500
84%
Muheza
21,091
43%
Tanga
1,266
14%
Handeni
10,334
22%
Kilindi
5,356
27%
Pangani
2,807
39%


MAP 3.44 TANGA
Number and Percent of Crop Growing Households Using Improved Seeds by District
Number of Households Growing Crops Using Improved Seeds
12,000 to 15,000
9,000 to 12,000
6,000 to 9,000
3,000 to 6,000
0 to 3,000
Number of Households Growing Crops Using Improved Seeds
Percent of Total Households Selling Crops
Lushoto
14,855
17.2%
Korogwe
8,835
19.2%
Muheza
1,907
3.9%
Tanga
1,166
13.1%
Handeni
5,183
10.9%
Kilindi
818
4%
Pangani
737
10.3%

### 3.8.2.2 Quality of Extension

An assessment of the quality of extension indicates that 63 percent of the households receiving extension ranked the service as being good followed by average (27 %), very good (8%), no good (1%) and poor (1%) (Chart 3.108). However, care should be exercised when making decisions on quality of extension and also other variables in the extension report as all the enumerators were extension agents and some degree of bias is expected.

## 3.9 Access to 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, some of the figures presented in this section may be slightly different from the previous section on inputs use (Section 3.5). Data on source of inputs is only found in this section and it applies to both annual and permanent crops.

**Table 2.14 Access to Inputs**

| Type of Input | Households With Access to Input | | Households Without Access to Inputs | |
|---|---|---|---|---|
| | Number | % | Number | % |
| Farm Yard Manure | 51,812 | 19.7 | 211,716 | 80.3 |
| Improved Seeds | 33,500 | 12.7 | 230,028 | 87.3 |
| Pestcides/Fungicide | 13,971 | 5.3 | 249,557 | 94.7 |
| Compost | 14,580 | 5.5 | 248,948 | 94.5 |
| Inorganic Fertiliser | 8,223 | 3.1 | 255,304 | 96.9 |
| Herbicide | 835 | 0.3 | 262,692 | 99.7 |

A small number of households use inputs and this is particularly true of inputs that are not produced on farm i.e., improved seeds, fungicides, inorganic fertiliser and herbicides. In Tanga region farm yard manure is used by 51,812 households which represents 19.7 percent of the total number of crop growing households. This is followed by households using improved seeds (12.7%), compost (5.5%) fungicide (5.3%), inorganic fertiliser (3%), and herbicide (0.3%) (Table 2.13).

### 3.9.2 Inorganic Fertilisers

Smallholders that use inorganic fertiliser in Tanga mostly purchase from the local market/trade store (90.5% of the total number of inorganic fertiliser users). The remaining sources of inorganic fertilisers are minor (Chart 3.109).

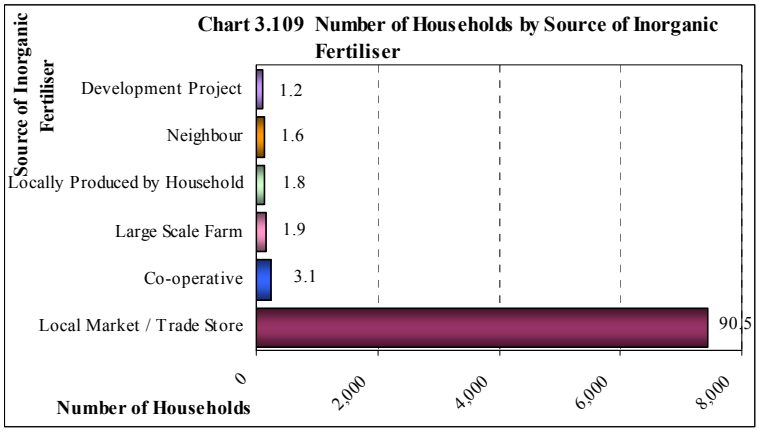



**Chart 3.109 Number of Households by Source of Inorganic Fertiliser**

Access to inorganic fertiliser is mainly less than 10 km from the household with most households residing between 3 and 10 km from the source (39%), followed by between 1 and 3 km (30%) and less than 1 km (20%) (Chart 3.110). Due to the very small number of households using inorganic fertilisers coupled with the small number of households responding to "not available" (12% ) as the reason for not using, it may be assumed that access to inorganic fertiliser is not the main reason for not using it. Other reasons such as cost are more important with 70 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.

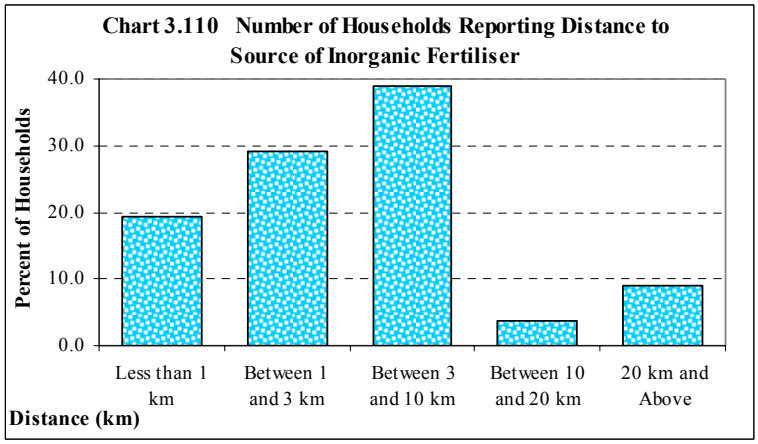


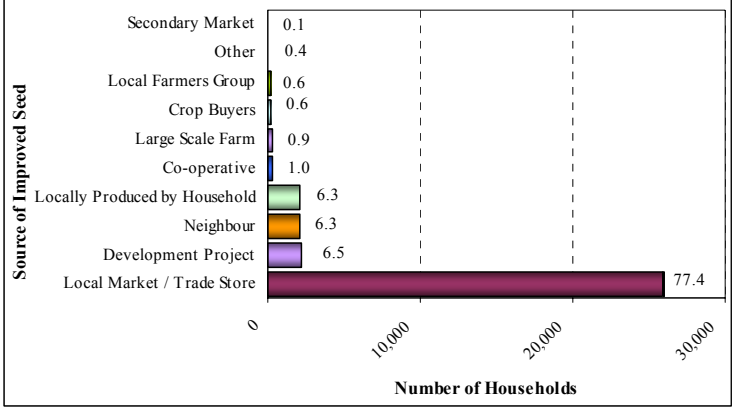

**Chart 3.110 Number of Households Reporting Distance to Source of Inorganic Fertiliser**

More smallholders use inorganic fertilisers in Lushoto than in other districts in Tanga region (72% of households using inorganic fertilisers), followed by Korogwe (17%) and Muheza (6.2%). Other districts use very little inorganic fertiliser.

### 3.9.3 Improved Seeds

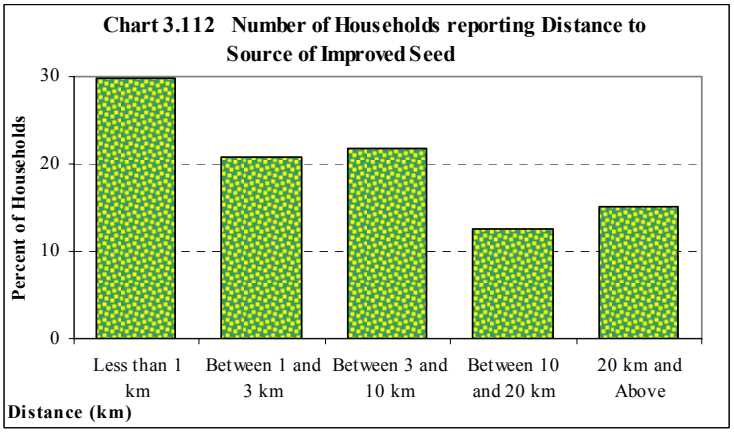
The percent of households that use improved seeds was 13 percent of the total number of crop growing households. Most of the improved seeds are from the local market/trade store (77.4%). Other less important sources of improved seed are from development partners (6.5%), neighbours (6.3%) and locally produced by household (6.3%). Only 0.9 percent of households using improved seed obtain them from large scale farms (Chart 3.111).

**Chart 3.111 Number of Households by Source of Improved Seed**




Access to improved seed is better than access to chemical inputs with 30 percent of households obtaining the input within 1 km of the household (Chart 3.112). This is in line with the higher use of improved seed compared to other chemical 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.

**Chart 3.112 Number of Households reporting Distance to Source of Improved Seed**




The districts that mostly use improved seeds are Lushoto (44.3 percent of the total number of households using improved seeds in Tanga region), followed by Korogwe (26.4%) and Handeni (15.5%). Use of improved seeds in other districts is of minor importance (Map 3.44).

### 3.9.4 Insecticides and Fungicide

Most smallholder households using insecticides and fungicides mainly purchase them from local markets/trade stores (91% of the total number of fungicide users). Other sources of insecticides/ fungicides are of minor importance (Chart 3.113).

**Chart 3.113 Number of Households by Source of Insecticide/fungicide**

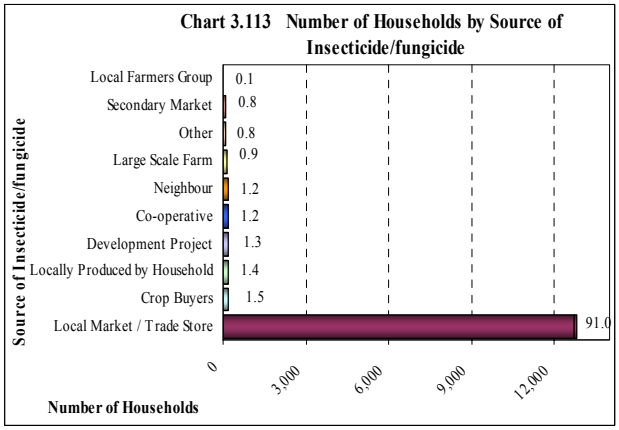



**Chart 3.114 Number of Households Reporting Distance to Source of Insecticides/Fungicides**

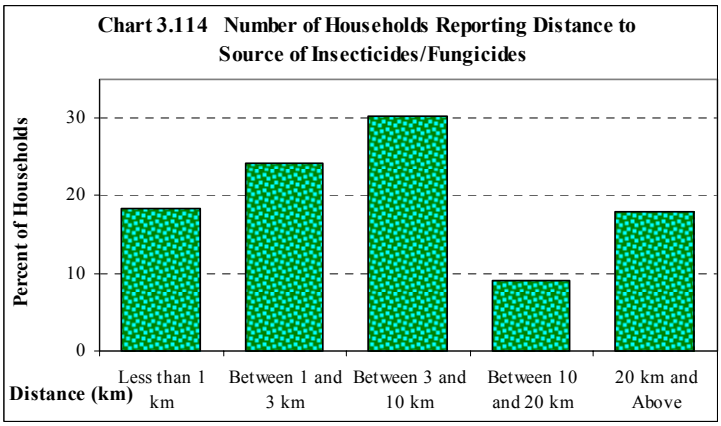



Chart 3.114 shows that there is no distinct pattern for the number of households with varying distances from the source of insecticide/fungicide. The small number of households using insecticides/fungicides coupled with the 7 percent of

households responding to "not 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 74 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 used more in Lushoto district (60.9 percent of the total number of households that use fungicide in the region), followed by Korogwe (15.8%) and Handeni (15%). ,Insecticides/fungicides use in other districts is of minor importance.

## 3.10 Tree Planting

The number of households involved in tree farming was 28,110 representing 11 percent of the total number of agriculture households (Chart 3.115).

The number of trees planted by smallholders on their allotted land was 1,215,222 trees. The average number of trees planted per household planting trees was 43 trees.

**Chart 3.115 Number of Households with Planted Trees**

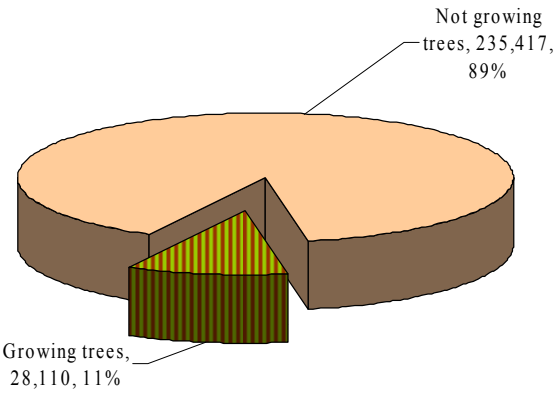



**Chart 2.116 Number of Planted Trees by Species - TANGA**

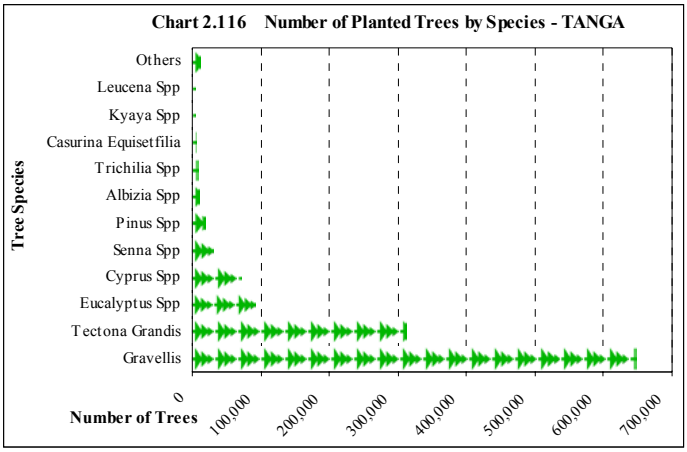
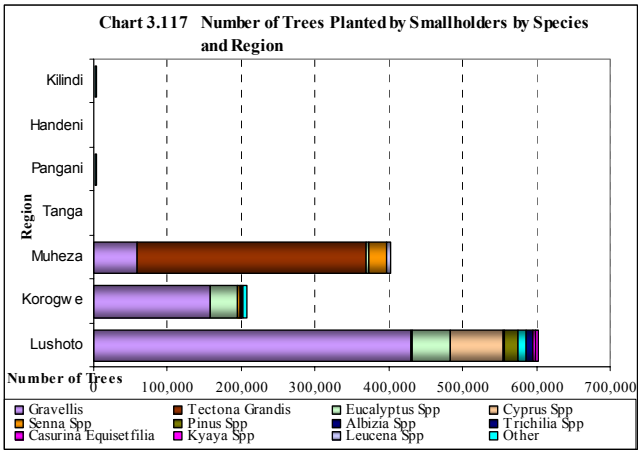
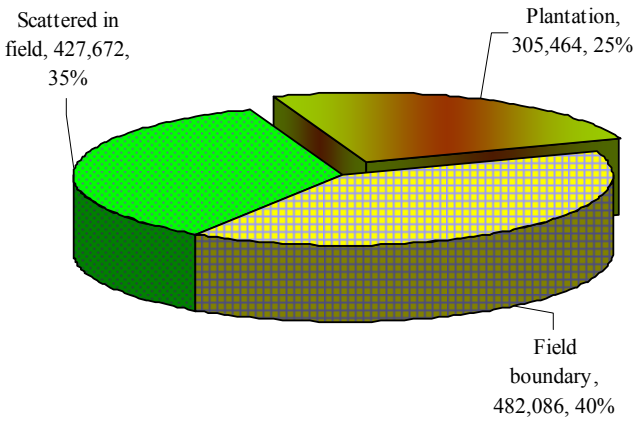



**Chart 3.117 Number of Trees Planted by Smallholders by Species and Region**



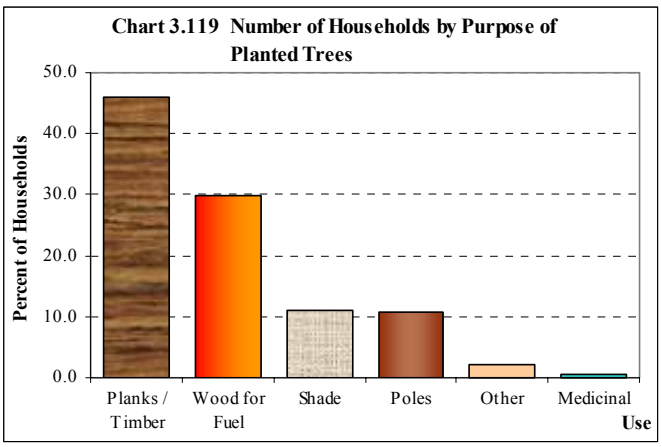

The main species planted by smallholders is Gravellia spp (648,235 trees, 53%), followed by Tectona grandis (313,570, 26%), then Eucalyptus (91,754, 7%) and Cyprus spp (72,130 trees, 6%). The remaining trees species are planted in comparatively small numbers (Chart116.). Lushoto has the largest number of smallholders with planted trees than any other district (49.3%) and is dominated by Gravellia species. This is followed by Muheza (32.9%) which is dominated by Tectona grandis and to a lesser extent Gravellia, then Korogwe (17%) and Kilindi (0.4%) which is mainly planted with Moringa (Chart 3.117 and Map 3.45.).

**Chart 3.118 Number of Trees Planted by Location**



Smallholders mostly plant trees on the boundary of fields. The proportion of households that plant on field boundaries is 40 percent, followed by scattered around fields (35%) and then trees planted in a plantation or coppice (25%) (Chart 3.118).

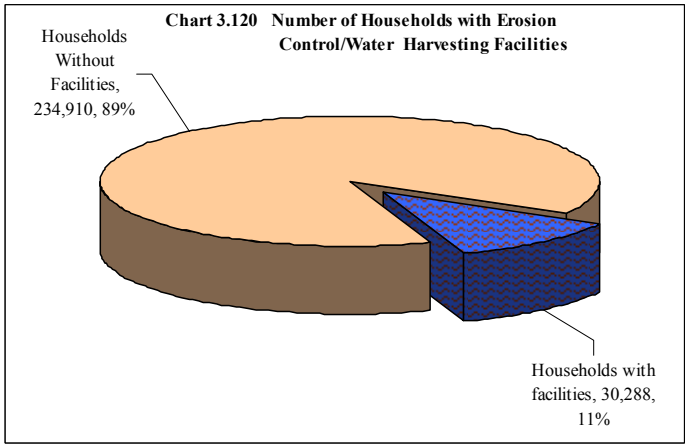
The main purpose of planting trees is to obtain planks/timber (45.9%). This is followed by wood for fuel (29.8%), shade (11.0%) and poles (10.7%) (Chart 3.119).



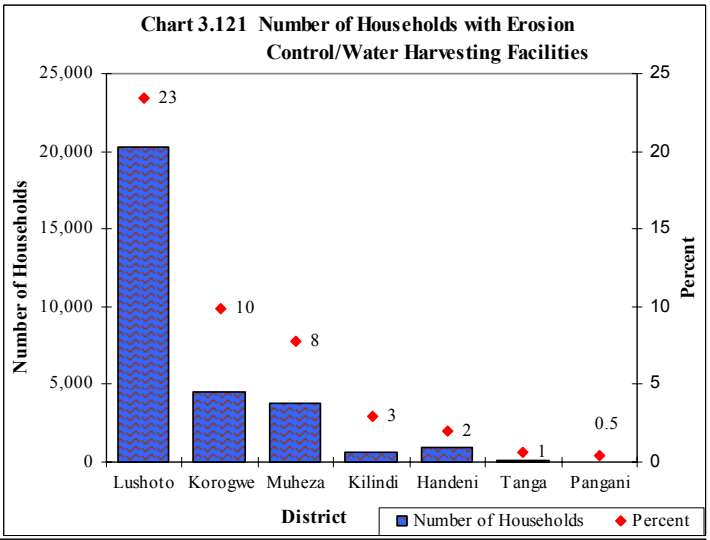

## 3.11 Irrigation and Erosion Control Facilities

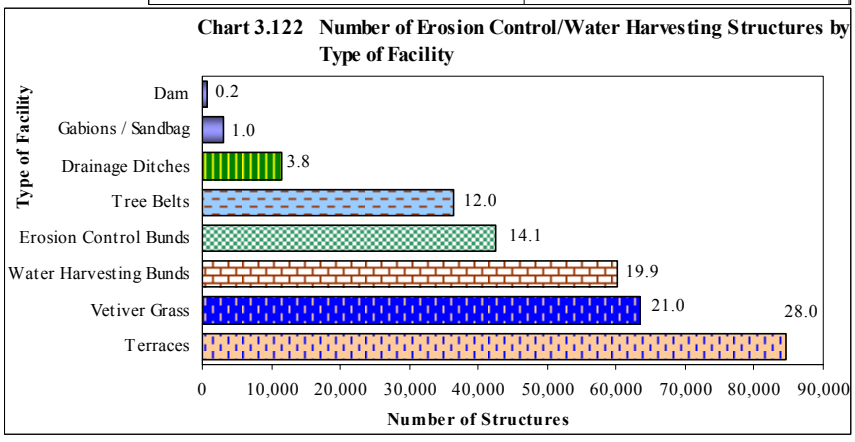
Erosion control and water harvesting facilities are grouped together as they normally have dual purposes of reducing erosion and increasing the amount of water available for crop production.

The number of agricultural households that had soil erosion and water harvesting facilities on their farms was 30,288 which represents 11 percent of the total number of agricultural households in the region (Chart 3.120).



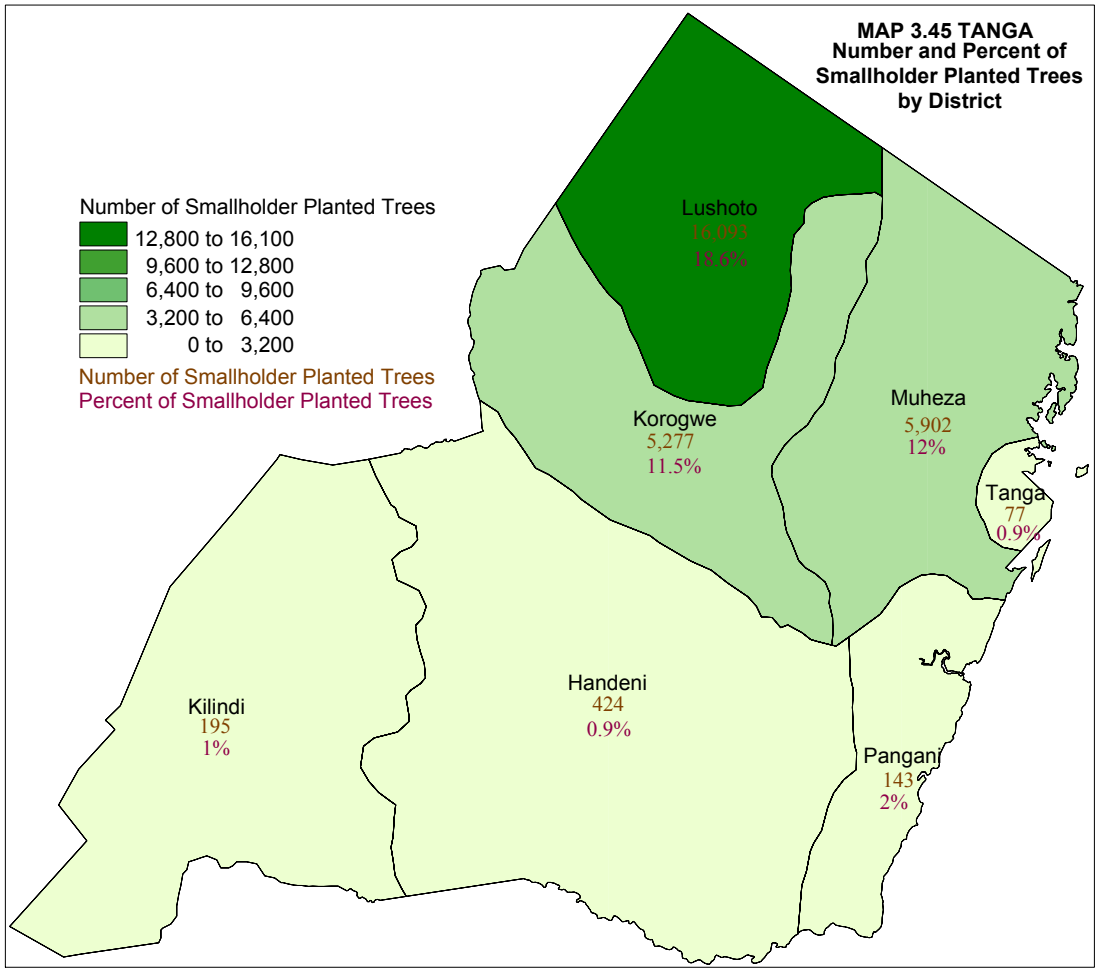

The proportion of households with soil erosion control and water harvesting facilities was highest in Lushoto district (23%) followed by Korogwe (10%), Muheza (8%), Kilindi (3%), Handeni (2%), Tanga (1%) and Pangani (0.5%) (Chart 3.121). Terraces accounted for 28 percent of the total number of structures, followed by vetiver grass (21%), water harvesting bunds (20%), erosion control bunds (14%), tree belts (12%), drainage ditches (4%) gabions/sandbags (1%) and dams (0.5%) (Chart 3.122 and Map 3.46).

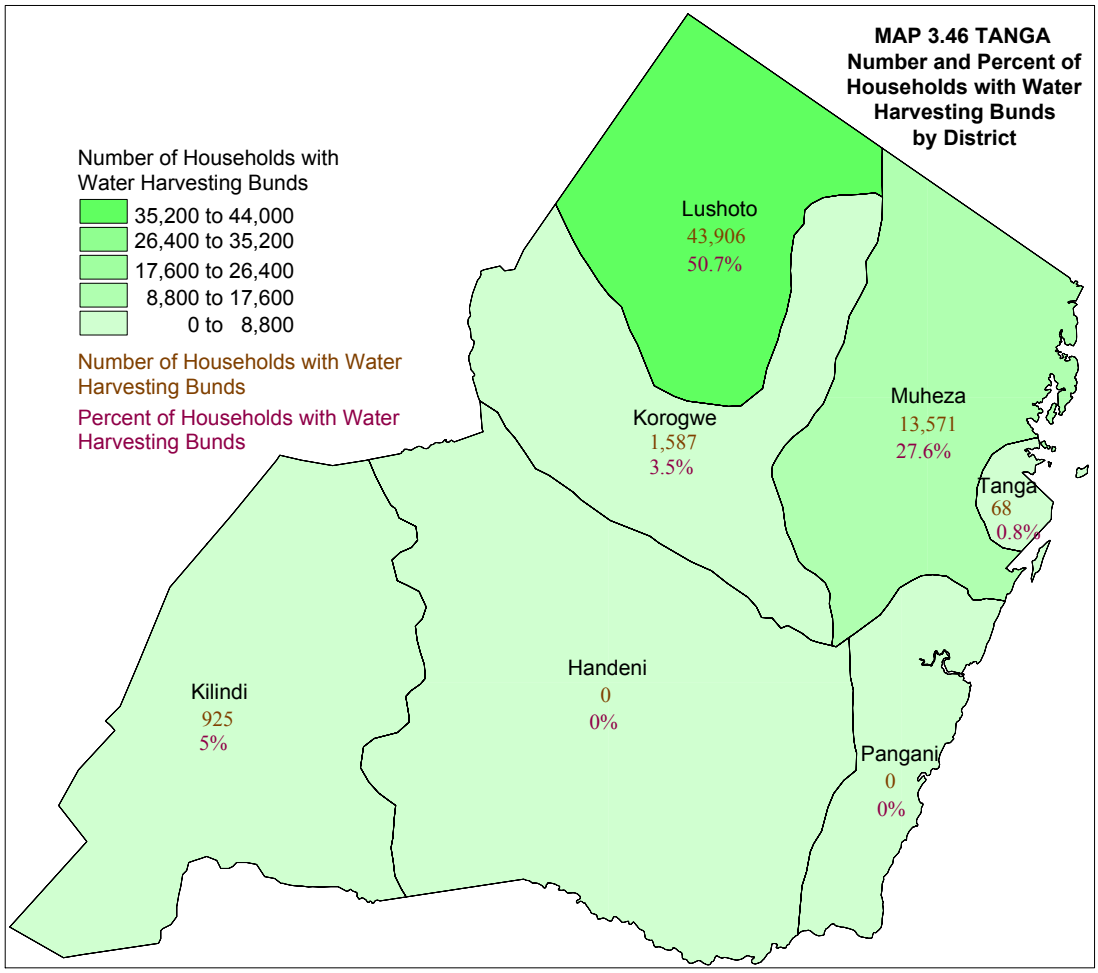



Erosion control by terraces, vetiver grass and water harvesting bunds together had 207,920 structures. This represented 69 percent of the total structures in the region. The remaining 31 percentages were shared among the rest of the erosion control methods mentioned above.

Lushoto and Korogwe districts had 258,206 erosion control structures (86 percent of the total erosion structures in the region).


MAP 3.45 TANGA
Number and Percent of Smallholder Planted Trees by District
Number of Smallholder Planted Trees
12,800 to 16,100
9,600 to 12,800
6,400 to 9,600
3,200 to 6,400
0 to 3,200
Number of Smallholder Planted Trees
Percent of Smallholder Planted Trees
Lushoto
16,093
18.6%
Korogwe
5,277
11.5%
Muheza
5,902
12%
Tanga
77
0.9%
Handeni
424
0.9%
Kilindi
195
1%
Pangani
143
2%


MAP 3.46 TANGA
Number and Percent of Households with Water Harvesting Bunds by District
Number of Households with Water Harvesting Bunds
35,200 to 44,000
26,400 to 35,200
17,600 to 26,400
8,800 to 17,600
0 to 8,800
Number of Households with Water Harvesting Bunds
Percent of Households with Water Harvesting Bunds
Lushoto
43,906
50.7%
Korogwe
1,587
3.5%
Muheza
13,571
27.6%
Tanga
68
0.8%
Handeni
0
0%
Kilindi
925
5%
Pangani
0
0%

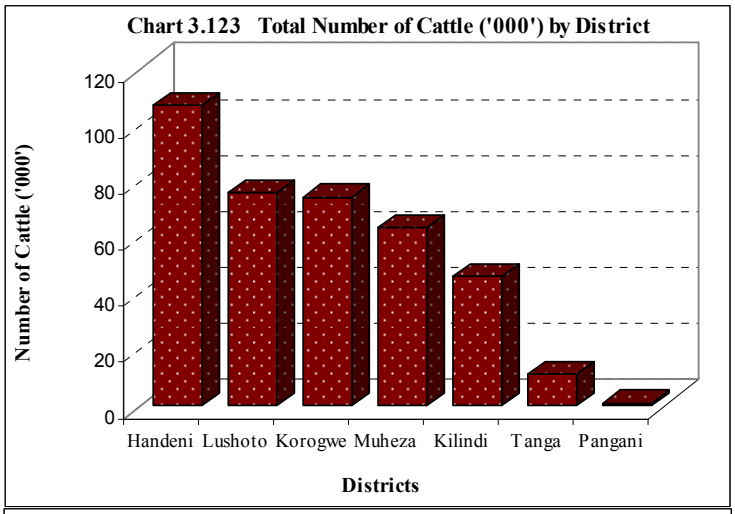
## 3.12 LIVESTOCK RESULTS

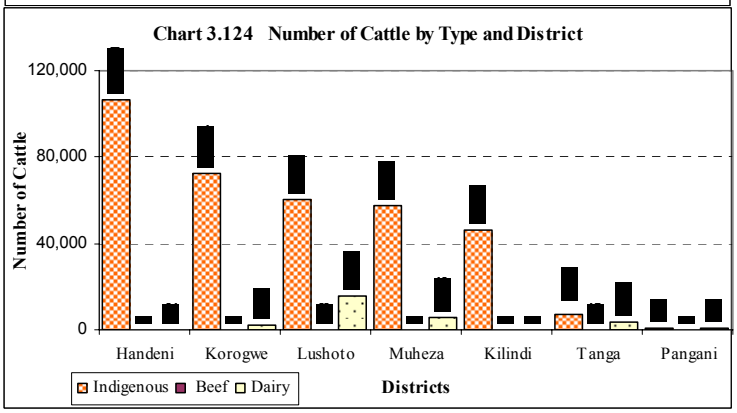
### 3.12.1 Cattle Production

The total number of cattle in the region was 378,338. Cattle are the dominant livestock type in the region followed by goats, sheep and pigs. The region had 2.2 percent of the total cattle population on Tanzania Mainland.

#### 3.12.1.1 Cattle Population

The number of indigenous cattle in Tanga region was 350,210 (92.6 % of the total number of cattle in the region), 27,829 cattle (7%) were dairy breeds and 298 cattle (1.4%) were beef breeds.



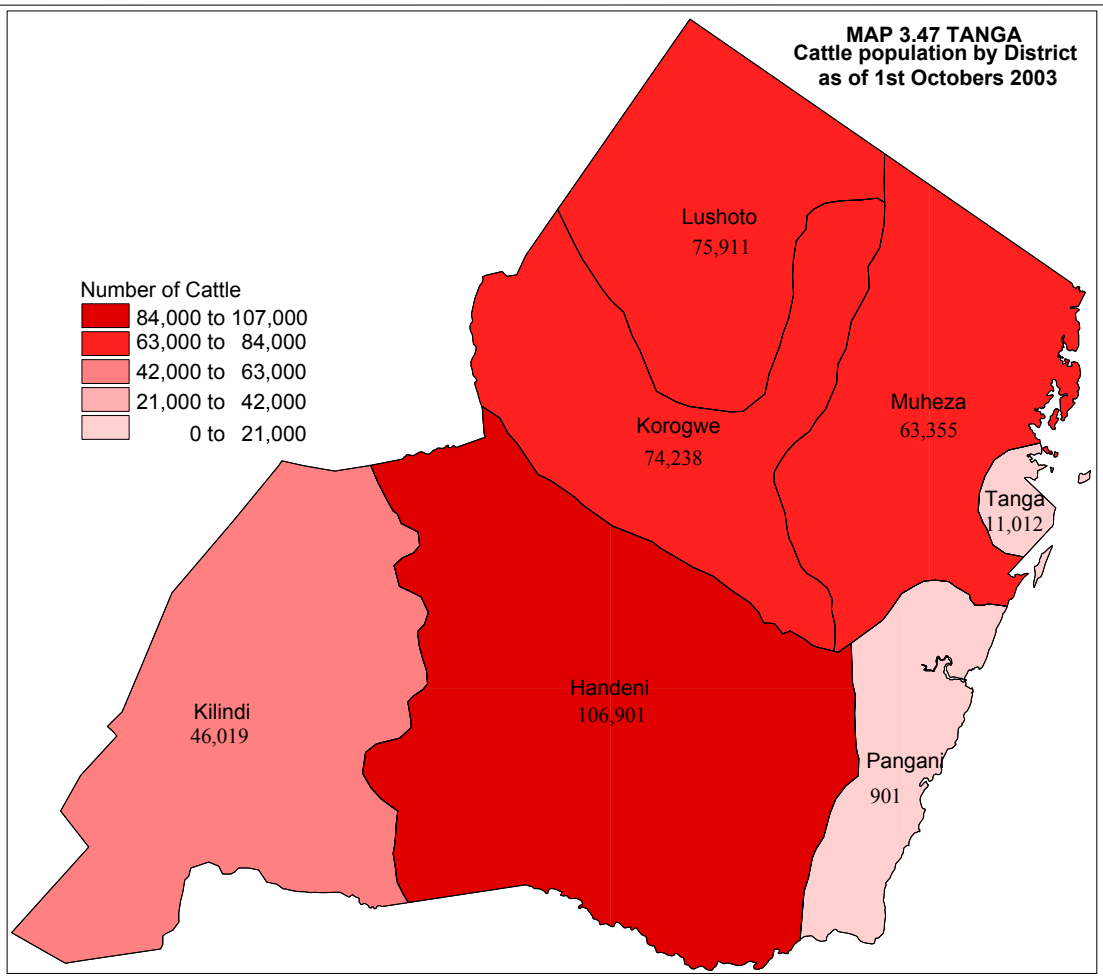



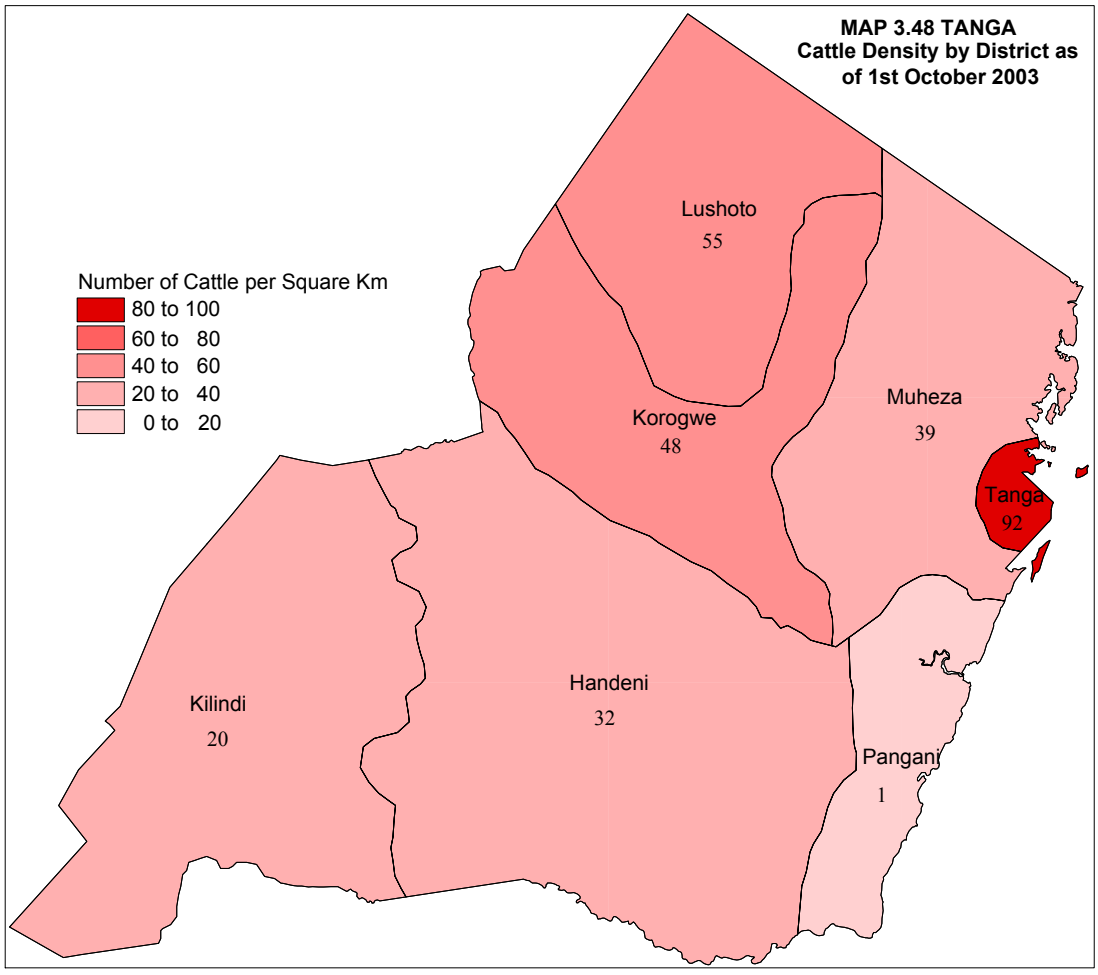

The census results show that 86,792 agricultural households in the region (32.7% of total agricultural households) kept 0.4 million cattle. This was equivalent to an average of 7 heads of cattle per cattle-keeping-household. The district with the largest number of cattle was Handeni which had about 106,901cattle (28.3% of the total cattle in the region). This was followed by Lushoto (75,911 cattle, 20.1%), Korogwe (74,238 cattle, 19.6%), Muheza (63,355 cattle, 16.7%), Kilindi (46,019 cattle, 12.2%) and Tanga (11,012 cattle, 2.9%). Pangani district had the least number of cattle (901 cattle, 0.2%) (Chart 3.123 and Map 3.47). However Tanga district had the highest density (92 head per $km^2$) (Map 3.48).

Although Handeni district had the largest number of cattle in the region, most of it was indigenous. The number of dairy cattle was very small and the number of beef cattle was insignificant. Lushoto district had the largest number of diary cattle in the region. In general, the number of beef cattle in the region was insignificant (Chart 3.124).

#### 3.12.1.2 Herd Size

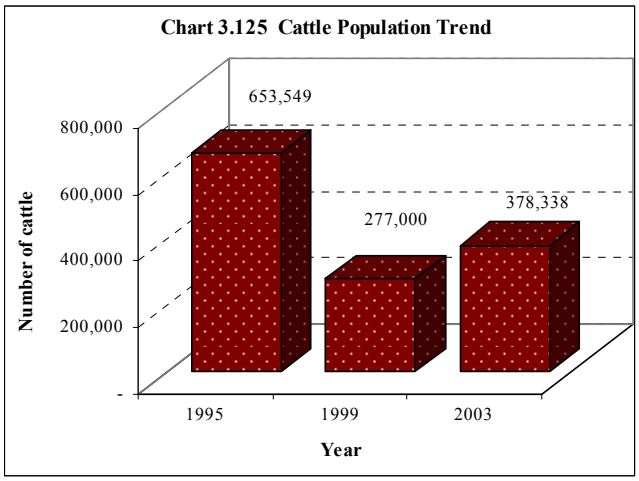
Eighty one percent of the cattle-rearing households had herds of size 1-5 cattle with an average of two cattle per household. Herd sizes of 6-30 accounted for about 30 percent of all cattle in the region. Only 3 percent of the cattle rearing households had herd sizes of 31- 100 cattle. About 97.5 percent of total cattle rearing households had herds of size 1-30 cattle and owns 59 percent of total cattle in the region, resulting in an average of 4 cattle per cattle rearing household. There were about 280 households with a herd size of more than 151 cattle each (95,883 cattle in total) resulting in an average of 342 cattle per household.


MAP 3.47 TANGA
Cattle population by District
as of 1st Octobers 2003
Number of Cattle
84,000 to 107,000
63,000 to 84,000
42,000 to 63,000
21,000 to 42,000
0 to 21,000
Lushoto
75,911
Korogwe
74,238
Muheza
63,355
Tanga
11,012
Handeni
106,901
Kilindi
46,019
Pangani
901


MAP 3.48 TANGA
Cattle Density by District as
of 1st October 2003
Number of Cattle per Square Km
80 to 100
60 to 80
40 to 60
20 to 40
0 to 20
Lushoto
55
Korogwe
48
Muheza
39
Tanga
92
Handeni
32
Kilindi
20
Pangani
1

### 3.12.1.3 CattlePopulation Trend

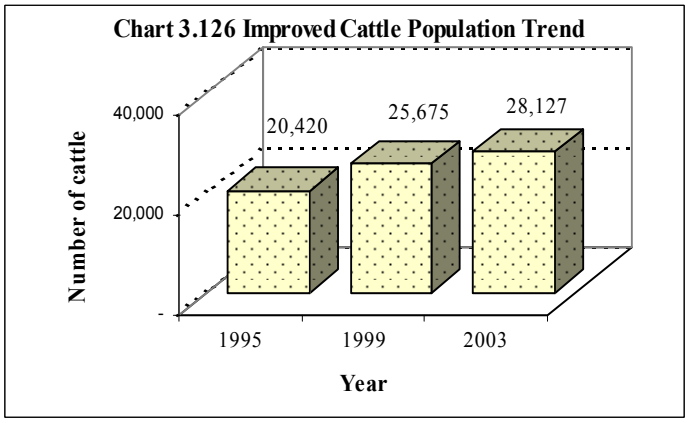
Cattle population in Tanga decreased during the period of eight years from 653,549 in 1995 to 378,337 cattle in 2003. This trend depicts an overall annual negative growth rate of -6.6 percent (Chart 3.125).




However, there was a very sharp decrease in number of cattle for the period of four years from 1995 to 1999 at the rate of –19.3 percent whereby the number dropped from 653,549 to 276,739. However, the number of cattle is estimated to have increased from 276,739 in 1999 to 378,337 in 2003at the rate of 8.13 percent.

### 3.12.1.4 Improved Cattle Breeds

The total number of improved cattle in tanga region was 28,127 (27,829 dairy and 298 improved beef). The diary cattle constituted 7.4 percent of the total cattle and 99 percent of improved cattle in the region. The number of beef cattle in the region was insignificant constituting only 1 percent of the total number of the improved cattle and 0.1 percent of the total cattle The number of improved cattle increased from 20,420 in 1995 to 28,127 in 2003 at an annual growth rate of 4.1 percent. The growth rate was higher for the period from 1995 to 1999 (5.9%) than from 1999 to 2003 (2.3%) (Chart 126).

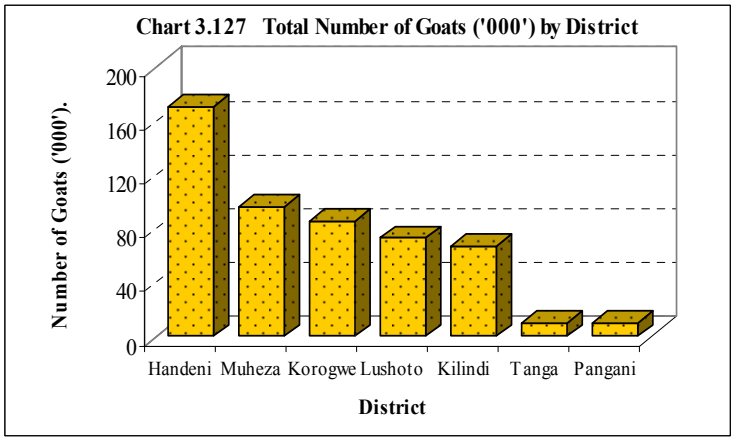


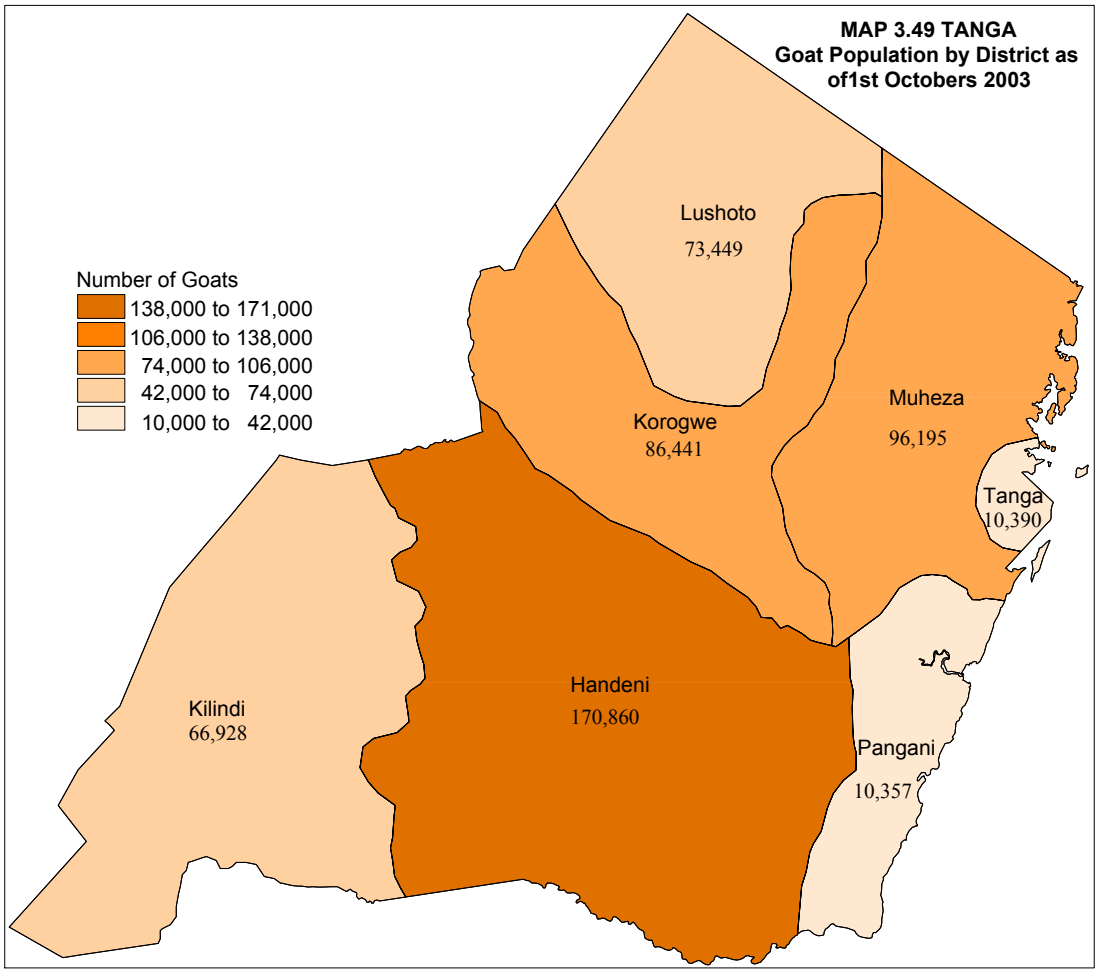

### 3.12.2. Goat Production

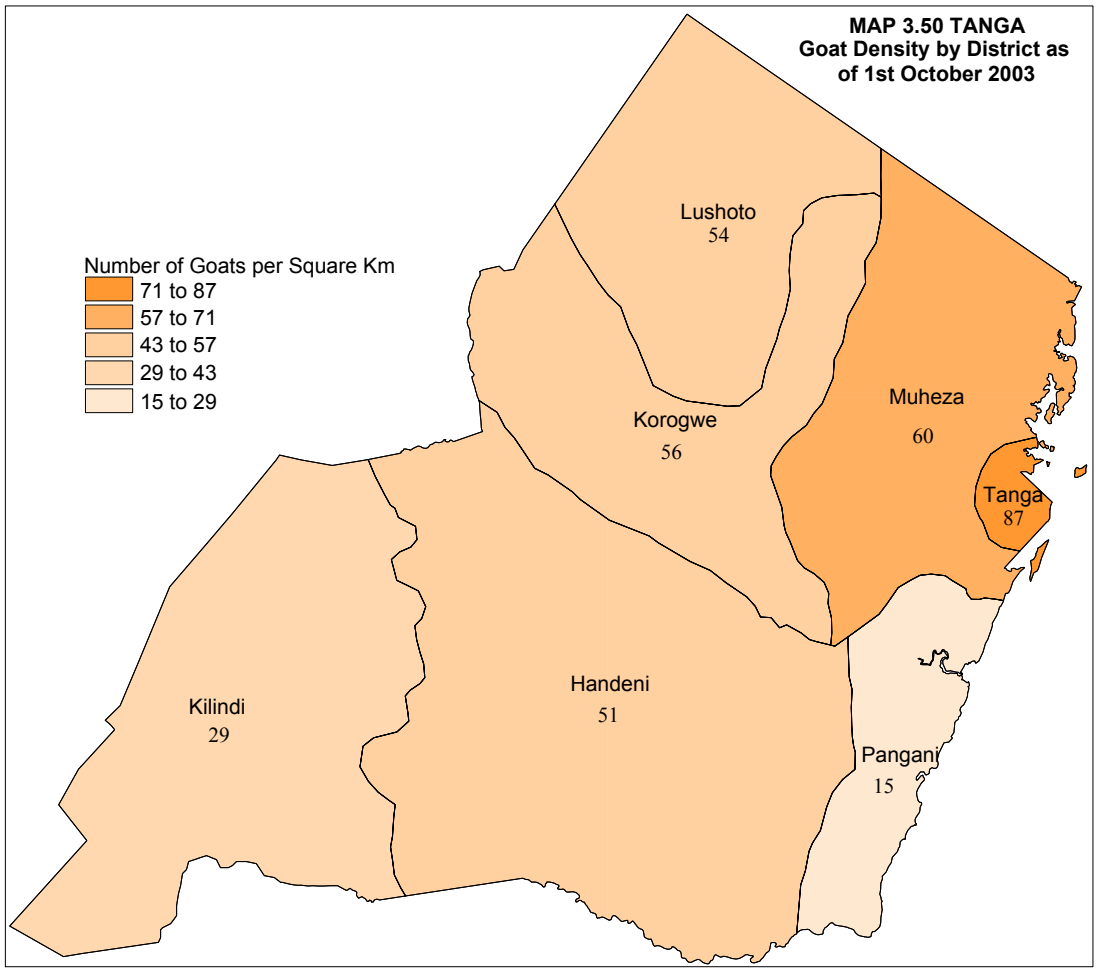
Goat rearing was the second most important livestock keeping activity in the region followed by sheep and pig rearing. In terms of total number of goats on the Mainland, Tanga region ranked 11 out of the 21 regions with 4.4 percent of the total goats on the Mainland.

### 3.12.2.1 Goat Population

The number of goat-rearing-households in Tanga region was 68,227 (26% of all agricultural households in the region) with a total of 514,620 goats giving an average of 8 head of goats per goat-rearing-household. Handeni had the largest number of goats (170,860 goats, 33% of all goats in the region), followed by Muheza (96,195 goats, 19%), Korogwe (86,441 goats, 17%), Lushoto (73,449 goats, 14%) and Kilindi (66,928 goats, 13%). Tanga and Pangani districts had the least number of goats (10,390 goats, 2% and 10,357 goats, 2% respectively) (Chart 3.127 and Map 3.49). However Tanga district had the highest density (87 head per km$^2$ ) (Map 3.50).




MAP 3.49 TANGA
Goat Population by District as of1st Octobers 2003
Number of Goats
138,000 to 171,000
106,000 to 138,000
74,000 to 106,000
42,000 to 74,000
10,000 to 42,000
Lushoto
73,449
Korogwe
86,441
Muheza
96,195
Tanga
10,390
Handeni
170,860
Kilindi
66,928
Pangani
10,357


MAP 3.50 TANGA
Goat Density by District as of 1st October 2003
Number of Goats per Square Km
71 to 87
57 to 71
43 to 57
29 to 43
15 to 29
Lushoto
54
Korogwe
56
Muheza
60
Tanga
87
Handeni
51
Kilindi
29
Pangani
15

### 3.12.2.2 Goat Herd Size

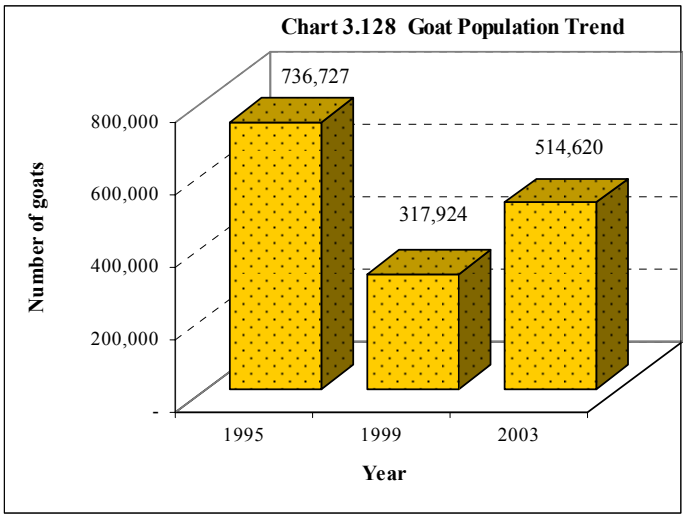
Forty eight percent of the goat-rearing households had herd size of 1-4 goats with an average of 2 goats per goat rearing household. Eighty seven percent of total goat-rearing households had herd size of 1-14 goats and owned 57 percent of the total goats in the region resulting in an average of 5 goats per goat-rearing households. The region had 765 households (1.1%) with herd sizes of 40 or more goats each (53,587 goats in total), resulting in an average of 70 goats per household.

### 3.12.2.3 Goat Breeds

Goat husbandry in the region was dominated by the indigenous breeds that constituted 95 percent of the total goats in Tanga region. Improved goats for meat and diary goats constituted 3 and 2 percent of total goats respectively.

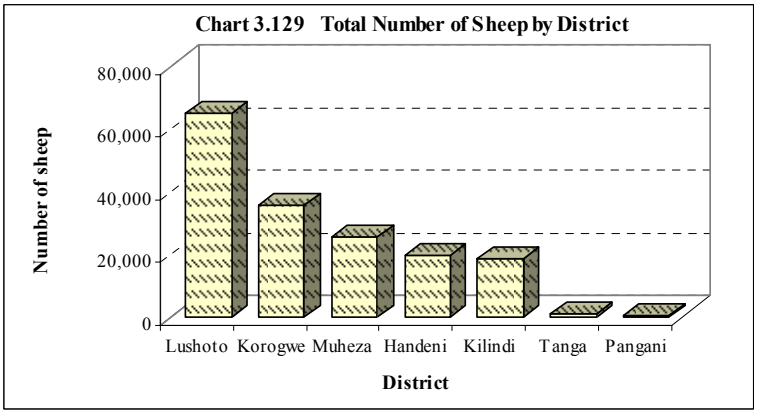
### 3.12.2.4 Goat Population Trend

The overall annual growth rate of goat population from 1995 to 2003 was -4.4 percent. This negative trend implies eight years of population decrease from 736,727 in 1995 to 514,620 in 2003. The number of goats decreased from 736,727 in 1995 at an estimated annual rate of -18.9 percent to 317,924 in 1999. From 1999 to 2003, the goat population increased at an annual rate of 12.8 percent (Chart 128).




### 3.12.3. Sheep Production

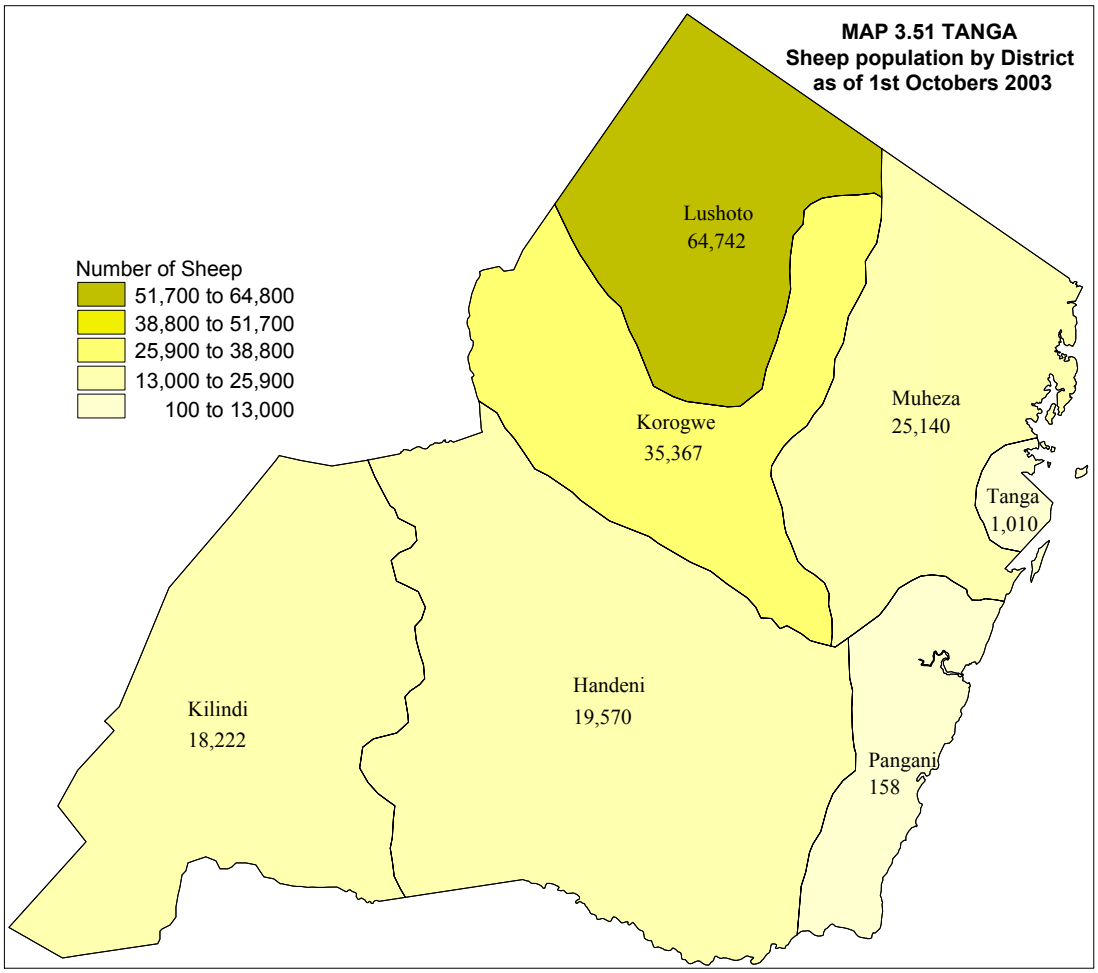
Sheep rearing was the third important livestock keeping activity in Tanga region after cattle and goats. The region ranked 9 out of 21 Mainland regions and had 4 percent of all sheep on Tanzania Mainland.

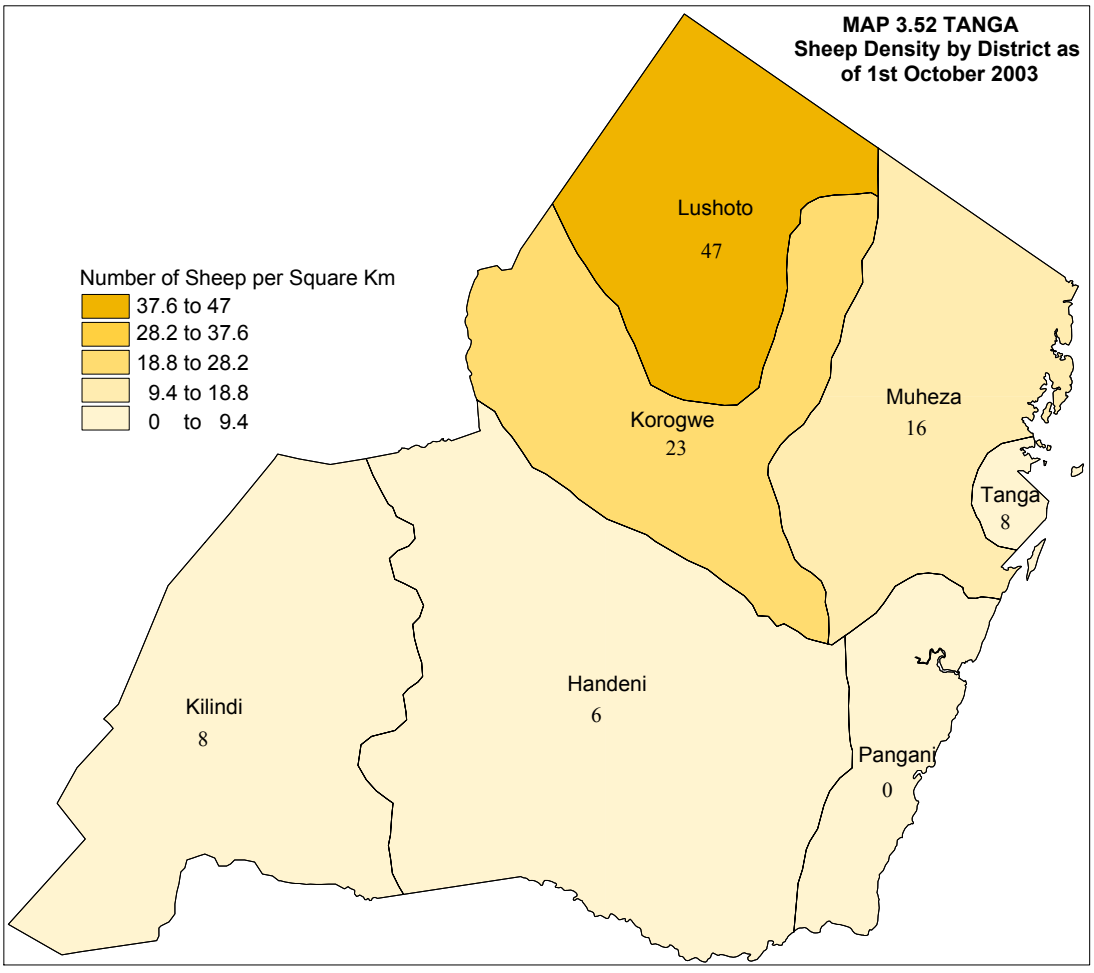



### 3.12.3.1 Sheep Population

The number of sheep-rearing households was 35,381 (13% of all agricultural households in Tanga region) rearing 164,209 sheep, giving an average of 5 heads of sheep per sheep-rearing household. The district with the largest number of sheep was Lushoto with 64,742 sheep (39%of total sheep in Tanga region) followed by Korogwe (35,367 sheep, 22%), Muheza (25,140 sheep, 15%), Handeni (19,570 sheep, 12%), Kilindi (18,222 sheep, 11%) and Tanga (1,010 sheep, 0.6%). Pangani District had the least number of sheep (158 sheep) (Chart 3.129 and Map 3.51). Lushoto district also had the highest density (47 head per $km^2$ ) (Map 3.52).

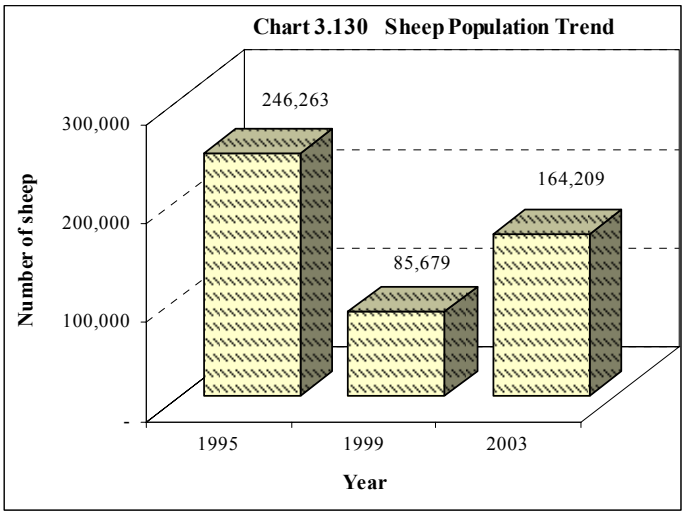
Sheep rearing was dominated by indigenous breeds that constituted 91 percent of all sheep kept in the region. Only 9 percent of the total sheep in the region were improved breeds.


MAP 3.51 TANGA
Sheep population by District
as of 1st Octobers 2003
Number of Sheep
51,700 to 64,800
38,800 to 51,700
25,900 to 38,800
13,000 to 25,900
100 to 13,000
Lushoto
64,742
Korogwe
35,367
Muheza
25,140
Tanga
1,010
Handeni
19,570
Kilindi
18,222
Pangani
158


MAP 3.52 TANGA
Sheep Density by District as
of 1st October 2003
Number of Sheep per Square Km
37.6 to 47
28.2 to 37.6
18.8 to 28.2
9.4 to 18.8
0 to 9.4
Lushoto
47
Korogwe
23
Muheza
16
Tanga
8
Handeni
6
Kilindi
8
Pangani
0

### 3.12.3.2 Sheep Population Trend

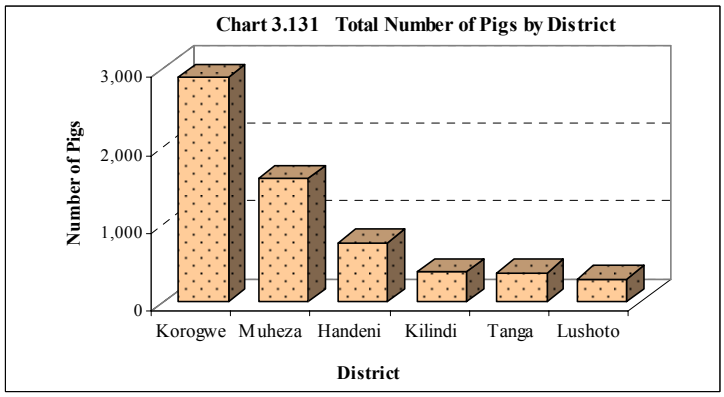
The overall annual growth rate of the sheep population for the eight year period from 1995 to 2003 is estimated at -4.9 percent. The population decreased at an annual rate of -23.2 percent from 246,263 in 1995 to 85,679 in 1999. From 1999 to 2003, sheep population increased at an annual rate of 17.7 percent (Chart 3.130).




### 3.12.4. Pig Production

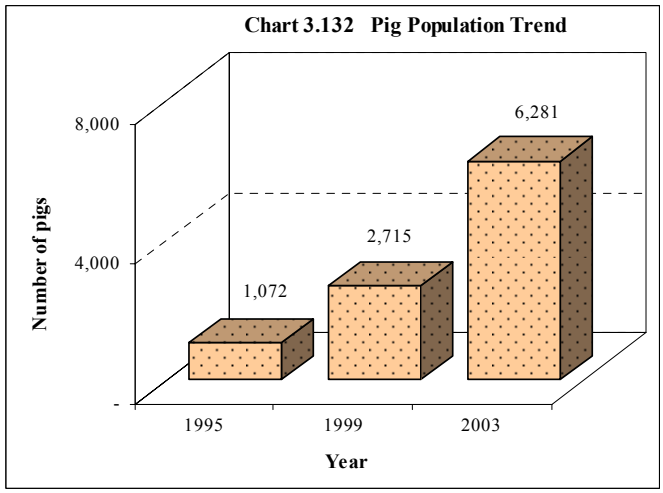
Piggery is the least important livestock keeping activity in the region after cattle, goats and sheep. The region ranks 16 out of 21 Mainland regions and is 0.64 percent of the Mainland total pigs.

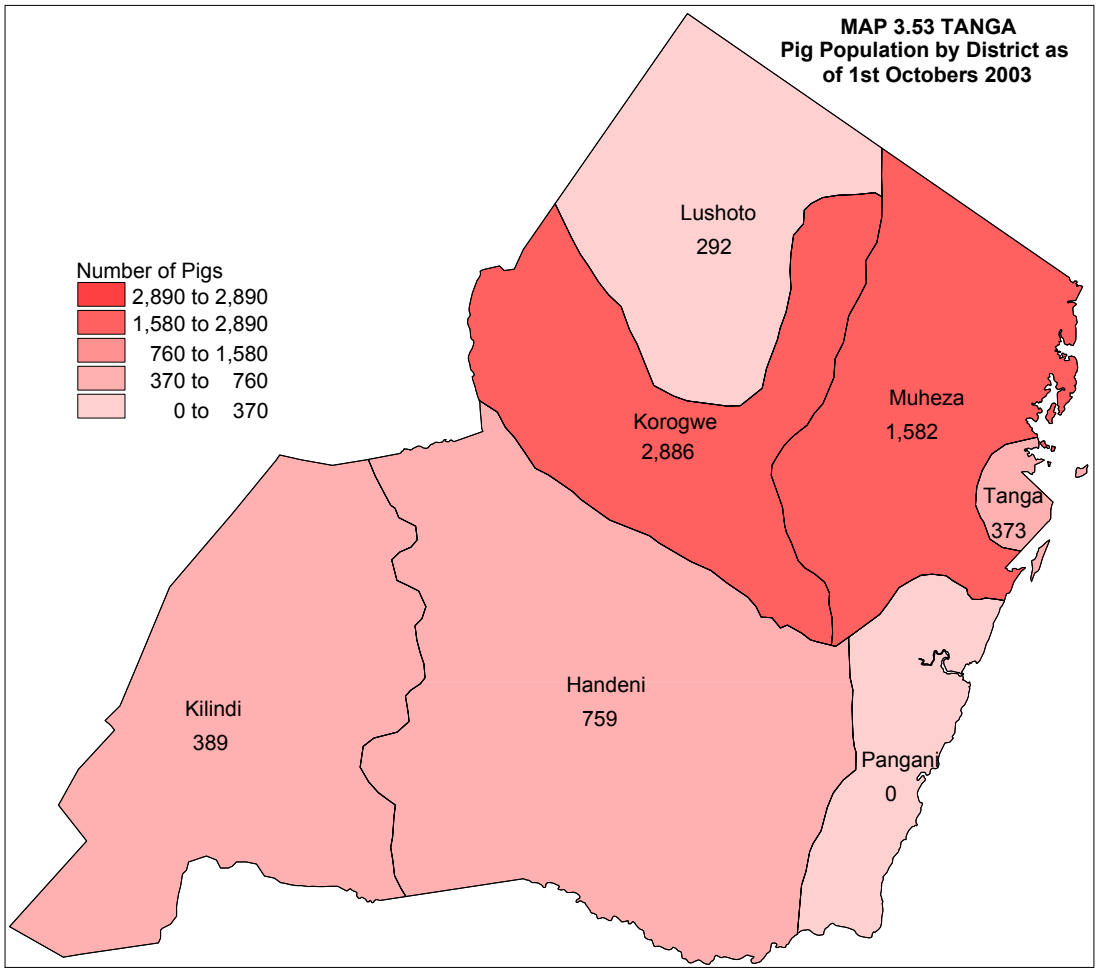
The number of pig-rearing agricultural households in Tanga region was 2,601 (1% of the total agricultural households in the region) rearing 6,281 pigs. This gives an average of 2 pigs per pig-rearing household. The district with the largest number of pigs was Korogwe with 2,886 pigs (46% of the total pig population in the region) followed by Muheza (1,582 pigs, 25%), Handeni (759 pigs, 12%), Kilindi (389 pigs, 6%), Tanga (373 pigs, 6%) and Lushoto (292 pigs, 5%) (Chart 3.131 and Map 3.53). However Tanga district had the highest density (3.1 head per $km^2$ ) (Map 3.54). There are no pigs were in Pangani district.

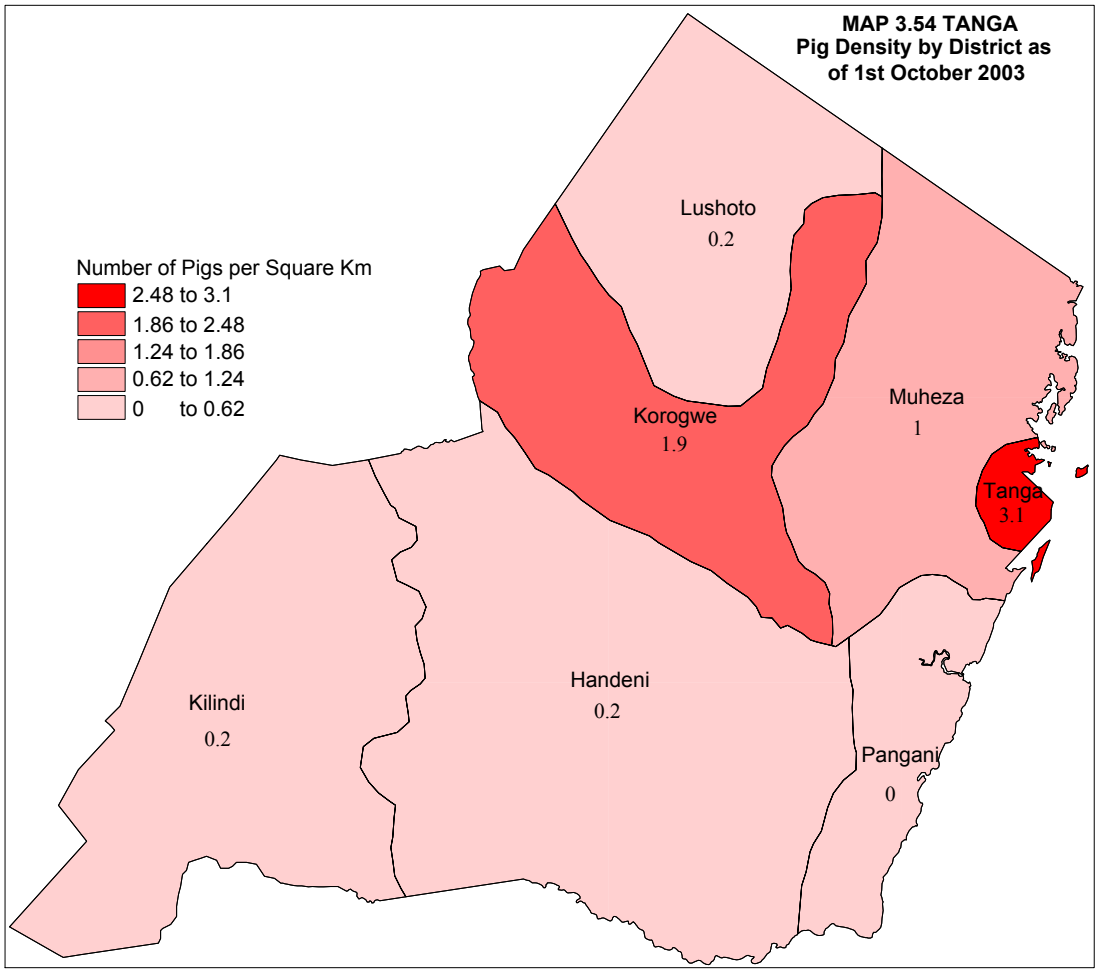



### 3.12.4.1 Pig Population Trend

The overall annual growth rate of the pig population for the eight years period from 1995 to 2003 was 24.7 percent. During this period the population grew from 1,072 to 6,281. The pig population increased from 1072 in 1995 to 2, in 1995 a higher rate of 26.2 percent. The growth rate dropped to 23.3 percent during the following four years from 1999 to 2003 in which pig population increased from 2,715 to 6,281(Chart 3.132).




MAP 3.53 TANGA
Pig Population by District as of 1st Octobers 2003
Number of Pigs
2,890 to 2,890
1,580 to 2,890
760 to 1,580
370 to 760
0 to 370
Lushoto
292
Korogwe
2,886
Muheza
1,582
Tanga
373
Handeni
759
Kilindi
389
Pangani
0

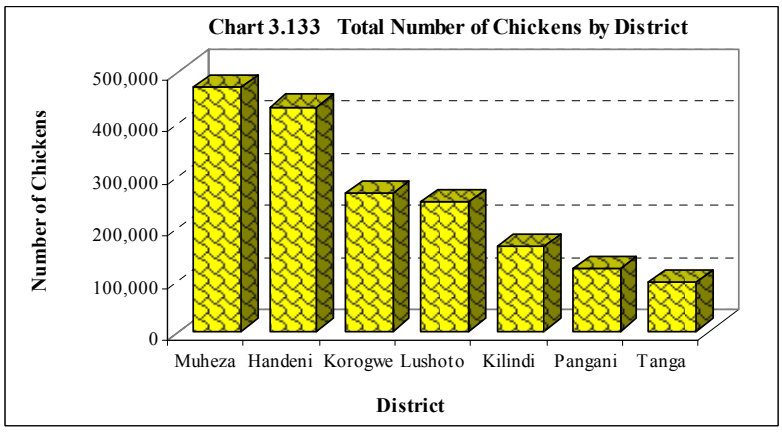

MAP 3.54 TANGA
Pig Density by District as of 1st October 2003
Number of Pigs per Square Km
2.48 to 3.1
1.86 to 2.48
1.24 to 1.86
0.62 to 1.24
0 to 0.62
Lushoto
0.2
Korogwe
1.9
Muheza
1
Tanga
3.1
Handeni
0.2
Kilindi
0.2
Pangani
0

### 3.12.5 Chicken Production

The poultry sector in Tanga region was dominated by chicken production. The region contributed 5.4 percent to the total chicken population on Tanzania Mainland.

#### 3.12.5.1 Chicken Population

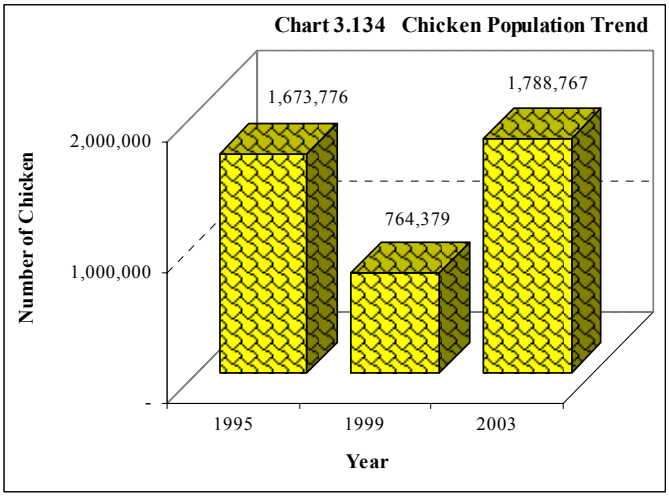
The number of households keeping chicken was 176,806 raising about 1,788,767 chickens. This gives an average of 10 chickens per chicken-rearing household. In terms of total number of chickens in the country, Tanga region was ranked eighth out of the 21 Mainland regions.




The District with largest number of chickens was Muheza (468,300 chickens, 26% of the total number of chickens in the region) followed by Handeni (430,586, 24%), Korogwe (264,547, 15%), Lushoto (247,867, 14%), Kilindi (162,907, 9%) and Pangani (121,397 chickens, 7%). Tanga district had the smallest number of chickens (93,168, 5%) (Chart 3.133 and Map 3.55). However Tanga district had the highest density (776 head per km$^2$ ) (Map 3.56).

#### 3.12.5.2 Chicken Population Trend

The overall annual chicken population growth rate during the eight-year period from 1995 to 2003 was 0.8 percent. The population decreased at a rate of -17.8 percent from 1995 to 1999 after which it increased to 23.7 percent for the four year period from 1999 to 2003 (Chart 3.134).




Ninety two percent of all chicken in Tanga region were of indigenous breed. The dominance of indigenous breed makes the population trend for the indigenous chicken more-or-less the same as that of the total chickens in the region.

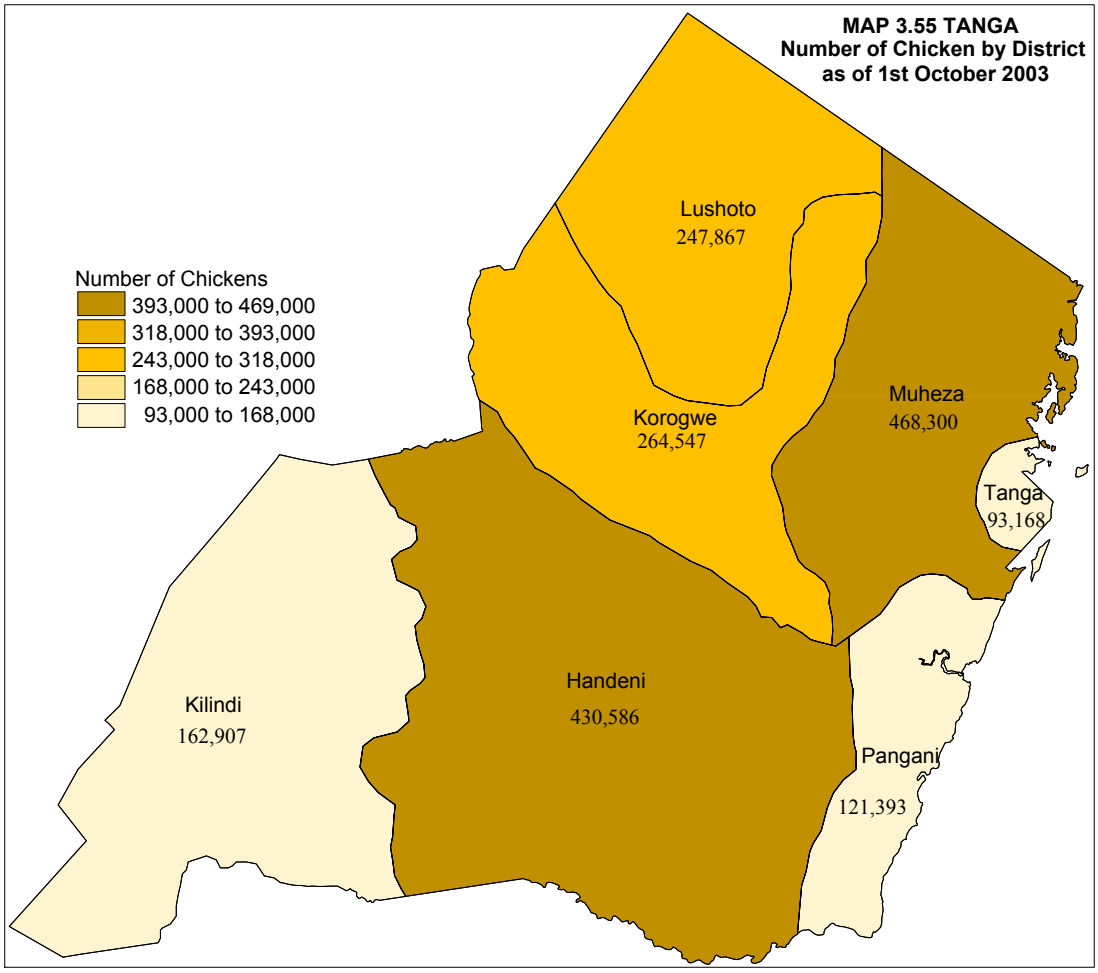
#### 3.12.5.3 Chicken Flock Size

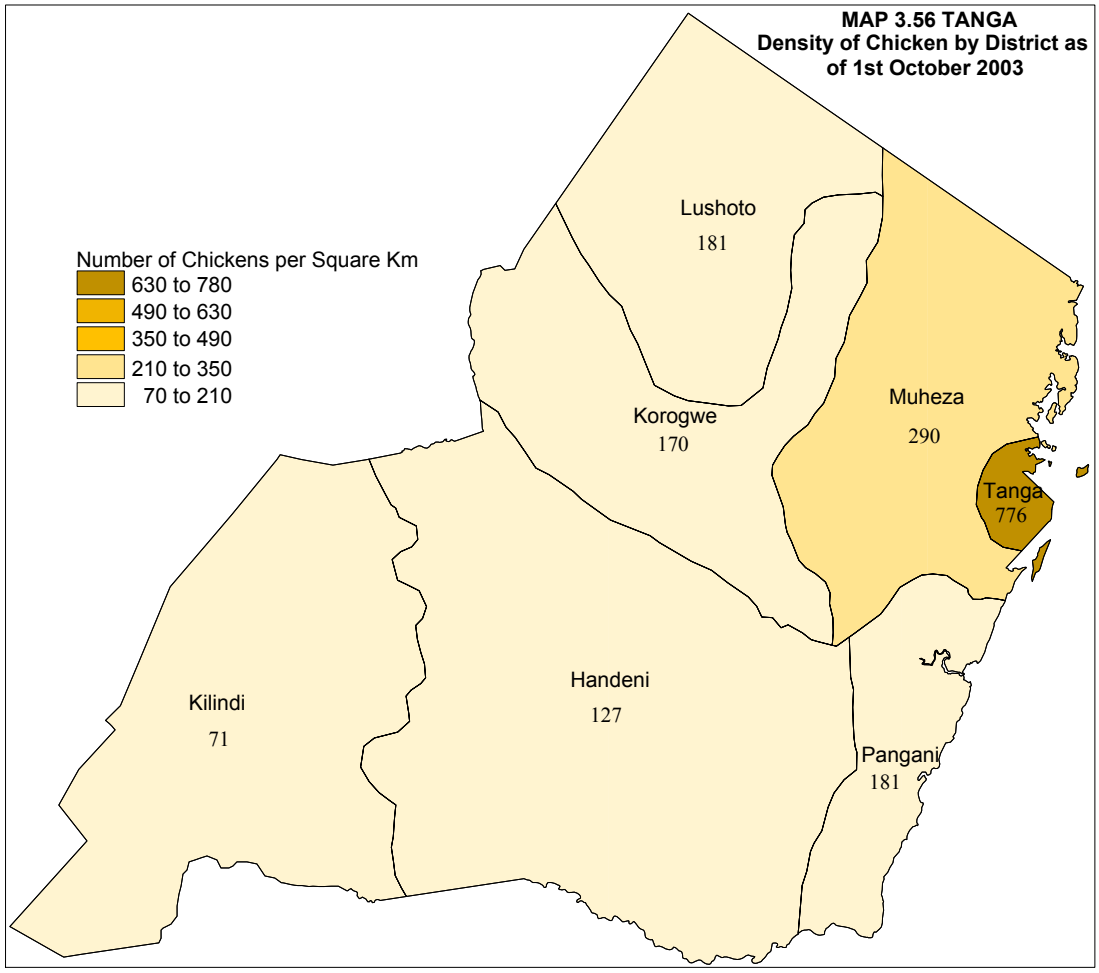
The results indicate that about 85 percent of all chicken-rearing households were keeping 1-19 chickens with an average of 6 chickens per holder. About 16 percent of holders were reported to be keeping the flock size of 20 to 99 chickens with an average of 31 chickens per holder.

Only 0.13 percent of holders kept the flock sizes of more than 100 chickens at an average of 208 chickens per holder (Table 3.14).

**Table 3.15 Number of Households and Chickens Raised by Flock Size**

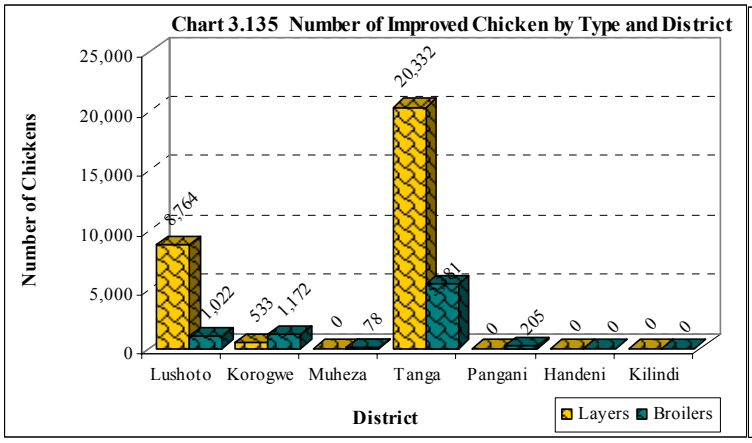
| Flock Size | Number of Households | % | Number of Chicken | Average Chicken by Households |
|---|---|---|---|---|
| 1-4 | 66,036 | 37 | 164,365 | 2 |
| 5-9 | 47,677 | 27 | 308,323 | 6 |
| 10-19 | 36,365 | 21 | 461,035 | 13 |
| 20-29 | 15,520 | 9 | 345,418 | 22 |
| 30-39 | 4,980 | 3 | 157,343 | 32 |
| 40-49 | 3,245 | 2 | 137,272 | 42 |
| 50-99 | 2,760 | 2 | 168,679 | 61 |
| 100+ | 223 | 0 | 46,333 | 208 |
| **Total** | **176,806** | **100** | **1,788,767** | **10** |

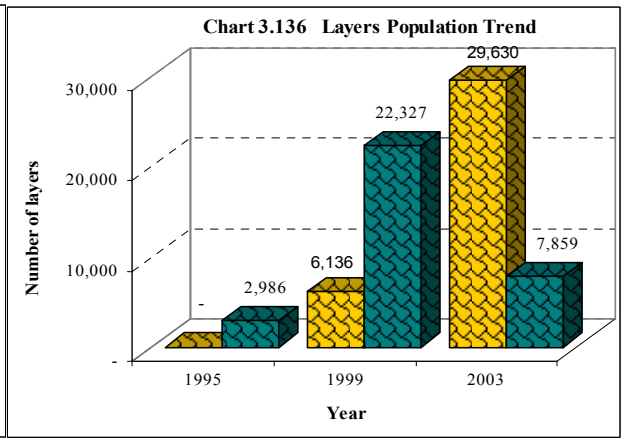

MAP 3.55 TANGA
Number of Chicken by District
as of 1st October 2003
Number of Chickens
393,000 to 469,000
318,000 to 393,000
243,000 to 318,000
168,000 to 243,000
93,000 to 168,000
Lushoto
247,867
Korogwe
264,547
Muheza
468,300
Tanga
93,168
Handeni
430,586
Kilindi
162,907
Pangani
121,393


MAP 3.56 TANGA
Density of Chicken by District as
of 1st October 2003
Number of Chickens per Square Km
630 to 780
490 to 630
350 to 490
210 to 350
70 to 210
Lushoto
181
Korogwe
170
Muheza
290
Tanga
776
Handeni
127
Kilindi
71
Pangani
181

### 3.12.5.4 Improved Chickens (layers and broilers)

Layers chicken population in Tanga Region increased at an annual rate of 48.2 percent for the period of four years from 6,136 in 1999 to 29,630 in 2003. The number of improved chicken was most significant in Tanga District followed by Lushoto District (Chart 3.135).




The overall annual growth rate for broilers during the eight-year period from 1995 to 2003 was 12.9 percent during which the population grew from 2,986 to 7,859. The annual growth rate was higher (65.4%) for the period of four years from 1995 to 1999. The broiler population exhibited a decreasing trend at the rate of -23 percent per annum for the period of four years resulting at increase from 22,327 in 1999 to 7,859 2003 (Chart 3.136).

### 3.12.6. Other Livestock

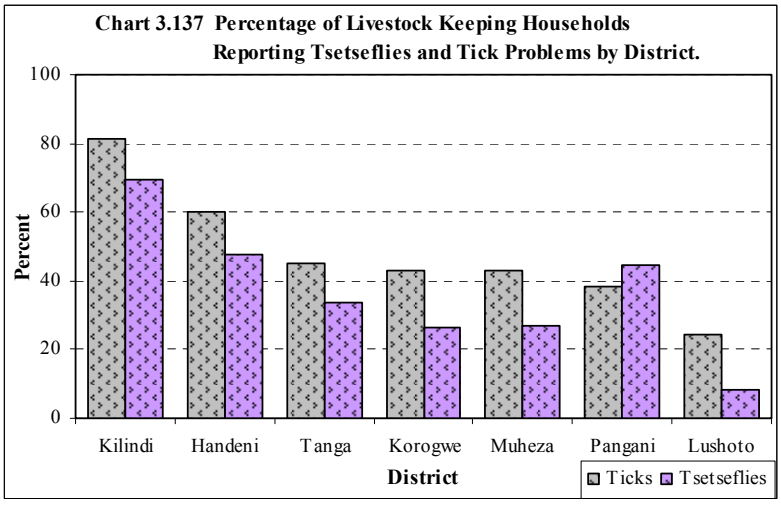
There were 117,486 ducks, 503 turkeys, 16,611 rabbits and 17,502 donkeys raised by rural agricultural households in Tanga region. Table 3-32 indicates the number of livestock kept in each district. The biggest number of ducks in the region was found in Muheza District (37% of all ducks in the region), followed by Korogwe (24%), Handeni (22%), Lushoto (7%), Tanga (5%) and Kilindi (4). Pangani district had the least number of ducks estimated at 2 percent of total ducks in the region. Turkeys were reported in Muheza and Tanga districts only (Table 3.14).

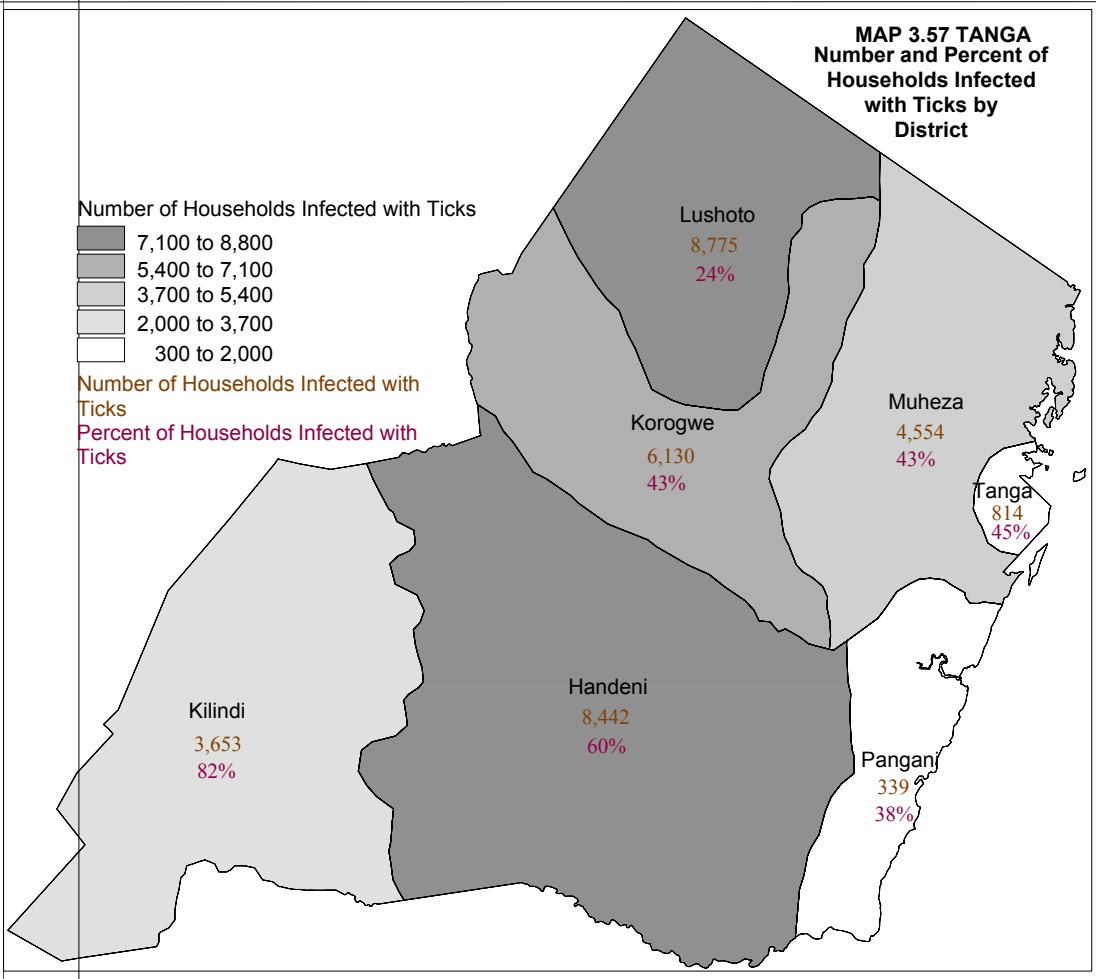
**Table 3.16 Number of Other Livestock byType of Livestock and District**

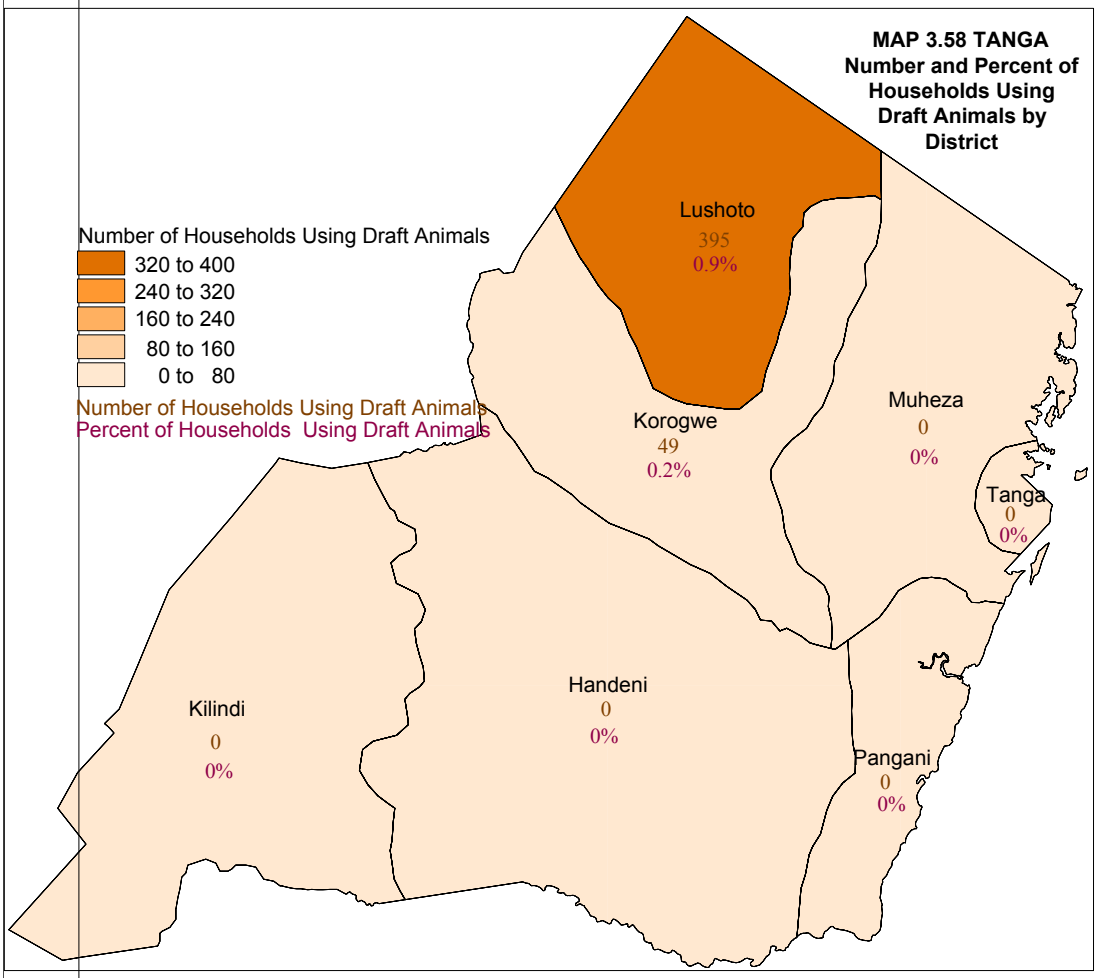
| District | Type of Livestock | | | | |
|---|---|---|---|---|---|
| | Ducks | Turkeys | Rabbits | Donkeys | Other |
| Lushoto | 7,722 | 0 | 12,558 | 8,764 | 0 |
| Korogwe | 28,561 | 0 | 2,024 | 643 | 0 |
| Muheza | 42,980 | 322 | 674 | 0 | 0 |
| Tanga | 5,556 | 182 | 416 | 25 | 239 |
| Pangani | 1,822 | 0 | 0 | 48 | 22 |
| Handeni | 25,758 | 0 | 940 | 6,082 | 530 |
| Kilindi | 5,088 | 0 | 0 | 1,940 | 773 |
| **Total** | **117,486** | **503** | **16,611** | **17,502** | **1,563** |

### 3.12.7 Pest and Parasite Incidence and Control

The results indicate that 40 percent and 25 percent of the total livestock-keeping households reported to have encountered ticks and tsetse fly problems respectively. Chart 3.137 shows that there is a predominance of tick related diseases over tsetse related diseases. Incidences of both problems were highest in Kilindi district but lowest in Lushoto district (Map 3.57).

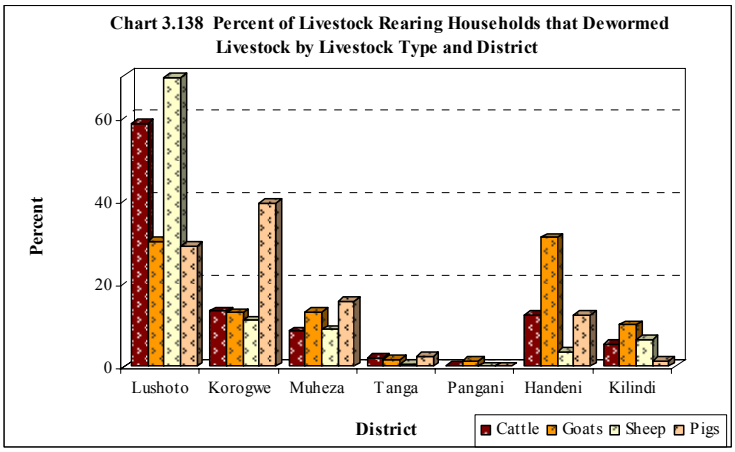



MAP 3.57 TANGA
Number and Percent of Households Infected with Ticks by District
Number of Households Infected with Ticks
7,100 to 8,800
5,400 to 7,100
3,700 to 5,400
2,000 to 3,700
300 to 2,000
Number of Households Infected with Ticks
Percent of Households Infected with Ticks
Lushoto
8,775
24%
Korogwe
6,130
43%
Muheza
4,554
43%
Tanga
814
45%
Handeni
8,442
60%
Kilindi
3,653
82%
Pangani
339
38%


MAP 3.58 TANGA
Number and Percent of Households Using Draft Animals by District
Number of Households Using Draft Animals
320 to 400
240 to 320
160 to 240
80 to 160
0 to 80
Number of Households Using Draft Animals
Percent of Households Using Draft Animals
Lushoto
395
0.9%
Korogwe
49
0.2%
Muheza
0
0%
Tanga
0
0%
Handeni
0
0%
Kilindi
0
0%
Pangani
0
0%

The most practiced method of tick controlling was spraying with 64 percent of all livestock-rearing households in the region using the method. Other methods used were dipping (9%), smearing (1%) and other traditional methods like hand picking (10%). However, 15 percent of livestock-keeping households did not use any method.

The most common method used to control tsetse flies was spraying which was practiced by 50 percent of livestock-rearing households This was followed by dipping (13%) and trapping (1%). However, 36 percent of the livestock rearing households did not use any of the three aforementioned methods.



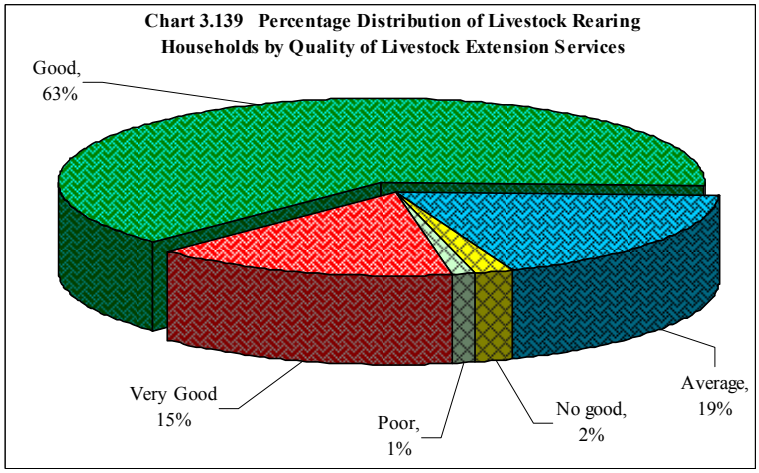

### 3.12.7.1 Deworming

Livestock rearing households that dewormed their animals were 48,587 (57% of the total livestock rearing households in the region). The percentage of the households that dewormed cattle was 38 percent, goats (32%), sheep (17%) and pigs (4%) (Chart 3.138).

## 3.12.8. Access to Livestock Services

### 3.12.8.1 Access to Livestock Extension Services

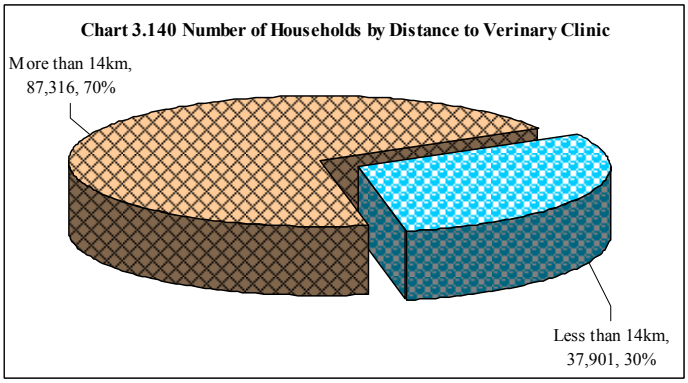
The toal number of households that received livestock advice was 53,666, representing 62 percent of the total livestock-rearing households and 20.2 percent of the agricultural households in the region. The main livestock extension agent was the government which provided service to about 98.6 percent of all households receiving livestock extension services. The rest of the households got services from NGOs/development projects (1.1%) and large-scale farmers (0.3%).

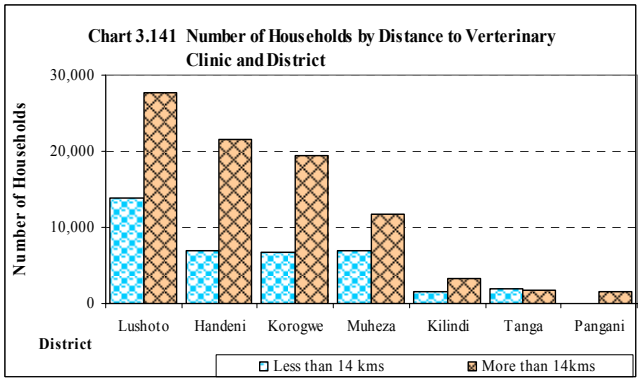



About 63 percent of livestock rearing households described the general quality of livestock extension services as being good, 19 percent said they were average and 15 percent said they were very good. However, 2 percent of the livestock rearing households said the quality was not good whilst 1 percent described them as poor (Chart 3.139).

### 3.12.8.2 Access to Veterinary Clinic

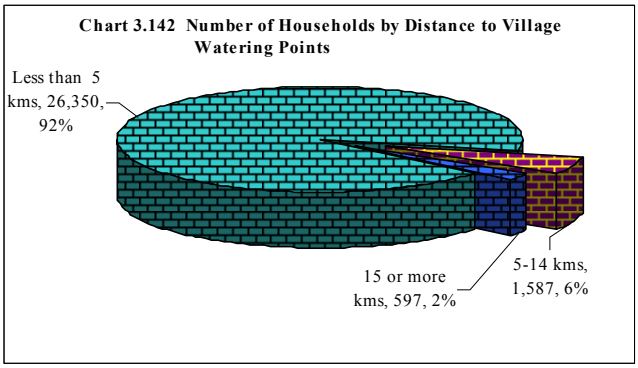
Many veterinary clinics were located very far from livestock rearing households. About 70 percent of the livestock rearing households accessed the services, at a distance of more than 14 kms. Only 30 percent of them accessed the services within 14 kms from their dwellings (Chart 3.140). The most affected district was Pangani district with almost all livestock rearing households accessing the services at a distance of more than 14 kms. Tanga District was the least affected because about 53 percent of the households could access the service within a distance of 14 kilometres. (Chart 3.141).



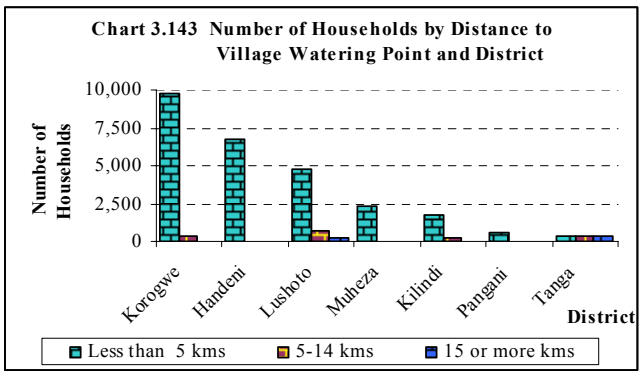




### 3.12.8.3 Access to Village Watering Points/dam

The number of livestock rearing households residing less than 5 kms from the nearest watering point was 26,350 (92% of livestock rearing households in Tanga region) whilst 1,587 households (6%) resided between 5 and 14 kms. However, 597 households (2%) had to travel a distance of 15 or more kms to f the nearest watering point (Chart 3.142).



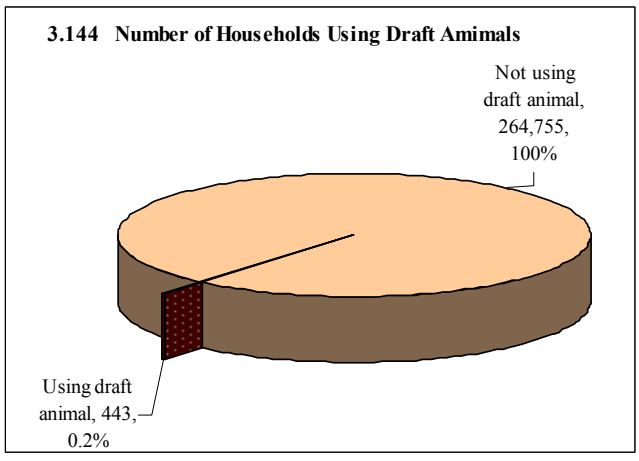

Korogwe district had the best livestock water supply with the majority of livestock rearing households residing within 5 kms from the nearest watering point. This is followed by Tanga, Handeni and Lushoto districts. In Kilindi district about 37 percent of the livestock rearing households had to travel a distance of more than five kilometers to the nearest watering point (Chart 3.143).

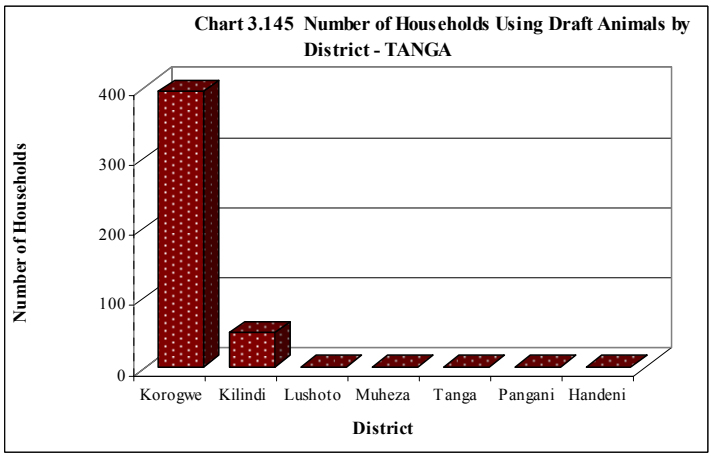



## 3.12.9. Animal Contribution to Crop Production

### 3.12.9.1 Use of Draft Power

Use of draft animals to cultivate land in Tanga region is very limited with only 443 households (0.17% of the total households in the region) using them (Chart 3.144).



The number of households that used draft animals in Korogwe was 395 representing 89 percent of the households using draft animals in the region were from Korogwe whilst in Kilindi only 49 households (11%) used draft animals. Use of draft animals was not reported in the other districts (Chart 3.145 and Map 3.58).

The region had 1,132 oxen (987 oxen in Korogwe and 146 in Kilindi) that were used to cultivate 2,653.3 hectares of land. This represents only 0.03 perce nt of the total oxen found on the Mainland. The largest area cultivated using oxen was found in Korogwe district (1,973.4 ha, 74.4% of the total area cultivated using oxen).

### 3.12.9.2 Use of Farm Yard Manure

The number of Households using organic fertilizer in Tanga region was 51,503 (20% of total crop growing households in the region) (Chart 3.146). The total area applied with organic fertiliser was 27,331 ha of which 21,954 hectares (80% of the total area applied with organic fertiliser or 9.4% of the area planted with annual crops and vegetables in Tanga region during the long rainy season) was applied with farm yard manure (Map 3.59).

**Chart 3.146 Number of Households Using Organic Fertiliser**

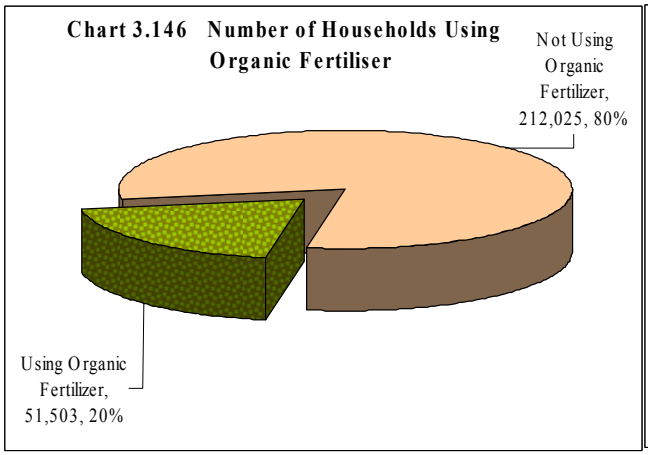
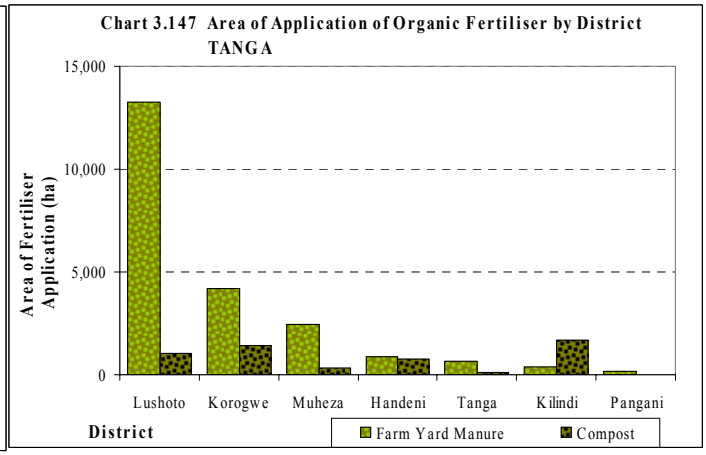



**Chart 3.147 Area of Application of Organic Fertiliser by District TANGA**



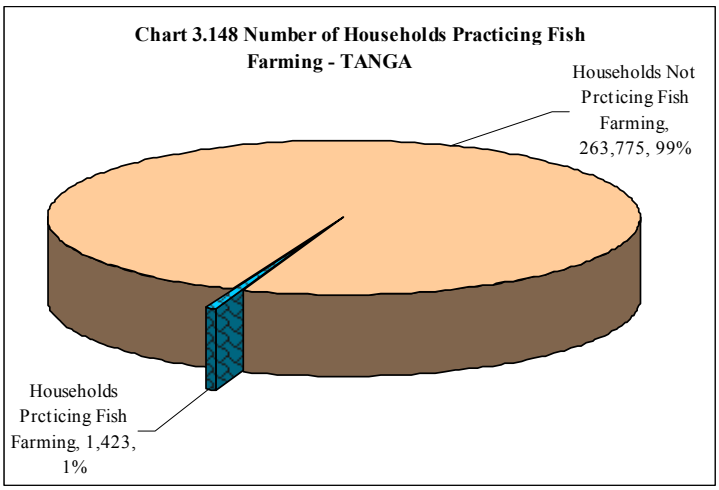

### 3.12.9.3 Use of Compost

Only 5,377 ha (20% of the area of organic fertilizer application) was applied with compost. The largest area applied with farm yard manure was found in Lushoto district with 13,238 hectares (60% of the total area applied with farm yard manure) followed by Korogwe (4,160 ha, 19%), Muheza (2,467 ha, 11%), Handeni (896 ha, 4%), Tanga (657 ha, 3%), Kilindi (389 ha, 2%) and Pangani (147 ha, 1%) (Chart 3.147 and Map 3.60).

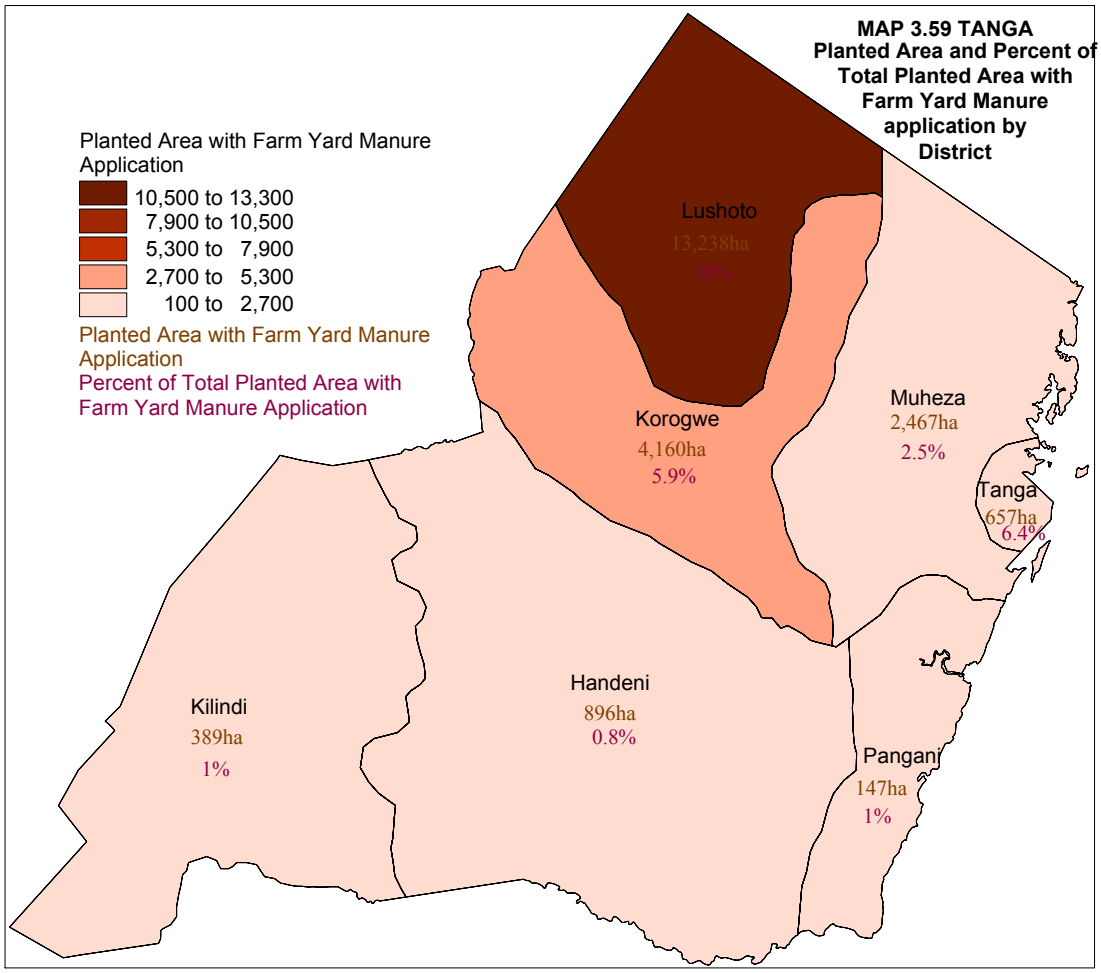
### 3.12.10 Fish Farming

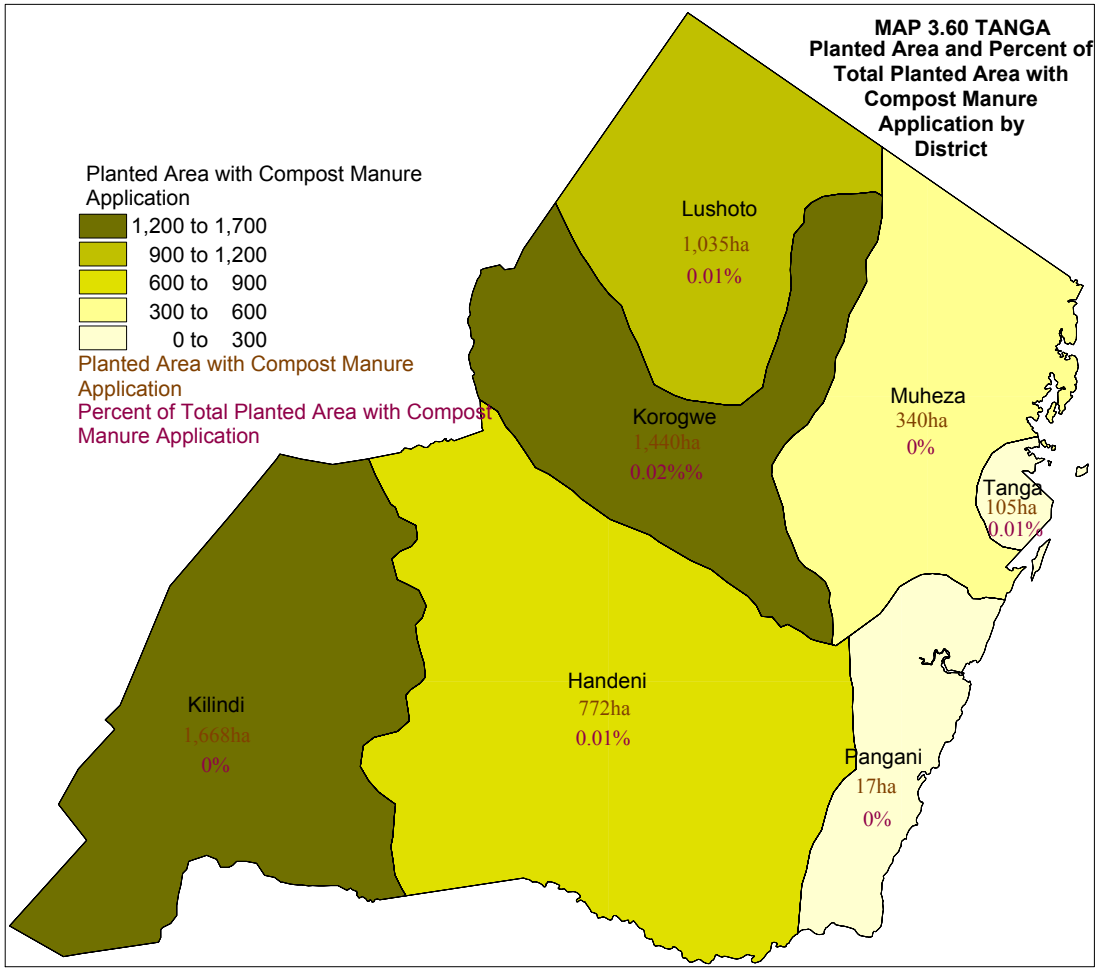
The number of households involved in fish farming in Tanga region was 1,423, representing 0.5 percent of the total agricultural households in the region (Chart 3.148 and Map 3.61).

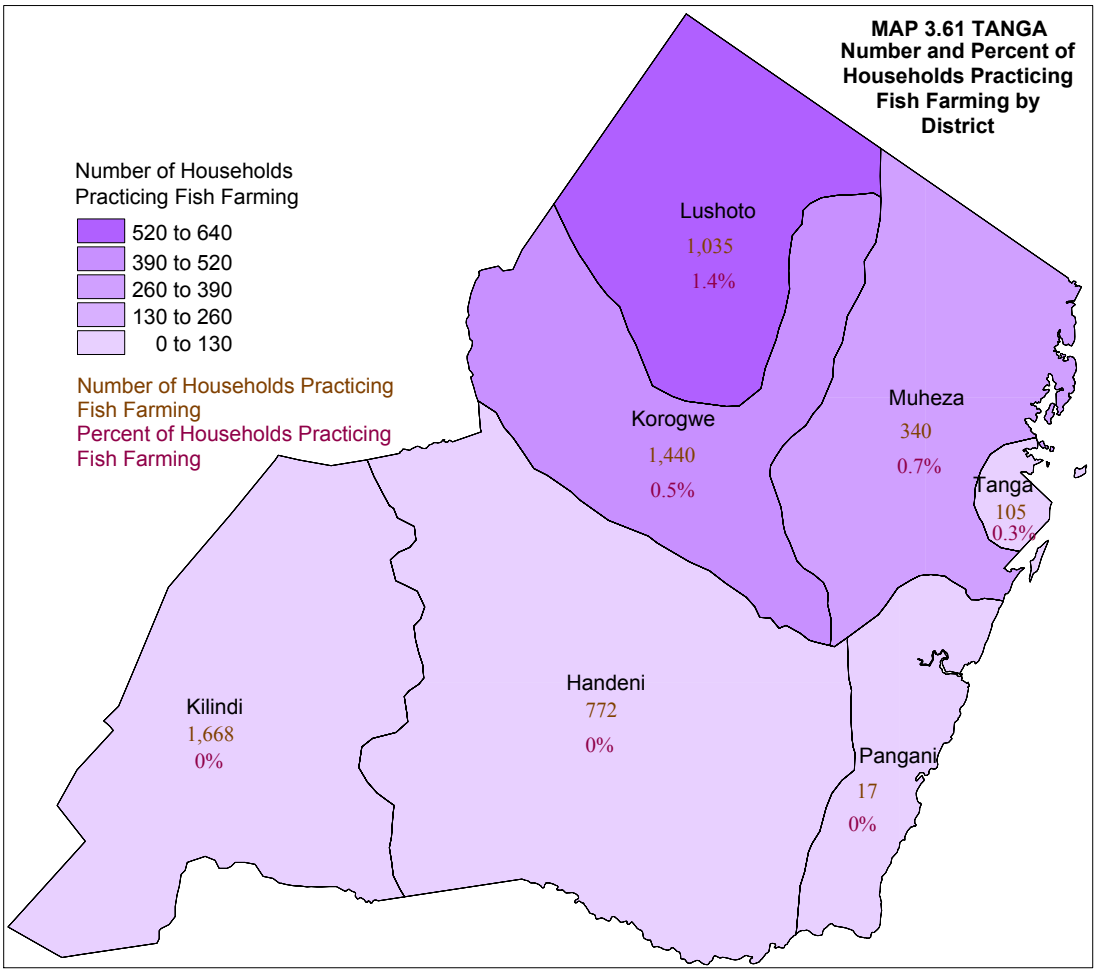
**Chart 3.148 Number of Households Practicing Fish Farming - TANGA**

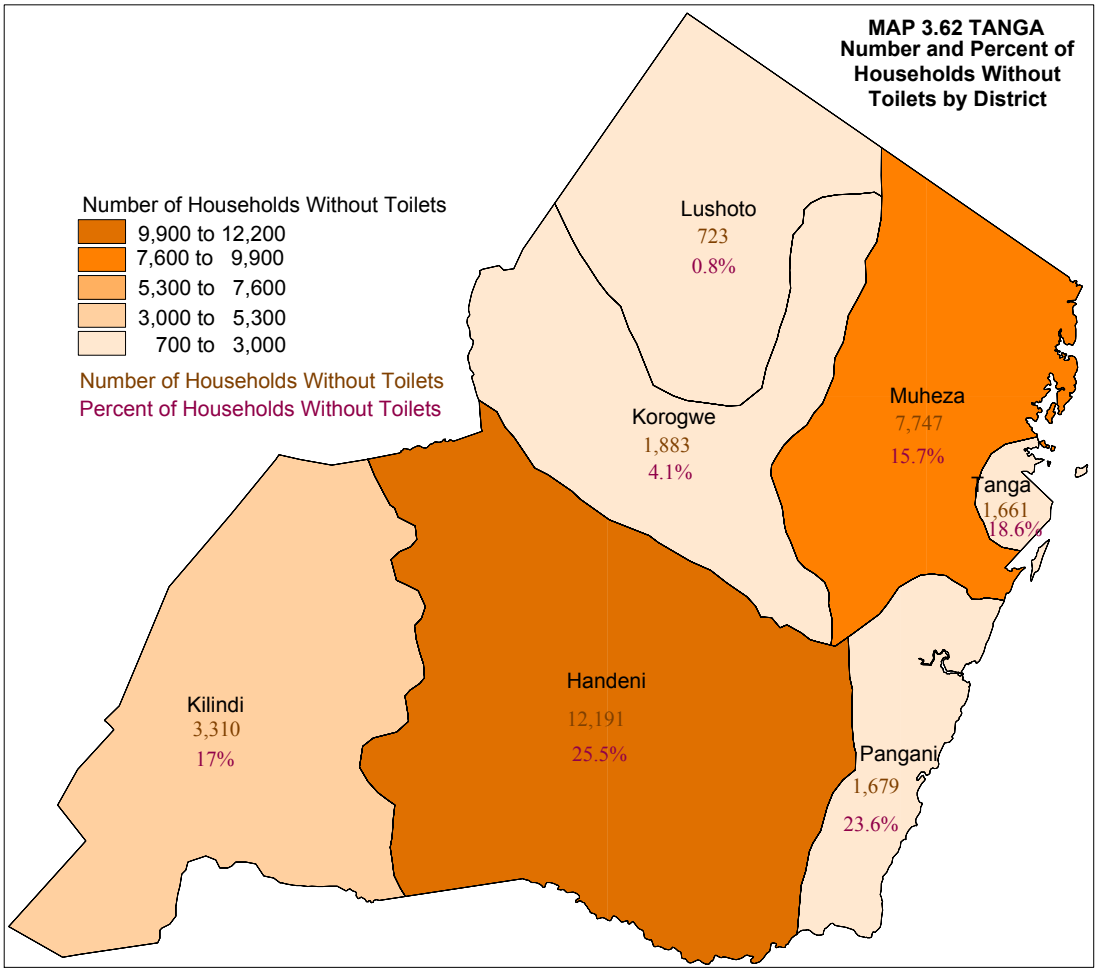



Korogwe was the leading district with 634 households (1.4% of agricultural households) involved in fish farming. This was followed by Lushoto (430 households, 0.5%), Muheza (336 households, 0.7%) and Tanga (23 households, 0.3%). Fish farming was not practiced in Pangani and Handeni districts (Chart 3.149).

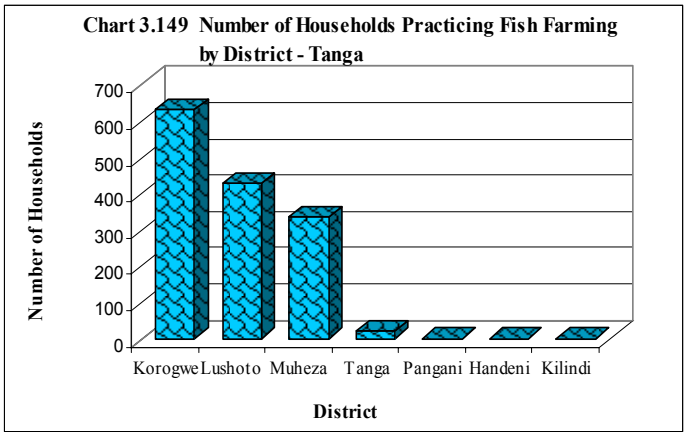

MAP 3.59 TANGA
Planted Area and Percent of Total Planted Area with Farm Yard Manure application by District
Planted Area with Farm Yard Manure Application
10,500 to 13,300
7,900 to 10,500
5,300 to 7,900
2,700 to 5,300
100 to 2,700
Planted Area with Farm Yard Manure Application
Percent of Total Planted Area with Farm Yard Manure Application
Lushoto
13,238ha
10%
Korogwe
4,160ha
5.9%
Muheza
2,467ha
2.5%
Tanga
657ha
6.4%
Handeni
896ha
0.8%
Kilindi
389ha
1%
Pangani
147ha
1%

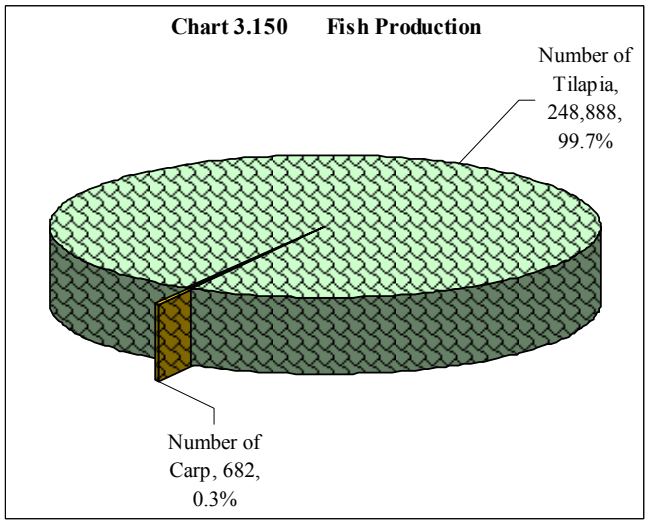

MAP 3.60 TANGA
Planted Area and Percent of Total Planted Area with Compost Manure Application by District
Planted Area with Compost Manure Application
1,200 to 1,700
900 to 1,200
600 to 900
300 to 600
0 to 300
Planted Area with Compost Manure Application
Percent of Total Planted Area with Compost Manure Application
Lushoto
1,035ha
0.01%
Korogwe
1,440ha
0.02%%
Muheza
340ha
0%
Tanga
105ha
0.01%
Handeni
772ha
0.01%
Kilindi
1,668ha
0%
Pangani
17ha
0%


MAP 3.61 TANGA
Number and Percent of Households Practicing Fish Farming by District
Number of Households Practicing Fish Farming
520 to 640
390 to 520
260 to 390
130 to 260
0 to 130
Number of Households Practicing Fish Farming
Percent of Households Practicing Fish Farming
Lushoto
1,035
1.4%
Korogwe
1,440
0.5%
Muheza
340
0.7%
Tanga
105
0.3%
Kilindi
1,668
0%
Handeni
772
0%
Pangani
17
0%


MAP 3.62 TANGA
Number and Percent of Households Without Toilets by District
Number of Households Without Toilets
9,900 to 12,200
7,600 to 9,900
5,300 to 7,600
3,000 to 5,300
700 to 3,000
Number of Households Without Toilets
Percent of Households Without Toilets
Lushoto
723
0.8%
Korogwe
1,883
4.1%
Muheza
7,747
15.7%
Tanga
1,661
18.6%
Kilindi
3,310
17%
Handeni
12,191
25.5%
Pangani
1,679
23.6%

The main source of fingerings was the non governmental organizations and/or projects which provided fingering to 55 percent of the fish farming households. About 28 percent of households practicing fish farming got fingerings from their neighbours and 11 percent got them from government institutions.




All fish farming households in the region used the dug-out-pond system and the main fish specie planted is Tilapia. The number of fish harvested in Tanga region was 249,570, of which 248,888 fish (99.7%) were tilapia and 682 (0.3%) were carp (Chart 3.150). About 75 percent of the fish farming households sold their fish while 25 percent did not sell. All fish were sold to their neighbours. ]

## 3.13. POVERTY INDICATORS

The agricultural census collected data on poverty for the purpose of providing a base for tracking progress in poverty reduction strategies undertaken by the government.

### 3.13.1 Access to Infrastructure and Other Services

The results indicate that among the evaluated services, regional capital was a service located very far from most of the household's dwellings than any other service. It was located at an average distance of 131 kilometers from the agricultural household's dwellings. Other services and their respective average distances in kilometers from the dwellings were all weather road (38), tarmac road (38), hospital (36), tertiary market (32), secondary market (28), secondary school (17), primary market (9), health clinic (6), primary school (2) and feeder road (1) (Table 3.15).

**Table 3.17: Mean Distances from Household Dwellings to Infrastructures and Services by District**

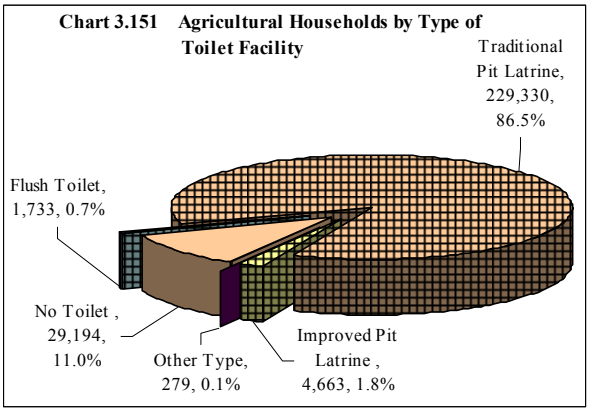
| District | Mean Distance to | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Secondary Schools | Primary Schools | All weather roads | Feeder Roads | Hospitals | Health Clinics | Regional Capital | Primary Markets | Secondary Market | Tertiary Market | Tarmac Roads |
| Lushoto | 10.9 | 2.0 | 38.1 | 2.3 | 34 | 6.0 | 167.4 | 5.7 | 20.8 | 27.8 | 38.1 |
| Korogwe | 12.6 | 1.8 | 23.1 | 0.8 | 35 | 7.0 | 115.9 | 9.6 | 20.6 | 24.3 | 23.1 |
| Muheza | 13.1 | 2.2 | 24.5 | 1.1 | 28 | 5.6 | 49.7 | 12.3 | 23.8 | 29.2 | 24.5 |
| Tanga | 15.1 | 2.9 | 12.3 | 1.2 | 17 | 7.6 | 16.6 | 26.2 | 62.8 | 18.8 | 12.3 |
| Pangani | 21.4 | 2.3 | 48.7 | 0.7 | 24 | 4.7 | 67.7 | 10.6 | 56.1 | 27.3 | 48.7 |
| Handeni | 26.9 | 2.2 | 30.7 | 0.8 | 39 | 7.6 | 134.9 | 8.4 | 43.8 | 40.4 | 30.7 |
| Kilindi | 32.2 | 3.0 | 131.1 | 2.0 | 75 | 6.2 | 276.1 | 8.1 | 27.0 | 61.3 | 131.1 |
| **Total** | **16.5** | **2.2** | **38.0** | **1.5** | **36** | **6.4** | **131.1** | **9.1** | **28.3** | **31.9** | **38.0** |

Only 3 percent of the agricultural households reported the available infrastructures and services as 'very good' whereas 29 percent reported them to be average. Twenty four percent of the agricultural households said the infrastructure and services were poor were , and 20 percent said they were 'no good'.

### 3.13.2 Type of Toilets

A large number of rural agricultural households use traditional pit latrines (229,330 households, 86.5% of all rural agricultural households) 4,663 households (1.8%) use improved pit latrine and 1,733 households (0.7%) use flush toilets. The remaining 279 household (0.1%) use other toilets facilities. However, 29,194 households (11%) in the region had no toilet facilities (Chart 3.151).

**Chart 3.151 Agricultural Households by Type of Toilet Facility**

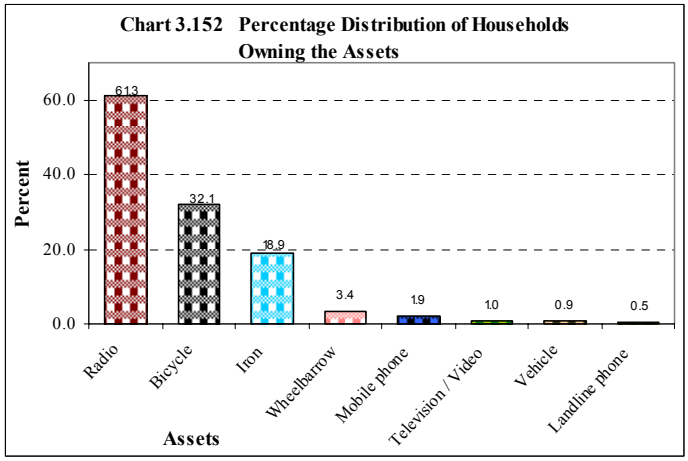



The distribution of the households without toilets within the region indicates that 41.8 percent of them were found in Handeni District and 2.5 percent were from Lushoto. The percentages of households without toilets in other districts were as follows Muheza (26.5%), Kilindi (11.3%), Korogwe (6.4%), Pangani (5.8) and Tanga (2.5%) Map 3.62).

### 3.13.3 Household's Assets

Radios are owned by most rural agricultural households in Tanga region with 162,610 households (61.3% of the agriculture households in the region) owning the asset. followed by bicycle ( 85,039 households, 32.1%), iron (50,029 households, 18.9%), wheelbarrow (8,928 households, 3.4%), mobile phone (5,112 households, 1.9%), television/video (2,714 households, 1.0%), vehicle (2,319 households, 0.9%) and landline phone (1,337 households, 0.5%) (Chart 3.152).

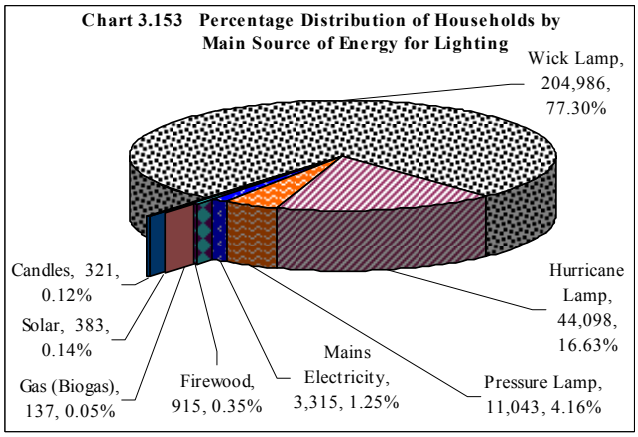
**Chart 3.152 Percentage Distribution of Households Owning the Assets**




### 3.13.4 Sources of Lighting Energy

Wick lamp is the most common source of lighting energy in the region. with 77.3 percent of the total rural households using this source of energy followed by hurricane lamp (16.6%), pressure lamp (4.2%), mains electricity (1.3%), firewood (0.3%), solar (0.1%), candle (0.1%) and gas or biogas (0.1%) (Chart 3.153).

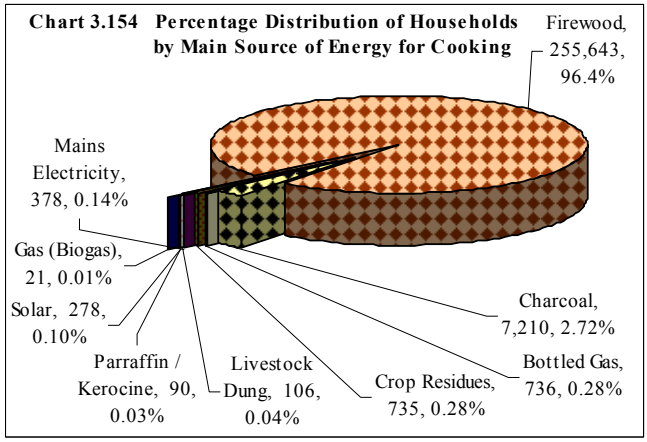
**Chart 3.153 Percentage Distribution of Households by Main Source of Energy for Lighting**

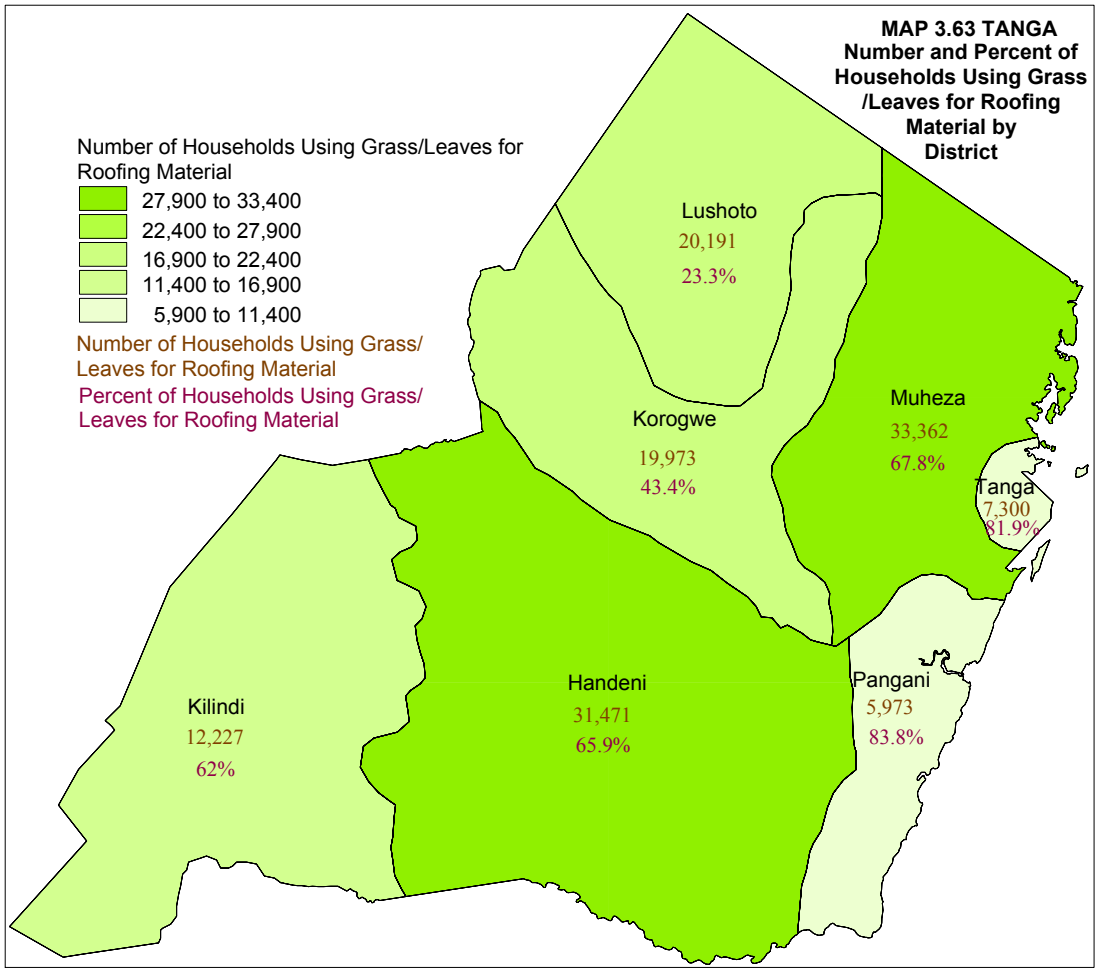


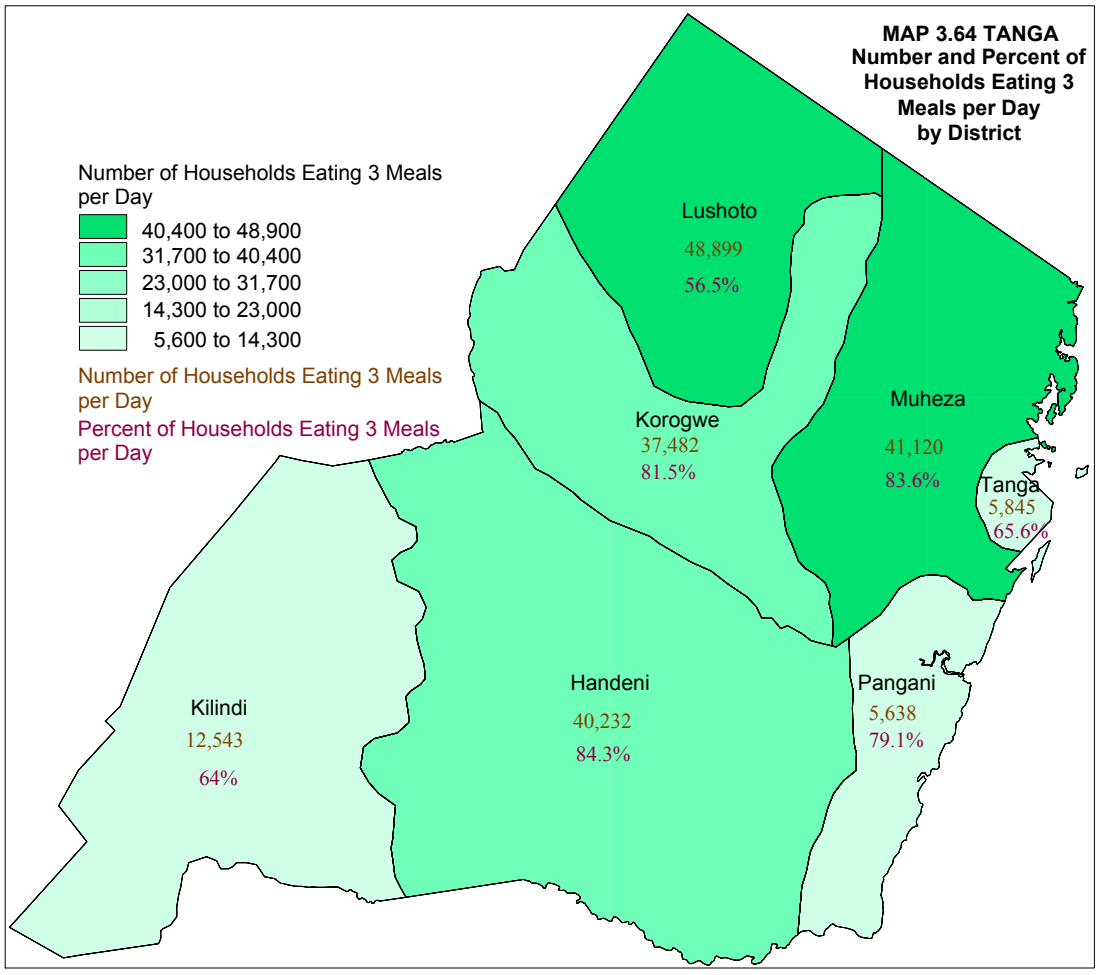

### 3.13.5 Sources of Energy for Cooking

The most prevalent source of energy for cooking was firewood, which was used by 96.4 percent of all rural agricultural households in Tanga region. This is followed by charcoal (2.72%). The rest of energy sources accounted for 0.88 percent. These were bottled gas (0.28%), crop residues (0.28%), mains electricity (0.14%), solar (0.10%), livestock dung (0.04%), parrafin/kerosene (0.03%) and gas/biogas (0.01%) (Chart 3.154)

**Chart 3.154 Percentage Distribution of Households by Main Source of Energy for Cooking**



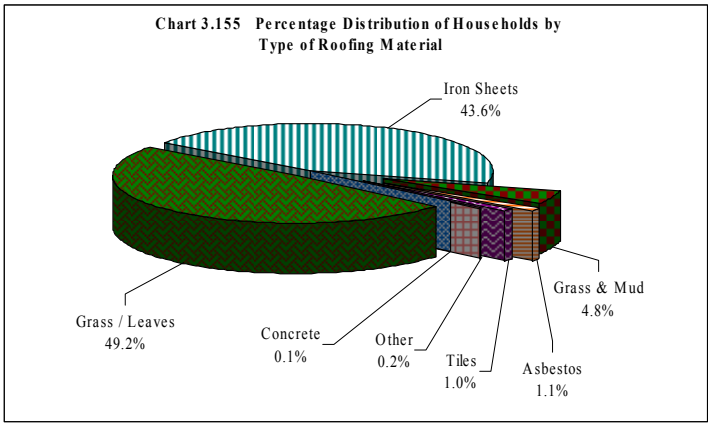

MAP 3.63 TANGA
Number and Percent of Households Using Grass /Leaves for Roofing Material by District
Number of Households Using Grass/Leaves for Roofing Material
27,900 to 33,400
22,400 to 27,900
16,900 to 22,400
11,400 to 16,900
5,900 to 11,400
Number of Households Using Grass/ Leaves for Roofing Material
Percent of Households Using Grass/ Leaves for Roofing Material
Lushoto
20,191
23.3%
Korogwe
19,973
43.4%
Muheza
33,362
67.8%
Tanga
7,300
81.9%
Kilindi
12,227
62%
Handeni
31,471
65.9%
Pangani
5,973
83.8%

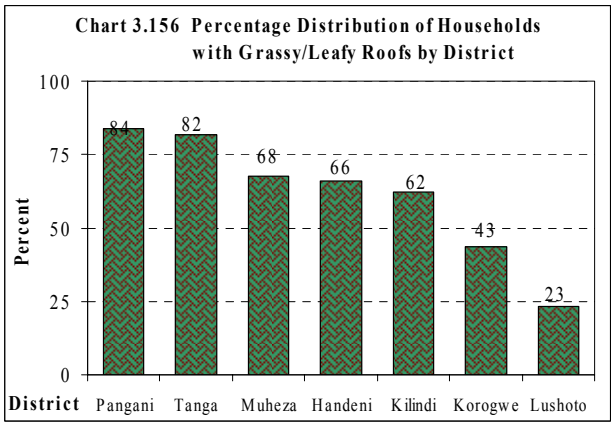

MAP 3.64 TANGA
Number and Percent of Households Eating 3 Meals per Day by District
Number of Households Eating 3 Meals per Day
40,400 to 48,900
31,700 to 40,400
23,000 to 31,700
14,300 to 23,000
5,600 to 14,300
Number of Households Eating 3 Meals per Day
Percent of Households Eating 3 Meals per Day
Lushoto
48,899
56.5%
Korogwe
37,482
81.5%
Muheza
41,120
83.6%
Tanga
5,845
65.6%
Kilindi
12,543
64%
Handeni
40,232
84.3%
Pangani
5,638
79.1%

### 3.13.6 Roofing Materials

The most common material used for roofing of the main dwelling was grass and/or leaves and it was used by 49.2 percent of the rural agricultural households. This was closely followed by iron sheets (43.6%), grass/mud (4.8%), asbestos (1.1%), tiles (1.0%), concrete (0.1%) and others (0.2%) (Chart 3.155).

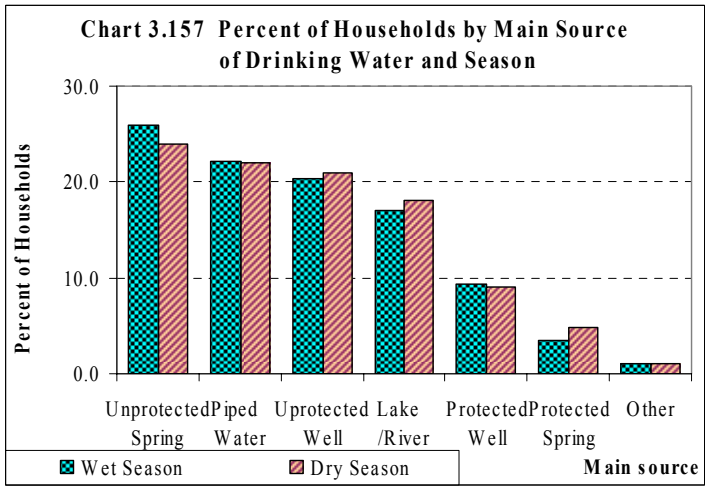
Pangani district had the highest percentage of households with grass/leaves roofing (84%) followed by Tanga district (82%), Muheza (68%), Handeni (66%), Kilindi (62%), Korogwe (43%) and Lushoto (23%) (Chart 3.156 and Map 3.63).



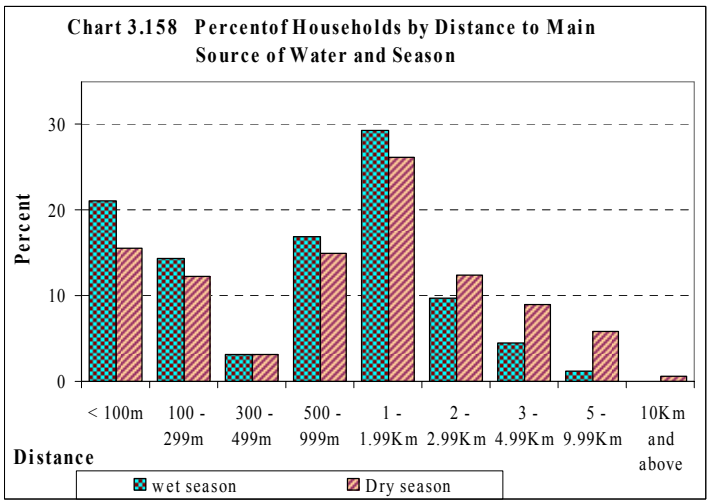




### 3.13.7 Access to Drinking Water

The main source of drinking water for rural agricultural households in Tanga region was unprotected spring (26 percent of households use unprotected wells during the wet season and 24 percent of the households during the dry seasons. This is followed by piped water (22% of households for each season), unprotected wells (20% of households during the wet season and 21% in the dry season), surface water (17% of households in the wet season and 18% during dry season) and protected wells with 9 percent of households using the source for both seasons. Covered spring was used as a main source by 3 percent of the households in the wet season and by 4 percent in the dry season Chart 3.157)




About 55 percent of the rural agricultural households in Tanga region obtained drinking water within a distance of less than one kilometer during wet season compared to 46 percent of the households during the dry season. However, 45 percent of the agricultural households obtained drinking water from a distance of one or more kilometers during wet compared to 54 percent of households in the dry season. The most common distance from the source of drinking water was between 1 and 2 km (Chart 3.158).

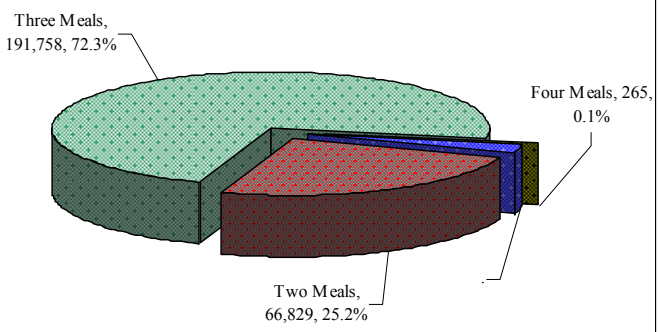


### 3.13.8 Food Consumption Pattern

#### 3.13.8.1 Number of Meals per Day

The majority of households in Tanga region normally have 3 meals per day (72.3 percent of the households in the region). This is followed by 2 meals per day (25.2 percent) and 1 meal per day (2.4 percent). Only 0.1 percent of the households have 4 meals per day (Chart 3.159).

**Chart 3.159 Number of Agricultural Households by Number of Meals per Day**




Lushoto district had the largest percent of households eating one meal per day whilst Handeni had the highest percent of households eating 3 meals per day. (Table 3.16 and Map 3.64).

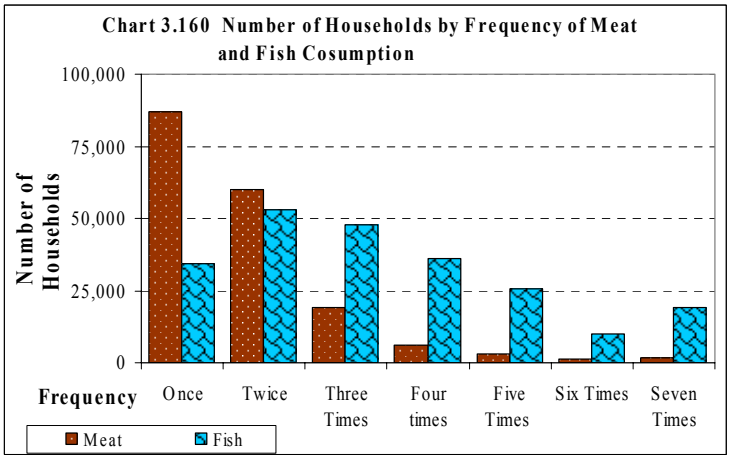
**Chart 3.18: Number of Households by Number of Meals the Household Normally Takes per Day and District**

| District | Number of meals per day | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | One | % | Two | % | Three | % | Four | % | Total |
| Lushoto | 4,337 | 5.0 | 33,209 | 38.4 | 48,899 | 56.5 | 135 | 0.2 | 86,580 |
| Korogwe | 615 | 1.3 | 7,894 | 17.2 | 37,482 | 81.5 | 0 | 0.0 | 45,990 |
| Muheza | 525 | 1.1 | 7,550 | 15.3 | 41,120 | 83.6 | 0 | 0.0 | 49,195 |
| Tanga | 133 | 1.5 | 2,926 | 32.8 | 5,845 | 65.6 | 10 | 0.1 | 8,914 |
| Pangani | 68 | 1.0 | 1,408 | 19.8 | 5,638 | 79.1 | 14 | 0.2 | 7,128 |
| Handeni | 523 | 1.1 | 6,878 | 14.4 | 40,232 | 84.3 | 106 | 0.2 | 47,739 |
| Kilindi | 146 | 0.7 | 6,964 | 35.4 | 12,543 | 63.8 | 0 | 0.0 | 19,654 |
| **Total** | **6,346** | **2.4** | **66,829** | **25.2** | **191,758** | **72.3** | **265** | **0.1** | **265,198** |

#### 3.13.8.2 Meat Consumption Frequency

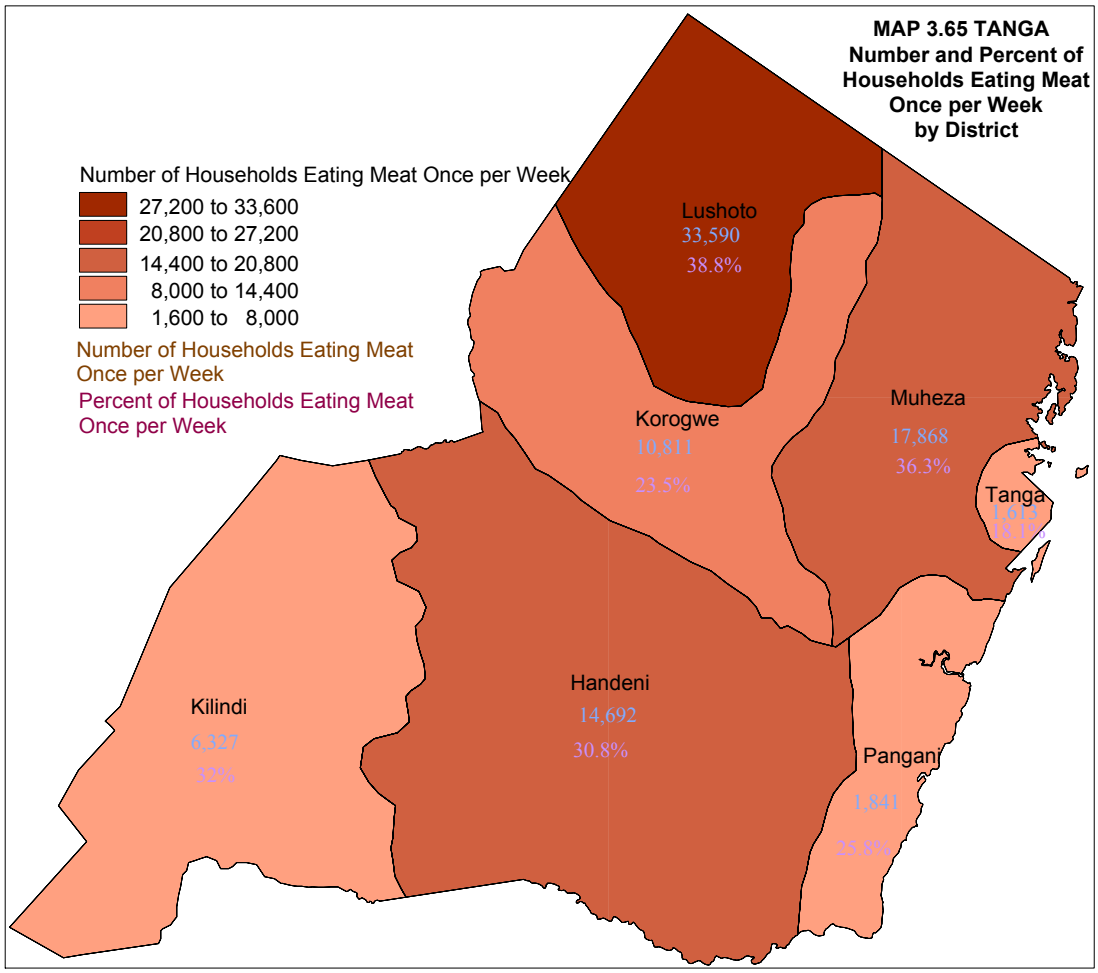
The number of agricultural households that consumed meat during the week preceding the census was 177, 887 (67% of the agricultural households in Tanga region) with 86,741 households (48.8 % of those who consumed meat) consuming meat only once during the respective week. This was followed by those who had meat twice during the week (33.4%). Very few households had meat three or more times during the respective week. About 32.9 percent of the agricultural households in Tanga region did not eat meat during the week preceding the census (Chart 3.160 and Map 3.65).

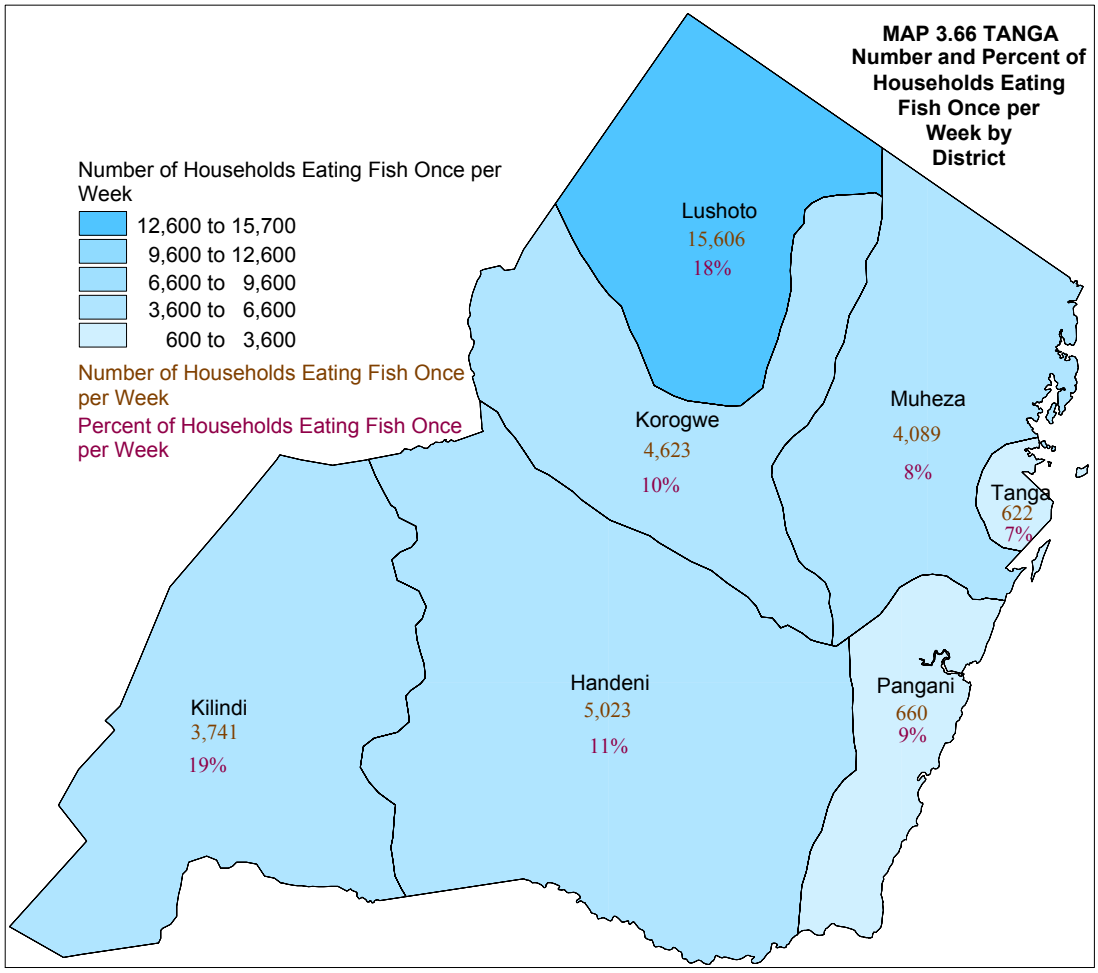
**Chart 3.160 Number of Households by Frequency of Meat and Fish Cosumption**




#### 3.13.8.3 Fish Consumption Frequencies

The number of agricultural households that consumed fish during the week preceding the census was 225, 800 (85% of the total agricultural households in Tanga region) with 52,958 households (23.5 % of those who consumed fish) consuming fish twice during the respective week. This was followed by those who had fish three times (21.1%). In general, the percentage of households that consumed fish twice or more during the week in Tanga region was 191,435 (84.8% of the agricultural households that ate fish in the region during the respective period). About 14.9 percent of the agricultural households in Tanga region did not eat fish during the week preceding the census (Chart 3.160 and Map 3.66)


MAP 3.65 TANGA
Number and Percent of Households Eating Meat Once per Week by District
Number of Households Eating Meat Once per Week
27,200 to 33,600
20,800 to 27,200
14,400 to 20,800
8,000 to 14,400
1,600 to 8,000
Number of Households Eating Meat Once per Week
Percent of Households Eating Meat Once per Week
Lushoto
33,590
38.8%
Korogwe
10,811
23.5%
Muheza
17,868
36.3%
Tanga
Handeni
14,692
30.8%
Kilindi
6,327
32%
Pangani
1,841
25.8%


MAP 3.66 TANGA
Number and Percent of Households Eating Fish Once per Week by District
Number of Households Eating Fish Once per Week
12,600 to 15,700
9,600 to 12,600
6,600 to 9,600
3,600 to 6,600
600 to 3,600
Number of Households Eating Fish Once per Week
Percent of Households Eating Fish Once per Week
Lushoto
15,606
18%
Korogwe
4,623
10%
Muheza
4,089
8%
Tanga
622
7%
Handeni
5,023
11%
Kilindi
3,741
19%
Pangani
660
9%

### 3.13.9 Food Security

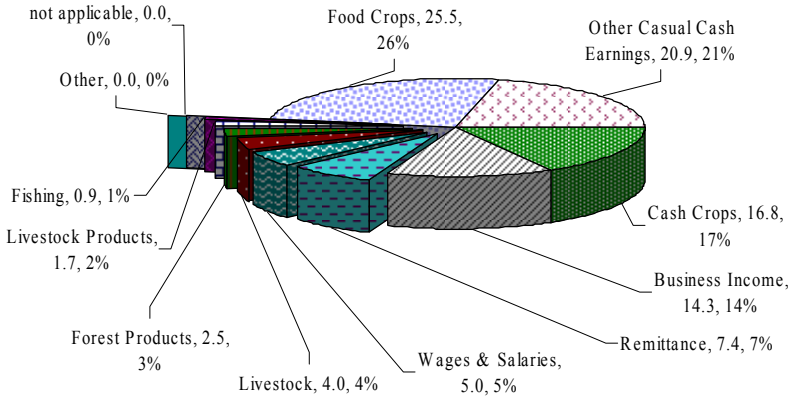
In Tanga region, 111,515 households (42% of the total agricultural households in the region) said they rarely experienced problems in satisfying the household food requirement. However 20,029 (7.6%) said they sometimes experience problems, 8.3 often experienced problems and 7.1 percent always had problems in satisfying the household food requirement. About 35 percent of the agricultural households said they did not experience any food sufficiency problems (Map 3.67).

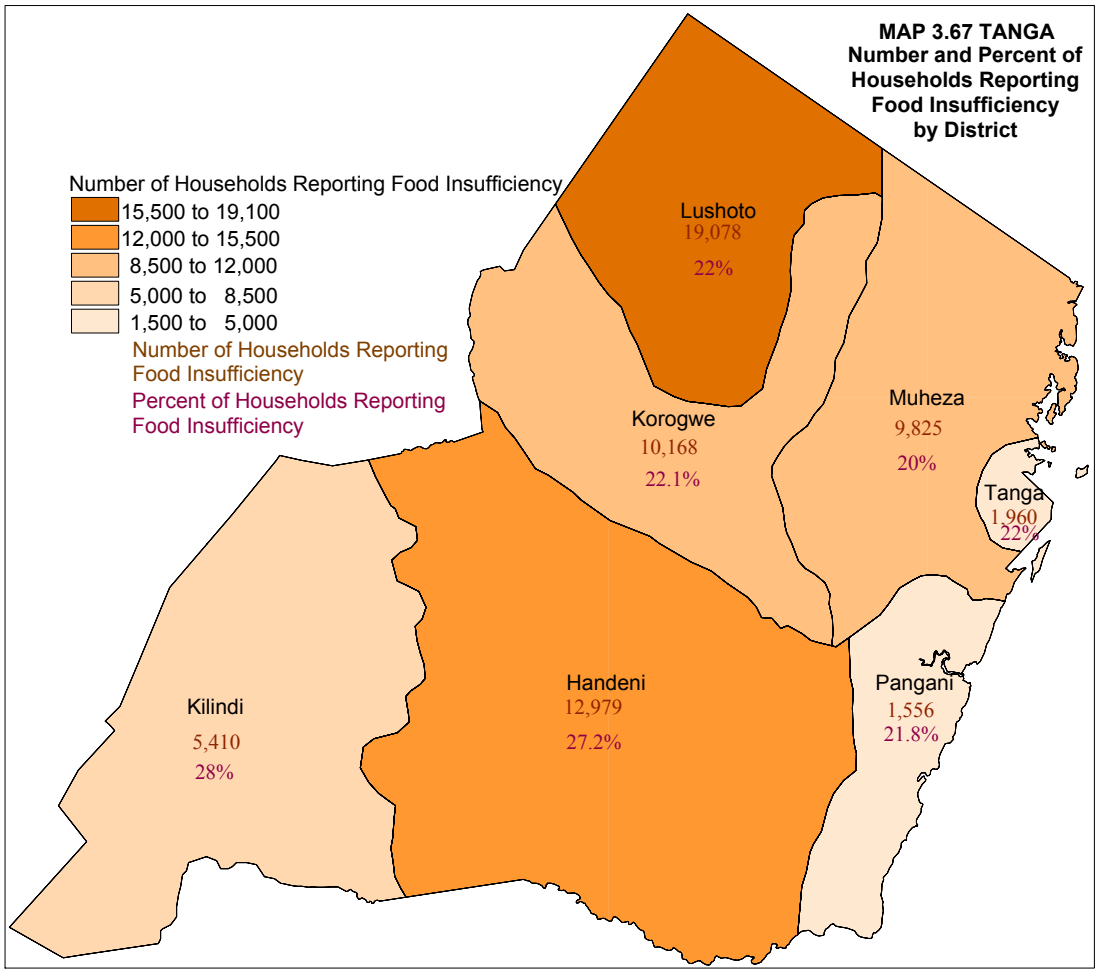
### 3.13.10 Main Sources of Cash Income

The main cash income of the households in Tanga region was from selling food crops (25.5 percent of smallholder households), followed by casual labour (20.9%), selling of cash crops (16.8%), businesses (14.3%) and cash remittances (7.4%).

Only 4% of smallholder households reported the sale of livestock as their main source of income, followed by forest products (2.5%), livestock products (1.7%) and fishing (0.9%) (Chart 3.161).

**Chart 3.161: Percentage Distribution of the Number of Households by Main Source of Income**




MAP 3.67 TANGA
Number and Percent of Households Reporting Food Insufficiency by District
Number of Households Reporting Food Insufficiency
15,500 to 19,100
12,000 to 15,500
8,500 to 12,000
5,000 to 8,500
1,500 to 5,000
Number of Households Reporting Food Insufficiency
Percent of Households Reporting Food Insufficiency
Lushoto
19,078
22%
Korogwe
10,168
22.1%
Muheza
9,825
20%
Tanga
1,960
22%
Kilindi
5,410
28%
Handeni
12,979
27.2%
Pangani
1,556
21.8%

# 4 TANGA PROFILES

This section presents the status of crops and livestock production, access to natural resources and services, demography and poverty for both the region as a whole and for each district.

## 4.1 Tanga Region Profile

The region profile describes the status of the Agriculture sector in the region and compares it with other regions in the country.

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.

Tanga has a low livestock population compared to other regions. It has a similar number of cattle and goats as Kilimanjaro; however it has a moderate to low density. Most of the cattle kept are indigenous, however there are more dairy cattle kept than in most other regions. Milk production is moderate and the farm gate price of milk is average. Goat numbers are moderate to low and there is a small population of sheep and pigs.

Tanga has a moderate to high population of chickens, almost entirely made up of indigenous types. Egg production is moderate to low compared to other regions. The use of organic fertilizer is comparatively low and draft animals are not used for cultivation.

The disease infection rate is moderate to high for most diseases. Access to livestock infrastructure and services is between average and poor. In relation to livestock population Tanga receives disproportionately more extension advice compared to other regions with much higher livestock populations. Tanga has moderate number of fish farmers.

### 4.2 District Profile

The following district profiles highlights the characteristics of each district and compares them in relation to Population, Main crops and livestock, production and productivity, access to services and resources and levels of poverty.

#### 4.2.1 Lushoto

Lushoto district has the largest number of households in the region and it has one of the highest percent of households involved in smallholder agriculture in the region. Most smallholders are involved in crop farming only, followed by crop and livestock farming. It has a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Lushoto district is Annual Crop Farming, followed by Off farm Income and Permanent crop farming. However, the district has the highest percent of households with no off-farm activities and the lowest percent of households with more than one member with off-farm income. Compared to other districts in the region, Lushoto has a relatively high percent of female headed households (26%) and it has one of the lowest average age of the household head. With an average household size of 4.7 members per household it is average for the region. Lushoto has a comparatively high literacy rate among smallholder households and this is reflected by the concomitant relatively high level of school attendance in the region.. The literacy rate for the heads of household is also slightly higher than most of districts in the region.

It has the smallest utilized land area per household (1.1ha) and the allocated area is fully utilised indicating a high level of land pressure. The total planted area is greater than in other districts in the region due to the presence of good wet and dry seasons, however it has the second lowest planted area per household (1.5ha) attributed to the high number of smallholders in the district.

The district is moderately important for maize production in the region with a planted area of over 51,000ha, however the planted area per household is the lowest in the region. Paddy production is not important with a planted area of only 900 hectares and the production of sorghum is very small. Lushoto is the only district in the region that produces wheat (200ha). Cassava production is moderate accounting for 21 percent of the quantity harvested in the region. The district has a large planted area of Irish potatoes (15,000 ha) and it is the only district in the region that grows this crop. The production of beans in Lushoto is much higher than in other districts in the region with a planted area of 25,000ha. Oilseed crops are not important in Lushoto and no groundnuts were grown in the district. Vegetable production is important in the district. It has the largest planted area with tomatoes, cabbage and chilies (1,600 ha, 750 ha and 450 ha respectively) than other districts in

the region and accounts for 65 percent of the tomato production, 89 percent of the cabbage production and 60 percent of the chilly production in the region. Traditional cash crops (e.g. tobacco and cotton) are grown in very small quantities.

Compared to other districts in the region, Lushoto has a moderate planted area with permanent crops.which is dominated by coffee (2,000 ha), tea (1,000 ha) and bananas (1,000 ha). Other permanent crops are either not grown or are grown in very small quantities.

As with other districts in the region, most land clearing and preparation is done by hand, however very slightly more land preparation is done by oxen compared to most other districts.

The use of inputs in the region is very small, however district differences exist. Lushoto has the largest planted area with improved seed in Tanga region and this is due to the higher planted area of vegetables. The district has the largest planted area with fertilizers (Farm yard manure, compost and inorganic fertiliser), however most of this is farm yard manure. Compared to other districts in the region, Lushoto district has a moderate level of insecticide use. The use of fungicides, although small, was moderate to high compared to other districts. Virtually no herbicide was used. It has the largest area with irrigation compared to other districts with 13,500 ha of irrigated land. The most common source of water for irrigation is from rivers using gravity. Flood and bucket are the most common means of irrigation water application and a very small amount of sprinkler irrigation is used.

The most common method of crop storage is in locally made traditional cribs, however the proportion of households not storing crops in the district is lower than other districts in the region. The district has the largest number of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. The highest percent of households processing crops in Tanga region is found in Lushoto district and is almost all done by hand. The district also has a higher percent of households selling processed crops to local markets/trade stores than other districts and no sales are to traders on farm. Although very small, access to credit in the district is to women only and the main sources are religious organisations/NGO projects and family friends and relatives.

A comparatively larger number of households receive extension services in Lushoto and all of this is from the government. The quality of extension services was rated between good and average by the majority of the households.

Tree farming is important in Lushoto (with 600,000 planted trees) and is mostly Gravellis with some Cyprus and eucalyptus. The highest proportion of households with erosion control and water harvesting structures is found in Lushoto district and is mostly terraces, however it also has the highest number of vetiver grass strips, water harvesting bunds and tree belts than other districts.

The district has the second largest number of cattle in the region and they are almost all indigenous. Goat production is moderate compared to other districts, however it has the largest population of sheep in the region. It has the smallest number of pigs in the region and a moderate number of chickens. Although small, the district has the second highest number of layers in the region. Small numbers of ducks, rabbits and donkeys are also found in the district. The smallest number of households reporting Tsetse and tick problems was in Lushoto district and it had the largest number of households de-worming livestock. The use of draft animals in the district is very small, A small number of households practice fish farming, however the district has the second largest number in the region.

It has amongst the best access to secondary schools, primary schools, health clinics and primary and secondary markets compared to other districts. However, it has one of the worst access to all weather roads and regional capital.

Lushoto district has the second highest percent of households with no toilet facilities and it has the lowest percent of households owning bicycles, vehicles and tv/video and mobile phones. It has the second lowest number of households using mains electricity in the region. The most common source of energy for lighting is the wick lamp and practically all households use firewood for cooking. The district has the smallest percent of households with grass roofs with 70 percent of households having iron sheets. The most common source of drinking water is from unprotected springs. It has the highest percent of households having two or one meal per day compared to other districts and the lowest percent with 3 meals per day. The district had the highest percent of households that did not eat meat or fish during the week prior to enumeration, however most households seldom had problems with food satisfaction.

### 4.2.2 Korogwe

Korogwe district has the fourth largest number of households in the region and it has a high percentage of households involved in smallholder agriculture. Most smallholders are involved in crop farming only, followed by crop and livestock farming. It has a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Korogwe district is Annual Crop Farming, followed by Off farm Income. The district has the fourth highest percent of households with no off-farm activities although it has the third highest percent of households with more than one member with off-farm income. Compared to other districts in the region, Korogwe has a relatively high percent of female headed households (25%) and it has one of the highest average age of the household head in the region. With a household size of 5 members per household it is average for the region. Korogwe has a comparatively high literacy rate among smallholder households and this is reflected by the district having the highest level of school attendance in the region.

It has a moderate utilized land area per household (1.6ha) and 89 percent of the allocated area is currently being utilised. The district has the fourth largest planted area in the region, and the third largest planted area per household (1.8ha in the long rainy season and 1.1ha in the short rainy season).

The district is moderately important for maize production in the region with a planted area of over 46,369 ha, and the planted area per maize growing household is also moderate for the region. The district has the largest planted area of paddy in the region with 2,659 hectares. Sorghum is not grown in the district. Cassava production is moderate to low, accounting for 13 percent of the quantity harvested in the region. The district has a very small planted area of Irish potatoes (90 ha). The production of beans in Korogwe, district is moderate to low with a planted area of 5,979ha. Korogwe district has the second largest groundnut planted area in Tanga region with a planted area per groundnut growing household of 0.34 ha. Vegetable production is moderately important in the district. Although small, it has the second largest planted area with tomatoes, cabbage and chilies (456 ha, 35 ha and 237 ha respectively)Traditional cash crops (e.g. tobacco and cotton) are grown in very small quantities.

Compared to other districts in the region, Korogwe has the second largest planted area with permanent crops which is dominated by bananas (2,069 ha), coconuts (1,682 ha), Mango (1,487 ha) and Cardamon (1,232 ha). Cashewnuts, coffee, tea, sugarcane, oranges and jack fruit are also grown in smaller quantities.

As with other districts in the region, most land clearing is done by hand slashing, however there is a substantial area with no land clearing indicating bare ground before planting. Practically all Land preparation is done by hand, however a very small amount of land preparation is done by tractor.

The use of inputs in the region is very small, however district differences exist. Korogwe has the second largest planted area with improved seed in the region as well as the highest proportion of households using improved seeds. Though small, the district has the second highest planted area with fertilizers (Farm yard manure, compost and inorganic fertiliser), and most of this is with farm yard manure. Compared to other districts in the region, Korogwe district has a moderate level of insecticide use. The use of fungicides and herbicides is low. It has the second largest area with irrigation compared to other districts with 6,600 ha of irrigated land. The most common source of water for irrigation is from rivers using gravity methods. Flood is the most common means of irrigation water application followed by bucket/watering can and a very small amount of sprinkler irrigation is used.

The most common method of crop storage in Korogwe district is in locally made traditional cribs, however the proportion of households not storing crops is average for the region. Korogwe has moderate number of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. Korogwe is among the districts with the lowest percent of households processing crops in Tanga region and is almost all done by neighbours machine. The district also has the second highest percent of households selling processed crops to marketing cooperatives than other districts and no sales are to farmers associations or large scale farms. Access to credit in the district is extremely small.

A comparatively larger number of households receive extension services in Korogwe district and all of this is from the government. The quality of extension services was rated between good and average by the majority of the households.

Tree farming is important in Korogwe (with 207,720 planted trees) and is mostly Gravellis and Eucalyptus. The second highest proportion of households with erosion control and water harvesting structures is found in Korogwe district and is mostly erosion control bunds and vertiver grass, however it also has the a number of tree belts and drainage ditches.

The district has the third largest number of cattle in the region and they are almost all indigenous. Goat production is moderate compared to other districts, however it has the second largest population of sheep in the region. It has the largest number of pigs in the region and a moderate number of chickens. Some ducks, rabbits and donkeys are also found in the district. A number of households reported tsetse and tick problems and it has the second largest number of households de-worming livestock. A small number of households use draft animals, however it is the highest in the region. A small number of households practice fish farming, however the district has the largest number in the region.

It has amongst the best access to secondary schools, primary schools, health clinics and primary and secondary markets compared to other districts. However, it has one of the worst access to regional capital.

The percentage of households without toilet facility in Korogwe district is comparatively low. It is amongst the districts with the lowest percent of households owning wheel barrows, vehicles, bicycles, tv/video and mobile phones. It has the third largest number of households using mains electricity in the region. The most common source of energy for lighting is the wick lamp and practically all households use firewood for cooking. The roofing material for most of the households in the district is grass/leaves (43%), however it has a high percent of households with iron sheet roofing (42%) compared to most other districts. The most common source of drinking water is from unprotected springs. It is one of the districts with the highest percent of households having three meals per day. The district had one of the lowest percent of households that did not eat meat or fish during the week prior to enumeration and most households seldom had problems with food satisfaction.

### 4.2.3 Muheza

Muheza district has the second largest number of households in the region and it has one of the highest percent of households involved in smallholder agriculture in the region. Most smallholders are involved in crop farming only, followed by crop and livestock farming. It has a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Muheza district is Annual Crop Farming, followed by Permanent Crop Farming. However, the district has the second highest percent of households with no off-farm activities and the second lowest percent of households with more than one member with off-farm income. Compared to other districts in the region, Muheza has a relatively high percent of female headed households (26%) and it has one of the highest average age of the household head in the region. With an average household size of 4.7 members per household it is slightly below average for the region. Muheza has a comparatively high literacy rate among smallholder households and this is reflected by the concomitant relatively high level of school attendance in the region.

The land area utilized per household (1.8ha) is around average for the region and 89 percent of the allocated area is currently being utilized which is moderate to high for the region. The district has the third largest planted area in the region and the forth largest planted area per household (0.92ha in the long rainy season and 0.84ha in the short rainy season). The planted area in the long rainy season is almost the same as that of the short rainy season.

The district is moderately important for maize production in the region with a planted area of over 50,778 ha and the planted area per household is 0.7 ha which average for the region is. Paddy production is not important with a planted area of only 1,644 hectares; however it is the second highest in the region. Sorghum, Irish potatoes and wheat are not produced in the district. The district has the largest planted area of cassava accounting for 38 percent of the cassava planted area in the region. The production of beans in Muheza is much lower than in other districts in the region with a planted area of 875ha. Oilseed crops are important in Muheza with 50 percent of the groundnuts grown in the district. Vegetable production is not important and very small quantities of tobacco are grown in the district.

Permanent crops are very important in Muheza district (45% of the total permanent crop planted area in Tanga region) and are more important than any other district in the region. The most prominent permanent crops in the district include coconuts (9,380 ha), cashew nuts (4,600 ha) bananas (2,281 ha) and cardamom (1,466 ha). It is the only district that produces black pepper (1,521 ha) and it has the highest area with oranges in the region (6,433 ha). Other permanent crops are either not grown or are grown in very small quantities.

As with other districts in the region, most land clearing is done by hand slashing, however it has the largest area cleared by burning and a relatively small area of bare ground before planting. Practically all Land preparation is done by hand, however a very small amount of land preparation is done by oxen and tractor.

The use of inputs in the region is very small, however district differences exist. Muheza has the smallest planted area with improved seed in Tanga region and this is due to the dominance of permanent crops which do not need frequent planting. The district also has a small planted area with fertilizers (Farm yard manure, compost and inorganic fertiliser), and practically all is with farm yard manure. Compared to other districts in the region, Muheza district has the smallest area of insecticide and fungicide use and the use of herbicides is relatively small. It has the second largest area with irrigation in the region with 21,896ha of irrigated land. The most common source of water for irrigation is from wells and rivers and almost all water application is by using hand bucket.

The most common method of crop storage is in Muheza is locally made traditional cribs, and the proportion of households not storing crops in the district is moderate to low for the region. The district has the highest percent of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. Muheza district has a high percent of households processing crops in the region and is almost all done by hand; however, the district has the highest percent of households processing crops by trader. Small quantities of processed crops are sold and very few households have access to credit.

A moderate number of households receive extension services in Muheza district and almost all of this is from the government. The quality of extension services was rated between good and average by the majority of the households.

Tree farming is important in Muheza district (with 403,112 planted trees) and is mostly Tectona Grandis with some Gravellis and Sienna Spp. The second highest proportion of households with water harvesting bunds is found in Muheza district and it also has the third highest number of erosion control bunds.

The district has a moderate number of cattle in the region and they are almost all indigenous. Goat and sheep production is moderate compared to other districts. It has the second largest number of pigs in the region and the largest number of chickens, all of which are indigenous. Virtually no improved chicken are found in the district. The district has the largest number of ducks, and a small number of rabbits and turkeys are found in the district. A small number of households reported tsetse and tick problems in Muheza district. A small amount of de-worming of livestock is practiced in the district No draft animals are used. Fish farming is practiced by a small number of households; however the district has the third largest number in the region.

It has amongst the best access to secondary schools, primary schools, health clinics, feeder roads and primary markets compared to other districts. However, it has one of the worst accesses to tertiary markets and the regional capital.

The percentage of households without toilet facility in Muheza district is average for the region; however it has the second highest percent of households with no toilet facilities. It has the lowest percent of households owning land line phones, vehicles and TV/video. It has the third lowest number of households using mains electricity in the region and the most common source of energy for lighting is the wick lamp and practically all households use firewood for cooking. The district has a high percent of households with grass roofs (68%) and only 29 percent of households have iron sheet roofing. The

most common source of drinking water is from unprotected wells. Sixteen percent of the households in the district reported having one or two meals per day and virtually no household reported having more than three meals per day. The district had a moderate percent of households that did not eat meat or fish during the week prior to enumeration and most households seldom had problems with food satisfaction.

### 4.2.4 Tanga

Tanga district has an average number of households for the region and it has the smallest percent of households involved in smallholder agriculture in the region. Most smallholders are involved in crop farming only, followed by crop and livestock farming. It has a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Tanga district is off-farm income followed by Permanent crop farming. It has the lowest percent of households with no off-farm activities and the highest percent of households with more than one member with off-farm income. Compared to other districts in the region, Tanga district has a relatively high percent of female headed households (28%) and it has one of the highest average ages of the household head. With an average household size of 4.6 members per household it is average for the region. Tanga district has a comparatively high literacy rate among smallholder households and this is reflected by the concomitant relatively high level of school attendance in the region.

It has the second smallest utilized land area per household (1.4 ha) and only 76 percent of the allocated land area is utilised. The total planted area is the smallest in the region however it has the second lowest planted area per household (0.78ha in the long rainy season and 0.664ha in the short rainy season.

Tanga district is not important for maize production in the region with a planted area of only 3,946 ha, and the planted area per household is among the lowest in the region. Paddy production is also not important with a planted area of only 545 hectares and the production of sorghum is small.

Cassava and bean production in Tanga district was small and Irish potato and wheat is not grown. Oilseed crops and vegetables are not important in the district however, whist the district has one of the smallest planted areas with tomatoes it is the second in terms of tomato planted area per household. Traditional cash crops (e.g. tobacco and cotton) are not grown in the district.

Compared to other districts in the region, Tanga district has the smallest planted area with permanent crops (3.3% of total permanent crop planted area) which is dominated by cashew nuts (959 ha), coconuts (964 ha), A small area of bananas and oranges are grown. Apart from a minor amount of sugarcane no other permanent crop is grown.

As with other districts in the region, most land clearing and preparation is done by hand, however the smallest land preparation done by oxen is found in the district.

As with other districts in the region, land clearing by hand slashing is predominant and practically all land preparation is by hand.

The use of inputs in the region is very small, however district differences exist. Tanga district has the smallest planted area with improved seed; however it has the highest planted area per household in the region. The district also has the smallest percent of planted area with fertilizers (Farm yard manure, compost and inorganic fertiliser), and most of this is with farm yard manure. Compared to other districts in the region, Tanga district has the lowest area planted with insecticide but has the second highest percent of the total planted area in the region. The percent of planted area with fungicides is amongst the highest in the region and is the highest for herbicides. It has one of the smallest areas of irrigation 2679 ha. The most common source of water for irrigation is from rivers using hand buckets/Bucket. Watering cans are the most common means of irrigation water application.

The most common method of crop storage is in locally made traditional cribs; however the proportion of households not storing crops in Tanga district is the highest in the region. The number of households selling crops in the district is among the smallest in the region, however for those who did not sell, the main reason for not selling is insufficient production. The smallest percent of households processing crops in the region is found in Tanga district and processing is mostly done by neighbor's machine. The district has the largest number of households processing crops on farm by machine. It also has the second largest number of households processing crops on farm by hand. Most households that sell crops sell to neighbors and no sales are to traders on neither farm nor large scale farms. Access to credit in the district is very small.

A very small number of households receive extension services in Tanga district and almost all of this is from the government. The quality of extension services was rated between good and average by the majority of the households.

Tree farming is not important in Tanga district (with only 296 planted trees) and all of them are Sienna Spp. The largest proportion of households in Tanga district use terraces for erosion control.

Tanga district has the second smallest number of cattle in the region and most of them are indigenous. It is one of the districts with the least number of goats in the region, however the district has the highest density (87 head per $km^2$) Tanga is also one of the districts with the smallest number of sheep, pigs and chicken, however it has the largest number of improved chickens (both layers and broilers) in the region. Small numbers of ducks, rabbits, turkeys and donkeys are also found in the district. A moderate number of households reported Tsetse and tick problems in Tanga district and it had one of the smallest numbers of households de-worming livestock. The use of draft animals in the district is very small and very few households practice fish farming.

It is amongst the districts with the best access to secondary schools, primary schools, feeder roads, all weather roads, health clinics, hospitals, regional capital, tarmac roads and tertiary markets compared to other districts. However, it has the worst access to primary and secondary markets.

Tanga district has a small number of households with no toilet facilities. The district has the highest percent of households owning wheel barrows, vehicles and television/video, land line and mobile phones and it has the second highest percent of households with radio, bicycles and irons. It has the largest number of households using mains electricity in the region. The most common source of energy for lighting is the wick lamp and practically all households use firewood for cooking. The district has the second largest percent of households with grass roofs with only 16 percent of households having iron sheets. The most common source of drinking water is piped water and it has the second highest percent of households having two or one meal per day compared to other districts and the third lowest percent with 3 meals per day. The district had the highest

percent of households that did not eat meat during the week prior to enumeration but has the lowest percent of households that did not eat fish. Most households seldom had problems with food satisfaction.

### 4.2.5 Pangani

Pangani district has the smallest number of households in the region and it has the second lowest percent of households involved in smallholder agriculture in the region. Most smallholders are involved in crop farming only, followed by crop and livestock farming. It has a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Pangani district is off farm income followed by Annual Crop Farming, Tree/Forest Resources and Fishing/Hunting and Gathering. The district has the third lowest percent of households with no off-farm activities and the second largest percent of households with more than one member with off-farm income. Compared to other districts in the region, Pangani has a moderate percent of female headed households (24%) and it has one of the highest average ages of the household head. With an average household size of 4.1 members per household it is slightly lower than the regional average. Pangani has the highest literacy rate among smallholder households in the region and this is reflected by the concomitant relatively high level of school attendance. The rate of "Never Attended" is among the lowest in the region.

It has one of the smallest utilized land area per household (1.4 ha) which is slightly lower than the regional average of 1.7 ha per household. The district has smallest planted area in the region, however it has the second largest planted area per household (1.6 ha) in the long rainy season.

The district is not important for maize production with a planted area of 7,042 ha, however the planted area per household is moderate compared to other districts in the region. Paddy production is also not important with a planted area of only 500 hectares and the production of sorghum is very small. Wheat and finger millet are not grown in the district. The district has among the lowest percent of cassava planted area in the region and it has virtually no Irish or sweet potatoes. The production of beans in Pangani district is the smallest in the region with a planted area of only 4 ha and oil crops are not important in the district. Vegetable production is also not important in the district; however the district has largest planted area per tomato growing household. Traditional cash crops (e.g. tobacco and cotton) are not grown in the district.

Compared to other districts in the region, Pangani has a small planted area with permanent crops (4,623 ha) which is dominated by coconuts (2,418 ha) and cashew nuts (1,766 ha). Other permanent crops are either not grown or are grown in very small quantities.

As with other districts in the region, most land clearing is done by hand slashing, however "no land clearing" is relatively high indicating bare land before cultivation. Practically all Land preparation is done by hand, however a very small amount of land preparation is done by tractor.

The use of inputs in the region is very small, however district differences exist. Pangani has one of the smallest planted areas with improved seed in Tanga region however it has one of the highest percent of planted area using improved seed. The district has the smallest planted area with fertilizers and most of this is with farm yard manure with no inorganic fertiliser. Compared to other districts in the region, Pangani district has the second highest percent of its planted area with

insecticides in the region. The use of fungicides was the was one of the lowest in the region and virtually no herbicide was used. It has the smallest planted area with irrigation in the region with only 2310 ha of irrigated land. Rivers, wells boreholes and canals is used as the source of irrigation water and hand bucket was mainly used. Buckets/Water cans are the most common means of irrigation water application and a very small amount of flood irrigation is used.

The most common method of crop storage is in locally made traditional cribs; however the proportion of households not storing crops in the district is the second highest in the region. The district has the smallest number of households selling crops and the main reason for not selling is insufficient production. Pangani district has the highest percent of households processing crops on farm by hand and a small percent of households selling processed crops mainly to neighbours and trader at farm. No sales were made to farmers associations, marketing cooperatives or large scale farms. Access to credit is non existent in the district and the main reason for not using credit is lack of awareness.

A comparatively small number of households receive extension services in Pangani district and all of this is from the government. The quality of extension services was rated between good and average by most of the households.

Tree farming is not important in Pangani (with only 3,229 planted trees) and is mostly with Tectona Grandis with some Azadritachta Spp, Moringa Spp and Gravellis. The smallest number of erosion control and water harvesting structures is found in Pangani district and they are tree belts only.

The district has the smallest number of cattle in the region and they are mostly all indigenous. Goat and sheep production is smallest in the region, and no pigs are found in the district. It has a comparatively smallest number of chickens. Small numbers of ducks and donkeys are also found in the district. A moderate number of households reported Tsetse and tick problems in Pangani district and has the smallest number of households de-worming livestock. The use of draft animals in the district is non existent and no fish farming is practiced in the district.

It is amongst the districts with the best access to primary schools, feeder roads, health clinics and primary markets; however it has one of the worst accesses to all weather roads, regional capital, secondary markets and tarmac roads.

Pangani district has a low percent of households with no toilet facilities. The district has the largest percent of households owning radios and bicycles and no ownership of land line phones was reported. Very small number of households reported ownership of vehicles, mobile phones, wheel barrows and televisions/videos. It has the second largest number of households using mains electricity in the region. The most common source of energy for lighting is the wick lamp and practically all households use firewood for cooking. The district has the largest percent of households with grass roofs and only 13 percent of households having iron sheets. The most common source of drinking water is from piped water, unprotected wells and surface water... It has a moderate percent of households having two or one meal per day compared to other districts and is among the districts with a high percent of households with 3 meals per day. The district had the second highest percent of households that did not eat meat during the week prior to enumeration; however it is among the districts with low percent of households that did not eat fish during the week. Most households in the district seldom had problems with food satisfaction.

### 4.2.6 Handeni

Handeni district has a moderate number of households in the region and it has one of the highest percents of households involved in smallholder agriculture in the region. Most smallholders are involved in crop farming only, followed by crop and livestock production. It has a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Handeni district is Annual Crop Farming, followed by off farm Income, Fishing/Hunting and Gathering and Tree/Forest resources. The district has a high percent of households with no off-farm activities however it has the forth highest percent of households with more than one member with off-farm income. Compared to other districts in the region, Handeni has the second lowest percent of female headed households (21%) and it has one of the lowest average ages of the household head. With an average household size of 5.4 members per household it is the largest for the region. The literacy rate among smallholder households in Handeni is low compared to other districts in the region and associated with this is a number of household members who have never attended school.

It has the largest utilized land area per household (2.6 ha) in Tanga region. The total planted area is the second largest in the region and has the largest planted area in the long rainy season. However the planted area per household in the long rainy season the district had the fifth largest planted area per household with 0.63 ha per household in the short rainy season and 0.98 ha in the long rainy season.

The district is the most important for maize production in the region with a planted area of 95,688 ha and the planted area per household is the second largest in the region. Paddy production is moderate for the region with a planted area of 1,245 hectares and the district has the largest planted area per paddy growing household. Production of sorghum and finger millet is very small. The district also has the largest planted area of cow peas (7,982) and green grams (817 ha), however very little beans and field peas are produced. Cassava production is relatively low accounting for 10.3 percent of the total cassava planted area in the region. Oilseed crops are important in Handeni with the largest planted area of simsim in the region (680 ha) and the third largest planted area of groundnuts. Vegetable production is not important in the district; however tomatoes, cabbage, water melon, bitter aubergine, pumpkins and amaranths are produced in very small quantities. Handeni is the only district that cultivates cotton although the planted area is small.

Compared to other districts in the region, Handeni has a moderate planted area with permanent crops which is dominated by oranges (2,201 ha), Mango (1,271 ha), bananas (1,143 ha) and Jack fruit (904 ha). Other permanent crops are either not grown or are grown in small quantities.

Most land clearing is done by hand slashing, however it has the highest Planted Area with “no land clearing” indicating the presence of a large area of bare land before cultivation. It has also the largest area of bush clearance in the region. Most land preparation is done by hand, however a it has the highest planted area cultivated by oxen. A very small amount of land preparation is done by tractor.

The use of inputs in the region is very small, however district differences exist. Handeni has a moderate planted area with improved seed in Tanga region. The use of fertilizer is very small and is mostly farm yard manure and compost. No inorganic fertilizer is used. Compared to other districts in the region, Handeni district has a small percentage of the planted area in the district with fungicides application and a small amount of herbicide was used. It has the third largest area with irrigation with a planted area of 5,380 ha under irrigation. The most common source of water for irrigation is from wells using hand buckets. Buckets/Watering cans are the only means of irrigation water application in the district.

The most common method of crop storage is in locally made traditional cribs; however the proportion of households not storing crops in the district is moderate to low when compared to other districts in Tanga region. The district has a moderate number of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. Handeni is among the districts in Tanga region with a high percent of households processing crops and is mostly done using neighbors machines. The district also has a small percent of households selling processed crops mostly to neighbours and traders on farm. Access to credit in the district small.

A comparatively small number of households receive extension services in Handeni and mostly from the government. The quality of extension services was rated between good and average by the majority of the households.

Tree farming is not important in Handeni (with only 2,014 planted trees) and is mostly Senna Spp with some Saraca Spp and Gravellis. A small proportion of households with erosion control and water harvesting structures is found in Handeni district and is mostly drainage ditches, terraces and erosion control bunds, It also has a small number of tree belts for erosion control.

The district has the largest number of cattle in the region and they are almost all indigenous. Goat population is also the largest in the region; however it has one of the smallest populations of sheep in the region. The district has a comparatively moderate to low number of pigs in the region but it has the second largest chicken population, all of which are indigenous. A moderate numbers of ducks, donkeys and rabbits are also found in the district. It has the second highest proportion of households reporting Tsetse and tick problems in the region and it had a moderate to low number of households de-worming livestock compared to other districts. Draft animals are not used and fish farming is not practiced.

It is amongst the districts with the best access to primary schools, feeder roads, health clinics and primary markets, however it has one of the worst access to regional capital, secondary and tertiary markets, tarmac roads and all weather roads.

Handeni district has the highest percent of households with no toilet facilities. Though small, it has the second highest percent of households with wheel barrows and mobile phones, however and it among the districts with a low percent of households owning vehicles and land line phones. It has a small number of households using mains electricity. The most common source of energy for lighting is the wick lamp and almost all households use firewood for cooking. The district has a moderate to high percent of households with grass roofs with and 29 percent of households have iron sheet roofing. The most common sources of drinking water are from unprotected wells and piped water. It has the highest percent of households having three meals per day compared to other districts and moderate percent with one or two meals per day. The district has a moderate to high percent of households that did not eat meat or fish during the week prior to enumeration; however most households seldom had problems with food satisfaction.

### 4.2.7 Kilindi

Kilindi district has the second smallest number of households in the region; it has however it has of the highest percent of households involved in smallholder agriculture in the region. Most smallholders are involved in crop farming only, followed by crop and livestock production. It has a very small number of livestock only households and though small, it is the only district with pastoralists.

The most important livelihood activity for smallholder households in Kilindi district is Annual Crop Farming, followed by off farm Income/ Fish/hunting and Gathering and tree/Forest Resources. However, the district has a moderate to high percent of households with no off-farm activities and a moderate percent of households with more than one member with off-farm income compared to other districts in the region, Kilindi has the lowest percent of female headed households (18%) in the region and it has the lowest average age of the household head. With an average household size of 5.3 members per household it is the second largest for the region. Kilindi has the lowest literacy rate among smallholder households in and this is reflected by the relatively high level of never attended school in the region... The literacy rates for the heads of household are the lowest in the region.

It has the second largest utilized land area per household (2.5 ha) in the region. The total planted area is moderate compared to other districts in the region due to the presence of good wet and dry seasons, however it has the largest planted area per household (1.8 ha during the long rainy season and 1.1 ha in the short rainy season).

The district is moderately important for maize production in the region with a planted area of over 32,536 ha and the planted area per maize growing household is the largest in the region. The district has the smallest planted area of paddy (142 ha) and sorghum, finger millet and wheat are not produced in the district. Cassava production is small accounting for only 5 percent of the cassava planted area in the region. The production of beans in Kilindi though comparatively small (8,245 ha) is higher than in most other districts in the region. Other pulses produced in the district are of minor importance. Oilseed crops are not important in Kilindi, however it is the only district in the region which grows castor seeds. Vegetable production is not important in the district; however tomatoes, cabbage, onions and other vegetables are grown in small quantities. Tobacco is the only traditional cash crop grown in the district in small quantities.

Compared to other districts in the region, Kilindi has a moderate planted area with permanent crops which is dominated by pigeon peas (2,417 ha) and mangoes (1,320 ha). Small quantities of banana, sugar cane, cardamom and jack fruit are also grown and other permanent crops are either not grown or are grown in very small quantities.

Most land clearing is done by hand slashing, however it has a high planted area with “no land clearing” indicating the presence of a large area of bare land before cultivation. Most land preparation is done by hand, however it has a very small planted area cultivated by oxen. A very small amount of land preparation is done by tractor.

The use of inputs in the region is very small, however district differences exist. Kilindi has a one of the smallest percentaqge of its planted area with improved seed and fertilizers (compost and Farm yard manure, however most of this is compost). The district has a relatively small level of insecticide and fungicides use, however the use of herbicides, though small, was the second highest in the region. It has the second smallest area of irrigation with only 2,927 ha of irrigated land. The most common source of water for irrigation is from wells using hand buckets. Buckets/Watering cans are the most common means of irrigation water application and a very small amount of food irrigation is used.

The most common method of crop storage is in locally made traditional cribs and sacks/open drums. The proportion of households not storing crops in the district is the second lowest in the region. The district has a small number of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. The second highest percent of households processing crops in Tanga region is found in Kilindi district and is mostly done using

neighbors machines, virtually no processing as done on farm by machine... The district has a small percent of households selling processed crops mostly to neighbours and local markets/trade stores. There is no access to credit in the district.

A comparatively small number of households receive extension services in Kilindi district and almost all of this is from the government. The quality of extension services was rated bet ween good and average by the majority of the households.

Tree farming is not important in Kilindi (with only 4,326 planted trees) and is mostly Morringa and Gravellis with some Eucalyptus Spp, Terminala Catapa and Syszygium Spp. A relatively small proportion of households with erosion control and water harvesting structures is found in Kilindi district and is mostly tree belts and erosion control bunds; however it also has a number of water harvesting bunds, drainage ditches and vetiver grass.

The district has a moderate to low number of cattle in the region and they are all indigenous. Goat production is also moderate to low compared to most other districts, however it has a relatively small population of sheep compared to other districts in the region. It has one of the smallest numbers of pigs in the region and a moderate to low number of chickens, with no improved chicken. Small numbers of ducks and donkeys are also found in the district. The largest number of households reporting tsetse and tick problems was in Kilindi district; however it has one of the smallest numbers of households de-worming livestock. The use of draft animals in the district is very small and no fish farming is practiced in the district.

It is amongst the districts with the best access to primary schools, feeder roads, health clinics, and primary markets, however it has one of the worst access to the regional capital, tarmac roads, all weather roads, tertiary markets, secondary markets and secondary schools.

Kilindi district has the third highest percent of households with no toilet facilities and it has one of the lowest percent of households owning landline and mobile phones, vehicles and televisions/video. It has no access to mains electricity. The most common source of energy for lighting is the wick lamp and most of the households use firewood for cooking. The district has a moderate percent of households with grass roofs with 26 percent of households having iron sheet roofing. The most common source of drinking water is from unprotected well. It has the second highest percent of households having two or one meal per day compared to other districts and the second lowest percent with 3 meals per day. The district had the lowest percent of households that did not eat meat during the week prior to enumeration; however it has the second highest percent of households that did not eat fish during the respective period. Most households seldom had problems with food satisfaction.

## 4. APPENDICES

**Appendix I Tabulation List ..... 115**

**Appendix II Tables ..... 130**

**Appendix III Questionnaires ..... 301**

# APPENDIX I: CROP TABULATION

**TYPE OF AGRICULTURE HOUSEHOLD**

2.1 Number of Agricultural Households by type of Household and District during 2002/03 Agriculture Year..... 131

2.2.1 Number of Agriculture Households by type of Holding by District during 2002/03 Agriculture year..... 131

**NUMBER OF AGRICULTURE HOUSEHOLDS..... 133**

3.0 Number of Agricultural Households and Average Household Size by Sex of the Head of Household and District, 2002/03 Agricultural Year ..... 134

3.1 The Livelihood Activities/Source of Income of the Households Ranked in Order of Importance by District ..... 134

**RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES..... 135**

3.1a First Most Importance..... 136

3.1b Second Most Importance ..... 136

3.1c Third Most Importance ..... 136

3.1d Fourth Most Importance ..... 136

3.1e Fifth Most Importance ..... 136

3.1f Sixth Most Importance..... 136

3.1g Seventh Most Importance ..... 136

**HOUSEHOLDS DEMOGRAPHS..... 139**

3.2 Number of Agricultural Household Members by Sex and Age Group for the 2002/03 Agricultural Year (row %) ..... 140

3.3 Number of Agricultural Household Members by Sex and Age Group for the 2002/03 Agricultural Year (col %) ..... 140

3.4 Number of Agricultural Household Members by Sex and District for the 2002/03 Agricultural Year ..... 141

3.5 Number of Agriculture Household Members 5 years and above Who Can Read and Write Languages By Type of Language and District, 2002/03 Agricultural Year..... 141

3.6 Number of Agricultural Household Members 5 years and above By School Attendance and District, 2002/03 Agricultural Year ..... 141

3.7 Number of Agricultural Household Members by Main Activity and District ..... 141

Cont… Number of Agricultural Household Members by Main Activity and District..... 142

Cont… Number of Agricultural Household Members by Main Activity and District..... 142

3.8 Number of Agricultural Household Members by Level of involvement in Farming Activity and District, 2002/03 Agricultural Year ..... 142

3.9 Number of Agricultural Household Members by Level of Formal Education Completion and District, 2002/03 Agricultural Year ..... 143

Cont … Number of Agricultural Household Members by Level of Formal Education Completion and District, 2002/03 Agricultural Year ..... 143

Cont … Number of Agricultural Household Members by Level of Formal Education Completion and District, 2002/03 Agricultural Year ..... 143

Cont … Number of Agricultural Household Members by Level of Formal Education Completion and District, 2002/03 Agricultural Year ..... 143

3.10 Number of Agricultural Households and Average Household Size by Sex of the Head of Household and District, 2002/03 Agricultural Year..... 144

3.11 Number of Agricultural Households Involved in Off Farm Income Generating Activity by Number of Off Farm Income Activities and District, 2002/03 Agricultural Year ..... 144

3.12 Number of Heads of Agricultural Households by Maximum Education Level Attained and District, 2002/03 Agricultural Year ..... 144

3.13 Mean, Median, Mode of Age of Head of Agricultural Household and District..... 144

3.14 Time Series of Male and Female Headed Households ..... 145

3.15 Literacy Rate of Heads of Households by Sex and District..... 145

**LAND ACCESS/OWNERSHIP..... 147**

4.1 Number of Farming Households by Type of Land Ownership/Tenure and District for the 2002/03 Agricultural Year ..... 148

4.2 Area of Land (ha) by Ownership/Tenure (Hectare) and District for the 2002/03 Agricultural Year..... 148

**LAND USE ..... 149**

5.1 Number of Agricultural Households by Type of Land Use and District for the 2002/03 Agricultural Year..... 150

5.2 Area of Land (Ha) by type of Land Use and District for the 2002/03 Agricultural Year ..... 150

5.3 Number of Households by type of household and District during 2002/03 Agricultural Year..... 151

5.4 Number of Agricultural Households by whether they consider themselves to have Sufficient Land for the Household and District during 2002/03 Agricultural Year..... 151

5.5 Number of Agricultural Households by whether Female Members of the Household Own or Have Customary Right to Land and District; 2002/03 Agricultural Year ..... 151

**TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION- LONG & SHORT RAINY SEASON ..... 153**

7.1&7.2a Number of Crop Growing Households and Area Planted (ha) by Season and District ..... 154

7.1&7.2b Number of crop growing Households Planting Crops by Season and Region ..... 154

7.1&7.2c Area planted (ha) and Quantity Harvested by Season and Crop for the 2002/03 Agriculture Year, Tanga Region ..... 155

7.1&7.2d Number of Agriculture Households by Area Planted (ha) and crop for the Agriculture Year 2002/03- Short and Long Season, Tanga Region..... 156

7.1&7.2e Total Number of Agriculture Households and Planted Area by Means of Soil Preparation and District LONG & SHORT SEASON, Tanga ..... 157

7.1&7.2f Total Number of Agriculture Households and Planted Area by Fertiliser Use and District for the 2002/03 Agriculture Year - LONG & SHORT RAINY SEASON, Tanga ..... 157

7.1&7.2g Total Number of Agriculture Households and Planted Area by Irrigation Use and District for the 2002/03 Agriculture Year - LONG & SHORT RAINY SEASON, Tanga Region..... 157

7.1&7.2h Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture year - LONG & SHORT RAINY SEASON..... 158

7.1&7.2i Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture year - LONG & SHORT RAINY SEASON, Tanga..... 158

7.1&7.2j Number of Crop Growing Households and Planted Area by Fungicide Use and District during 2002/03 Crop Year LONG & SHORT RAINY SEASON, Tanga Region ..... 159

7.1&7.2k Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - LONG & SHORT RAINY SEASON, Tanga Region..... 159

**ANNUAL CROP AND VEGETABLE PRODUCTION – SHORT RAINY SEASON ..... 161**

7.1a Number of Households and Planted Area by Means Used for Soil Preparation and District - SHORT RAINY SEASON, Tanga Region..... 162

7.1b Number of Crop Growing Households and Planted Area By Fertilizer Use and District During 2002/03 Crop Year-SHORT RAINY SEASON, Tanga Region ..... 162

7.1c Number of Crop Growing Households and Planted Area by Irrigation Use and District during 2002/03 Crop Year SHORT RAINY SEASON, Tanga Region..... 162

7.1d Number of Crop Growing Households and Planted Area by Insecticide Use and District during 2002/03 Crop Year in SHORT RAINY SEASON..... 163

7.1e Number of Crop Growing Households and Planted Area by Herbicide Use and District during 2002/03 Crop Year SHORT RAINY SEASON ..... 163

7.1f Number of Crop Growing Households and Planted Area By Fungicide Use and District During 2002/03 Crop Year SHORT RAINY SEASON..... 164

7.1g Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year SHORT RAINY SEASON, Tanga Region..... 164

**ANNUAL CROP AND VEGETABLE PRODUCTION – LONG RAINY SEASON ..... 165**

7.2a Number of Crop Growing Households and Planted Area (ha) By Means Used for Soil Preparation and District during 2002/03 Crop Year-LONG RAINY SEASON, Tanga Region..... 166

7.2b Number of Crop Growing Households and Planted Area by Fertilizer Use and District during the Long Rainy Season ..... 166

7.2c Number of Crop Growing Households and Planted Area by Irrigation Use and District during 2002/03 Crop Year LONG RAINY SEASON, Tanga Region..... 166

7.2d Number of Crop Growing Households & Planted Area by Insecticide Use and District – LONG RAINY SEASON..... 167

7.2e Number of Crop Growing Households and Planted Area by Herbicide Use and District during 2002/03 Crop Year LONG RAINY SEASON, Tanga Region..... 167

7.2J Number of Crop Selling Households and Reported Agriculture Products during 2002/03 Crop Year LONG RAINY SEASON, Tanga Region ..... 167

7.2f Number of Crop Growing Households and Planted Area By Fungicide Use and District During 2002/03 Crop Year LONG RAINY SEASON, Tanga Region ..... 168

7.2g Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - LONG RAINY SEASON, Tanga Region ..... 168

7.2h Planted Area and Number of Crop Growing Households during the Long Rainy Season by Method of Land Clearing and Crops; 2002/03 Agricultural Year ..... 169

7.2.1 Number of Agricultural Households, Area Planted (ha) and Quantity of Maize Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 170

7.2.2 Number of Agricultural Households, Area Planted (ha) and Quantity of Paddy Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 170

7.2.3 Number of Agricultural Households, Area Planted (ha) and Quantity of Sorghum Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 170

7.2.4 Number of Agricultural Households, Area Planted (ha) and Quantity of Finger millet Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 170

7.2.5 Number of Agricultural Households, Area Planted (ha) and Quantity of Wheat Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 171

7.2.6 Number of Agricultural Households, Area Planted (ha) and Quantity of Cassava Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 171

7.2.7 Number of Agricultural Households, Area Planted (ha) and Quantity of Sweet potatoes Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 171

7.2.8 Number of Agricultural Households, Area Planted (ha) and Quantity of Irish potatoes Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 171

7.2.9 Number of Agricultural Households, Area Planted (ha) and Quantity of Yams Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 172

7.210 Number of Agricultural Households, Area Planted (ha) and Quantity of Cocoyam Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 172

7.2.11 Number of Agricultural Households, Area Planted (ha) and Quantity of Mung beans Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 172

7.2.12 Number of Agricultural Households, Area Planted (ha) and Quantity of Beans Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 172

7.2.13 Number of Agricultural Households, Area Planted (ha) and Quantity of Cowpeas Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 173

7.2.14 Number of Agricultural Households, Area Planted (ha) and Quantity of Green grams Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 173

7.2.15 Number of Agricultural Households, Area Planted (ha) and Quantity of Chick peas Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 173

7.2.16 Number of Agricultural Households, Area Planted (ha) and Quantity of Bambaranuts Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 173

7.2.17 Number of Agricultural Households, Area Planted (ha) and Quantity of Field peas Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 174

7.2.18 Number of Agricultural Households, Area Planted (ha) and Quantity of Sunflower Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 174

7.2.19 Number of Agricultural Households, Area Planted (ha) and Quantity of Simsim Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 174

7.2.20 Number of Agricultural Households, Area Planted (ha) and Quantity of Groundnuts Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 174

7.2.21 Number of Agricultural Households, Area Planted (ha) and Quantity of Castor oil Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 175

7.2.22 Number of Agricultural Households, Area Planted (ha) and Quantity of Okra Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 175

7.2.23 Number of Agricultural Households, Area Planted (ha) and Quantity of Radish Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 175

7.2.24 Number of Agricultural Households, Area Planted (ha) and Quantity of Bitter Aubergine Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 175

7.2.25 Number of Agricultural Households, Area Planted (ha) and Quantity of Onions Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 176

7.2.26 Number of Agricultural Households, Area Planted (ha) and Quantity of Ginger Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 176

7.2.27 Number of Agricultural Households, Area Planted (ha) and Quantity of Cabbage Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 176

7.2.28 Number of Agricultural Households, Area Planted (ha) and Quantity of Tomatoes Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 177

7.2.29 Number of Agricultural Households, Area Planted (ha) and Quantity of Pumpkins Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 177

7.2.30 Number of Agricultural Households, Area Planted (ha) and Quantity of Cucumber Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 177

7.2.31 Number of Agricultural Households, Area Planted (ha) and Quantity of Eggplant Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 177

7.2.32 Number of Agricultural Households, Area Planted (ha) and Quantity of Water Mellon Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 177

7.2.33 Number of Agricultural Households, Area Planted (ha) and Quantity of Seaweed Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 178

7.2.34 Number of Agricultural Households, Area Planted (ha) and Quantity of Cotton Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 178

7.2.35 Number of Agricultural Households, Area Planted (ha) and Quantity of Tobacco Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 178

7.2.36 Number of Agricultural Households, Area Planted (ha) and Quantity of Jute Harvested (tons) by Season and District 2002/03 Agricultural Year ..... 178

**PERMANENT CROPS** ..... **179**

7.3.1 Production of Permanent Crops by crop type and Region – Tanga ..... 180

Cont…Production of Permanent Crops by crop type and Region – Tanga..... 181

Cont…Production of Permanent Crops by crop type and Region – Tanga..... 182

Cont…Production of Permanent Crops by crop type and Region – Tanga..... 183

Cont…Production of Permanent Crops by crop type and Region – Tanga ..... 184

Cont…Area planted and area per Household by Region – Tanga ..... 185

Cont…Production of Permanent Crops by crop type and Region – Tanga..... 186

Cont…Production of Permanent Crops by crop type and Region – Tanga..... 187

Cont…Production of Permanent Crops by crop type and Region – Tanga..... 188

Cont…Production of Permanent Crops by crop type and Region – Tanga..... 189

**AGROPROCESSING** ..... **191**

8.0a Number of Crops Growing Households reported to have Processed Farm Products by District; 2002/03 Agricultural Year ..... 192

8.0b Number of Crops Growing Households by Method of Processing and District 2002/03 Agricultural Year- Tanga Region ..... 192

8.1.1a Number of Crop Growing Households Processing Crops during 2002/03 Agricultural Year by Location and Crop, Tanga Region ..... 192

8.1.1b Number of Crop Growing Households Reporting Processing of Farm Products Produced during 2002/03 Agricultural Year By Use of Product and Crop, Tanga Region ..... 193

8.1.1c Number of Crop Growing Households Reporting Processing of Farm Products Produced during 2002/03 Agricultural Year By Location of Sale of Product and Crop, Tanga Region ..... 193

8.1.1d Number of Crop Growing Households by Main Product and District during 2002/03 Agriculture Year, Tanga Region ..... 193

8.1.1e Number of Crop Growing Households by Use of Primary Processed Product and district during 2002/03 Agriculture Year, Tanga Region ..... 194

8.1.1f Number of Crop Growing Households by Where Product Sold and District during 2002/03 Agriculture Year, Tanga Region ..... 194

8.1.1g Number of Crop Growing Households By type of By-Product and District during 2002/03 Agriculture Year, Tanga Region ..... 194

**MARKETING** ..... **195**

10.1 Number of Crop Growing Households Reported to have Sold Agricultural Produce by District during 2002/03 District, Tanga Region ..... 196

10.2 Number of Households who reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year ..... 196

10.3 Proportion of Households who reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year ..... 196

**IRRIGATION /EROSION CONTROL ..... 197**

11.1 Number and Percent of Households Reporting use of irrigation during 2002/03 Agricultural Year by District ..... 198

11.2 Area (ha) of Irrigatable and NON irrigated land by district during 2002/03 agriculture year ..... 198

11.3 Number of Agriculture Households using irrigation by Source of Irrigation Water by districts during the 2002/03 agricultural Year ..... 198

11.4 Number of Agriculture Households by method of used to obtain water and district during 2002/03 Agriculture Year ..... 198

11.5 Number of Agriculture Households by Method of Field Application of Irrigation Water and District for the 2002/03 Agricultural Year ..... 199

11.6 Number of Households with Erosion Control/Water Harvesting Facilities on their Land by District ..... 199

11.7 Number of Erosion Control/Water Harvesting Structures by Type and District as of 2002/03 Agriculture Year ..... 199

**ACCESS TO FARM INPUTS/IMPLEMENTS ..... 201**

12.1.1 Number of Crop Growing Households Using Chemical Fertilizer by District, 2002/03 Agricultural Year ..... 202

12.1.2 Number of Agricultural Households Using Farm Yard Manure by District during 2002/03 Agricultural Year ..... 202

12.1.3 Number of Agricultural Households Using COMPOST Manure by District during 2002/03 Agricultural Year ..... 202

12.1.4 Number of Crop Growing Households Using Insecticides/Fungicides by District during 2002/03 Agricultural Year ..... 203

12.1.5 Number of Crop Growing Households Using Herbicides by District during 2002/03 Agricultural Year ..... 203

12.1.6 Number of Crop Growing Households using Improved Seeds by District during 2002/03 Agricultural Year ..... 203

12.1.7 Number of Agricultural Households by Source of Chemical Fertilizer and District, 2002/03 Agricultural Year ..... 204

12.1.8 Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year ..... 204

12.1.9 Number of Agricultural Households by Source of COMPOST Manure and District, 2002/03 Agricultural Year ..... 204

12.1.10 Number of Agricultural Households by Source of Pesticides/Fungicides and District, 2002/03 Agricultural Year ..... 205

12.1.11 Number of Agricultural Households by Source of Herbicides and District, 2002/03 Agricultural Year ..... 205

12.1.12 Number of Agricultural Households by Source of Improved Seeds and District, 2002/03 Agricultural Year ..... 205

12.1.13 Number of Agricultural Households and Distance to Source of Chemical Fertilizer by District, 2002/03 Agricultural Year ..... 206

12.1.14 Number of Agricultural Households and Distance to Source of Farm Yard Manure by District, 2002/03 Agricultural Year ..... 206

12.1.15 Number of Agricultural Households and Distance to Source of COMPOST Manure by District, 2002/03 Agricultural Year ..... 207

12.1.18 Number of Agricultural Households and Distance to Source of Improved Seeds by District, 2002/03 Agricultural Year ..... 207

12.1.16 Number of Agricultural Households and Distance to Source of Pesticides/Fungicides by District, 2002/03 Agricultural Year ..... 207

12.1.25 Number of Agricultural Households and Reason for NOT using Chemical Fertilizer by District, 2002/03 Agricultural Year ..... 208

12.1.26 Number of Agricultural Households and Reason for NOT using Farm Yard Manure by District, 2002/03 Agricultural Year ..... 208

12.1.27 Number of Agricultural Households and Reason for NOT using COMPOST Manure by District, 2002/03 Agricultural Year ..... 208

12.1.28 Number of Agricultural Households and Reason for NOT using Pesticides/Fungicides by District, 2002/03 Agricultural Year ..... 209

12.1.29 Number of Agricultural Households and Reason for NOT using Herbicides by District, 2002/03 Agricultural Year ..... 209

12.1.30 Number of Agricultural Households and Reason for NOT using Improved Seeds by District, 2002/03 Agricultural Year ..... 209

12.1.31 Number of Agricultural Households and Quality of Chemical Fertilizer by District, 2002/03 Agricultural Year ..... 210

12.1.32 Number of Agricultural Households and Quality of Farm Yard Manure by District, 2002/03 Agricultural Year ..... 210

12.1.33 Number of Agricultural Households and Quality of COMPOST Manure by District, 2002/03 Agricultural Year ..... 210

12.1.34 Number of Agricultural Households and Quality of Pesticides/Fungicides by District, 2002/03 Agricultural Year ..... 211

12.1.35 Number of Agricultural Households and Quality of Herbicides by District, 2002/03 Agricultural Year ..... 211

12.1.36 Number of Agricultural Households and Quality of Improved Seeds by District, 2002/03 Agricultural Year ..... 211

12.1.37 Number of Agricultural Households with Plan to use Chemical Fertilizers Next Year by District, 2002/03 Agricultural Year ..... 211

12.1.38 Number of Agricultural Households with Plan to use Farm Yard Manure Next Year by District, 2002/03 Agricultural Year ..... 212

12.1.39 Number of Agricultural Households with Plan to use COMPOST Manure Next Year by District, 2002/03 Agricultural Year ..... 212

12.1.40 Number of Agricultural Households with Plan to use Pesticides/Fungicides Next Year by District, 2002/03 Agricultural Year ..... 212

12.1.41 Number of Agricultural Households with Plan to use Herbicides Next Year by District, 2002/03 Agricultural Year ..... 212

12.1.42 Number of Agricultural Households with Plan to use Improved Seeds next year by District, 2002/03 Agricultural Year ..... 212

**AGRICULTURE CREDIT ..... 213**

13.1a Number of Households Reporting the Main reasons for Not Using Credit by District during the 2002/03 Agriculture Year ..... 215

13.1b Number of Credits Received by Main Purpose of Credit and District during the 2002/03 Agriculture Year ..... 215

13.2a Number of Agriculture Households receiving Credit by sex of household head and District during the 2002/03 Agriculture Year ..... 214

13.2b Number of Households receiving Credits by Main Source of credit and region District the 2002/03 Agriculture Year ..... 214

**TREE FARMING AND AGROFORESTRY ..... 217**

14.1 Number of Planted Trees by Species and District During the 2002/03 Agriculture Year, Tanga Region ..... 218

Cont…. Number of Planted Trees by Species and District during the 2002/03 Agriculture Year, Tanga Region ..... 218

14.2 Number of Households with planted trees on their land and Number of Trees by Planting Location and District during the 2002/03 Agriculture Year, Tanga Region ..... 219

14.3 Number of responses by main use of planted trees and District for the 2002/03 agriculture yea, Tanga Region ..... 219

14.4 Number of Households with planted trees on their land and Number of Trees by Planting Location and District during the 2002/03 Agriculture Year, Tanga Region ..... 220

14.5 Number of responses by Second use of planted trees and District for the 2002/03 agriculture yea, Tanga Region ..... 220

14.6 Number of responses by main use of planted trees and District for the 2002/03 agriculture yea, Tanga Region ..... 221

**CROP EXTENSION ..... 223**

15.1 Number of Agriculture Households Receiving Extension Messages by District during the 2002/03 Agriculture Year, Tanga Region ..... 224

15.2 Number of Households by Quality of Extension Services and District during the 2002/03 Agricultural Year, Tanga Region ..... 224

15.3 Number of Agriculture Households by Source of Crop Extension Messages and District during the 2002/03 Agriculture Years, Tanga Region ..... 224

15.4 Number of Agriculture Households Receiving Advice on Plant Spacing by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 225

15.5 Number of Agriculture Households Receiving Advice on Agrochemicals by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 225

15.6 Number of Agriculture Households Receiving Advice on Erosion Control by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 225

15.7 Number of Agriculture Households Receiving Advice on Organic Fertilizer Use by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 226

15.8 Number of Agriculture Households Receiving Advice on Inorganic Fertilizer Use by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 226

15.9 Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source and District during the 2002/03 Agriculture Year ..... 226

15.10 Number of Agriculture Households Receiving Advice on Mechanization /LST by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 227

15.11 Number of Agriculture Households Receiving Advice on Irrigation Technology by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 227

15.12 Number of Agriculture Households Receiving Advice on Crop Storage by Source and District during the 2002/03 Agriculture Year, Tanga Region. ..... 227

15.13 Number of Agriculture Households Receiving Advice on Vermin Control by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 228

15.14 Number of Agriculture Households Receiving Advice on Agro-Processing by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 228

15.15 Number of Agriculture Households Receiving Advice on Agro-Forestry by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 228

15.16 Number of Agriculture Households Receiving Advice on Bee Keeping by Source and District during the 2002/03 Agriculture Year, Tanga Region ..... 229

15.17 Number of Agriculture Households Receiving Advice on Fish Farming by Source and District During the 2002/03 Agriculture Year, Tanga Region ..... 229

15.18 Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 1) during the 2002/03 Agriculture Year, Tanga Region ..... 229

15.19 Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 2) during the 2002/03 Agriculture Year, Tanga Region ..... 230

15.20 Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 3) during the 2002/03 Agriculture Year, Tanga region ..... 230

15.21 Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 4) during the 2002/03 Agriculture Year, Tanga Region ..... 231

15.22 Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 5) during the 2002/03 Agriculture Year, Tanga region ..... 231

**ANIMAL CONTRIBUTION TO CROP PRODUCTION ..... 247**

17.1 Number of agriculture households using draft animal to cultivate land by District during 2002/03 agriculture year, Tanga Region ..... 248

17.2 Type of Draft by Number Owned, Used and Area Cultivated (acres) By District during 2002/03 agriculture year, Tanga Region ..... 248

17.3 Number of Crop Growing households using organic fertilizer by District during 2002/03 agriculture year, Tanga region ..... 248

17.4 Area of farm yard manure and Compost Application by District during 2002/03 agriculture year, Tanga Region ..... 248

**CATTLE PRODUCTION ..... 249**

18.1 Total Number Households rearing Cattle by District during 2002/03 agriculture year, Tanga Region ..... 250

18.2 Total Number of Cattle by Type and District as of 1st October 2003 ..... 250

18.3 Number of Households Rearing Cattle, Heads of Cattle and Average Heads per Household by Herd Size; on 1st October 2003 ..... 250

18.4 Total Number of Cattle by Category and Type of Cattle; on 1st October 2003 ..... 250

18.5 Total Number of indigenous Cattle by Category of Cattle and District as on 1st October 2003 ..... 251

18.6 Total Number of Dairy Cattle by Category of cattle and District as on 1st October 2003 ..... 251

18.7 Total Number of Beef Cattle by Category of Cattle and District as on 1st October 2003 ..... 252

18.8 Total Number of Cattle by Category and District as on 1st October 2003 ..... 252

**GOAT PRODUCTION ..... 253**

19.1 Total Number of Goats by goat type and District as on 1st October 2003 ..... 254

19.2 Number of Households Rearing Goats and Heads of Goats by Herd Size on 1st October 2003 ..... 254

19.3 Total Number of Goats by Category and Type of Goat on 1st October 2003 ..... 255

19.4 Total Number of Indigenous Goat by Category and District on 1st October 2003 ..... 255

19.5 Total Number of Improved Goat for Meat by Category and District on 1st October 2003 ..... 255

19.6 Total Number of Improved Dairy Goats by Category and District on 1st October 2003 ..... 256

19.7 Total Number of Goats by Category and District on 1st October 2003 ..... 256

**SHEEP PRODUCTION ..... 257**

20.1 Total Number of Sheep by Breed Type on 1st October 2003 ..... 258

20.2 Number of Households Raising or Managing Sheep by District on 1st October 2003 ..... 258

20.3 Number of Sheep by Type of Sheep and District on 1st October 2003. ..... 258

20.4 Average Number of Sheep by Type of Sheep and District on 1st October 2003, Tanga Region. ..... 258

20.5 Number of Households and Heads of Sheep by Herd Size on 1st October 2003 ..... 259

20.6 Total Number of Indigenous Sheep by Sheep Type and District on 1st October 2003 ..... 259

20.7 Total Number of Improved Mutton Sheep by Type and District on 1st October 2003 ..... 259

20.8 Total Number of Sheep by Sheep Type and District on 1st October 2003 ..... 259

**PIG PRODUTION ..... 261**

21.1 Number of Households and Pigs by Herd Size on 1st October 2003 ..... 262

21.2 Number of Households and Pigs by District on 1st October 2003 ..... 262

21.3 Number of Pigs by Type of Pig and District on 1st October 2003 ..... 262

**LIVESTOCK PESTS AND PARASITE CONTROL ..... 263**

22.1 Number of Livestock Rearing households deworming Livestock by District during the 2002/03 Agricultural Year ..... 264

22.2 Number of Livestock Rearing Households that dewormed Livestock by type of Livestock and District during the 2002/03 Agricultural Year ..... 264

22.3 Number and Percent of agricultural households reporting to have encountered tsetse flies problems during 2002/03 Agriculture Year by District, 2002/03 Agricultural Year ..... 264

22.4 Number of Livestock Rearing Households by methods of tsetse flies control use and district during the 2002/03 Agricultural Year. ..... 264

**OTHER LIVESTOCK ..... 265**

23a Total Number of Other Livestock by Type as of 1st October 2003 ..... 266

23b Number of Chicken by Category of chicken and District as of 1st October 2003 ..... 266

23c Head Number of Other Livestock by Type of Livestock and District ..... 266

23d Total Number of households and chickens raised by flock size as of 1st October 2005 ..... 266
23e Livestock / Poultry Population Trend ..... 266

**FISH FARMING ..... 267**

28.1a Number of Agriculture Households by Fish Farming and District during the 2002/03 Agriculture Year ..... 268

28.2a Number of Agriculture Households by System of Fish Farming and District during the 2002/03 Agriculture Year ..... 268

28.2b Number of Agriculture Households by Source of Fingerling and District during the 2002/03 Agriculture Year ..... 268

28.2c Number of Agriculture Households by Location of Selling Fish and District during the 2002/03 Agriculture Year ..... 268

28.5 Total Number of Fish Harvested by Type and District, 2002/03 Agricultural Year ..... 268

**LIVESTOCK EXTENSION ..... 269**

29.1a Number of households receiving extension advice by District during the 2002/03 agriculture year ..... 270

29.1b Livestock Extension Service Providers: Number of Households by Source of Extension and District during the 2002/03 Agriculture year ..... ..... 270

29.1c Number of Households Receiving Advice on Proper Milking by Source and Region ..... 271

29.1d Number of Households Receiving Advice on Milk Hygiene by Source and District ..... 271

29.1e Number of Households Receiving Advice on Disease Control by Source and District ..... 272

29.1f Number of Households Receiving Advice on Herd/Flock Size & Selection by Source and District ..... 273

29.1g Number of Households Receiving Advice on Pasture Establishment by Source and District ..... 273

29.1h Number of Households Receiving Advice on Group Formation and Strengthen by Source and District ..... 273

29.1i Number of Agriculture Households Receiving Advice on Calf Rearing by Source and District during the 2002/03 Agriculture Year..... ..... 274

29.1j Number of Agriculture Households Receiving Advice on Improved Bulls by Source and District during the 2002/03 Agriculture Year..... ..... 274

29.1k Number of Households Receiving Advice on Milk Hygiene by Source and District ..... 274

29.1l Number of Agricultural Households by Quality of Extension Services and District, 2002/03 Agricultural Year ..... 274

29.1m Number of Households Receiving Advice on Other Extension Message by Source and District ..... 274

**ACCESS TO INFRASTRUCTURE AND OTHER SERVICES ..... 283**

33.01a Mean distances from holders dwellings to infrastructures and services by districts ..... 284

33.01b Mean distances from holders dwellings to infrastructures and services by districts ..... 285

33.01c: Number of Households by Distance to All Weather Road by District for 2002/03 agriculture year..... 285

33.01d: Number of Households by Distance to Feeder Road by District for 2002/03 agriculture year ..... 285

33.01e: Number of Households by Distance to Hospital by District for 2002/03 agriculture year..... 286

33.01f: Number of Households by Distance to Health Clinic by District for 2002/03 agricultural year..... 286

33.01g : Number of Households by distance to Primary School for 2002/03 agriculture year ..... 286

33.01h Number of Households by Distance to Feeder Road by District..... 287

33.01i Number of Households by Distance to Regional Capital..... 287

33.01j Mean distances from holders dwellings to infrastructures and services by districts ..... 288

33.01k Number of Households by Level of Satisfaction Using Infrastructure and Service by Region..... 288

33.01l Number of Households by Distance to Tarmac Road and District for the 2002/03 Agricultural Year ..... 288

33.01m Number of Households by Distance to Primary Market and District for the 2002/03 Agricultural Year..... 288

33.01n Number of Households by Distance to Tertiary Market and District for the 2002/03 Agricultural Year..... 288

33.01o Number of Households by Distance to Secondary Market and District for the 2002/03 Agricultural Year..... 288

33.19a Number of Agricultural Households by Satisfaction of Using Veterinary Clinic and District, 2002/03 Agricultural Year ..... 289

33.19b: Number of Agricultural Households by Satisfaction of Extension Centre and District, 2002/03 Agricultural Year ..... 289

33.19c Number of Agricultural Households by Satisfaction of Using Research Station and District, 2002/03 Agricultural Year ..... 289

33.19d Number of Agricultural Households by Satisfaction of Using Plant Protection Lab. and District, 2002/03 Agricultural Year ..... 290

33.19e Number of Agricultural Households by Satisfaction of Using Land Registration Office and District, 2002/03 Agricultural Year ..... 290

33.19f Number of Agricultural Households by Satisfaction of Using Livestock development Centre and District, 2002/03 Agricultural Year ..... 290

33.19g Number of Agricultural Households by Level of Satisfaction of the Service and District, 2002/03 Agricultural Year..... 290

**HOUSEHOLD FACILITIES... ..... 291**

34.1 Number of Agricultural Households by Type of Toilet and District during the 2002/03 Agriculture Year..... 292

34.2 Number of Households Reporting Average Number of Rooms and Type of Roofing Materials by District; 2002/03 Agricultural Year ..... 292

34.3 Number of Agricultural Households by Type of Owned Assets and District during 2002/03 Agricultural Year District..... 292

34.4 Number of Agriculture Households by Main Source of Energy Used for Lighting and District during 2002/03 Agricultural Year ..... 293

34.5 Number of Households by Main Source of Energy for Cooking and District during 2002/03 Agricultural Year..... 293

34.6 Number of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03 Agricultural Year ..... 294

36.7 Proportion of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03 Agricultural Year ..... 295

34.8 Number of Agricultural Households Reporting Distance to Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agriculture Year ..... 295

34.9 Proportion of Agricultural Households Reporting Distance to Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agriculture Year ..... 296

34.10 Number of Agricultural Households by Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agricultural Year ..... 296

34.11 Proportion of Agricultural Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agricultural Year ..... 296

34.12 Number of Households by Number of Meals the Household Normally Took per Day by District ..... 297

34.13 Number of Households by Number of Days the Household Consumed Meat during the Preceding Week by District ..... 297

34.14 Number of Households by Number of Days the Household Consumed Fish during the Preceding Week by District ..... 298

34.15 Number of Agricultural Households Reporting the Status of Food Satisfaction of the Household during the Preceding Year by District ..... 298

34.16 Number of Households by Main Source of Cash Income and District during 2002/03 Agriculture Year ..... 299

34.17 Number of Agricultural Households by Type of Roofing Material and District during the 2002/03 Agricultural Year ..... 300

34.18 Number of Households by Main Source of Energy for Cooking and District during 2002/03 Agricultural Year ..... 300

# APPENDIX II: CROP TABLES

Type of Agriculture Household ..... 131

Number of Agriculture Households ..... 134

Livelihood Activities ..... 136

Households Demography ..... 140

Land Access/Ownership ..... 148

Land Use ..... 150

Total Annual Crop and Vegetable Production – LONG and SHORT Rainy Seasons ..... 154

Annual Crop and Vegetable Production – SHORT Rainy Season ..... 162

Annual Crop and Vegetable Production – LONG Rainy Season ..... 166

Permanent Crop Production ..... 180

Agro-processing ..... 192

Marketing ..... 196

Irrigation/Erosion Control ..... 198

Access to Farm Inputs and Implements ..... 202

Agriculture Credit ..... 214

Tree Farming and Agro-forestry ..... 218

Crop Extension ..... 224

Animal Contribution to Crop Production ..... 248

Cattle Production ..... 250

Goat Production ..... 254

Sheep Production ..... 258

Pig Production ..... 262

Livestock Pests and Parasite Control ..... 264

Other Livestock ..... 266

Fishing Farming ..... 268

Livestock Extension ..... 272

Access to Infrastructure and other services ..... 284

Household Facilities ..... 292

# TYPE OF AGRICULTURE HOUSEHOLD

**2.1 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agricultural Households by type of household and District during 2002/03 Agriculture Year**

| Agriculture, Non Agriculture and Urban Households | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Rural households involved in Agriculture | % of Total rural house - holds | Rural households NOT involved in Agriculture | % of Total Rural house - holds | Total Rural Household | % of Total house - holds | Urban Households | % of Total house - holds | Total Number of Households (from 2002 Pop. Census) |
| | Number | % | Number | % | Number | % | Number | % | Number |
| Lushoto | 86,580 | 99 | 1062 | 1 | 87,642 | 97 | 2,621 | 3 | 90,263 |
| Korogwe | 45,990 | 95 | 2252 | 5 | 48,242 | 82 | 10,270 | 18 | 58,512 |
| Muheza | 49,195 | 89 | 5929 | 11 | 55,124 | 89 | 7,059 | 11 | 62,183 |
| Tanga | 8,914 | 70 | 3895 | 30 | 12,809 | 24 | 40,295 | 76 | 53,104 |
| Pangani | 7,128 | 82 | 1526 | 18 | 8,653 | 77 | 2,630 | 23 | 11,283 |
| Handeni | 47,739 | 98 | 1074 | 2 | 48,813 | 93 | 3,427 | 7 | 52,240 |
| Kilindi | 19,654 | 99 | 130 | 1 | 19,784 | 67 | 9,624 | 33 | 29,408 |
| Total | 265,198 | 94 | 15,869 | 6 | 281,067 | 79 | 75,926 | 21 | 356,993 |

**2. 2 TYPE OF AGRICULTURE HH: Number of Agriculture Households by type of Holding by District during 2002/03 Agriculture year**

| District | 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 household | % | Number of households | % | | | |
| Lushoto | 48,594 | 56 | 144 | 0 | 0 | 0 | 37,841 | 44 | 86,580 | 86,435 | 37,986 |
| Korogwe | 31,105 | 68 | 290 | 1 | 0 | 0 | 14,596 | 32 | 45,990 | 45,700 | 14,885 |
| Muheza | 37,830 | 77 | 379 | 1 | 0 | 0 | 10,985 | 22 | 49,195 | 48,815 | 11,365 |
| Tanga | 6,974 | 78 | 358 | 4 | 0 | 0 | 1,581 | 18 | 8,914 | 8,555 | 1,939 |
| Pangani | 6,216 | 87 | 51 | 1 | 0 | 0 | 860 | 12 | 7,128 | 7,076 | 911 |
| Handeni | 32,853 | 69 | 108 | 0 | 0 | 0 | 14,777 | 31 | 47,739 | 47,631 | 14,886 |
| Kilindi | 14,833 | 75 | 146 | 1 | 194 | 1 | 4,481 | 23 | 19,654 | 19,314 | 4,820 |
| Total | 178,406 | 67 | 1,477 | 1 | 194 | 0 | 85,121 | 32 | 265,198 | 263,528 | 86,792 |

# NUMBER OF AGRICULTURE HOUSEHOLDS

**3.0: Number of Agricultural Households and Average Household Size by Sex of the Head of Household and District, 2002/03 Agricultural Year**

| District | Male | | | Female | | | Total | | Average Household Size |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Average Household Size | Number | % | Average Household Size | Number | % | |
| Lushoto | 63,785 | 74 | 5 | 22,795 | 26 | 4 | 86,580 | 100 | 5 |
| Korogwe | 34,421 | 75 | 5 | 11,569 | 25 | 4 | 45,990 | 100 | 5 |
| Muheza | 36,415 | 74 | 5 | 12,779 | 26 | 4 | 49,195 | 100 | 5 |
| Tanga | 6,424 | 72 | 5 | 2,490 | 28 | 4 | 8,914 | 100 | 5 |
| Pangani | 5,402 | 76 | 4 | 1,726 | 24 | 4 | 7,128 | 100 | 4 |
| Handeni | 37,875 | 79 | 6 | 9,864 | 21 | 4 | 47,739 | 100 | 5 |
| Kilindi | 16,111 | 82 | 6 | 3,543 | 18 | 4 | 19,654 | 100 | 5 |
| Total | 200,432 | 76 | 5 | 64,766 | 24 | 4 | 265,198 | 100 | 5 |

# RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES

**3.1 The Livelihood Activities/Source of Income of the Households Raked in Order of Importance by District**

| District | Livelihood Activity | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
| Lushoto | 1 | 3 | 6 | 2 | 7 | 4 | 5 |
| Korogwe | 1 | 5 | 6 | 2 | 7 | 3 | 4 |
| Muheza | 1 | 2 | 6 | 5 | 7 | 4 | 3 |
| Tanga | 3 | 2 | 5 | 1 | 6 | 7 | 4 |
| Pangani | 2 | 5 | 6 | 1 | 7 | 4 | 3 |
| Handeni | 1 | 6 | 5 | 2 | 7 | 3 | 4 |
| Kilindi | 1 | 6 | 5 | 2 | 7 | 3 | 4 |
| **Total** | **1** | **5** | **6** | **2** | **7** | **3** | **4** |

**3.1a RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: First Most Importance**

| District | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
|---|---|---|---|---|---|---|---|
| Lushoto | 27,825 | 11,033 | 3,462 | 38,782 | 5,331 | 292 | 292 |
| Korogwe | 9,061 | 5,880 | 4,955 | 18,040 | 6,534 | 365 | 1,139 |
| Muheza | 10,236 | 16,697 | 1,419 | 14,876 | 3,474 | 891 | 659 |
| Tanga | 511 | 2,499 | 347 | 4,136 | 345 | 948 | 157 |
| Pangani | 911 | 1,537 | 66 | 3,439 | 231 | 590 | 430 |
| Handeni | 19,300 | 3,027 | 1,920 | 17,279 | 2,217 | 107 | 2,825 |
| Kilindi | 6,819 | 676 | 1,461 | 9,484 | 825 | 0 | 341 |
| Total | 74,663 | 41,349 | 13,630 | 106,035 | 18,958 | 3,192 | 5,842 |

**3.1b RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Second Most Importance**

| District | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
|---|---|---|---|---|---|---|---|
| Lushoto | 50,682 | 17,863 | 12,699 | 4,054 | 275 | 3,478 | 2,898 |
| Korogwe | 24,066 | 5,472 | 2,865 | 6,947 | 2,442 | 2,265 | 2,783 |
| Muheza | 27,576 | 10,719 | 1,923 | 4,337 | 1,254 | 1,239 | 1,975 |
| Tanga | 3,103 | 2,634 | 566 | 1,652 | 586 | 112 | 219 |
| Pangani | 3,550 | 1,435 | 314 | 920 | 180 | 230 | 454 |
| Handeni | 23,112 | 2,457 | 6,333 | 6,758 | 1,046 | 4,489 | 4,064 |
| Kilindi | 8,607 | 1,849 | 1,511 | 3,504 | 729 | 2,433 | 923 |
| Total | 140,696 | 42,430 | 26,211 | 28,171 | 6,513 | 14,246 | 13,316 |

**3.1c RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Third Most Importance**

| District | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
|---|---|---|---|---|---|---|---|
| Lushoto | 5,328 | 14,399 | 21,672 | 4,933 | 1,600 | 15,877 | 15,373 |
| Korogwe | 5,680 | 5,240 | 5,635 | 5,254 | 3,934 | 10,668 | 8,155 |
| Muheza | 5,843 | 4,846 | 5,532 | 5,887 | 1,669 | 8,614 | 17,231 |
| Tanga | 2,361 | 1,325 | 779 | 1,110 | 1,009 | 516 | 1,344 |
| Pangani | 1,141 | 661 | 533 | 706 | 292 | 1,052 | 2,686 |
| Handeni | 4,050 | 3,469 | 6,275 | 5,139 | 1,676 | 18,046 | 9,075 |
| Kilindi | 2,334 | 1,799 | 2,193 | 1,600 | 1,119 | 7,062 | 3,546 |
| Total | 26,737 | 31,739 | 42,620 | 24,630 | 11,300 | 61,834 | 57,411 |

**3.1d RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Fourth Most Importance**

| District | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
|---|---|---|---|---|---|---|---|
| Lushoto | 1,587 | 7,205 | 10,952 | 1,011 | 3,485 | 28,555 | 31,168 |
| Korogwe | 1,807 | 1,927 | 3,749 | 3,468 | 3,047 | 14,714 | 14,569 |
| Muheza | 1,473 | 1,759 | 3,362 | 3,108 | 1,154 | 20,397 | 16,910 |
| Tanga | 1,019 | 612 | 1,393 | 386 | 645 | 588 | 2,813 |
| Pangani | 448 | 365 | 453 | 559 | 351 | 2,519 | 2,298 |
| Handeni | 644 | 3,310 | 4,582 | 3,517 | 1,388 | 14,289 | 17,344 |
| Kilindi | 729 | 1,851 | 1,511 | 879 | 781 | 6,229 | 7,044 |
| Total | 7,707 | 17,029 | 26,004 | 12,928 | 10,851 | 87,291 | 92,146 |

**3.1e RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Fifth Most Importance**

| District | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
|---|---|---|---|---|---|---|---|
| Lushoto | 433 | 5,755 | 11,521 | 1,565 | 3,297 | 24,711 | 24,521 |
| Korogwe | 2,845 | 2,247 | 2,105 | 1,405 | 3,109 | 10,986 | 11,360 |
| Muheza | 1,153 | 3,952 | 3,504 | 1,790 | 590 | 14,351 | 8,230 |
| Tanga | 269 | 221 | 866 | 205 | 333 | 515 | 2,205 |
| Pangani | 280 | 691 | 641 | 371 | 442 | 1,739 | 741 |
| Handeni | 432 | 5,124 | 4,350 | 1,912 | 925 | 7,230 | 9,763 |
| Kilindi | 534 | 1,456 | 2,337 | 487 | 824 | 3,540 | 4,925 |
| Total | 5,946 | 19,445 | 25,324 | 7,736 | 9,519 | 63,071 | 61,745 |

**3.1f RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Sixth Most Importance**

| District | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
|---|---|---|---|---|---|---|---|
| Lushoto | 144 | 6,178 | 5,630 | 1,740 | 1,127 | 11,203 | 5,784 |
| Korogwe | 1,229 | 989 | 1,883 | 832 | 411 | 4,989 | 3,576 |
| Muheza | 479 | 964 | 2,490 | 893 | 911 | 2,835 | 2,395 |
| Tanga | 0 | 55 | 274 | 18 | 223 | 235 | 409 |
| Pangani | 207 | 395 | 225 | 162 | 164 | 472 | 400 |
| Handeni | 93 | 2,958 | 2,582 | 952 | 1,254 | 1,374 | 2,767 |
| Kilindi | 340 | 1,071 | 1,507 | 239 | 292 | 242 | 2,534 |
| Total | 2,492 | 12,609 | 14,591 | 4,838 | 4,384 | 21,351 | 17,866 |

**3.1g RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Seventh Most Importance**

| District | Annual Crop Farming | Permanent Crop Farming | Livestock Keeping / Herding | Off Farm Income | Remittances | Fishing / Hunting & Gathering | Tree / Forest Resources |
|---|---|---|---|---|---|---|---|
| Lushoto | 292 | 870 | 289 | 869 | 835 | 862 | 144 |
| Korogwe | 408 | 0 | 827 | 316 | 0 | 206 | 525 |
| Muheza | 248 | 426 | 639 | 255 | 0 | 260 | 167 |
| Tanga | 0 | 32 | 30 | 29 | 41 | 33 | 0 |
| Pangani | 14 | 35 | 35 | 0 | 155 | 257 | 14 |
| Handeni | 0 | 414 | 489 | 216 | 315 | 108 | 430 |
| Kilindi | 0 | 243 | 385 | 244 | 195 | 49 | 243 |
| Total | 963 | 2,021 | 2,696 | 1,928 | 1,541 | 1,774 | 1,524 |

# HOUSEHOLDS DEMOGRAPHS

**3.2 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (row %)**

| Age Group | Sex | | | | | |
|---|---|---|---|---|---|---|
| | Male | | Female | | Total | |
| | Number | % | Number | % | Number | % |
| Less than 4 | 82,018 | 48 | 88,990 | 52 | 171,007 | 100 |
| 05 - 09 | 104,818 | 51 | 102,672 | 49 | 207,490 | 100 |
| 10 - 14 | 101,601 | 52 | 92,510 | 48 | 194,111 | 100 |
| 15 - 19 | 68,064 | 52 | 61,926 | 48 | 129,989 | 100 |
| 20 - 24 | 40,272 | 40 | 61,291 | 60 | 101,563 | 100 |
| 25 - 29 | 43,942 | 46 | 51,603 | 54 | 95,544 | 100 |
| 30 - 34 | 35,049 | 48 | 38,261 | 52 | 73,310 | 100 |
| 35 - 39 | 28,872 | 43 | 37,812 | 57 | 66,684 | 100 |
| 40 - 44 | 25,932 | 46 | 30,220 | 54 | 56,152 | 100 |
| 45 - 49 | 23,468 | 50 | 23,258 | 50 | 46,726 | 100 |
| 50 - 54 | 19,919 | 50 | 19,937 | 50 | 39,856 | 100 |
| 55 - 59 | 13,381 | 55 | 10,934 | 45 | 24,315 | 100 |
| 60 - 64 | 13,033 | 51 | 12,749 | 49 | 25,782 | 100 |
| 65 - 69 | 11,024 | 54 | 9,540 | 46 | 20,565 | 100 |
| 70 - 74 | 10,535 | 51 | 10,146 | 49 | 20,681 | 100 |
| 75 - 79 | 4,869 | 56 | 3,763 | 44 | 8,632 | 100 |
| 80 - 84 | 4,058 | 54 | 3,400 | 46 | 7,458 | 100 |
| Above 85 | 3,113 | 51 | 3,052 | 49 | 6,165 | 100 |
| Total | 633,967 | 49 | 662,064 | 51 | 1,296,031 | 100 |

**3.3 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (col %)**

| Age Group | Sex | | | | | |
|---|---|---|---|---|---|---|
| | Male | | Female | | Total | |
| | Number | % | Number | % | Number | % |
| Less than 4 | 82,018 | 13 | 88,990 | 13 | 171,007 | 13 |
| 05 - 09 | 104,818 | 17 | 102,672 | 16 | 207,490 | 16 |
| 10 - 14 | 101,601 | 16 | 92,510 | 14 | 194,111 | 15 |
| 15 - 19 | 68,064 | 11 | 61,926 | 9 | 129,989 | 10 |
| 20 - 24 | 40,272 | 6 | 61,291 | 9 | 101,563 | 8 |
| 25 - 29 | 43,942 | 7 | 51,603 | 8 | 95,544 | 7 |
| 30 - 34 | 35,049 | 6 | 38,261 | 6 | 73,310 | 6 |
| 35 - 39 | 28,872 | 5 | 37,812 | 6 | 66,684 | 5 |
| 40 - 44 | 25,932 | 4 | 30,220 | 5 | 56,152 | 4 |
| 45 - 49 | 23,468 | 4 | 23,258 | 4 | 46,726 | 4 |
| 50 - 54 | 19,919 | 3 | 19,937 | 3 | 39,856 | 3 |
| 55 - 59 | 13,381 | 2 | 10,934 | 2 | 24,315 | 2 |
| 60 - 64 | 13,033 | 2 | 12,749 | 2 | 25,782 | 2 |
| 65 - 69 | 11,024 | 2 | 9,540 | 1 | 20,565 | 2 |
| 70 - 74 | 10,535 | 2 | 10,146 | 2 | 20,681 | 2 |
| 75 - 79 | 4,869 | 1 | 3,763 | 1 | 8,632 | 1 |
| 80 - 84 | 4,058 | 1 | 3,400 | 1 | 7,458 | 1 |
| Above 85 | 3,113 | 0 | 3,052 | 0 | 6,165 | 0 |
| Total | 633,967 | 100 | 662,064 | 100 | 1,296,031 | 100 |

**3.4 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Sex and District for the 2002/03 Agricultural Year**

| District | Sex | | | | | |
|---|---|---|---|---|---|---|
| | Male | | Female | | Total | |
| | Number | % | Number | % | Number | % |
| Lushoto | 196,570 | 48 | 209,752 | 52 | 406,322 | 100 |
| Korogwe | 112,681 | 49 | 115,135 | 51 | 227,816 | 100 |
| Muheza | 113,667 | 49 | 116,950 | 51 | 230,617 | 100 |
| Tanga | 19,546 | 48 | 21,375 | 52 | 40,922 | 100 |
| Pangani | 15,310 | 52 | 14,143 | 48 | 29,453 | 100 |
| Handeni | 123,622 | 48 | 132,669 | 52 | 256,291 | 100 |
| Kilindi | 52,570 | 50 | 52,040 | 50 | 104,610 | 100 |
| Total | 633,967 | 49 | 662,064 | 51 | 1,296,031 | 100 |

**3.5 HOUSEHOLDS DEMOGRAPHS: Number of Agriculture Household Members 5 years and above Who Can Read and Write Languages By Type of Language and District, 2002/03 Agricultural Year**

| | Read & Write | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Swahili | | Swahili & English | | Any Other Language | | Don't Read / Write | | |
| District | Number | % | Number | % | Number | % | Number | % | % |
| Lushoto | 258,554 | 73.2 | 7,315 | 2.1 | 0 | 0.0 | 87,278 | 24.7 | 100 |
| Korogwe | 140,665 | 68.9 | 5,004 | 2.5 | 0 | 0.0 | 58,514 | 28.7 | 100 |
| Muheza | 143,330 | 71.2 | 4,205 | 2.1 | 283 | 0.1 | 53,363 | 26.5 | 100 |
| Tanga | 25,756 | 69.8 | 1,922 | 5.2 | 131 | 0.4 | 9,073 | 24.6 | 100 |
| Pangani | 19,921 | 74.4 | 519 | 1.9 | 39 | 0.1 | 6,280 | 23.5 | 100 |
| Handeni | 128,671 | 59.7 | 6,330 | 2.9 | 750 | 0.3 | 79,943 | 37.1 | 100 |
| Kilindi | 44,615 | 51.2 | 668 | 0.8 | 243 | 0.3 | 41,651 | 47.8 | 100 |
| Total | 761,512 | 68 | 25,964 | 2 | 1,446 | 0.1 | 336,102 | 30 | 100 |

**3.6 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members 5 years and above By School Attendancy and District , 2002/03 Agricultural Year**

| | School Attendancy | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Attending School | | Completed | | Never Attended to School | | Total | |
| District | Number | % | Number | % | Number | % | Number | % |
| Lushoto | 132,142 | 37.4 | 162,461 | 46.0 | 58,544 | 16.6 | 353,147 | 100 |
| Korogwe | 69,632 | 34.1 | 87,548 | 42.9 | 47,003 | 23.0 | 204,183 | 100 |
| Muheza | 65,362 | 32.5 | 90,049 | 44.8 | 45,771 | 22.8 | 201,182 | 100 |
| Tanga | 11,636 | 31.5 | 17,439 | 47.3 | 7,807 | 21.2 | 36,882 | 100 |
| Pangani | 9,276 | 34.7 | 13,161 | 49.2 | 4,322 | 16.2 | 26,758 | 100 |
| Handeni | 63,567 | 29.5 | 83,470 | 38.7 | 68,656 | 31.8 | 215,693 | 100 |
| Kilindi | 25,390 | 29.1 | 27,199 | 31.2 | 34,588 | 39.7 | 87,178 | 100 |
| Total | 377,006 | 33.5 | 481,327 | 42.8 | 266,691 | 23.7 | 1,125,024 | 100 |

**3.7 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Main Activity and District**

| | Main Activity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Crop/Seaweed Farming | | Livestock Keeping / Herding | | Livestock Pastoralist | | Fishing | | | |
| District | Number | % | Number | % | Number | % | Number | % | % | % |
| Lushoto | 152,752 | 43 | 1,866 | 1 | 144 | 0 | 143 | 0 | 1 | 8 |
| Korogwe | 76,219 | 37 | 3,934 | 2 | 103 | 0 | 107 | 0 | 2 | 8 |
| Muheza | 77,409 | 38 | 1,565 | 1 | 1,299 | 1 | 1,529 | 1 | 1 | 5 |
| Tanga | 9,867 | 27 | 898 | 2 | 23 | 0 | 987 | 3 | 2 | 4 |
| Pangani | 8,770 | 33 | 45 | 0 | 0 | 0 | 942 | 4 | 1 | 5 |
| Handeni | 92,233 | 43 | 2,552 | 1 | 107 | 0 | 630 | 0 | 1 | 5 |
| Kilindi | 33,682 | 39 | 2,921 | 3 | 1,164 | 1 | 48 | 0 | 0 | 2 |
| Total | 450,932 | 40 | 13,782 | 1 | 2,839 | 0 | 4,387 | 0 | 1 | 6 |

**cont… HOUSEHOLD DEMOGRAPHS: Number of Agricultural Household Members By Main Activity and District**

| | Self Employed (Non Farmimg) without Employees | | Unpaid Family Helper (Non Agriculture) | | Not Working & Available | | Not Working & Unavailable | | Housemaker / Housewife | |
|---|---|---|---|---|---|---|---|---|---|---|
| District | Number | % | Number | % | Number | % | Number | % | Number | % |
| Lushoto | 16,606 | 5 | 1,439 | 0 | 576 | 0 | 0 | 0 | 570 | 0 |
| Korogwe | 7,418 | 4 | 919 | 0 | 200 | 0 | 103 | 0 | 1,556 | 1 |
| Muheza | 18,315 | 9 | 1,566 | 1 | 708 | 0 | 736 | 0 | 2,515 | 1 |
| Tanga | 5,170 | 14 | 504 | 1 | 985 | 3 | 103 | 0 | 1,250 | 3 |
| Pangani | 3,665 | 14 | 247 | 1 | 148 | 1 | 41 | 0 | 638 | 2 |
| Handeni | 17,355 | 8 | 2,481 | 1 | 615 | 0 | 216 | 0 | 837 | 0 |
| Kilindi | 14,306 | 16 | 98 | 0 | 0 | 0 | 192 | 0 | 582 | 1 |
| Total | 82,834 | 7 | 7,254 | 1 | 3,231 | 0 | 1,391 | 0 | 7,948 | 1 |

**cont… HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Main Activity and District**

| | Student | | Too Old / Retired / Sick / Disabled | | Other | | Total | |
|---|---|---|---|---|---|---|---|---|
| District | Number | % | Number | % | Number | % | Number | % |
| Lushoto | 116,122 | 33 | 29,186 | 8 | 280 | 0 | 353,147 | 100 |
| Korogwe | 63,908 | 31 | 23,480 | 11 | 809 | 0 | 204,183 | 100 |
| Muheza | 63,082 | 31 | 16,832 | 8 | 1,957 | 1 | 201,182 | 100 |
| Tanga | 11,348 | 31 | 2,635 | 7 | 485 | 1 | 36,882 | 100 |
| Pangani | 8,838 | 33 | 1,269 | 5 | 261 | 1 | 26,758 | 100 |
| Handeni | 55,470 | 26 | 21,768 | 10 | 7,226 | 3 | 215,693 | 100 |
| Kilindi | 24,417 | 28 | 7,202 | 8 | 716 | 1 | 87,178 | 100 |
| Total | 343,184 | 31 | 102,373 | 9 | 11,735 | 1 | 1,125,024 | 100 |

**3.8 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of involvement in Farming Activity and District, 2002/03 Agricultural Year**

| | Involvement in Farming | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Works Full-time on Farm | | Works Part-time on Farm | | Rarely Works on Farm | | Never Works on Farm | | |
| District | Number | % | Number | % | Number | % | Number | % | % |
| Lushoto | 153,483 | 43 | 11,754 | 3 | 143,275 | 41 | 44,635 | 13 | 100 |
| Korogwe | 66,982 | 33 | 26,928 | 13 | 68,254 | 33 | 42,019 | 21 | 100 |
| Muheza | 74,537 | 37 | 30,593 | 15 | 63,190 | 31 | 32,863 | 16 | 100 |
| Tanga | 8,995 | 24 | 5,515 | 15 | 9,496 | 26 | 12,877 | 35 | 100 |
| Pangani | 8,093 | 30 | 1,458 | 5 | 12,725 | 48 | 4,483 | 17 | 100 |
| Handeni | 85,034 | 39 | 24,270 | 11 | 67,099 | 31 | 39,290 | 18 | 100 |
| Kilindi | 36,026 | 41 | 12,288 | 14 | 24,623 | 28 | 14,240 | 16 | 100 |
| Total | 433,150 | 39 | 112,805 | 10 | 388,661 | 35 | 190,408 | 17 | 100 |

**3.9 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year**

| | Education Level | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Under Standard One | | Standard One | | Standard Two | | Standard Three | | | |
| District | Number | % | Number | % | Number | % | Number | % | % | % |
| Lushoto | 146 | 0 | 288 | 0 | 2,314 | 1 | 2,450 | 2 | 10 | 2 |
| Korogwe | - | - | 1,137 | 1 | 2,417 | 3 | 3,800 | 4 | 14 | 4 |
| Muheza | - | - | 492 | 1 | 1,904 | 2 | 3,308 | 4 | 16 | 5 |
| Tanga | 111 | 1 | 167 | 1 | 448 | 3 | 681 | 4 | 12 | 3 |
| Pangani | - | - | 23 | 0 | 301 | 2 | 518 | 4 | 14 | 4 |
| Handeni | 540 | 1 | 108 | 0 | 2,558 | 3 | 5,094 | 6 | 13 | 4 |
| Kilindi | 97 | 0 | - | - | 731 | 3 | 925 | 3 | 13 | 1 |
| Total | 893 | 0 | 2,215 | 0 | 10,672 | 2 | 16,776 | 3 | 13 | 3 |

**cont … HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year**

| | Standard Seven | | Standard Eight | | Training After Primary Education | | Pre Form One | | Form One | |
|---|---|---|---|---|---|---|---|---|---|---|
| District | Number | % | Number | % | Number | % | Number | % | Number | % |
| Lushoto | 128,131 | 79 | 1,166 | 1 | 145 | 0 | - | - | 146 | 0 |
| Korogwe | 55,775 | 64 | 1,731 | 2 | 376 | 0 | 300 | 0 | - | - |
| Muheza | 55,523 | 62 | 1,874 | 2 | 338 | 0 | 55 | 0 | 167 | 0 |
| Tanga | 10,589 | 61 | 360 | 2 | 30 | 0 | 23 | 0 | 91 | 1 |
| Pangani | 8,465 | 64 | 250 | 2 | 35 | 0 | 19 | 0 | 67 | 1 |
| Handeni | 53,352 | 64 | 1,247 | 1 | - | - | - | - | 217 | 0 |
| Kilindi | 20,391 | 75 | 98 | 0 | - | - | - | - | - | - |
| Total | 332,227 | 69 | 6,726 | 1 | 925 | 0 | 397 | 0 | 688 | 0 |

**cont … HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year**

| | Form Two | | Form Three | | Form Four | | Form Six | | Secondary | |
|---|---|---|---|---|---|---|---|---|---|---|
| District | Number | % | Number | % | Number | % | Number | % | Number | % |
| Lushoto | 582 | 0 | 144 | 0 | 2,588 | 2 | - | - | 708 | 0 |
| Korogwe | 596 | 1 | 191 | 0 | 2,305 | 3 | - | - | 107 | 0 |
| Muheza | 1,048 | 1 | 124 | 0 | 1,379 | 2 | - | - | 84 | 0 |
| Tanga | 73 | 0 | 81 | 0 | 775 | 4 | 10 | 0 | 212 | 1 |
| Pangani | 76 | 1 | 22 | 0 | 230 | 2 | 24 | 0 | 22 | 0 |
| Handeni | 520 | 1 | 217 | 0 | 944 | 1 | - | - | 212 | 0 |
| Kilindi | 47 | 0 | - | - | 433 | 2 | - | - | 49 | 0 |
| Total | 2,942 | 1 | 779 | 0 | 8,654 | 2 | 34 | 0 | 1,393 | 0 |

**cont … HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year**

| | Tertiary Education | | Adult Education | | Total | |
|---|---|---|---|---|---|---|
| District | Number | % | Number | % | Number | % |
| Lushoto | - | - | 1,010 | 1 | 162,461 | 100 |
| Korogwe | - | - | 725 | 1 | 87,548 | 100 |
| Muheza | - | - | 1,532 | 2 | 90,049 | 100 |
| Tanga | 45 | 0 | 579 | 3 | 17,439 | 100 |
| Pangani | - | - | 379 | 3 | 13,161 | 100 |
| Handeni | - | - | 1,253 | 2 | 83,470 | 100 |
| Kilindi | 47 | 0 | 386 | 1 | 27,199 | 100 |
| Total | 92 | 0 | 5,865 | 1 | 481,327 | 100 |

**3.10 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Households and Average Household Size By Sex of the Head of Household and District, 2002/03 Agricultural Year**

| District | Male | | | Female | | | Total | | Average Household Size |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Average Household Size | Number | % | Average Household Size | Number | % | |
| Lushoto | 63,785 | 74 | 5 | 22,795 | 26 | 4 | 86,580 | 100 | 5 |
| Korogwe | 34,421 | 75 | 5 | 11,569 | 25 | 4 | 45,990 | 100 | 5 |
| Muheza | 36,415 | 74 | 5 | 12,779 | 26 | 4 | 49,195 | 100 | 5 |
| Tanga | 6,424 | 72 | 5 | 2,490 | 28 | 4 | 8,914 | 100 | 5 |
| Pangani | 5,402 | 76 | 4 | 1,726 | 24 | 4 | 7,128 | 100 | 4 |
| Handeni | 37,875 | 79 | 6 | 9,864 | 21 | 4 | 47,739 | 100 | 5 |
| Kilindi | 16,111 | 82 | 6 | 3,543 | 18 | 4 | 19,654 | 100 | 5 |
| Total | 200,432 | 76 | 5 | 64,766 | 24 | 4 | 265,198 | 100 | 5 |

**3.11 HOUSEHOLD DEMOGRAPHS: Number of Agricultural Households Involved in Off Farm Income Generating Activity By Number of Off Farm Income Activities and District, 2002/03 Agricultural Year**

| | Off farm income | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | One | | Two | | More than Two | | Total | |
| District | Number | % | Number | % | Number | % | Number | % |
| Tanga | 3,664 | 45 | 3,047 | 37 | 1,521 | 18 | 8,232 | 100 |
| Handeni | 27,704 | 73 | 6,445 | 17 | 3,604 | 10 | 37,753 | 100 |
| Pangani | 3,999 | 67 | 1,475 | 25 | 539 | 9 | 6,013 | 100 |
| Korogwe | 27,323 | 70 | 9,037 | 23 | 2,926 | 7 | 39,286 | 100 |
| Kilindi | 12,256 | 76 | 2,872 | 18 | 1,019 | 6 | 16,147 | 100 |
| Muheza | 25,227 | 78 | 5,388 | 17 | 1,552 | 5 | 32,168 | 100 |
| Lushoto | 46,179 | 87 | 5,904 | 11 | 862 | 2 | 52,945 | 100 |
| Total | 146,351 | 76 | 34,169 | 18 | 12,023 | 6 | 192,543 | 100 |

**3.12 HOUSEHOLDS DEMOGRAPHS: Number of Heads of Agricultural Households By Maximum Education Level Attained and District, 2002/03 Agricultural Year**

| | Maximum Education Level Attained | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | No Education | Primary Education | Post Primary Education | Secondary Education | Post Secondary Education | University & Equivalent Education | Adult Education | Total |
| Lushoto | 20,754 | 62,658 | 145 | 1,734 | 427 | 144 | 718 | 86,580 |
| Korogwe | 11,060 | 32,741 | 209 | 1,681 | - | - | 299 | 45,990 |
| Muheza | 12,223 | 34,685 | 164 | 1,318 | 84 | - | 720 | 49,195 |
| Tanga | 2,448 | 5,410 | 10 | 605 | 77 | 45 | 319 | 8,914 |
| Pangani | 1,450 | 5,183 | 11 | 201 | - | - | 282 | 7,128 |
| Handeni | 14,564 | 31,725 | - | 721 | 106 | - | 623 | 47,739 |
| Kilindi | 8,319 | 10,614 | - | 287 | 49 | 47 | 338 | 19,654 |
| Total | 70,819 | 183,016 | 539 | 6,548 | 742 | 236 | 3,298 | 265,198 |

**3.13 HOUSEHOLDS DEMOGRAPHS: Mean, Meadian, Mode of Age of Head of Agricultural Household and District**

| District | Male | | | Female | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | Median | Mode | Mean | Median | Mode | Mean | Median | Mode |
| Lushoto | 42 | 40 | 30 | 49 | 48 | 40 | 44 | 41 | 40 |
| Korogwe | 47 | 44 | 35 | 50 | 47 | 65 | 47 | 45 | 35 |
| Muheza | 46 | 45 | 30 | 50 | 48 | 60 | 47 | 45 | 60 |
| Tanga | 49 | 48 | 45 | 55 | 55 | 70 | 51 | 50 | 70 |
| Pangani | 46 | 44 | 25 | 49 | 46 | 70 | 47 | 45 | 65 |
| Handeni | 43 | 40 | 30 | 47 | 45 | 30 | 44 | 40 | 30 |
| Kilindi | 42 | 40 | 30 | 45 | 42 | 50 | 42 | 40 | 30 |
| Total | 44 | 42 | 30 | 49 | 47 | 40 | 45 | 43 | 30 |

**3.14 Time Series of Male and Female Headed Households**

| Type of Holding | NSCA 1994/95 | EAS 1995/96 | EAS 1996/97 | IAS 1997/98 | DIAS 1998/99 | NSCA 2002/03 |
|---|---|---|---|---|---|---|
| Male Headed ( Number in Thousands) | 175 | 179 | 192 | 204 | 205 | 200 |
| Female Headed ( Number in Thousands) | 38 | 51 | 63 | 64 | 56 | 64 |
| **Total** | **213** | **230** | **255** | **268** | **261** | **264** |
| | | | | | | |
| Male Headed (Percentage) | 82 | 78 | 75 | 76 | 78 | 76 |
| Female Headed (Percentage) | 18 | 22 | 25 | 24 | 22 | 24 |
| **Total** | **100** | **100** | **100** | **100** | **100** | **100** |

**3.15 Literacy Rate of Heads of Households by Sex and District**

| | Literacy | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Know | | | Don;t know | | | Total | | |
| District | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Lushoto | 55,415 | 10,703 | 66,117 | 8,370 | 12,092 | 20,462 | 63,785 | 22,795 | 86,580 |
| Korogwe | 28,146 | 6,252 | 34,399 | 6,274 | 5,317 | 11,591 | 34,421 | 11,569 | 45,990 |
| Muheza | 30,491 | 6,580 | 37,071 | 5,924 | 6,200 | 12,124 | 36,415 | 12,779 | 49,195 |
| Tanga | 5,430 | 1,123 | 6,554 | 994 | 1,367 | 2,360 | 6,424 | 2,490 | 8,914 |
| Pangani | 4,598 | 1,058 | 5,656 | 803 | 668 | 1,472 | 5,402 | 1,726 | 7,128 |
| Handeni | 29,694 | 4,337 | 34,031 | 8,181 | 5,527 | 13,708 | 37,875 | 9,864 | 47,739 |
| Kilindi | 10,220 | 1,261 | 11,481 | 5,891 | 2,282 | 8,172 | 16,111 | 3,543 | 19,654 |
| Total | 163,994 | 31,314 | 195,308 | 36,438 | 33,452 | 69,890 | 200,432 | 64,766 | 265,198 |

# LAND ACCESS/OWNERSHIP

**4.1 LAND ACCESS/OWNERSHIP: Number of Farming Households By Type of Land Ownership/Tenure and District for the 2002/03 Agricultural Year**

| District | Land Access | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Leased/Certificate of Ownwership | | Owned under Customary Law | | Bought | | Rented | | Borrowed | | Households with Area Shared Cropped | | Households with Area under Other Forms of Tenure | | Total Number of Households |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | |
| Lushoto | 2,451 | 3 | 81,583 | 94 | 14,865 | 17 | 2,127 | 2 | 3,002 | 3 | 863 | 1 | 1,304 | 2 | 86,435 |
| Korogwe | 7,554 | 17 | 28,457 | 62 | 12,194 | 27 | 7,104 | 16 | 6,613 | 14 | 1,326 | 3 | 1,999 | 4 | 45,700 |
| Muheza | 9,683 | 20 | 26,895 | 55 | 12,370 | 25 | 1,838 | 4 | 10,581 | 22 | 697 | 1 | 2,860 | 6 | 48,815 |
| Tanga | 3,652 | 43 | 2,266 | 26 | 1,639 | 19 | 384 | 4 | 1,740 | 20 | 131 | 2 | 347 | 4 | 8,555 |
| Pangani | 272 | 4 | 5,228 | 74 | 1,423 | 20 | 41 | 1 | 1,100 | 16 | 72 | 1 | 359 | 5 | 7,076 |
| Handeni | 17,106 | 36 | 24,959 | 52 | 7,298 | 15 | 428 | 1 | 3,813 | 8 | 1,662 | 3 | 1,936 | 4 | 47,631 |
| Kilindi | 1,824 | 9 | 14,670 | 76 | 1,307 | 7 | 438 | 2 | 873 | 5 | 49 | 0 | 2,827 | 15 | 19,314 |
| Total | 42,541 | 16 | 184,058 | 70 | 51,095 | 19 | 12,361 | 5 | 27,721 | 11 | 4,800 | 2 | 11,632 | 4 | 263,528 |

**4.2 LAND ACCESS/OWNERSHIP: Area of Land (ha) by Ownership/Tenure (Hectare) and District for the 2002/03 Agricultural Year**

| District | Land Access/ Ownership (Hectare) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Area Leased/ Certificate of Ownership | Area Owned Under Customary Law | Area Bought | Area Rented | Area Borrowed | Area Shared Cropped | Area under Other Forms of Tenure | Total |
| Lushoto | 2,370 | 82,638 | 9,649 | 734 | 1,321 | 264 | 566 | 97,543 |
| Korogwe | 10,034 | 37,725 | 18,227 | 6,229 | 4,395 | 1,343 | 3,159 | 81,111 |
| Muheza | 15,746 | 46,914 | 24,133 | 1,238 | 9,938 | 272 | 3,666 | 101,907 |
| Tanga | 7,653 | 3,743 | 3,283 | 525 | 1,711 | 156 | 600 | 17,671 |
| Pangani | 517 | 10,141 | 2,556 | 17 | 931 | 80 | 560 | 14,803 |
| Handeni | 52,143 | 63,069 | 20,618 | 581 | 4,236 | 4,605 | 5,494 | 150,746 |
| Kilindi | 5,471 | 41,526 | 3,238 | 463 | 973 | 79 | 8,865 | 60,614 |
| Total | 93,934 | 285,756 | 81,704 | 9,786 | 23,506 | 6,800 | 22,910 | 524,396 |
| % | 18 | 54 | 16 | 2 | 4 | 1 | 4 | 100 |

# LAND USE

**5.1 LAND USE: Number of Agricultural Households By Type of Land Use and District for the 2002/03 Agricultural Year**

| Districts | Type of Land Use | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Households with Temporary Mono Crops | Households with Temporary Mixed Crops | Households with Permanent Mono Crops | Households with Permanent Mixed Crops | Households with Permanent / Annual Mix | Households with Pasture | Households with Fallow | Households with Natural Bush | Households with Planted Trees | Households Renting to Others | Households with Unusable Land | Households with Uncultivated Usable Land | Total Number of Households |
| Lushoto | 27,522 | 41,392 | 21,570 | 4,613 | 33,010 | 421 | 7,063 | 289 | 9,902 | 581 | 730 | 1,167 | 86,580 |
| Korogwe | 34,049 | 13,313 | 7,128 | 8,922 | 8,549 | 423 | 6,000 | 0 | 2,097 | 2,089 | 914 | 8,675 | 45,990 |
| Muheza | 27,406 | 13,807 | 15,007 | 15,586 | 15,868 | 988 | 6,832 | 400 | 4,382 | 566 | 1,589 | 8,090 | 49,195 |
| Tanga | 3,286 | 1,481 | 2,036 | 2,952 | 3,337 | 191 | 158 | 0 | 0 | 95 | 529 | 2,943 | 8,914 |
| Pangani | 5,032 | 1,401 | 2,365 | 1,953 | 1,454 | 125 | 470 | 18 | 121 | 90 | 277 | 1,418 | 7,128 |
| Handeni | 41,619 | 8,302 | 6,447 | 6,219 | 9,544 | 216 | 12,319 | 641 | 210 | 1,160 | 2,309 | 13,687 | 47,739 |
| Kilindi | 11,205 | 6,617 | 2,870 | 1,996 | 4,514 | 146 | 2,916 | 194 | 243 | 146 | 1,552 | 5,931 | 19,654 |
| Total | 150,120 | 86,312 | 57,423 | 42,241 | 76,275 | 2,509 | 35,758 | 1,542 | 16,954 | 4,726 | 7,899 | 41,911 | 265,198 |

**5.2 LAND USE: Area of Land (Ha) by type of Land Use and District for the 2002/03 Agricultural Year**

| Districts | Land use area | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area under Temporary Mono Crops | Area under Temporary Mixed Crops | Area under Permanent Mono Crops | Area under Permanent Mixed Crops | Area under Permanent / Annual Mix | Area under Pasture | Area under Fallow | Area under Natural Bush | Area under Planted Trees | Area Rented to Others | Area Unusable | Area of Uncultivated Usable Land | Total |
| Lushoto | 15,136 | 31,558 | 7,664 | 2,611 | 33,082 | 71 | 4,729 | 117 | 1,621 | 186 | 296 | 473 | 97,543 |
| Korogwe | 35,542 | 11,038 | 3,122 | 6,396 | 7,707 | 162 | 4,857 | 0 | 654 | 2,200 | 562 | 8,871 | 81,111 |
| Muheza | 21,727 | 11,289 | 12,593 | 17,539 | 16,691 | 663 | 6,620 | 893 | 1,362 | 430 | 1,619 | 10,481 | 101,907 |
| Tanga | 1,799 | 1,085 | 1,343 | 4,038 | 3,884 | 429 | 91 | 0 | 0 | 138 | 727 | 4,137 | 17,671 |
| Pangani | 4,350 | 1,316 | 2,480 | 2,685 | 1,599 | 84 | 478 | 20 | 19 | 51 | 254 | 1,522 | 14,859 |
| Handeni | 68,474 | 9,664 | 4,486 | 5,385 | 11,126 | 304 | 22,534 | 1,565 | 222 | 1,093 | 3,628 | 22,267 | 150,746 |
| Kilindi | 20,547 | 12,408 | 1,419 | 1,427 | 7,848 | 138 | 4,616 | 176 | 83 | 138 | 2,511 | 9,303 | 60,614 |
| Total | 167,575 | 78,356 | 33,108 | 40,080 | 81,938 | 1,852 | 43,926 | 2,771 | 3,959 | 4,236 | 9,597 | 57,053 | 524,451 |
| % | 32 | 15 | 6 | 8 | 16 | 0 | 8 | 1 | 1 | 1 | 2 | 11 | 100 |

**Table 5.3 : LAND SUFFICIENCY Number of Households by type of household and District during 2002/03 Agricultural Year**

| District | Was all Land Available to the Hh Used during 2002/03? | | | | |
|---|---|---|---|---|---|
| | Yes | | No | | |
| | Number | % | Number | % | Total |
| Lushoto | 75,031 | 87 | 11,404 | 13 | 86,435 |
| Korogwe | 29,280 | 64 | 16,420 | 36 | 45,700 |
| Muheza | 32,598 | 67 | 16,218 | 33 | 48,815 |
| Tanga | 3,596 | 42 | 4,960 | 58 | 8,555 |
| Pangani | 4,147 | 59 | 2,930 | 41 | 7,076 |
| Handeni | 20,561 | 43 | 27,070 | 57 | 47,631 |
| Kilindi | 10,561 | 55 | 8,753 | 45 | 19,314 |
| Total | 175,773 | 67 | 87,754 | 33 | 263,528 |

**Table 5.4: LAND SUFFICIENCYNumber of Agricultural Households by Whether they Consider themselves to have Sufficient Land for the Household and District during 2002/03 Agricultural Year**

| District | Do you Consider that you have sufficient land for the Hh? | | | | |
|---|---|---|---|---|---|
| | Yes | | No | | |
| | Number | % | Number | % | Total |
| Lushoto | 35,993 | 42 | 50,442 | 58 | 86,435 |
| Korogwe | 26,375 | 58 | 19,325 | 42 | 45,700 |
| Muheza | 28,327 | 58 | 20,488 | 42 | 48,815 |
| Tanga | 5,945 | 69 | 2,611 | 31 | 8,555 |
| Pangani | 4,694 | 66 | 2,382 | 34 | 7,076 |
| Handeni | 31,637 | 66 | 15,994 | 34 | 47,631 |
| Kilindi | 13,381 | 69 | 5,933 | 31 | 19,314 |
| Total | 146,353 | 56 | 117,175 | 44 | 263,528 |

**Table 5.5: LAND SUFFICIENCY Number of Agricultural Households by whether Female Members of the Household Own or Have Customary Right to Land and District; 2002/03 Agricultural Year**

| District | Do any Female Members of the Household own or have customary right to Land | | | | |
|---|---|---|---|---|---|
| | Yes | | No | | |
| | Number | % | Number | % | Total |
| Lushoto | 12,284 | 14 | 74,151 | 86 | 86,435 |
| Korogwe | 11,206 | 25 | 34,494 | 75 | 45,700 |
| Muheza | 14,802 | 30 | 34,013 | 70 | 48,815 |
| Tanga | 3,459 | 40 | 5,097 | 60 | 8,555 |
| Pangani | 1,739 | 25 | 5,337 | 75 | 7,076 |
| Handeni | 16,758 | 35 | 30,873 | 65 | 47,631 |
| Kilindi | 2,326 | 12 | 16,988 | 88 | 19,314 |
| Total | 62,574 | 24 | 200,954 | 76 | 263,528 |

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

**7.1 & 7.2a TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted (ha) by Season and District**

| District | Short Rainy Season | | Long Rainy Season | | Total area planted (hectare) | % Area planted in short rainy season |
|---|---|---|---|---|---|---|
| | Number of Household | Planted Area (hectare) | Number of Household | Planted Area (hectare) | | |
| Lushoto | 78,808 | 69,194 | 72,230 | 50,351 | 119,544 | 57.88 |
| Pangani | 4,631 | 3,902 | 5,730 | 5,260 | 9,162 | 42.59 |
| Tanga | 4,586 | 2,335 | 5,675 | 3,173 | 5,508 | 42.39 |
| Muheza | 36,437 | 24,062 | 43,558 | 33,883 | 57,945 | 41.53 |
| Handeni | 36,056 | 34,643 | 46,671 | 74,099 | 108,742 | 31.86 |
| Korogwe | 26,637 | 16,755 | 41,687 | 40,899 | 57,655 | 29.06 |
| Kilindi | 9,345 | 9,928 | 18,050 | 31,825 | 41,754 | 23.78 |
| Total | 196,502 | 160,820 | 233,601 | 239,490 | 400,310 | 40.17 |

**7.1 & 7.2b TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of crop growing Households Planting Crops by Season and Region**

| District | Short Rainy Season | | Long Rainy Season | | Total Number of Crop Growing households |
|---|---|---|---|---|---|
| | Number of households Growing Crops | Number of households NOT Growing Crops | Number of households Growing Crops | Number of households NOT Growing Crops | |
| Lushoto | 78,808 | 7,771 | 72,230 | 14,349 | 86,435 |
| Korogwe | 26,637 | 19,353 | 41,687 | 4,303 | 45,700 |
| Muheza | 36,437 | 12,757 | 43,558 | 5,637 | 48,815 |
| Tanga | 4,586 | 4,328 | 5,675 | 3,239 | 8,555 |
| Pangani | 4,631 | 2,496 | 5,730 | 1,397 | 7,076 |
| Handeni | 36,056 | 11,682 | 46,671 | 1,068 | 47,631 |
| Kilindi | 9,345 | 10,309 | 18,050 | 1,604 | 19,314 |
| Total | 196,502 | 68,697 | 233,601 | 31,597 | **263,528** |

**7.1 & 7.2c TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Area planted (ha) and Quantity Harvested by Season and Crop for the 2002/03 agriculture year, Tanga Region**

| | Short Rainy Season | | | Long Rainy Season | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| Crop | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) | Area Planted (ha) | Quantity Harvested (tons) | Yield (kg/ha) |
| **CEREALS** | **111,875** | **65,736** | | **183,654** | **115,251** | | **295,529** | **180,987** | |
| Maize | 110,043 | 61,910 | 563 | 177,433 | 111,692 | 629 | 287,476 | 173,602 | 604 |
| Paddy | 1,735 | 3,488 | 2,010 | 5,930 | 3,472 | 585 | 7,665 | 6,960 | 908 |
| Sorghum | 97 | 338 | 3,485 | 19 | 7 | 357 | 116 | 345 | 2969 |
| Finger Millet | 0 | 0 | 0 | 66 | 23 | 346 | 66 | 23 | 346 |
| Wheat | 0 | 0 | 0 | 205 | 57 | 280 | 205 | 57 | 280 |
| **ROOTS & TUBERS** | **10,759** | **15,214** | | **36,856** | **52,752** | | **47,614** | **67,966** | |
| Cassava | 1,725 | 2,131 | 1,235 | 29,007 | 43,368 | 2,358 | 30,732 | 45,499 | 2358 |
| Sweet Potatoes | 480 | 537 | 1,119 | 593 | 465 | 784 | 1,073 | 1,002 | 934 |
| Irish Potatoes | 8,314 | 11,973 | 1,440 | 7,089 | 8,763 | 1,236 | 15,402 | 20,736 | 1346 |
| Yams | 51 | 0 | 0 | 80 | 55 | 684 | 132 | 55 | 417 |
| Cocoyam | 188 | 574 | 3,045 | 86 | 101 | 1,169 | 275 | 675 | 2455 |
| **PULSES** | **34,624** | **11,221** | | **42,393** | **16,160** | | **77,017** | **27,381** | |
| Mung Beans | 0 | 0 | 0 | 64 | 88 | 1,385 | 64 | 88 | 1385 |
| Beans | 24,185 | 8,699 | 360 | 38,843 | 15,325 | 395 | 63,028 | 24,023 | 381 |
| Cowpeas | 9,276 | 2,125 | 229 | 2,731 | 499 | 183 | 12,007 | 2,624 | 219 |
| Green Gram | 1,108 | 288 | 260 | 755 | 248 | 329 | 1,863 | 536 | 288 |
| Chich Peas | 2 | 0 | 198 | 0 | 0 | 0 | 2 | 0 | 198 |
| Bambaranuts | 2 | 1 | 296 | 0 | 0 | 0 | 2 | 1 | 296 |
| Field Peas | 50 | 109 | 2,159 | 0 | 0 | 0 | 50 | 109 | 2159 |
| **OIL SEEDS & OIL** | **725** | **248** | | **1,839** | **1,268** | | **2,564** | **1,516** | |
| Sunflower | 0 | 0 | 0 | 78 | 35 | 451 | 78 | 35 | 451 |
| Simsim | 92 | 26 | 281 | 729 | 271 | 372 | 822 | 297 | 362 |
| Groundnuts | 613 | 212 | 346 | 1,032 | 961 | 932 | 1,645 | 1,174 | 714 |
| Castor Seed | 20 | 10 | 494 | 0 | 0 | 0 | 20 | 10 | 494 |
| **FRUIT & VEGETAB** | **2,821** | **10,723** | | **2,525** | **8,827** | | **5,346** | **19,550** | |
| Okra | 9 | 13 | 1,422 | 26 | 17 | 629 | 35 | 29 | 831 |
| Radish | 4 | 2 | 529 | 0 | 0 | 0 | 4 | 2 | 529 |
| Bitter Aubergine | 18 | 216 | 11,856 | 176 | 296 | 1,685 | 194 | 512 | 2641 |
| Onions | 18 | 85 | 4,681 | 100 | 279 | 2,782 | 119 | 364 | 3072 |
| Ginger | 88 | 66 | 746 | 0 | 0 | 0 | 88 | 66 | 746 |
| Cabbage | 344 | 1,410 | 4,099 | 502 | 2,062 | 4,109 | 846 | 3,472 | 4105 |
| Tomatoes | 1,621 | 7,220 | 4,455 | 948 | 3,632 | 3,832 | 2,569 | 10,852 | 4225 |
| Spinnach | 30 | 8 | 251 | 0 | 0 | 0 | 30 | 8 | 251 |
| Carrot | 51 | 182 | 3,584 | 143 | 145 | 1,017 | 194 | 328 | 1691 |
| Chillies | 414 | 1,054 | 2,549 | 307 | 919 | 2,990 | 721 | 1,973 | 2737 |
| Amaranths | 65 | 140 | 2,153 | 66 | 59 | 886 | 131 | 199 | 1515 |
| Pumpkins | 13 | 234 | 17,324 | 65 | 31 | 475 | 78 | 265 | 3384 |
| Cucumber | 0 | 0 | 0 | 90 | 668 | 7,390 | 90 | 668 | 7390 |
| Egg Plant | 9 | 11 | 1,227 | 23 | 20 | 856 | 32 | 31 | 960 |
| Water Mellon | 137 | 82 | 599 | 78 | 699 | 8,936 | 215 | 781 | 3634 |
| **CASH CROPS** | **17** | **10** | | **448** | **247** | | **465** | **256** | |
| Seaweed | 2 | 7 | 2,964 | 0 | 0 | 0 | 2 | 7 | 2964 |
| Cotton | 0 | 0 | 0 | 264 | 165 | 625 | 264 | 165 | 625 |
| Tobacco | 15 | 3 | 198 | 166 | 70 | 422 | 180 | 73 | 404 |
| Jute | 0 | 0 | 0 | 18 | 12 | 642 | 18 | 12 | 642 |
| ***Total*** | **160,820** | | | **267,714** | | | **428,534** | | |

* The total area planted includes the sum of the planted area for both Long and Short Season and is an overestimation of the actual ar bein produced on the same land during the 2 seasons. Previous surveys have used the Long season to estimate physical land area u production to different crops

**7.1 & 7.2d TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Agriculture Households by Area Planted (ha) and crop for the agriculture year 2002/03- Short and Long Season, Tanga Region**

| Crop | Short Rainy Season | | Long Rainy Season | | Total Area Planted Short & Long Rainy Season | % Area Planted in Short Rainy Season |
|---|---|---|---|---|---|---|
| | Number of Households | Planted Area (Ha) | Number of Households | Planted Area (Ha) | | |
| ***CEREALS*** | ***190,720*** | ***111,875*** | ***205,932*** | ***183,654*** | ***295,529*** | *37.9* |
| Maize | 186,153 | 110,043 | 189,772 | 177,433 | 287,476 | *38.3* |
| Paddy | 4,247 | 1,735 | 15,443 | 5,930 | 7,665 | *22.6* |
| Sorghum | 320 | 97 | 66 | 19 | 116 | *83.5* |
| Finger Millet | 0 | 0 | 217 | 66 | 66 | *0.0* |
| Wheat | 0 | 0 | 433 | 205 | 205 | *0.0* |
| ***ROOTS & TUBERS*** | ***38,281*** | ***10,759*** | ***27,925*** | ***36,856*** | **47,614** | *22.6* |
| Cassava | 5,155 | 1,725 | 2,315 | 29,007 | 30,732 | *5.6* |
| Sweet Potatoes | 2,041 | 480 | 2,468 | 593 | 1,073 | *44.7* |
| Irish Potatoes | 29,786 | 8,314 | 22,414 | 7,089 | 15,402 | *54.0* |
| Yams | 213 | 51 | 213 | 80 | 132 | *39.0* |
| Cocoyam | 1,085 | 188 | 515 | 86 | 275 | *68.6* |
| ***PULSES*** | ***106,989*** | ***34,624*** | ***100,762*** | ***42,393*** | **77,017** | *45.0* |
| Mung Beans | 0 | 0 | 133 | 64 | 64 | *0.0* |
| Beans | 77,157 | 24,185 | 89,035 | 38,843 | 63,028 | *38.4* |
| Cowpeas | 25,741 | 9,276 | 8,833 | 2,731 | 12,007 | *77.3* |
| Green Gram | 3,798 | 1,108 | 2,760 | 755 | 1,863 | *59.5* |
| Chich Peas | 22 | 2 | 0 | 0 | 2 | *100.0* |
| Bambaranuts | 23 | 2 | 0 | 0 | 2 | *100.0* |
| Field Peas | 248 | 50 | 0 | 0 | 50 | *100.0* |
| ***OIL SEEDS & OIL*** | ***2,546*** | ***725*** | ***4,608*** | ***2,871*** | **3,596** | *20.2* |
| Sunflower | 0 | 0 | 96 | 78 | 78 | *0.0* |
| Simsim | 202 | 92 | 1,163 | 729 | 822 | *11.2* |
| Groundnuts | 2,296 | 613 | 3,350 | 1,032 | 1,645 | *37.3* |
| Castor Seed | 48 | 20 | 0 | 1,032 | 1,051 | *1.9* |
| ***FRUITS & VEGETA*** | ***13,080*** | ***2,821*** | ***11,089*** | ***2,525*** | **5,346** | *52.8* |
| Okra | 56 | 9 | 220 | 26 | 35 | *25.5* |
| Radish | 14 | 4 | 0 | 0 | 4 | *100.0* |
| Bitter Aubergine | 90 | 18 | 541 | 176 | 194 | *9.4* |
| Onions | 203 | 18 | 399 | 100 | 119 | *15.3* |
| Ginger | 291 | 88 | 0 | 0 | 88 | *100.0* |
| Cabbage | 1,582 | 344 | 2,277 | 502 | 846 | *40.7* |
| Tomatoes | 7,462 | 1,621 | 4,100 | 948 | 2,569 | *63.1* |
| Spinnach | 107 | 30 | 0 | 0 | 30 | *100.0* |
| Carrot | 286 | 51 | 286 | 143 | 194 | *26.3* |
| Chillies | 1,691 | 414 | 1,367 | 307 | 721 | *57.4* |
| Amaranths | 890 | 65 | 628 | 66 | 131 | *49.6* |
| Pumpkins | 92 | 13 | 579 | 65 | 78 | *17.3* |
| Cucumber | 0 | 0 | 273 | 90 | 90 | *0.0* |
| Egg Plant | 88 | 9 | 204 | 23 | 32 | *28.1* |
| Water Mellon | 227 | 137 | 214 | 78 | 215 | *63.6* |
| ***CASH CROPS*** | ***166*** | ***17*** | ***1,075*** | ***448*** | **465** | *3.6* |
| Seaweed | 23 | 2 | 0 | 0 | 2 | *100.0* |
| Cotton | 0 | 0 | 419 | 264 | 264 | *0.0* |
| Tobacco | 143 | 15 | 565 | 166 | 180 | *8.1* |
| Jute | 0 | 0 | 91 | 18 | 18 | *0.0* |
| ***Total*** | | | | ***268,745*** | ***429,566*** | *0.0* |

**7.1 & 7.2e TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Means of Soil Preparation and District LONG & SHORT SEASON, Tanga**

| District | Soil Preparation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Ploughing | | Mostly Oxen Ploughing | | Mostly Hand Cultivation | | Total | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area |
| Lushoto | 1,011 | 847 | 3,448 | 2,919 | 146,579 | 115,779 | 151,039 | 119,544 |
| Korogwe | 591 | 1,063 | 912 | 1,386 | 66,821 | 55,206 | 68,324 | 57,655 |
| Muheza | 320 | 273 | 2,675 | 1,830 | 77,000 | 55,842 | 79,995 | 57,945 |
| Tanga | 43 | 83 | 168 | 55 | 10,051 | 5,370 | 10,261 | 5,508 |
| Pangani | 424 | 510 | 287 | 244 | 9,651 | 8,409 | 10,361 | 9,162 |
| Handeni | 210 | 428 | 5,541 | 9,515 | 76,976 | 98,798 | 82,728 | 108,742 |
| Kilindi | 243 | 305 | 1,069 | 1,570 | 26,082 | 39,879 | 27,395 | 41,754 |
| Total | 2,843 | 3509.1 | 14,101 | 17,519 | 413,159 | 379,283 | 430,102 | 400,310 |
| % | 0.7 | 0.9 | 3.5 | 4.4 | 103.2 | 94.7 | 107.4 | 100.0 |

**7.1 & 7.2f TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fertiliser Use and District for the 2002/03 agriculture year - LONG & SHORT RAINY SEASON, Tanga**

| District | Fertilizer Use | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mostly Farm Yard | | Mostly Compost | | Mostly Inorganic | | No Fertilizer Applied | | Total |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | Planted Area |
| Lushoto | 28,758 | 25,274 | 5,361 | 3,389 | 4,607 | 2,649 | 112,313 | 88,233 | 119,544 |
| Korogwe | 9,005 | 7,108 | 4,652 | 3,922 | 1,199 | 793 | 53,467 | 45,831 | 57,655 |
| Muheza | 5,714 | 4,410 | 580 | 307 | 340 | 226 | 73,362 | 53,001 | 57,945 |
| Tanga | 1,504 | 747 | 364 | 184 | 104 | 29 | 8,289 | 4,548 | 5,508 |
| Pangani | 316 | 259 | 107 | 64 | 0 | . | 9,938 | 8,839 | 9,162 |
| Handeni | 3,199 | 6,104 | 1,035 | 2,090 | 192 | 350 | 78,301 | 100,197 | 108,742 |
| Kilindi | 488 | 951 | 1,405 | 2,231 | 49 | 20 | 25,453 | 38,552 | 41,754 |
| Total | 48,984 | 44,853 | 13,504 | 12,187 | 6,491 | 4,068 | 361,124 | 339,202 | 400,310 |

**7.1 & 7.2g TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Irrigation Use and District for the 2002/03 agriculture year - LONG**

| District | Irrigation Use | | | | | | % of area planted under irrigation |
|---|---|---|---|---|---|---|---|
| | Households Using Irrigation | | Households Not Using Irrigation | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 8,304 | 8,065 | 142,734 | 111,480 | 151,039 | 119,544 | 6.7 |
| Korogwe | 3,414 | 3,177 | 64,910 | 54,478 | 68,324 | 57,655 | 5.5 |
| Muheza | 493 | 480 | 79,502 | 57,465 | 79,995 | 57,945 | 0.8 |
| Tanga | 217 | 120 | 10,044 | 5,388 | 10,261 | 5,508 | 2.2 |
| Pangani | 253 | 276 | 10,109 | 8,886 | 10,361 | 9,162 | 3.0 |
| Handeni | 1,076 | 1,447 | 81,652 | 107,295 | 82,728 | 108,742 | 1.3 |
| Kilindi | 389 | 383 | 27,006 | 41,371 | 27,395 | 41,754 | 0.9 |
| Total | 14,145 | 13,947 | 415,958 | 386,363 | 430,102 | 400,310 | 3.5 |
| % | 3.3 | 3.5 | 96.7 | 96.5 | 100.0 | 100.0 | 3.5 |

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

**7.1 & 7.2h TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 agriculture year - Long & Short Rainy Season.**

| District | Insecticide Use | | | | | | % of Planted area using Insecticide |
|---|---|---|---|---|---|---|---|
| | Insecticide | | Insecticide | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 7,050 | 6,054 | 146,543 | 118,966 | 153,593 | 125,020 | 4.84 |
| Korogwe | 2,380 | 2,918 | 67,093 | 58,160 | 69,472 | 61,078 | 4.78 |
| Muheza | 413 | 259 | 81,395 | 69,210 | 81,808 | 69,468 | 0.37 |
| Tanga | 327 | 246 | 11,967 | 7,952 | 12,294 | 8,198 | 3.00 |
| Pangani | 380 | 581 | 10,173 | 9,678 | 10,554 | 10,260 | 5.66 |
| Handeni | 2,293 | 6,490 | 80,543 | 104,759 | 82,836 | 111,249 | 5.83 |
| Kilindi | 919 | 1,309 | 26,719 | 41,844 | 27,639 | 43,153 | 3.03 |
| Total | 13,762 | 17,857 | 424,433 | 410,568 | 438,195 | 428,425 | |

Number of households is an over estimate due to the double counting of hopuseholds growing crops in both

long and short seasons. To compare previous surveys use Number of Long Season planters only.

**7.1 & 7.2i TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 agriculture year - Long & Short Rainy Season, Tanga.**

| District | Herbicide Use | | | | | | % of Planted area using Herbicide |
|---|---|---|---|---|---|---|---|
| | Households Using Herbicide | | Households Not Using Herbicide | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 1,143 | 1,094 | 149,895 | 118,450 | 151,039 | 119,544 | 0.92 |
| Korogwe | 497 | 336 | 67,827 | 57,319 | 68,324 | 57,655 | 0.58 |
| Muheza | 226 | 345 | 79,769 | 57,599 | 79,995 | 57,945 | 0.60 |
| Tanga | 264 | 183 | 9,997 | 5,325 | 10,261 | 5,508 | 3.32 |
| Pangani | 11 | 21 | 10,350 | 9,141 | 10,361 | 9,162 | 0.23 |
| Handeni | 703 | 578 | 82,024 | 108,164 | 82,728 | 108,742 | 0.53 |
| Kilindi | 390 | 650 | 27,005 | 41,104 | 27,395 | 41,754 | 1.56 |
| Total | 3,235 | 3,207 | 426,867 | 397,103 | 430,102 | 400,310 | 0.80 |
| % | 1 | 1 | 99 | 99 | 100 | 100 | |

**7.1 & 7.2j ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Fungicide Use and District During 2002/03 Crop Year SHORT & LONG RAINYSEASON, Tanga Region**

| District | Fungicide Use | | | | | | % of Planted area using Fungicide |
|---|---|---|---|---|---|---|---|
| | Households Using Fungicide | | Households Not Using Fungicide | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 3,035 | 3,609 | 148,003 | 115,936 | 151,039 | 119,544 | 3.0 |
| Korogwe | 1,297 | 1,069 | 67,027 | 56,586 | 68,324 | 57,655 | 1.9 |
| Muheza | 349 | 202 | 79,646 | 57,743 | 79,995 | 57,945 | 0.3 |
| Tanga | 347 | 185 | 9,914 | 5,323 | 10,261 | 5,508 | 3.4 |
| Pangani | 156 | 338 | 10,206 | 8,824 | 10,361 | 9,162 | 3.7 |
| Handeni | 1,140 | 1,348 | 81,588 | 107,394 | 82,728 | 108,742 | 1.2 |
| Kilindi | 388 | 469 | 27,006 | 41,285 | 27,395 | 41,754 | 1.1 |
| Total | 6,713 | 7,220 | 423,390 | 393,090 | 430,102 | 400,310 | 1.8 |

**7.1 &7.2k ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - LONG & SHORT RAINY SEASON, Tanga Region**

| District | Improved Seed Use | | | | | | % of Planted area using Improved Seeds |
|---|---|---|---|---|---|---|---|
| | Households Using Improved Seed | | Households Not Using Improved Seed | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 21,528 | 19,826 | 129,510 | 99,718 | 151,039 | 119,544 | 16.58 |
| Korogwe | 13,961 | 15,465 | 54,362 | 42,190 | 68,324 | 57,655 | 26.82 |
| Muheza | 2,883 | 2,145 | 77,112 | 55,799 | 79,995 | 57,945 | 3.70 |
| Tanga | 1,554 | 1,048 | 8,706 | 4,461 | 10,261 | 5,508 | 19.02 |
| Pangani | 2,026 | 2,150 | 8,335 | 7,013 | 10,361 | 9,162 | 23.46 |
| Handeni | 6,421 | 9,090 | 76,307 | 99,652 | 82,728 | 108,742 | 8.36 |
| Kilindi | 1,108 | 2,365 | 26,287 | 39,388 | 27,395 | 41,754 | 5.66 |
| Total | 49,482 | 52,089 | 380,620 | 348,221 | 430,102 | 400,310 | 13.01 |
| % | 12 | 13 | 88 | 87 | 100 | 100 | |

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

**7.1a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - SHORT RAINY SEASON, Tanga Region.**

| District | Soil Preparation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Mostly Tractor Ploughing | | Mostly Oxen Ploughing | | Mostly Hand Cultivation | | Total | |
| | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area |
| Lushoto | 866 | 614 | 1,868 | 1,800 | 76,074 | 66,779 | 78,808 | 69,194 |
| Korogwe | 301 | 415 | 103 | 161 | 26,233 | 16,179 | 26,637 | 16,755 |
| Muheza | 236 | 162 | 1,194 | 716 | 35,007 | 23,185 | 36,437 | 24,062 |
| Tanga | 8 | 24 | 61 | 26 | 4,516 | 2,286 | 4,586 | 2,335 |
| Pangani | 132 | 140 | 176 | 137 | 4,323 | 3,625 | 4,631 | 3,902 |
| Handeni | 0 | . | 2,461 | 1,846 | 33,595 | 32,798 | 36,056 | 34,643 |
| Kilindi | 0 | . | 244 | 292 | 9,101 | 9,636 | 9,345 | 9,928 |
| Total | 1,544 | 1,355 | 6,107 | 4,978 | 188,850 | 154,487 | 196,502 | 160,820 |
| % | 1 | 1 | 3 | 3 | 96 | 96 | 100 | 100 |

**7.1b ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Fertilizer Use and District During 2002/03 Crop Year-SHORT RAINY SEASON, Tanga Region**

| District | Fertilizer Use | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mostly Farm Yard Manure | | Mostly Compost | | Mostly Inorganic Fertilizer | | No Fertilizer Applied | | Total | |
| | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area | Number of Households | Planted Area |
| Lushoto | 15,223 | 15,178 | 3,327 | 2,118 | 3,031 | 1,684 | 57,227 | 50,214 | 78,808 | 69,194 |
| Korogwe | 2,789 | 1,508 | 2,302 | 1,642 | 709 | 482 | 20,837 | 13,124 | 26,637 | 16,755 |
| Muheza | 2,482 | 1,588 | 331 | 189 | 79 | 80 | 33,546 | 22,206 | 36,437 | 24,062 |
| Tanga | 701 | 366 | 73 | 21 | 42 | 12 | 3,770 | 1,936 | 4,586 | 2,335 |
| Pangani | 172 | 91 | 63 | 51 | 0 | . | 4,397 | 3,760 | 4,631 | 3,902 |
| Handeni | 1,493 | 1,290 | 203 | 261 | 96 | 116 | 34,264 | 32,975 | 36,056 | 34,643 |
| Kilindi | 98 | 69 | 387 | 254 | 49 | 10 | 8,811 | 9,595 | 9,345 | 9,928 |
| Total | 22,959 | 20,089 | 6,686 | 4,537 | 4,005 | 2,383 | 162,852 | 133,811 | 196,502 | 160,820 |
| % | 12 | 12 | 3 | 3 | 2 | 1 | 83 | 83 | 100 | 100 |

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

**7.1c ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Irrigation Use and District During 2002/03 Crop Year SHORT RAINY SEASON, Tanga Region**

| District | Irrigation Use | | | | | | |
|---|---|---|---|---|---|---|---|
| | Households Using Irrigation | | Households Not Using Irrigation | | Total | | % of area planted under irrigation in short rainy season |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 4,267 | 4,735 | 74,541 | 64,459 | 78,808 | 69,194 | 7 |
| Korogwe | 2,409 | 1,767 | 24,228 | 14,988 | 26,637 | 16,755 | 11 |
| Muheza | 336 | 296 | 36,101 | 23,767 | 36,437 | 24,062 | 1 |
| Tanga | 101 | 87 | 4,485 | 2,248 | 4,586 | 2,335 | 4 |
| Pangani | 135 | 88 | 4,496 | 3,814 | 4,631 | 3,902 | 2 |
| Handeni | 864 | 1,028 | 35,193 | 33,615 | 36,056 | 34,643 | 3 |
| Kilindi | 193 | 87 | 9,152 | 9,841 | 9,345 | 9,928 | 1 |
| Total | 8,306 | 8,088 | 188,196 | 152,732 | 196,502 | 160,820 | 5 |
| % | 4 | 5 | 96 | 95 | 100 | 100 | |

**7.1d ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Insecticide Use and District During 2002/03 Crop Year in SHORT RAINY SEASON.**

| District | Insecticide Use | | | | | |
|---|---|---|---|---|---|---|
| | Households Using Insecticide | | Households Not Using Insecticide | | Total | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area |
| Lushoto | 2,437 | 1,675 | 76,371 | 67,518 | 78,808 | 69,194 |
| Korogwe | 794 | 739 | 25,844 | 16,016 | 26,637 | 16,755 |
| Muheza | 172 | 86 | 36,266 | 23,976 | 36,437 | 24,062 |
| Tanga | 261 | 179 | 4,324 | 2,156 | 4,586 | 2,335 |
| Pangani | 143 | 162 | 4,488 | 3,740 | 4,631 | 3,902 |
| Handeni | 1,057 | 1,944 | 34,999 | 32,699 | 36,056 | 34,643 |
| Kilindi | 242 | 191 | 9,103 | 9,737 | 9,345 | 9,928 |
| Total | 5,106 | 4,977 | 191,395 | 155,843 | 196,502 | 160,820 |

**7.1e ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Herbicide Use and District During 2002/03 Crop Year SHORT RAINY SEASON.**

| District | Herbicide Use | | | | | | % of Planted area using Herbicide |
|---|---|---|---|---|---|---|---|
| | Households Using Herbicide | | Households Not Using Herbicide | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 716 | 617 | 78,092 | 68,576 | 78,808 | 69,194 | 0.9 |
| Korogwe | 291 | 243 | 26,346 | 16,513 | 26,637 | 16,755 | 1.4 |
| Muheza | 167 | 155 | 36,270 | 23,908 | 36,437 | 24,062 | 0.6 |
| Tanga | 166 | 127 | 4,419 | 2,209 | 4,586 | 2,335 | 5.4 |
| Pangani | 0 | . | 4,631 | 3,902 | 4,631 | 3,902 | - |
| Handeni | 324 | 196 | 35,733 | 34,447 | 36,056 | 34,643 | 0.6 |
| Kilindi | 147 | 89 | 9,198 | 9,839 | 9,345 | 9,928 | 0.9 |
| Total | 1,811 | 1,427 | 194,690 | 159,394 | 196,502 | 160,820 | 0.9 |
| % | 1 | 1 | 99 | 99 | 100 | 100 | |

**7.1f ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Fungicide Use and District During 2002/03 Crop Year SHORT RAINY SEASON.**

| District | Fungicide Use | | | | | | % of Planted area using Fungicide |
|---|---|---|---|---|---|---|---|
| | Households Using Fungicide | | Households Not Using Fungicide | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 1,878 | 2,327 | 76,930 | 66,867 | 78,808 | 69,194 | 3.4 |
| Korogwe | 497 | 486 | 26,140 | 16,270 | 26,637 | 16,755 | 2.9 |
| Muheza | 167 | 109 | 36,270 | 23,954 | 36,437 | 24,062 | 0.5 |
| Tanga | 228 | 129 | 4,358 | 2,206 | 4,586 | 2,335 | 5.5 |
| Pangani | 87 | 144 | 4,544 | 3,758 | 4,631 | 3,902 | 3.7 |
| Handeni | 745 | 693 | 35,312 | 33,950 | 36,056 | 34,643 | 2.0 |
| Kilindi | 193 | 125 | 9,152 | 9,803 | 9,345 | 9,928 | 1.3 |
| Total | 3,796 | 4,012 | 192,706 | 156,808 | 196,502 | 160,820 | 2.5 |
| % | 1.9 | 2.5 | 98.1 | 97.5 | 100.0 | 100.0 | |

**7.1g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and DistrictDuring 2002/03 Crop Year SHORT RAINY SEASON, Tanga Region**

| District | Improved Seed Use | | | | | | % of area planted using improved seed |
|---|---|---|---|---|---|---|---|
| | Households Using Improved Seed | | Households Not Using Improved Seed | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 10,823 | 11,394 | 67,986 | 57,800 | 78,808 | 69,194 | 16 |
| Korogwe | 6,606 | 4,918 | 20,031 | 11,838 | 26,637 | 16,755 | 29 |
| Muheza | 1,758 | 1,106 | 34,679 | 22,956 | 36,437 | 24,062 | 5 |
| Tanga | 774 | 512 | 3,812 | 1,823 | 4,586 | 2,335 | 22 |
| Pangani | 1,063 | 983 | 3,569 | 2,919 | 4,631 | 3,902 | 25 |
| Handeni | 2,438 | 1,957 | 33,618 | 32,686 | 36,056 | 34,643 | 6 |
| Kilindi | 484 | 729 | 8,861 | 9,200 | 9,345 | 9,928 | 7 |
| Total | 23,945 | 21,599 | 172,556 | 139,221 | 196,502 | 160,820 | 13 |
| % | 12 | 13 | 88 | 87 | 100 | 100 | |

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

**7.2a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) By Means Used for Soil Preparation and District During 2002/03 Crop Year-LONG RAINY SEASON, Tanga Region**

| | Soil Preparation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Mostly Tractor Ploughing | | Mostly Oxen Ploughing | | Mostly Hand Cultivation | | Total | |
| District | No.of H/holds | Planted Area | No.of H/holds | Planted Area | No.of H/holds | Planted Area | No.of H/holds | Planted Area |
| Lushoto | 146 | 233 | 1,580 | 1,118 | 70,504 | 49,000 | 72,230 | 50,351 |
| Korogwe | 290 | 648 | 809 | 1,225 | 40,588 | 39,027 | 41,687 | 40,899 |
| Muheza | 84 | 112 | 1,481 | 1,114 | 41,993 | 32,657 | 43,558 | 33,883 |
| Tanga | 35 | 59 | 106 | 30 | 5,535 | 3,084 | 5,675 | 3,173 |
| Pangani | 291 | 369 | 111 | 106 | 5,328 | 4,785 | 5,730 | 5,260 |
| Handeni | 210 | 428 | 3,080 | 7,670 | 43,381 | 66,001 | 46,671 | 74,099 |
| Kilindi | 243 | 305 | 825 | 1,278 | 16,981 | 30,242 | 18,050 | 31,825 |
| Total | 1,299 | 2,154 | 7,993 | 12,541 | 224,309 | 224,795 | 233,601 | 239,490 |
| % | 1 | 1 | 3 | 5 | 96 | 94 | 100 | 100 |

**7.2b Number of Crop Growing Households and Planted Area By Fertilizer Use and District During the Long Rainy Season**

| | Fertilizer Use | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mostly Farm Yard Manure | | Mostly Compost | | Mostly Inorganic Fertilizer | | No Fertilizer Applied | | Total | |
| District | No. of H/hold | Planted Area | No. of H/hold | Planted Area | No. of H/hold | Planted Area | No. of H/hold | Planted Area | No. of H/hold | Planted Area |
| Lushoto | 13,534 | 10,096 | 2,033 | 1,270 | 1,576 | 965 | 55,086 | 38,019 | 72,230 | 50,351 |
| Korogwe | 6,216 | 5,601 | 2,351 | 2,280 | 490 | 311 | 32,630 | 32,708 | 41,687 | 40,899 |
| Muheza | 3,232 | 2,822 | 249 | 119 | 261 | 147 | 39,816 | 30,795 | 43,558 | 33,883 |
| Tanga | 803 | 381 | 291 | 163 | 62 | 17 | 4,520 | 2,612 | 5,675 | 3,173 |
| Pangani | 144 | 168 | 44 | 13 | 0 | . | 5,542 | 5,079 | 5,730 | 5,260 |
| Handeni | 1,706 | 4,814 | 832 | 1,829 | 96 | 234 | 44,037 | 67,221 | 46,671 | 74,099 |
| Kilindi | 390 | 882 | 1,018 | 1,976 | 0 | 10 | 16,642 | 28,957 | 18,050 | 31,825 |
| Total | 26,025 | 24,764 | 6,818 | 7,650 | 2,485 | 1,684 | 198,272 | 205,392 | 233,601 | 239,490 |

**7.2c ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Irrigation Use and District During 2002/03 Crop Year LONG RAINY SEASON, Tanga Region**

| | Irrigation Use | | | | | | % of area planted under irrigation in long rainy season |
|---|---|---|---|---|---|---|---|
| | Households Using Irrigation | | Households Not Using Irrigation | | Total | | |
| District | No.of H/holds | Planted Area | No.of H/holds | Planted Area | No.of H/holds | Planted Area | |
| Lushoto | 4,037 | 3,330 | 68,193 | 47,021 | 72,230 | 50,351 | 6.6 |
| Korogwe | 1,004 | 1,410 | 40,682 | 39,489 | 41,687 | 40,899 | 3.4 |
| Muheza | 157 | 184 | 43,401 | 33,698 | 43,558 | 33,883 | 0.5 |
| Tanga | 116 | 33 | 5,559 | 3,141 | 5,675 | 3,173 | 1.0 |
| Pangani | 117 | 188 | 5,613 | 5,073 | 5,730 | 5,260 | 3.6 |
| Handeni | 212 | 418 | 46,459 | 73,680 | 46,671 | 74,099 | 0.6 |
| Kilindi | 195 | 296 | 17,854 | 31,530 | 18,050 | 31,825 | 0.9 |
| Total | 5,839 | 5,859 | 227,762 | 233,631 | 233,601 | 239,490 | 2.4 |
| % | 2 | 2 | 98 | 98 | 100 | 100 | |

**7.2d ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households & Planted Area By Insecticide Use and District - LONG RAINY SEASON**

| District | Insecticide Use | | | | | |
|---|---|---|---|---|---|---|
| | Insecticide | | Insecticide | | Total | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area |
| Lushoto | 4,613 | 4,378 | 70,172 | 51,448 | 74,784 | 55,826 |
| Korogwe | 1,586 | 2,179 | 41,249 | 42,143 | 42,835 | 44,323 |
| Muheza | 242 | 173 | 45,129 | 45,233 | 45,371 | 45,406 |
| Tanga | 65 | 66 | 7,643 | 5,796 | 7,708 | 5,863 |
| Pangani | 237 | 419 | 5,685 | 5,938 | 5,922 | 6,357 |
| Handeni | 1,236 | 4,546 | 45,544 | 72,059 | 46,779 | 76,606 |
| Kilindi | 678 | 1,118 | 17,616 | 32,107 | 18,294 | 33,225 |
| Total | 8,656 | 12,880 | 233,037 | 254,725 | 241,693 | 267,605 |

**7.2e ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Herbicide Use and District During 2002/03 Crop Year LONG RAINY SEASON, Tanga Region**

| District | Herbicide Use | | | | | | % of Planted area using Herbicide |
|---|---|---|---|---|---|---|---|
| | Households Using Herbicide | | Households Not Using Herbicide | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 428 | 477 | 71,803 | 49,874 | 72,230 | 50,351 | 0.9 |
| Korogwe | 205 | 94 | 41,481 | 40,806 | 41,687 | 40,899 | 0.2 |
| Muheza | 59 | 191 | 43,499 | 33,692 | 43,558 | 33,883 | 0.6 |
| Tanga | 98 | 56 | 5,577 | 3,117 | 5,675 | 3,173 | 1.8 |
| Pangani | 11 | 21 | 5,719 | 5,239 | 5,730 | 5,260 | - |
| Handeni | 380 | 382 | 46,292 | 73,717 | 46,671 | 74,099 | 0.5 |
| Kilindi | 243 | 561 | 17,806 | 31,265 | 18,050 | 31,825 | 1.8 |
| Total | 1,424 | 1,781 | 232,177 | 237,709 | 233,601 | 239,490 | 0.7 |
| % | 1 | 1 | 99 | 99 | 100 | 100 | |

**7.2j: Number of Crops Producing Households Reporting Selling Agricultural Produce by District; 2002/03 Agricultural Year**

| District | Households that Sold Produce | | Households that Did not Sell Produce | | Total Number of households |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 69,510 | 80 | 17,069 | 20 | 86,580 |
| Korogwe | 29,751 | 65 | 16,240 | 35 | 45,990 |
| Muheza | 41,149 | 84 | 8,045 | 16 | 49,195 |
| Tanga | 6,605 | 74 | 2,309 | 26 | 8,914 |
| Pangani | 4,977 | 70 | 2,151 | 30 | 7,128 |
| Handeni | 30,492 | 64 | 17,247 | 36 | 47,739 |
| Kilindi | 14,684 | 75 | 4,970 | 25 | 19,654 |
| Total | 197,168 | 74 | 68,030 | 26 | 265,198 |

**7.2f ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Fungicide Use and District During 2002/03 Crop Year LONG RAINY SEASON, Tanga Region**

| District | Fungicide Use | | | | | | % of Planted area using Fungicide |
|---|---|---|---|---|---|---|---|
| | Households Using Fungicide | | Households Not Using Fungicide | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 1,157 | 1,282 | 71,073 | 49,069 | 72,230 | 50,351 | 2.5 |
| Korogwe | 800 | 583 | 40,887 | 40,316 | 41,687 | 40,899 | 1.4 |
| Muheza | 182 | 93 | 43,376 | 33,789 | 43,558 | 33,883 | 0.3 |
| Tanga | 119 | 56 | 5,556 | 3,117 | 5,675 | 3,173 | 1.8 |
| Pangani | 69 | 194 | 5,661 | 5,066 | 5,730 | 5,260 | 3.7 |
| Handeni | 395 | 654 | 46,276 | 73,444 | 46,671 | 74,099 | 0.9 |
| Kilindi | 195 | 344 | 17,855 | 31,481 | 18,050 | 31,825 | 1.1 |
| Total | 2,917 | 3,208 | 230,684 | 236,282 | 233,601 | 239,490 | 1.3 |
| % | 1.2 | 1.3 | 98.8 | 98.7 | 100.0 | 100.0 | |

**7.2g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and DistrictDuring 2002/03 Crop Year - LONG RAINY SEASON, Tanga Region**

| District | Improved Seed Use | | | | | | % of area planted using improved seed |
|---|---|---|---|---|---|---|---|
| | Households Using Improved Seed | | Households Not Using Improved Seed | | Total | | |
| | Number of Household | Planted Area | Number of Household | Planted Area | Number of Household | Planted Area | |
| Lushoto | 10,706 | 8,432 | 61,525 | 41,919 | 72,230 | 50,351 | 17 |
| Korogwe | 7,356 | 10,547 | 34,331 | 30,352 | 41,687 | 40,899 | 26 |
| Muheza | 1,124 | 1,039 | 42,433 | 32,844 | 43,558 | 33,883 | 3 |
| Tanga | 781 | 535 | 4,895 | 2,638 | 5,675 | 3,173 | 17 |
| Pangani | 964 | 1,166 | 4,766 | 4,094 | 5,730 | 5,260 | 22 |
| Handeni | 3,982 | 7,133 | 42,689 | 66,965 | 46,671 | 74,099 | 10 |
| Kilindi | 624 | 1,637 | 17,425 | 30,189 | 18,050 | 31,825 | 5 |
| Total | 25,537 | 30,490 | 208,064 | 209,000 | 233,601 | 239,490 | 13 |
| % | 11 | 13 | 89 | 87 | 100 | 100 | |

**7.2h: Planted Area and Number of Crop Growing Households During the Long Rainy Season by Method of Land Clearing and Crops; 2002/03 Agricultural Year**

| Crop | Land Clearing Method | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mostly Bush Clearance | | Mostly Hand Slashing | | Mostly Tractor Slashing | | Mostly Burning | | Not cleared | | Other | | Total | |
| | Number of House -holds | Planted Area | Number of House -holds | Planted Area | Number of House -holds | Planted Area | Number of House -holds | Planted Area | Number of House -holds | Planted Area | Number of House -holds | Planted Area | Number of House -holds | Planted Area |
| ***CEREALS*** | | ***7,865*** | | ***129,869*** | | ***677*** | | ***1,739*** | | ***42,651*** | | ***53*** | | ***182,855*** |
| Maize | 6,475 | 7,718 | 142,137 | 125,559 | 903 | 564 | 1,865 | 1,592 | 37,598 | 41,165 | 66 | 53 | 189,044 | 176,651 |
| Paddy | 420 | 147 | 10,700 | 4,046 | 129 | 113 | 434 | 147 | 3,675 | 1,459 | 0 | . | 15,357 | 5,913 |
| Sorghum | 0 | . | 44 | 15 | 0 | . | 0 | . | 22 | 5 | 0 | . | 66 | 19 |
| Finger Millet | 0 | . | 108 | 44 | 0 | . | 0 | . | 108 | 22 | 0 | . | 217 | 66 |
| Wheat | 0 | . | 433 | 205 | 0 | . | 0 | . | 0 | . | 0 | . | 433 | 205 |
| ***ROOTS & TUBERS*** | | . | | ***7,311*** | | ***12*** | | . | | ***1,309*** | | . | | ***8,632*** |
| Cassava | 0 | . | 1,993 | 628 | 59 | 12 | 0 | . | 263 | 143 | 0 | . | 2,315 | 783 |
| Sweet Potatoes | 0 | . | 1,718 | 349 | 0 | . | 0 | . | 749 | 244 | 0 | . | 2,468 | 593 |
| Irish Potatoes | 0 | . | 19,351 | 6,283 | 0 | . | 0 | . | 3,063 | 806 | 0 | . | 22,414 | 7,089 |
| Yams | 0 | . | 0 | . | 0 | . | 0 | . | 213 | 80 | 0 | . | 213 | 80 |
| Cocoyam | 0 | . | 369 | 51 | 0 | . | 0 | . | 146 | 35 | 0 | . | 515 | 86 |
| ***PULSES*** | | ***719*** | | ***31,433*** | | ***183*** | | ***124*** | | ***9,883*** | | . | | ***42,342*** |
| Mung Beans | 46 | 29 | 0 | . | 87 | 35 | 0 | . | 0 | . | 0 | . | 133 | 64 |
| Beans | 1,109 | 532 | 70,361 | 29,291 | 107 | 22 | 284 | 56 | 17,125 | 8,903 | 0 | . | 88,986 | 38,803 |
| Cowpeas | 388 | 159 | 5,409 | 1,650 | 140 | 61 | 165 | 42 | 2,624 | 810 | 0 | . | 8,727 | 2,720 |
| Green Gram | 0 | . | 2,049 | 493 | 237 | 66 | 87 | 26 | 388 | 171 | 0 | . | 2,760 | 755 |
| ***OIL SEEDS & OIL NU*** | | . | | ***1,222*** | | . | | ***33*** | | ***562*** | | . | | ***1,817*** |
| Sunflower | 0 | . | 0 | . | 0 | . | 0 | . | 96 | 78 | 0 | . | 96 | 78 |
| Simsim | 0 | . | 942 | 570 | 0 | . | 90 | 18 | 131 | 141 | 0 | . | 1,163 | 729 |
| Groundnuts | 0 | . | 1,932 | 652 | 0 | . | 90 | 15 | 1,221 | 344 | 0 | . | 3,243 | 1,010 |
| ***FRUITS & VEGETAB*** | | . | | ***1,995*** | | ***2*** | | . | | ***525*** | | ***3*** | | ***2,525*** |
| Okra | 0 | . | 160 | 19 | 21 | 2 | 0 | . | 39 | 5 | 0 | . | 220 | 26 |
| Bitter Aubergine | 0 | . | 239 | 38 | 0 | . | 0 | . | 302 | 138 | 0 | . | 541 | 176 |
| Onions | 0 | . | 300 | 80 | 0 | . | 0 | . | 99 | 20 | 0 | . | 399 | 100 |
| Cabbage | 0 | . | 1,963 | 429 | 0 | . | 0 | . | 315 | 73 | 0 | . | 2,277 | 502 |
| Tomatoes | 0 | . | 3,441 | 823 | 0 | . | 0 | . | 659 | 125 | 0 | . | 4,100 | 948 |
| Carrot | 0 | . | 140 | 121 | 0 | . | 0 | . | 146 | 22 | 0 | . | 286 | 143 |
| Chillies | 0 | . | 1,025 | 253 | 0 | . | 0 | . | 342 | 54 | 0 | . | 1,367 | 307 |
| Amaranths | 0 | . | 573 | 62 | 0 | . | 0 | . | 23 | 1 | 33 | 3 | 628 | 66 |
| Pumpkins | 0 | . | 119 | 5 | 0 | . | 0 | . | 460 | 59 | 0 | . | 579 | 65 |
| Cucumber | 0 | . | 174 | 70 | 0 | . | 0 | . | 99 | 20 | 0 | . | 273 | 90 |
| Egg Plant | 0 | . | 182 | 18 | 0 | . | 0 | . | 22 | 5 | 0 | . | 204 | 23 |
| Water Mellon | 0 | . | 193 | 76 | 0 | . | 0 | . | 21 | 2 | 0 | . | 214 | 78 |
| ***CASH CROPS*** | | . | | ***416*** | | . | | . | | ***32*** | | . | | ***448*** |
| Cotton | 0 | . | 313 | 253 | 0 | . | 0 | . | 107 | 11 | 0 | . | 419 | 264 |
| Tobacco | 0 | . | 409 | 145 | 0 | . | 0 | . | 156 | 21 | 0 | . | 565 | 166 |
| Jute | 0 | . | 91 | 18 | 0 | . | 0 | . | 0 | . | 0 | . | 91 | 18 |
| **Total** | **8,438** | **8,584** | **266,868** | **172,247** | **1,684** | **875** | **3,014** | **1,896** | **70,212** | **54,961** | **98** | **56** | **350,314** | **238,619** |
| **%** | | **4** | | **72** | | **0** | | **1** | | **23** | | **0** | | **100** |

**7.2.1 Number of Agricultural Households, Area Planted (ha) and Quantity of Maize Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Maize | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 77,511 | 35,639 | 21,772 | 0.611 | 34,582 | 15,479 | 8,971 | 0.580 | 51,118 | 30,743 | 0.601 |
| Korogwe | 24,375 | 12,945 | 4,224 | 0.326 | 40,827 | 33,425 | 11,484 | 0.344 | 46,369 | 15,709 | 0.339 |
| Muheza | 35,248 | 21,126 | 13,574 | 0.643 | 42,339 | 29,652 | 25,753 | 0.869 | 50,778 | 39,327 | 0.774 |
| Tanga | 3,744 | 1,774 | 811 | 0.457 | 4,310 | 2,171 | 946 | 0.436 | 3,946 | 1,757 | 0.445 |
| Pangani | 4,040 | 2,950 | 1,428 | 0.484 | 5,205 | 4,092 | 2,126 | 0.520 | 7,042 | 3,554 | 0.505 |
| Handeni | 32,034 | 26,149 | 14,467 | 0.553 | 46,454 | 69,539 | 50,471 | 0.726 | 95,688 | 64,938 | 0.679 |
| Kilindi | 9,201 | 9,460 | 5,635 | 0.596 | 16,053 | 23,076 | 11,940 | 0.517 | 32,536 | 17,575 | 0.540 |
| Total | 186,153 | 110,043 | 61,910 | 0.563 | 189,772 | 177,433 | 111,692 | 0.629 | 287,476 | 173,602 | 0.604 |

**7.2.2 Number of Agricultural Households, Area Planted (ha) and Quantity of Paddy Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Paddy | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 1,650 | 557 | 1,094 | 1.963 | 994 | 374 | 263 | 0.703 | 931 | 1,356 | 1.457 |
| Korogwe | 2,102 | 972 | 2,226 | 2.290 | 4,039 | 1,686 | 1,178 | 0.699 | 2,659 | 3,405 | 1.281 |
| Muheza | 424 | 171 | 141 | 0.825 | 4,738 | 1,472 | 1,282 | 0.871 | 1,644 | 1,424 | 0.866 |
| Tanga | 0 | . | . | 0.000 | 1,443 | 545 | 112 | 0.205 | 545 | 112 | 0.205 |
| Pangani | 23 | 5 | 12 | 2.470 | 1,156 | 495 | 224 | 0.452 | 500 | 235 | 0.471 |
| Handeni | 0 | . | . | 0.000 | 2,781 | 1,245 | 361 | 0.290 | 1,245 | 361 | 0.290 |
| Kilindi | 48 | 29 | 15 | 0.494 | 291 | 113 | 52 | 0.463 | 142 | 67 | 0.470 |
| Total | 4,247 | 1,735 | 3,488 | 2.010 | 15,443 | 5,930 | 3,472 | 0.585 | 7,665 | 6,960 | 0.908 |

**7.2.3 Number of Agricultural Households, Area Planted (ha) and Quantity of Sorghum Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Sorghum | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 146 | 35 | 321 | 9.057 | 0 | . | . | 0.000 | 35 | 321 | 9.057 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 33 | 14 | 6 | 0.445 | 14 | 6 | 0.445 |
| Pangani | 68 | 18 | 0 | 0.024 | 33 | 6 | 1 | 0.145 | 24 | 1 | 0.053 |
| Handeni | 107 | 43 | 16 | 0.371 | 0 | . | . | 0.000 | 43 | 16 | 0.371 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 320 | 97 | 338 | 3.485 | 66 | 19 | 7 | 0.357 | 116 | 345 | 2.969 |

**7.2.4 Number of Agricultural Households, Area Planted (ha) and Quantity of Fingermillet Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Fingermillet | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 217 | 66 | 23 | 0.346 | 66 | 23 | 0.346 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 0 | . | . | 0.000 | 217 | 66 | 23 | 0.346 | 66 | 23 | 0.346 |

**7.2.5 Number of Agricultural Households, Area Planted (ha) and Quantity of Wheat Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Wheat | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 433 | 205 | 57 | 0.280 | 205 | 57 | 0.280 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 0 | . | . | 0.000 | 433 | 205 | 57 | 0.280 | 205 | 57 | 0.280 |

**7.2.6 Number of Agricultural Households, Area Planted (ha) and Quantity of Cassava Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Cassava | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha)* | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha)* |
| Lushoto | 3,066 | 862 | 1,273 | 1.477 | 22,490 | 5,595 | 8,549 | 1.581 | 6,457 | 9,822 | 1.566 |
| Korogwe | 593 | 216 | 96 | 0.443 | 10,005 | 3,804 | 4,388 | 3.439 | 4,020 | 4,484 | 3.046 |
| Muheza | 678 | 196 | 396 | 2.023 | 22,608 | 11,576 | 16,155 | 2.373 | 11,772 | 16,551 | 2.363 |
| Tanga | 0 | 0 | . | 0.000 | 5,479 | 2,730 | 5,041 | 2.648 | 2,730 | 5,041 | 2.648 |
| Pangani | 44 | 7 | 0 | 0.000 | 2,513 | 1,110 | 844 | 1.855 | 1,117 | 844 | 1.829 |
| Handeni | 726 | 440 | 356 | 0.809 | 5,628 | 2,722 | 4,695 | 3.519 | 3,162 | 5,051 | 2.847 |
| Kilindi | 49 | 5 | 10 | 1.976 | 2,434 | 1,470 | 3,697 | 3.068 | 1,475 | 3,707 | 3.064 |
| Total | 5,155 | 1,725 | 2,131 | 1.235 | 71,157 | 29,007 | 43,369 | 2.358 | 30,732 | 45,500 | 2.264 |

*The yield is based on physical area harvested and not the physical area planted on the above table

**7.2.7 Number of Agricultural Households, Area Planted (ha) and Quantity of Sweet potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Sweet potatoes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 1154 | 223 | 372 | 1.673 | 1,154 | 311 | 122 | 0.392 | 533 | 494 | 0.927 |
| Korogwe | 0 | . | . | 0.000 | 209 | 32 | 21 | 0.657 | 32 | 21 | 0.657 |
| Muheza | 259 | 26 | 23 | 0.859 | 91 | 18 | 12 | 0.642 | 45 | 34 | 0.769 |
| Tanga | 134 | 39 | 65 | 1.665 | 187 | 69 | 145 | 2.096 | 108 | 210 | 1.940 |
| Pangani | 22 | 9 | 2 | 0.247 | 103 | 18 | 25 | 1.401 | 27 | 27 | 1.009 |
| Handeni | 422 | 171 | 55 | 0.322 | 431 | 76 | 16 | 0.213 | 247 | 71 | 0.288 |
| Kilindi | 49 | 12 | 20 | 1.647 | 292 | 69 | 124 | 1.801 | 81 | 144 | 1.778 |
| Total | 2041 | 480 | 537 | 1.119 | 2,468 | 593 | 465 | 0.784 | 1,073 | 1,002 | 0.934 |

**7.2.8 Number of Agricultural Households, Area Planted (ha) and Quantity of Irish potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Irish potatoes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 29593 | 8270 | 11875 | 1.436 | 22,184 | 7,039 | 8,662 | 1.231 | 15,309 | 20,537 | 1.341 |
| Korogwe | 194 | 44 | 98 | 2.227 | 194 | 46 | 98 | 2.122 | 90 | 195 | 2.173 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 37 | 4 | 4 | 0.988 | 4 | 4 | 0.988 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 29786 | 8314 | 11973 | 1.440 | 22,414 | 7,089 | 8,763 | 1.236 | 15,402 | 20,736 | 1.346 |

**7.2.9 Number of Agricultural Households, Area Planted (ha) and Quantity of Yams Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Yams | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 213 | 51 | 0 | 0.000 | 213 | 80 | 55 | 0.684 | 132 | 55 | 0.417 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 213 | 51 | 0 | 0.000 | 213 | 80 | 55 | 0.684 | 132 | 55 | 0.417 |

**7.210 Number of Agricultural Households, Area Planted (ha) and Quantity of Cocoyams Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Cocoyams | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 437 | 88 | 127 | 1.444 | 437 | 78 | 101 | 1.287 | 166 | 228 | 1.370 |
| Korogwe | 213 | 22 | 365 | 16.916 | 0 | . | . | 0.000 | 22 | 365 | 16.916 |
| Muheza | 435 | 79 | 82 | 1.038 | 79 | 8 | 0 | 0.000 | 87 | 82 | 0.944 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 1,085 | 188 | 574 | 3.045 | 515 | 86 | 101 | 1.169 | 275 | 675 | 2.455 |

**7.2.11 Number of Agricultural Households, Area Planted (ha) and Quantity of Mung beans Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Mung beans | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 87 | 35 | 52 | 1.482 | 35 | 52 | 1.482 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 46 | 29 | 36 | 1.265 | 29 | 36 | 1.265 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 0 | . | . | 0.000 | 133 | 64 | 88 | 1.385 | 64 | 88 | 1.385 |

**7.2.12 Number of Agricultural Households, Area Planted (ha) and Quantity of Beans Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Beans | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 68309 | 21587 | 7885 | 0.365 | 63,635 | 25,394 | 9,396 | 0.370 | 46,981 | 17,280 | 0.368 |
| Korogwe | 6409 | 1850 | 663 | 0.358 | 11,917 | 4,129 | 2,711 | 0.656 | 5,979 | 3,374 | 0.564 |
| Muheza | 1977 | 499 | 119 | 0.239 | 3,478 | 875 | 424 | 0.485 | 1,374 | 543 | 0.396 |
| Tanga | 31 | 6 | 1 | 0.084 | 31 | 6 | 0 | 0.079 | 13 | 1 | 0.082 |
| Pangani | 22 | 4 | 1 | 0.198 | 0 | . | . | 0.000 | 4 | 1 | 0.198 |
| Handeni | 312 | 170 | 22 | 0.129 | 1,076 | 261 | 40 | 0.154 | 432 | 62 | 0.144 |
| Kilindi | 97 | 69 | 8 | 0.120 | 8,898 | 8,176 | 2,753 | 0.337 | 8,245 | 2,761 | 0.335 |
| Total | 77157 | 24185 | 8699 | 0.360 | 89,035 | 38,843 | 15,325 | 0.395 | 63,028 | 24,023 | 0.381 |

**7.2.13 Number of Agricultural Households, Area Planted (ha) and Quantity of Cowpeas Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Cowpeas | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.00 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 799 | 141 | 12 | 0.083 | 614 | 154 | 12 | 0.080 | 295 | 24 | 0.081 |
| Muheza | 4,138 | 1,174 | 306 | 0.261 | 2,996 | 842 | 176 | 0.209 | 2,016 | 482 | 0.239 |
| Tanga | 1,137 | 239 | 58 | 0.245 | 705 | 144 | 19 | 0.129 | 383 | 77 | 0.201 |
| Pangani | 1,812 | 633 | 115 | 0.181 | 1,239 | 365 | 52 | 0.144 | 998 | 167 | 0.167 |
| Handeni | 16,732 | 6,823 | 1,571 | 0.230 | 3,087 | 1,159 | 227 | 0.196 | 7,982 | 1,798 | 0.225 |
| Kilindi | 1,122 | 266 | 63 | 0.238 | 194 | 66 | 12 | 0.183 | 333 | 76 | 0.227 |
| Total | 25,741 | 9,276 | 2,125 | 0.229 | 8,833 | 2,731 | 499 | 0.183 | 12,007 | 2,624 | 0.219 |

**7.2.14 Number of Agricultural Households, Area Planted (ha) and Quantity of Green grams Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Green gram | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 139 | 56 | 83 | 1.482 | 56 | 83 | 1.482 |
| Korogwe | 103 | 42 | 10 | 0.247 | 107 | 22 | 1 | 0.035 | 64 | 11 | 0.174 |
| Muheza | 1,064 | 226 | 74 | 0.329 | 1,579 | 355 | 69 | 0.194 | 582 | 143 | 0.246 |
| Tanga | 561 | 97 | 13 | 0.130 | 264 | 52 | 10 | 0.186 | 149 | 22 | 0.149 |
| Pangani | 349 | 123 | 47 | 0.384 | 190 | 53 | 15 | 0.282 | 176 | 62 | 0.354 |
| Handeni | 1,721 | 620 | 143 | 0.231 | 433 | 197 | 68 | 0.343 | 817 | 211 | 0.258 |
| Kilindi | 0 | . | . | 0.000 | 49 | 20 | 3 | 0.150 | 20 | 3 | 0.150 |
| Total | 3,798 | 1,108 | 288 | 0.260 | 2,760 | 755 | 248 | 0.329 | 1,863 | 536 | 0.288 |

**7.2.15 Number of Agricultural Households, Area Planted (ha) and Quantity of Chick peas Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Chick peas | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 22 | 2 | 0 | 0.198 | 0 | . | . | 0.000 | 2 | 0 | 0.198 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 22 | 2 | 0 | 0.198 | 0 | . | . | 0.000 | 2 | 0 | 0.198 |

**7.2.16 Number of Agricultural Households, Area Planted (ha) and Quantity of Bambaranuts Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Bambaranuts | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 23 | 2 | 1 | 0.296 | 0 | . | . | 0.000 | 2 | 1 | 0.296 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 23 | 2 | 1 | 0.296 | 0 | . | . | 0.000 | 2 | 1 | 0.296 |

**7.2.17 Number of Agricultural Households, Area Planted (ha) and Quantity of Field peas Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Field Peas | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 140 | 28 | 84 | 2.964 | 0 | . | . | 0.000 | 28 | 84 | 2.964 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 108 | 22 | 24 | 1.112 | 0 | . | . | 0.000 | 22 | 24 | 1.112 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 248 | 50 | 109 | 2.159 | 0 | . | . | 0.000 | 50 | 109 | 2.159 |

**7.2.18 Number of Agricultural Households, Area Planted (ha) and Quantity of Sunflower Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Sunflower | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 96 | 78 | 35 | 0.451 | 78 | 35 | 0.451 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 0 | . | . | 0.000 | 96 | 78 | 35 | 0.451 | 78 | 35 | 0.451 |

**7.2.19 Number of Agricultural Households, Area Planted (ha) and Quantity of Simsim Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Simsim | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 90 | 18 | 12 | 0.642 | 18 | 12 | 0.642 |
| Tanga | 26 | 21 | 2 | 0.099 | 64 | 18 | 6 | 0.326 | 39 | 8 | 0.203 |
| Pangani | 67 | 27 | 8 | 0.279 | 45 | 27 | 3 | 0.124 | 54 | 11 | 0.201 |
| Handeni | 108 | 44 | 16 | 0.371 | 867 | 636 | 246 | 0.387 | 680 | 262 | 0.386 |
| Kilindi | 0 | . | . | 0.000 | 97 | 30 | 4 | 0.148 | 30 | 4 | 0.148 |
| Total | 202 | 92 | 26 | 0.281 | 1,163 | 729 | 271 | 0.372 | 822 | 297 | 0.362 |

**7.2.20 Number of Agricultural Households, Area Planted (ha) and Quantity of Groundnuts Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Groundnuts | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 206 | 53 | 3 | 0.060 | 903 | 306 | 640 | 2.092 | 359 | 643 | 1.790 |
| Muheza | 1657 | 448 | 166 | 0.370 | 1,289 | 380 | 158 | 0.416 | 828 | 324 | 0.391 |
| Tanga | 254 | 52 | 34 | 0.666 | 117 | 52 | 29 | 0.547 | 104 | 63 | 0.606 |
| Pangani | 70 | 38 | 9 | 0.235 | 143 | 54 | 16 | 0.300 | 93 | 25 | 0.273 |
| Handeni | 108 | 22 | 0 | 0.000 | 753 | 206 | 104 | 0.506 | 228 | 104 | 0.457 |
| Kilindi | 0 | . | . | 0.000 | 144 | 34 | 14 | 0.425 | 34 | 14 | 0.425 |
| Total | 2296 | 613 | 212 | 0.346 | 3,350 | 1,032 | 961 | 0.932 | 1,645 | 1,174 | 0.714 |

**7.2.21 Number of Agricultural Households, Area Planted (ha) and Quantity of Castor oil Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Castor oil | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 48 | 20 | 10 | 0.494 | 0 | . | . | 0.000 | 20 | 10 | 0.494 |
| Total | 48 | 20 | 10 | 0.494 | 0 | . | . | 0.000 | 20 | 10 | 0.494 |

**7.2.22 Number of Agricultural Households, Area Planted (ha) and Quantity of Okra Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Okra | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 56 | 9 | 13 | 1.422 | 147 | 20 | 14 | 0.683 | 29 | 26 | 0.913 |
| Pangani | 0 | . | . | 0.000 | 73 | 6 | 3 | 0.458 | 6 | 3 | 0.458 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 56 | 9 | 13 | 1.422 | 220 | 26 | 17 | 0.629 | 35 | 29 | 0.831 |

**7.2.23 Number of Agricultural Households, Area Planted (ha) and Quantity of Radish Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Radish | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 14 | 4 | 2 | 0.529 | 0 | . | . | 0.000 | 4 | 2 | 0.529 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 14 | 4 | 2 | 0.529 | 0 | . | . | 0.000 | 4 | 2 | 0.529 |

**7.2.24 Number of Agricultural Households, Area Planted (ha) and Quantity of Bitter Aubergine Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Bitter Aubergine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 90 | 18 | 216 | 11.856 | 270 | 36 | 118 | 3.236 | 55 | 334 | 6.109 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 59 | 10 | 8 | 0.813 | 10 | 8 | 0.813 |
| Handeni | 0 | . | . | 0.000 | 212 | 129 | 170 | 1.317 | 129 | 170 | 1.317 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 90 | 18 | 216 | 11.856 | 541 | 176 | 296 | 1.685 | 194 | 512 | 2.641 |

**7.2.25 Number of Agricultural Households, Area Planted (ha) and Quantity of Onions Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Onions | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 146 | 59 | 146 | 2.470 | 59 | 146 | 2.470 |
| Korogwe | 107 | 11 | 11 | 0.988 | 186 | 38 | 126 | 3.359 | 48 | 137 | 2.827 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 19 | 2 | 4 | 1.976 | 2 | 4 | 1.976 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 95 | 7 | 74 | 10.246 | 49 | 2 | 4 | 1.902 | 9 | 78 | 8.448 |
| Total | 203 | 18 | 85 | 4.681 | 399 | 100 | 279 | 2.782 | 119 | 364 | 3.072 |

**7.2.26 Number of Agricultural Households, Area Planted (ha) and Quantity of Ginger Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Ginger | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 291 | 88 | 66 | 0.746 | 0 | . | . | 0.000 | 88 | 66 | 0.746 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 291 | 88 | 66 | 0.746 | 0 | . | . | 0.000 | 88 | 66 | 0.746 |

**7.2.27 Number of Agricultural Households, Area Planted (ha) and Quantity of Cabbage Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Cabbage | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 1285 | 302 | 1349 | 4.475 | 2,013 | 449 | 2,013 | 4.481 | 751 | 3,362 | 4.479 |
| Korogwe | 87 | 18 | . | 0.000 | 87 | 18 | 0 | 0.000 | 35 | 0 | 0.000 |
| Muheza | 92 | 9 | 20 | 2.134 | 0 | . | . | 0.000 | 9 | 20 | 2.134 |
| Tanga | 23 | 1 | 2 | 1.976 | 23 | 1 | 1 | 1.482 | 2 | 3 | 1.729 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 106 | 32 | 42 | 1.317 | 32 | 42 | 1.317 |
| Kilindi | 95 | 15 | 39 | 2.662 | 49 | 2 | 5 | 2.717 | 17 | 44 | 2.669 |
| Total | 1582 | 344 | 1410 | 4.099 | 2,277 | 502 | 2,062 | 4.109 | 846 | 3,472 | 4.105 |

**7.2.28 Number of Agricultural Households, Area Planted (ha) and Quantity of Tomatoes Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Tomatoes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 5062 | 1176 | 6116 | 5.199 | 1,742 | 504 | 2,569 | 5.099 | 1,680 | 8,685 | 5.169 |
| Korogwe | 1137 | 240 | 433 | 1.805 | 1,000 | 216 | 389 | 1.800 | 456 | 822 | 1.803 |
| Muheza | 430 | 47 | 105 | 2.221 | 343 | 60 | 80 | 1.319 | 108 | 184 | 1.714 |
| Tanga | 190 | 48 | 121 | 2.516 | 148 | 15 | 17 | 1.148 | 63 | 139 | 2.192 |
| Pangani | 131 | 44 | 98 | 2.247 | 265 | 49 | 61 | 1.247 | 92 | 159 | 1.720 |
| Handeni | 323 | 27 | 21 | 0.774 | 217 | 22 | 70 | 3.211 | 49 | 91 | 1.866 |
| Kilindi | 191 | 38 | 326 | 8.483 | 387 | 82 | 446 | 5.435 | 120 | 772 | 6.406 |
| Total | 7462 | 1621 | 7220 | 4.455 | 4,100 | 948 | 3,632 | 3.832 | 2,569 | 10,852 | 4.225 |

**7.2.29 Number of Agricultural Households, Area Planted (ha) and Quantity of Pumpkins Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Pumpkins | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 106 | 17 | 0 | 0.000 | 17 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 86 | 5 | 0 | 0.000 | 5 | 0 | 0.000 |
| Tanga | 21 | 2 | 6 | 2.964 | 54 | 2 | 2 | 0.874 | 4 | 8 | 1.886 |
| Pangani | 22 | 9 | 223 | 24.700 | 22 | 9 | 0 | 0.000 | 18 | 223 | 12.350 |
| Handeni | 0 | . | . | 0.000 | 310 | 31 | 29 | 0.916 | 31 | 29 | 0.916 |
| Kilindi | 49 | 2 | 4 | 1.853 | 0 | . | . | 0.000 | 2 | 4 | 1.853 |
| Total | 92 | 13 | 234 | 17.324 | 579 | 65 | 31 | 0.475 | 78 | 265 | 3.384 |

**7.2.30 Number of Agricultural Households, Area Planted (ha) and Quantity of Cucumber Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Cucumber | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 273 | 90 | 668 | 7.390 | 90 | 668 | 7.390 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 0 | . | . | 0.000 | 273 | 90 | 668 | 7.390 | 90 | 668 | 7.390 |

**7.2.31 Number of Agricultural Households, Area Planted (ha) and Quantity of Eggplant Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Eggplant | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 96.849 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 79 | 8 | 8 | 1.037 | 8 | 8 | 1.037 |
| Tanga | 66 | 7 | 10 | 0.000 | 66 | 7 | 8 | 1.171 | 13 | 17 | 1.307 |
| Pangani | 22 | 2 | 1 | 24.037 | 59 | 8 | 4 | 0.425 | 11 | 5 | 0.461 |
| Handeni | 0 | . | . | 106.178 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 88 | 9 | 11 | 227.064 | 204 | 23 | 20 | 0.856 | 32 | 31 | 0.960 |

**7.2.32 Number of Agricultural Households, Area Planted (ha) and Quantity of Water Mellon Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Water Mellon | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 97 | 10 | 0 | 0.000 | 193 | 76 | 687 | 9.018 | 86 | 687 | 7.990 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 21 | 2 | 12 | 5.928 | 2 | 12 | 5.928 |
| Pangani | 24 | 19 | 29 | 1.482 | 0 | . | . | 0.000 | 19 | 29 | 1.482 |
| Handeni | 106 | 107 | 53 | 0.494 | 0 | . | . | 0.000 | 107 | 53 | 0.494 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 227 | 137 | 82 | 0.599 | 214 | 78 | 699 | 8.936 | 215 | 781 | 3.634 |

**7.2.33 Number of Agricultural Households, Area Planted (ha) and Quantity of Seaweed Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Seaweed | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 23 | 2 | 7 | 2.964 | 0 | . | . | 0.000 | 2 | 7 | 2.964 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 23 | 2 | 7 | 2.964 | 0 | . | . | 0.000 | 2 | 7 | 2.964 |

**7.2.34 Number of Agricultural Households, Area Planted (ha) and Quantity of Cotton Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Cotton | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 419 | 264 | 165 | 0.625 | 264 | 165 | 0.625 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 0 | . | . | 0.000 | 419 | 264 | 165 | 0.625 | 264 | 165 | 0.625 |

**7.2.35 Number of Agricultural Households, Area Planted (ha) and Quantity of Tobacco Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Tobacco | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 143 | 15 | 3 | 0.000 | 0 | . | . | 0.000 | 15 | 3 | 0.198 |
| Korogwe | 0 | . | . | 96.849 | 214 | 27 | 15 | 0.549 | 27 | 15 | 0.549 |
| Muheza | 0 | . | . | 0.000 | 183 | 46 | 42 | 0.909 | 46 | 42 | 0.909 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 24.037 | 22 | 9 | 0 | 0.000 | 9 | 0 | 0.000 |
| Handeni | 0 | . | . | 106.178 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 146 | 83 | 13 | 0.157 | 83 | 13 | 0.157 |
| Total | 143 | 15 | 3 | 227.064 | 565 | 166 | 70 | 0.422 | 180 | 73 | 0.404 |

**7.2.36 Number of Agricultural Households, Area Planted (ha) and Quantity of Jute Harvested (tons) by Season and District;2002/03 Agricultural Year**

| | Jute | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short Rainy Season | | | | Long Rainy Season | | | | Total | | |
| District | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | No. of H/Holds | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) | Planted Area (ha) | Quantity Harvested (tons) | Yield (tons/ha) |
| Lushoto | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Korogwe | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Muheza | 0 | . | . | 0.000 | 91 | 18 | 12 | 0.642 | 18 | 12 | 0.642 |
| Tanga | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Pangani | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Handeni | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Kilindi | 0 | . | . | 0.000 | 0 | . | . | 0.000 | 0 | 0 | 0.000 |
| Total | 0 | . | . | 0.000 | 91 | 18 | 12 | 0.642 | 18 | 12 | 0.642 |

# PERMANENT CROPS

**7.3 Production of Permanent Crops by crop type and Region - Tanga**

| | | Area planted(Ha) | Area Harvested (ha) | Quantity Harvested (tons) | Yield (Kgs/ha) |
|---|---|---|---|---|---|
| Lushoto | Cassava | 5,500.3 | 5,314 | 8,519.17 | 1603 |
| | Coconut | 72.4 | 72 | 85.96 | 1187 |
| | Cashewnut | 11.1 | 11 | 0.00 | 0 |
| | Coffee | | | | 477 |
| | Tea | | | | 2338 |
| | Wattle | 147.8 | 0 | 0.00 | 0 |
| | Sugarcane | 686.1 | 392 | 9,924.73 | 25340 |
| | Cardamon | 115.3 | 115 | 25.83 | 224 |
| | Jack Fruit | 0.0 | . | 67.75 | 0 |
| | Mpesheni | 0.0 | . | 35.74 | 0 |
| | Banana | 1,750.7 | 1,096 | 3,977.66 | 3630 |
| | Avocado | 0.0 | . | 34.97 | 0 |
| | Mango | 0.0 | . | 211.10 | 0 |
| | Pawpaw | 0.0 | . | 26.07 | 0 |
| | Pineapple | 0.0 | . | 0.73 | 0 |
| | Orange | 4.3 | 6 | 14.47 | 2470 |
| | Mandarine/Tangerine | 0.0 | . | 14.54 | 0 |
| | Plums | 29.2 | 29 | 494.52 | 16913 |
| | Apples | 0.0 | 6 | 849.71 | 146796 |
| | Pears | 146.7 | 93 | 62,845.52 | 672846 |
| | Pitches | 0.0 | . | 8.61 | 0 |
| | Lime/Lemon | 0.0 | 0 | 0.00 | 0 |
| | Total | 12,308.9 | 10,623 | 90,879.21 | 8555 |
| Korogwe | Cassava | 3,449.3 | 921 | 4,166.31 | 4525 |
| | Star Fruit | 0.7 | 0 | 133.45 | 0 |
| | Coconut | 1,682.1 | 539 | 3,912.58 | 7254 |
| | Cashewnut | 578.2 | 73 | 110.94 | 1511 |
| | Coffee | 453.5 | 2,878 | 34.72 | 12 |
| | Tea | 455.3 | 338 | 1,148.74 | 3402 |
| | Kapok | 20.9 | 21 | 0.00 | 0 |
| | Sugarcane | 564.5 | 2,983 | 5,566.85 | 1866 |
| | Cardamon | 1,231.5 | 721 | 111.72 | 155 |
| | Mshelisheli | 0.1 | 0 | 0.00 | 0 |
| | Jack Fruit | 262.1 | 127 | 2,321.44 | 18344 |
| | Banana | 2,069.1 | 1,416 | 10,409.51 | 7353 |
| | Avocado | 38.0 | 34 | 2,723.65 | 79218 |
| | Mango | 1,487.0 | 1,350 | 13,879.09 | 10284 |
| | Pineapple | 0.0 | . | 7.99 | 0 |
| | Orange | 404.2 | 68 | 499.57 | 7379 |
| | Mandarine/Tangerine | 10.8 | 0 | 4.26 | 0 |
| | Guava | 1.0 | 0 | 31.96 | 0 |
| | Lime/Lemon | 97.9 | 0 | 31.04 | 0 |
| | Total | 12,806.1 | 11,468 | 45,093.82 | 3932 |

**cont… Production of Permanent Crops by crop type and Region - Tanga**

| | | | | | |
|---|---|---|---|---|---|
| Muheza | Black Pepper | 1,520.6 | 470 | 686.52 | 1460 |
| | Cassava | 11,523.5 | 6,757 | 16,137.28 | 2388 |
| | Star Fruit | 35.8 | 36 | 13.25 | 371 |
| | Palm Oil | 18.3 | 18 | 9.02 | 494 |
| | Coconut | 9,380.0 | 4,722 | 9,349.80 | 1980 |
| | Cashewnut | 4,599.6 | 3,527 | 2,361.91 | 670 |
| | Coffee | 47.4 | 0 | 2.42 | 0 |
| | Tea | 339.9 | 340 | 1,655.56 | 4871 |
| | Cocoa | 306.2 | 312 | 232.55 | 746 |
| | Sugarcane | 407.6 | 410 | 12,877.44 | 31446 |
| | Cardamon | 1,487.8 | 1,273 | 197.07 | 155 |
| | Tamarin | 47.4 | 47 | 4.50 | 95 |
| | Cinamon | 105.4 | 32 | 122.00 | 3793 |
| | Cloves | 361.5 | 74 | 351.76 | 4755 |
| | Jack Fruit | 260.3 | 245 | 4,194.57 | 17119 |
| | Mpesheni | 0.0 | . | 0.00 | 0 |
| | Banana | 2,280.9 | 1,930 | 11,511.85 | 5966 |
| | Avocado | 32.7 | 16 | 183.73 | 11197 |
| | Mango | 145.4 | 153 | 4,309.18 | 28151 |
| | Pawpaw | 110.3 | 117 | 196.51 | 1680 |
| | Pineapple | 188.6 | 514 | 242.01 | 470 |
| | Orange | 6,432.8 | 3,993 | 45,425.51 | 11376 |
| | Grape Fruit | 35.7 | 36 | 81.06 | 2268 |
| | Mandarine/Tangerine | 0.0 | . | 46.53 | 0 |
| | Guava | 0.0 | . | 87.27 | 0 |
| | Pitches | 15.8 | . | 3.12 | 0 |
| | Lime/Lemon | 103.0 | 95 | 320.52 | 3391 |
| | Total | 39,786.4 | 25,117 | 110,602.95 | 4404 |
| Tanga | Sour Soup | 0.0 | . | 0.57 | 0 |
| | Cassava | 2,689.4 | 1,863 | 5,025.41 | 2698 |
| | Pigeon Pea | 0.0 | 0 | 0.00 | 0 |
| | Star Fruit | 0.0 | . | 83.29 | 0 |
| | Coconut | 964.6 | 837 | 3,171.02 | 3789 |
| | Cashewnut | 949.7 | 23 | 288.73 | 12310 |
| | Sugarcane | 23.8 | 24 | 139.67 | 5871 |
| | Mshelisheli | 0.0 | . | 0.68 | 0 |
| | Jack Fruit | 0.0 | 0 | 103.03 | 0 |
| | Banana | 67.6 | 34 | 612.56 | 18032 |
| | Avocado | 0.0 | . | 71.76 | 0 |
| | Mango | 6.2 | 6 | 2,498.04 | 408339 |
| | Pawpaw | 0.0 | . | 125.02 | 0 |
| | Pineapple | 0.0 | 0 | 69.82 | 0 |
| | Orange | 63.3 | 49 | 1,741.18 | 35517 |
| | Mandarine/Tangerine | 0.0 | 0 | 23.02 | 0 |
| | Guava | 0.0 | . | 1.86 | 0 |
| | Lime/Lemon | 1.1 | 1 | 125.83 | 118823 |
| | Total | 4,765.7 | 2,837 | 14,081.49 | 4964 |

**cont… Production of Permanent Crops by crop type and Region - Tanga**

| | | | | | |
|---|---|---|---|---|---|
| Pangani | Cassava | 1,097.1 | 442 | 843.85 | 1910 |
| | Pigeon Pea | 44.2 | 18 | 15.87 | 883 |
| | Star Fruit | 4.3 | 4 | 107.09 | 25001 |
| | Palm Oil | 0.0 | . | 0.14 | 0 |
| | Coconut | 2,417.8 | 1,043 | 7,508.51 | 7198 |
| | Cashewnut | 1,766.1 | 1,029 | 1,795.16 | 1745 |
| | Sugarcane | 6.8 | 7 | 46.90 | 6918 |
| | Jack Fruit | 2.2 | 0 | 313.66 | 0 |
| | Mpesheni | 3.3 | . | 0.90 | 0 |
| | Banana | 151.7 | 82 | 624.67 | 7609 |
| | Mango | 38.4 | 0 | 739.18 | 0 |
| | Pawpaw | 0.0 | . | 6.70 | 0 |
| | Pineapple | 14.6 | 18 | 9.16 | 504 |
| | Orange | 157.7 | 443 | 1,833.55 | 4139 |
| | Mandarine/Tangerine | 0.0 | . | 3.56 | 0 |
| | Guava | 0.0 | . | 44.66 | 0 |
| | Lime/Lemon | 16.2 | 0 | 156.35 | 0 |
| | Durian | 0.0 | . | 55.35 | 0 |
| | Total | 5,720.5 | 3,086 | 14,105.26 | 4571 |
| Handeni | Sour Soup | 64.5 | 21 | 106.18 | 4940 |
| | Cassava | 2,565.3 | 1,177 | 4,564.91 | 3878 |
| | Pigeon Pea | 21.8 | 22 | 8.09 | 371 |
| | Coconut | 248.1 | 315 | 2,238.68 | 7103 |
| | Cashewnut | 0.0 | 0 | 23.32 | 0 |
| | Kapok | 4.4 | 4 | 243.66 | 55575 |
| | Sugarcane | 471.9 | 205 | 5,320.73 | 25948 |
| | Jack Fruit | 904.0 | 496 | 3,191.32 | 6428 |
| | Mpesheni | 8.5 | . | 361.00 | 0 |
| | Banana | 1,143.1 | 670 | 4,587.48 | 6852 |
| | Mango | 1,271.2 | 911 | 9,151.86 | 10051 |
| | Pawpaw | 21.5 | 19 | 310.13 | 15989 |
| | Orange | 2,200.7 | 1,278 | 14,980.37 | 11725 |
| | Lime/Lemon | 0.0 | . | 0.00 | 0 |
| | Total | 8,925.1 | 5,119 | 45,087.73 | 8809 |
| Kilindi | Cassava | 1,399.4 | 1,134 | 3,660.84 | 3229 |
| | Pigeon Pea | 2,417.4 | 1,490 | 450.05 | 302 |
| | Malay Apple | 0.0 | . | 81.29 | 0 |
| | Coconut | 0.0 | 39 | 62.01 | 1582 |
| | Sugarcane | 195.1 | 196 | 5,810.68 | 29632 |
| | Cardamon | 117.6 | 118 | 10.04 | 85 |
| | Cinamon | 0.2 | 0 | 0.73 | 0 |
| | Jack Fruit | 118.9 | 40 | 366.43 | 9265 |
| | Banana | 662.1 | 181 | 2,401.84 | 13259 |
| | Avocado | 0.0 | . | 0.59 | 0 |
| | Mango | 1,319.9 | 332 | 4,852.79 | 14607 |
| | Pawpaw | 0.0 | . | 0.34 | 0 |
| | Orange | 79.3 | 118 | 715.46 | 6086 |
| | Mandarine/Tangerine | 0.1 | 0 | 0.29 | 0 |
| | Guava | 4.0 | . | 4.36 | 0 |
| | Total | 6,313.9 | 3,647 | 18,417.71 | 5050 |

**cont… Production of Permanent Crops by crop type and Region - Tanga**

| | | | | | |
|---|---|---|---|---|---|
| Total | Sour Soup | 64.5 | 21 | 106.75 | 4966 |
| | Black Pepper | 1,520.6 | 470 | 686.52 | 1460 |
| | Cassava | 28,224.4 | 17,607 | 42,917.77 | 2438 |
| | Pigeon Pea | 2,483.5 | 1,530 | 474.01 | 310 |
| | Malay Apple | 0.0 | . | 81.29 | 0 |
| | Star Fruit | 40.7 | 40 | 337.08 | 8417 |
| | Palm Oil | 18.3 | 18 | 9.16 | 502 |
| | Coconut | 14,765.1 | 7,568 | 26,328.55 | 3479 |
| | Cashewnut | 7,904.7 | 4,664 | 4,580.07 | 982 |
| | Coffee | 3,199.5 | 5,250 | 1,168.37 | 223 |
| | Tea | 1,941.3 | 1,794 | 5,415.18 | 3018 |
| | Cocoa | 306.2 | 312 | 232.55 | 746 |
| | Wattle | 147.8 | 0 | 0.00 | 0 |
| | Kapok | 25.3 | 25 | 243.66 | 9642 |
| | Sugarcane | 2,356.0 | 4,216 | 39,687.01 | 9414 |
| | Cardamon | 2,952.1 | 2,227 | 344.66 | 155 |
| | Tamarin | 47.4 | 47 | 4.50 | 95 |
| | Cinamon | 105.6 | 32 | 122.74 | 3815 |
| | Cloves | 361.5 | 74 | 351.76 | 4755 |
| | Mshelisheli | 0.1 | 0 | 0.68 | 0 |
| | Jack Fruit | 1,547.3 | 908 | 10,558.20 | 11633 |
| | Mpesheni | 11.8 | . | 397.65 | 0 |
| | Banana | 8,125.1 | 5,408 | 34,125.57 | 6311 |
| | Avocado | 70.7 | 51 | 3,014.69 | 59356 |
| | Mango | 4,268.1 | 2,751 | 35,641.24 | 12953 |
| | Pawpaw | 131.9 | 136 | 664.78 | 4874 |
| | Pineapple | 203.2 | 533 | 329.70 | 619 |
| | Orange | 9,342.3 | 5,954 | 65,210.11 | 10952 |
| | Grape Fruit | 35.7 | 36 | 81.06 | 2268 |
| | Mandarine/Tangerine | 10.9 | 0 | 92.20 | 0 |
| | Guava | 4.9 | 0 | 170.10 | 0 |
| | Plums | 29.2 | 29 | 494.52 | 16913 |
| | Apples | 0.0 | 6 | 849.71 | 146796 |
| | Pears | 146.7 | 93 | 62,845.52 | 672846 |
| | Pitches | 15.8 | . | 11.73 | 0 |
| | Lime/Lemon | 218.2 | 96 | 633.74 | 6631 |
| | Durian | 0.0 | . | 55.35 | 0 |
| | Total | 90,626.6 | 61,896 | 338,268.16 | 5465 |

**cont… Area Planted by crop type - Tanga Region**

| Crop | Area planted | % |
|---|---|---|
| Coconut | 14,765.1 | 23.7 |
| Orange | 9,342.3 | 15.0 |
| Banana | 8,125.1 | 13.0 |
| Cashewnut | 7,904.7 | 12.7 |
| Mango | 4,268.1 | 6.8 |
| Coffee | 3,199.5 | 5.1 |
| Cardamon | 2,952.1 | 4.7 |
| Pigeon Pea | 2,483.5 | 4.0 |
| Sugarcane | 2,356.0 | 3.8 |
| Tea | 1,941.3 | 3.1 |
| Jack Fruit | 1,547.3 | 2.5 |
| Black Pepper | 1,520.6 | 2.4 |
| Cloves | 361.5 | 0.6 |
| Cocoa | 306.2 | 0.5 |
| Lime/Lemon | 218.2 | 0.3 |
| Pineapple | 203.2 | 0.3 |
| Wattle | 147.8 | 0.2 |
| Pears | 146.7 | 0.2 |
| Pawpaw | 131.9 | 0.2 |
| Cinamon | 105.6 | 0.2 |
| Avocado | 70.7 | 0.1 |
| Sour Soup | 64.5 | 0.1 |
| Tamarin | 47.4 | 0.1 |
| Star Fruit | 40.7 | 0.1 |
| Grape Fruit | 35.7 | 0.1 |
| Plums | 29.2 | 0.0 |
| Kapok | 25.3 | 0.0 |
| Palm Oil | 18.3 | 0.0 |
| Pitches | 15.8 | 0.0 |
| Mpesheni | 11.8 | 0.0 |
| Mandarine/Tangerine | 10.9 | 0.0 |
| Guava | 4.9 | 0.0 |
| Mshelisheli | 0.1 | 0.0 |
| Malay Apple | 0.0 | 0.0 |
| Apples | 0.0 | 0.0 |
| Durian | 0.0 | 0.0 |
| Total | 62,402.2 | 100.0 |

**7.4 Total Area Planted with Coconut by District - Tanga Region**

| COCONUTS | | | | | |
|---|---|---|---|---|---|
| District | Area planted with coconuts | Total Area planted (ha) | % of Total Area Planted | hh with coconuts | Average Planted Area per Household |
| Muheza | 9,380.0 | 69,468 | 63.5 | 16,250 | 0.58 |
| Pangani | 2,417.8 | 111,307 | 16.4 | 3,525 | 0.69 |
| Korogwe | 1,682.1 | | | | 0.38 |
| Tanga | 964.6 | | | | 0.22 |
| Handeni | 248.1 | 43,153 | 1.7 | 3,402 | 0.07 |
| Lushoto | 72.4 | 8,198 | 0.5 | 412 | 0.18 |
| Kilindi | 0.0 | 125,045 | 0.0 | 341 | 0.00 |
| Total | 14,765.1 | 357,171 | 100.0 | 32,814 | 0.45 |

**7.5 Total Area Planted with Oranges by District - Tanga Region**

| Oranges | | | | | |
|---|---|---|---|---|---|
| District | Area planted with oranges(Ha) | Total Area planted (ha) | % of Total Area Planted | hh with oranges | Average Planted Area per Household |
| Muheza | 6,432.8 | 69,468 | 68.86 | 10,742 | 0.60 |
| Handeni | 2,200.7 | 111,307 | 23.56 | 7,449 | 0.30 |
| Korogwe | 404.2 | 61,104 | 4.33 | 1,346 | 0.30 |
| Pangani | 157.7 | 10,260 | 1.69 | 1,501 | 0.11 |
| Kilindi | 79.3 | 43,153 | 0.85 | 1,122 | 0.07 |
| Tanga | 63.3 | 8,198 | 0.68 | 1,662 | 0.04 |
| Lushoto | 4.3 | 125,045 | 0.05 | 145 | 0.03 |
| Total | 9,342.3 | 428,535 | 100.00 | 23,967 | 0.39 |

**7.6 Total Area Planted with Banana by District - Tanga Region**

| Banana | | | | | |
|---|---|---|---|---|---|
| District | Area planted with banana(Ha) | Total Area planted (ha) | % of Total Area Planted | hh with bananas | Average Planted Area per Household |
| Muheza | 2,280.9 | 69,468 | 0.53 | 14,380 | 0.16 |
| Korogwe | 2,069.1 | 61,104 | 0.48 | 10,403 | 0.20 |
| Lushoto | 1,750.7 | 125,045 | 0.41 | 26,066 | 0.07 |
| Handeni | 1,143.1 | 111,307 | 0.27 | 5,325 | 0.21 |
| Kilindi | 662.1 | 43,153 | 0.15 | 2,966 | 0.22 |
| Pangani | 151.7 | 10,260 | 0.04 | 1,133 | 0.13 |
| Tanga | 67.6 | 8,198 | 0.02 | 1,193 | 0.06 |
| Total | 8,125.1 | 428,535 | 1.90 | 61,464 | 0.13 |

**7.7 Total Area Planted with Cashewnuts by District - Tanga Region**

| CASHEWNUTS | | | | | |
|---|---|---|---|---|---|
| District | Area planted with cashewnuts(Ha) | Total Area planted (ha) | % of Total Area Planted | hh with cashewnuts | Average Planted Area per Household |
| Pangani | 4,599.6 | 69,468 | 3031.51 | 8,508 | 0.54 |
| Tanga | 1,766.1 | 10,260 | 1164.03 | 2,042 | 0.87 |
| Muheza | 949.7 | 8,198 | 625.93 | 2,213 | 0.43 |
| Korogwe | 578.2 | 61,104 | 381.06 | 2,350 | 0.25 |
| Lushoto | 11.1 | 125,045 | 7.29 | 427 | 0.03 |
| Handeni | 0.0 | 111,307 | 0.00 | 534 | 0.00 |
| Kilindi | 0.0 | 43,153 | 0.00 | 0 | 0.00 |
| Total | 7,904.7 | 428,535 | 5209.82 | 16,074 | 0.49 |

7.8 Production of Permanent Planted Crops with Fertiliser by Fertiliser Use - Tanga Region

| | Fertilizer Use | | | | |
|---|---|---|---|---|---|
| | Mostly Farm Yard Manure | Mostly Compost | Mostly Inorganic Fertilizer | No Fertilizer Applied | Total |
| Apples | 1,005 | 0 | 0 | 2,153 | 3,159 |
| Avocado | 0 | 180 | 0 | 3,235 | 3,415 |
| Banana | 6,551 | 1,047 | 0 | 53,040 | 60,637 |
| Black Pepper | 0 | 86 | 0 | 3,434 | 3,520 |
| Cardamon | 214 | 173 | 0 | 7,207 | 7,594 |
| Cashewnut | 547 | 0 | 0 | 15,118 | 15,665 |
| Cinamon | 92 | 92 | 0 | 1,763 | 1,946 |
| Cloves | 92 | 178 | 0 | 1,809 | 2,079 |
| Cocoa | 0 | 0 | 0 | 249 | 249 |
| Coconut | 1,202 | 183 | 101 | 30,572 | 32,058 |
| Coffee | 2,838 | 146 | 0 | 8,051 | 11,035 |
| Durian | 0 | 22 | 0 | 0 | 22 |
| Grape Fruit | 0 | 0 | 0 | 90 | 90 |
| Guava | 97 | 0 | 0 | 561 | 658 |
| Jack Fruit | 106 | 86 | 0 | 13,434 | 13,626 |
| Kapok | 0 | 0 | 0 | 211 | 211 |
| Lime/Lemon | 314 | 0 | 0 | 3,872 | 4,185 |
| Malay Apple | 0 | 0 | 0 | 98 | 98 |
| Mandarine/Tangerine | 0 | 0 | 0 | 766 | 766 |
| Mango | 616 | 1,294 | 49 | 30,404 | 32,363 |
| Mpesheni | 143 | 0 | 0 | 207 | 350 |
| Mshelisheli | 23 | 0 | 0 | 203 | 226 |
| Orange | 826 | 447 | 32 | 21,631 | 22,935 |
| Palm Oil | 0 | 0 | 0 | 113 | 113 |
| Pawpaw | 168 | 0 | 0 | 2,266 | 2,434 |
| Pears | 578 | 584 | 0 | 6,349 | 7,511 |
| Pigeon Pea | 0 | 0 | 0 | 1,873 | 1,873 |
| Pineapple | 88 | 0 | 0 | 1,896 | 1,984 |
| Pitches | 143 | 0 | 0 | 1,234 | 1,377 |
| Plums | 143 | 0 | 0 | 873 | 1,016 |
| Plums | 143 | 0 | 0 | 873 | 1,016 |
| Sour Soup | 23 | 0 | 0 | 106 | 129 |
| Star Fruit | 0 | 0 | 0 | 357 | 357 |
| Sugarcane | 401 | 476 | 146 | 11,971 | 12,993 |
| Tamarin | 0 | 0 | 0 | 90 | 90 |
| Tea | 0 | 0 | 247 | 4,467 | 4,714 |
| Wattle | 0 | 0 | 0 | 730 | 730 |
| Total | 17,668 | 5,690 | 606 | 297,600 | 321,564 |

7.9 Production of Permanent Planted Crops with Fertiliser by Farm Yard Manure - Tanga Region

| | Mostly Farm Yard Manure | Total | % |
|---|---|---|---|
| Mpesheni | 143 | 350 | 40.8 |
| Apples | 1,005 | 3,159 | 31.8 |
| Coffee | 2,838 | 11,035 | 25.7 |
| Sour Soup | 23 | 129 | 17.6 |
| Guava | 97 | 658 | 14.7 |
| Plums | 143 | 1,016 | 14.1 |
| Plums | 143 | 1,016 | 14.1 |
| Banana | 6,551 | 60,637 | 10.8 |
| Pitches | 143 | 1,377 | 10.4 |
| Mshelisheli | 23 | 226 | 10.1 |
| Pears | 578 | 7,511 | 7.7 |
| Lime/Lemon | 314 | 4,185 | 7.5 |
| Pawpaw | 168 | 2,434 | 6.9 |
| Cinamon | 92 | 1,946 | 4.7 |
| Pineapple | 88 | 1,984 | 4.5 |
| Cloves | 92 | 2,079 | 4.4 |
| Coconut | 1,202 | 32,058 | 3.8 |
| Orange | 826 | 22,935 | 3.6 |
| Cashewnut | 547 | 15,665 | 3.5 |
| Sugarcane | 401 | 12,993 | 3.1 |
| Cardamon | 214 | 7,594 | 2.8 |
| Mango | 616 | 32,363 | 1.9 |
| Jack Fruit | 106 | 13,626 | 0.8 |
| Avocado | 0 | 3,415 | 0.0 |
| Black Pepper | 0 | 3,520 | 0.0 |
| Cocoa | 0 | 249 | 0.0 |
| Durian | 0 | 22 | 0.0 |
| Grape Fruit | 0 | 90 | 0.0 |
| Kapok | 0 | 211 | 0.0 |
| Malay Apple | 0 | 98 | 0.0 |
| Mandarine/Tangerine | 0 | 766 | 0.0 |
| Palm Oil | 0 | 113 | 0.0 |
| Pigeon Pea | 0 | 1,873 | 0.0 |
| Star Fruit | 0 | 357 | 0.0 |
| Tamarin | 0 | 90 | 0.0 |
| Tea | 0 | 4,714 | 0.0 |
| Wattle | 0 | 730 | 0.0 |
| Total | 16,353 | 253,227 | 6.5 |

7.10 Production of Permanent Planted Crops with Fertiliser by Inorganic Fertiliser - Tanga Region

| | Mostly Inorganic Fertilizer | Total | % |
|---|---|---|---|
| Tea | 247 | 4,714 | 5.25 |
| Sugarcane | 146 | 12,993 | 1.12 |
| Coconut | 101 | 32,058 | 0.32 |
| Mango | 49 | 32,363 | 0.15 |
| Orange | 32 | 22,935 | 0.14 |
| Apples | 0 | 3,159 | 0 |
| Avocado | 0 | 3,415 | 0 |
| Banana | 0 | 60,637 | 0 |
| Black Pepper | 0 | 3,520 | 0 |
| Cardamon | 0 | 7,594 | 0 |
| Cashewnut | 0 | 15,665 | 0 |
| Cinamon | 0 | 1,946 | 0 |
| Cloves | 0 | 2,079 | 0 |
| Cocoa | 0 | 249 | 0 |
| Coffee | 0 | 11,035 | 0 |
| Durian | 0 | 22 | 0 |
| Grape Fruit | 0 | 90 | 0 |
| Guava | 0 | 658 | 0 |
| Jack Fruit | 0 | 13,626 | 0 |
| Kapok | 0 | 211 | 0 |
| Lime/Lemon | 0 | 4,185 | 0 |
| Malay Apple | 0 | 98 | 0 |
| Mandarine/Tangerine | 0 | 766 | 0 |
| Mpesheni | 0 | 350 | 0 |
| Mshelisheli | 0 | 226 | 0 |
| Palm Oil | 0 | 113 | 0 |
| Pawpaw | 0 | 2,434 | 0 |
| Pears | 0 | 7,511 | 0 |
| Pigeon Pea | 0 | 1,873 | 0 |
| Pineapple | 0 | 1,984 | 0 |
| Pitches | 0 | 1,377 | 0 |
| Plums | 0 | 1,016 | 0 |
| Plums | 0 | 1,016 | 0 |
| Sour Soup | 0 | 129 | 0 |
| Star Fruit | 0 | 357 | 0 |
| Tamarin | 0 | 90 | 0 |
| Wattle | 0 | 730 | 0 |
| Total | 575 | 253,227 | 0.23 |

7.11 Production of Permanent Planted Crops with Fertiliser by Inorganic Fertiliser - Tanga Region

| | Mostly Compost | Total | % |
|---|---|---|---|
| Durian | 22 | 22 | 100.0 |
| Cloves | 178 | 2,079 | 8.6 |
| Pears | 584 | 7,511 | 7.8 |
| Avocado | 180 | 3,415 | 5.3 |
| Cinamon | 92 | 1,946 | 4.7 |
| Mango | 1,294 | 32,363 | 4.0 |
| Sugarcane | 476 | 12,993 | 3.7 |
| Black Pepper | 86 | 3,520 | 2.5 |
| Cardamon | 173 | 7,594 | 2.3 |
| Orange | 447 | 22,935 | 1.9 |
| Banana | 1,047 | 60,637 | 1.7 |
| Coffee | 146 | 11,035 | 1.3 |
| Jack Fruit | 86 | 13,626 | 0.6 |
| Coconut | 183 | 32,058 | 0.6 |
| Apples | 0 | 3,159 | 0.0 |
| Cashewnut | 0 | 15,665 | 0.0 |
| Cocoa | 0 | 249 | 0.0 |
| Grape Fruit | 0 | 90 | 0.0 |
| Guava | 0 | 658 | 0.0 |
| Kapok | 0 | 211 | 0.0 |
| Lime/Lemon | 0 | 4,185 | 0.0 |
| Malay Apple | 0 | 98 | 0.0 |
| Mandarine/Tangerine | 0 | 766 | 0.0 |
| Mpesheni | 0 | 350 | 0.0 |
| Mshelisheli | 0 | 226 | 0.0 |
| Palm Oil | 0 | 113 | 0.0 |
| Pawpaw | 0 | 2,434 | 0.0 |
| Pigeon Pea | 0 | 1,873 | 0.0 |
| Pineapple | 0 | 1,984 | 0.0 |
| Pitches | 0 | 1,377 | 0.0 |
| Plums | 0 | 1,016 | 0.0 |
| Plums | 0 | 1,016 | 0.0 |
| Sour Soup | 0 | 129 | 0.0 |
| Star Fruit | 0 | 357 | 0.0 |
| Tamarin | 0 | 90 | 0.0 |
| Tea | 0 | 4,714 | 0.0 |
| Wattle | 0 | 730 | 0.0 |
| Total | 5,690 | 321,564 | |

# AGROPROCESSING

**8.0a: Number of Crops Growing Households reported to have Processed Farm Products by District; 2002/03 Agricultural Year**

| District | Households That Processed Crops | | Households that did not Process Crops | | Total | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| Lushoto | 81,783 | 94 | 4,796 | 6 | 86,580 | 100 |
| Korogwe | 36,364 | 79 | 9,627 | 21 | 45,990 | 100 |
| Muheza | 43,887 | 89 | 5,308 | 11 | 49,195 | 100 |
| Tanga | 6,162 | 69 | 2,752 | 31 | 8,914 | 100 |
| Pangani | 5,133 | 72 | 1,995 | 28 | 7,128 | 100 |
| Handeni | 43,919 | 92 | 3,820 | 8 | 47,739 | 100 |
| Kilindi | 18,537 | 94 | 1,117 | 6 | 19,654 | 100 |
| Total | 235,784 | 89 | 29,414 | 11 | 265,198 | 100 |

**8.0b: Number of Crops Growing Households by Method of Processing and District; 2002/03 Agricultural Year**

| District | 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 | Total |
| Lushoto | 1,875 | 1,131 | 75,285 | 0 | 0 | 3,348 | 144 | 0 | 81,783 |
| Korogwe | 1,901 | 1,051 | 32,787 | 213 | 0 | 411 | 0 | 0 | 36,364 |
| Muheza | 2,241 | 760 | 36,316 | 78 | 78 | 4,327 | 86 | 0 | 43,887 |
| Tanga | 827 | 659 | 4,476 | 0 | 0 | 201 | 0 | 0 | 6,162 |
| Pangani | 1,396 | 441 | 3,010 | 0 | 0 | 18 | 0 | 268 | 5,133 |
| Handeni | 5,809 | 2,954 | 35,155 | 0 | 0 | 0 | 0 | 0 | 43,919 |
| Kilindi | 2,140 | 98 | 15,109 | 0 | 0 | 1,190 | 0 | 0 | 18,537 |
| Total | 16,189 | 7,094 | 202,137 | 291 | 78 | 9,495 | 231 | 268 | 235,784 |
| % | 6.87 | 3.01 | 85.73 | 0.12 | 0.03 | 4.03 | 0.10 | 0.11 | 100.00 |

**8.1.1a AGROPROCESSING: Number of Crop Growing Households Processing Crops During 2002/03 Agricultural Year By Location and Crop, Tanga Region**

| Crop | 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 |
| Maize | 11,403 | 6,575 | 199,258 | 291 | 78 | 9,479 | 86 | 0 | 0 | 227,170 |
| Paddy | 1,836 | 260 | 11,381 | 0 | 0 | 188 | 0 | 0 | 0 | 13,665 |
| Sorghum | 33 | 0 | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 140 |
| Finger Millet | 0 | 0 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 108 |
| Wheat | 143 | 0 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 290 |
| Cassava | 10,367 | 596 | 17,445 | 0 | 0 | 335 | 90 | 283 | 0 | 29,117 |
| Sweet Potat | 0 | 0 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 146 |
| Beans | 857 | 0 | 1,356 | 0 | 0 | 142 | 0 | 0 | 0 | 2,355 |
| Cowpeas | 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 235 |
| Green Gram | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 |
| Groundnut | 760 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 868 |
| Oil Palm | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| Coconut | 5,828 | 18 | 24 | 0 | 0 | 0 | 0 | 380 | 0 | 6,250 |
| Cashewnut | 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 |
| Coffee | 0 | 872 | 903 | 0 | 0 | 0 | 0 | 0 | 0 | 1,774 |
| Tea | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 0 | 146 | 291 |
| Sugarcane | 422 | 262 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 685 |
| Pineapple | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 |
| Tomatoes | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 |
| Amaranths | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 |

**8.1.1b AGROPROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year By Use of Product and Crop, Tanga Region**

| | Product Use | | | | | |
|---|---|---|---|---|---|---|
| Crop | Household / Human Consumption | Fuel for Cooking | Sale Only | Animal Consumption | Did Not Use | Total |
| Maize | 226,323 | 107 | 171 | 127 | 441 | 227,170 |
| Paddy | 13,141 | 89 | 225 | 0 | 210 | 13,665 |
| Sorghum | 140 | 0 | 0 | 0 | 0 | 140 |
| Finger Millet | 108 | 0 | 0 | 0 | 0 | 108 |
| Wheat | 290 | 0 | 0 | 0 | 0 | 290 |
| Cassava | 28,546 | 0 | 266 | 81 | 224 | 29,117 |
| Sweet Potat | 146 | 0 | 0 | 0 | 0 | 146 |
| Beans | 2,065 | 0 | 290 | 0 | 0 | 2,355 |
| Cowpeas | 235 | 0 | 0 | 0 | 0 | 235 |
| Green Gram | 43 | 0 | 0 | 0 | 0 | 43 |
| Groundnut | 369 | 0 | 391 | 0 | 108 | 868 |
| Oil Palm | 23 | 0 | 0 | 0 | 0 | 23 |
| Coconut | 6,056 | 22 | 102 | 70 | 0 | 6,250 |
| Cashewnut | 85 | 0 | 0 | 0 | 0 | 85 |
| Coffee | 0 | 0 | 1,774 | 0 | 0 | 1,774 |
| Tea | 0 | 0 | 291 | 0 | 0 | 291 |
| Sugarcane | 0 | 0 | 685 | 0 | 0 | 685 |
| Pineapple | 180 | 0 | 0 | 0 | 0 | 180 |
| Tomatoes | 108 | 0 | 0 | 0 | 0 | 108 |
| Amaranths | 108 | 0 | 0 | 0 | 0 | 108 |
| Total | 277,966 | 218 | 4,194 | 278 | 984 | 283,641 |

**8.1.1c AGROPROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year By Location of Sale of Product and Crop, Tanga Region**

| | Where Sold | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Crop | Neighbours | Market / Trade Store | Secondary Market | Co-operative | Farmers Association | Large Scale Farm | Trader at Farm | Other | Did not Sell | Total |
| Maize | 6,956 | 8,169 | 0 | 646 | 277 | 450 | 2,113 | 82 | 208,477 | 227,170 |
| Paddy | 385 | 1,745 | 0 | 0 | 93 | 105 | 14 | 175 | 11,148 | 13,665 |
| Sorghum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 140 | 140 |
| Finger Millet | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 108 |
| Wheat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 290 | 290 |
| Cassava | 319 | 5,179 | 142 | 0 | 0 | 91 | 0 | 0 | 23,387 | 29,117 |
| Sweet Potat | 0 | 0 | 0 | 146 | 0 | 0 | 0 | 0 | 0 | 146 |
| Beans | 0 | 340 | 0 | 0 | 0 | 0 | 144 | 0 | 1,870 | 2,355 |
| Cowpeas | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 129 | 235 |
| Green Gram | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 43 |
| Groundnut | 0 | 198 | 0 | 0 | 0 | 0 | 175 | 108 | 387 | 868 |
| Oil Palm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 23 |
| Coconut | 653 | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 5,543 | 6,250 |
| Cashewnut | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 85 |
| Coffee | 0 | 0 | 0 | 979 | 583 | 0 | 0 | 0 | 213 | 1,774 |
| Tea | 0 | 0 | 0 | 0 | 0 | 144 | 146 | 0 | 0 | 291 |
| Sugarcane | 107 | 49 | 0 | 0 | 0 | 0 | 214 | 0 | 316 | 685 |
| Pineapple | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 0 | 90 | 180 |
| Tomatoes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 108 |
| Amaranths | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 108 |
| Total | 8,525 | 15,679 | 142 | 1,771 | 953 | 792 | 2,951 | 365 | 252,464 | 283,641 |

**8.1.1d AGRO PROCESSING: Number of Crop Growing Households By Main Product and District During 2002/03 Agriculture Year, Tanga Region**

| | Main Product | | | | | | |
|---|---|---|---|---|---|---|---|
| District | Flour / Meal | Grain | Oil | Juice | Pulp | Other | Total |
| Lushoto | 74,995 | 6,644 | 0 | 0 | 144 | 0 | 81,783 |
| Korogwe | 33,525 | 2,310 | 0 | 528 | 0 | 0 | 36,364 |
| Muheza | 41,503 | 1,099 | 1,095 | 146 | 0 | 43 | 43,887 |
| Tanga | 5,348 | 741 | 64 | 0 | 0 | 8 | 6,162 |
| Pangani | 3,442 | 349 | 78 | 39 | 0 | 1,225 | 5,133 |
| Handeni | 42,000 | 1,812 | 107 | 0 | 0 | 0 | 43,919 |
| Kilindi | 17,902 | 537 | 0 | 48 | 0 | 49 | 18,537 |
| Total | 218,715 | 13,494 | 1,344 | 762 | 144 | 1,325 | 235,784 |

**8.1.1e AGRO PROCESSING: Number of Crop Growing Households By Use of Primary Processed Product and District during 2002/03 Agriculture Year, Tanga Region**

| | Product Use | | | | | |
|---|---|---|---|---|---|---|
| District | Household /Human Consumption | Fuel for Cooking | Sale Only | Animal Consumption | Did Not Use | Total |
| Lushoto | 80,767 | 0 | 871 | 0 | 146 | 81,783 |
| Korogwe | 35,415 | 107 | 636 | 0 | 205 | 36,364 |
| Muheza | 43,722 | 0 | 0 | 79 | 86 | 43,887 |
| Tanga | 6,047 | 0 | 115 | 0 | 0 | 6,162 |
| Pangani | 5,012 | 0 | 98 | 23 | 0 | 5,133 |
| Handeni | 43,814 | 0 | 0 | 0 | 105 | 43,919 |
| Kilindi | 18,440 | 0 | 49 | 48 | 0 | 18,537 |
| Total | 233,217 | 107 | 1,768 | 150 | 542 | 235,784 |

**8.1.1f AGRO PROCESSING: Number of Crop Growing Households By Where Product Sold and District During 2002/03 Agriculture Year, Tanga Region**

| | Where Sold | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Neighbours | Local Market / Trade Store | Marketing Co-operative | Farmers Association | Large Scale Farm | Trader at Farm | Other | Did not Sell | Total |
| Lushoto | 2,899 | 7,147 | 1,017 | 291 | 291 | 0 | 0 | 70,139 | 81,783 |
| Korogwe | 641 | 416 | 107 | 0 | 0 | 321 | 0 | 34,879 | 36,364 |
| Muheza | 332 | 0 | 0 | 76 | 91 | 90 | 87 | 43,210 | 43,887 |
| Tanga | 174 | 54 | 0 | 0 | 0 | 0 | 33 | 5,900 | 6,162 |
| Pangani | 182 | 54 | 0 | 0 | 0 | 136 | 0 | 4,760 | 5,133 |
| Handeni | 2,818 | 972 | 210 | 201 | 214 | 1,729 | 0 | 37,776 | 43,919 |
| Kilindi | 535 | 538 | 0 | 0 | 0 | 97 | 48 | 17,318 | 18,537 |
| Total | 7,582 | 9,180 | 1,334 | 568 | 595 | 2,374 | 169 | 213,982 | 235,784 |

**8.1.1g AGRO PROCESSING: Number of Crop Growing Households By type of By-Product and District During 2002/03 Agriculture Year, Tanga Region**

| | By Product | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Bran | Cake | Husk | Juice | Pulp | Shell | No by-product | Other | Total |
| Lushoto | 851 | 0 | 825 | 0 | 872 | 144 | 79,091 | 0 | 81,783 |
| Korogwe | 1,871 | 0 | 1,598 | 99 | 626 | 101 | 32,069 | 0 | 36,364 |
| Muheza | 14,914 | 1,160 | 399 | 0 | 78 | 0 | 27,336 | 0 | 43,887 |
| Tanga | 1,462 | 73 | 713 | 0 | 0 | 57 | 3,857 | 0 | 6,162 |
| Pangani | 1,563 | 533 | 164 | 0 | 0 | 0 | 2,103 | 770 | 5,133 |
| Handeni | 18,802 | 0 | 108 | 0 | 0 | 0 | 24,901 | 108 | 43,919 |
| Kilindi | 581 | 0 | 0 | 0 | 0 | 49 | 17,907 | 0 | 18,537 |
| Total | 40,044 | 1,765 | 3,807 | 99 | 1,576 | 352 | 187,263 | 879 | 235,784 |

# MARKETING

**10.1 Number of Crop Growing Households Reported to have Sold Agricultural Produce by District during 2002/03 District, Tanga Region**

| District | Households that Sold | | Households that Did not Sell | | Total Number of households |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 69,510 | 80.3 | 17,069 | 19.7 | 86,580 |
| Korogwe | 29,751 | 64.7 | 16,240 | 35.3 | 45,990 |
| Muheza | 41,149 | 83.6 | 8,045 | 16.4 | 49,195 |
| Tanga | 6,605 | 74.1 | 2,309 | 25.9 | 8,914 |
| Pangani | 4,977 | 69.8 | 2,151 | 30.2 | 7,128 |
| Handeni | 30,492 | 63.9 | 17,247 | 36.1 | 47,739 |
| Kilindi | 14,684 | 74.7 | 4,970 | 25.3 | 19,654 |
| Total | 197,168 | 74.3 | 68,030 | 25.7 | 265,198 |

**10.2 Number of Households who Reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year**

| District | Price Too Low | Production Insufficient to Sell | Market Too Far | Co-operative Problems | Trade Union Problems | Government Regulatory Board Problems | Other | Not applicable | Total |
|---|---|---|---|---|---|---|---|---|---|
| Lushoto | 292 | 17,772 | 0 | 143 | 721 | 146 | 874 | 65,760 | 85,708 |
| Korogwe | 512 | 15,936 | 105 | 204 | 189 | 0 | 2,311 | 23,561 | 42,819 |
| Muheza | 514 | 11,287 | 0 | 0 | 635 | 0 | 703 | 35,102 | 48,241 |
| Tanga | 87 | 2,891 | 0 | 26 | 26 | 0 | 325 | 5,315 | 8,670 |
| Pangani | 94 | 2,309 | 21 | 118 | 0 | 0 | 500 | 4,085 | 7,128 |
| Handeni | 755 | 17,509 | 108 | 0 | 0 | 0 | 1,389 | 23,814 | 43,575 |
| Kilindi | 0 | 5,261 | 49 | 0 | 97 | 0 | 632 | 13,419 | 19,458 |
| Total | 2,253 | 72,966 | 284 | 491 | 1,668 | 146 | 6,735 | 171,056 | 255,599 |

**10.3 Proportion of Households who Reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year**

| District | Price Too Low | Production Insufficient to Sell | Market Too Far | Co-operative Problems | Trade Union Problems | Government Regulatory Board Problems | Other | Not applicable | Total |
|---|---|---|---|---|---|---|---|---|---|
| Lushoto | 0.34 | 20.74 | 0.00 | 0.17 | 0.84 | 0.17 | 1.02 | 76.73 | 100.00 |
| Korogwe | 1.19 | 37.22 | 0.25 | 0.48 | 0.44 | 0.00 | 5.40 | 55.02 | 100.00 |
| Muheza | 1.06 | 23.40 | 0.00 | 0.00 | 1.32 | 0.00 | 1.46 | 72.76 | 100.00 |
| Tanga | 1.01 | 33.34 | 0.00 | 0.30 | 0.30 | 0.00 | 3.75 | 61.30 | 100.00 |
| Pangani | 1.32 | 32.40 | 0.30 | 1.65 | 0.00 | 0.00 | 7.02 | 57.31 | 100.00 |
| Handeni | 1.73 | 40.18 | 0.25 | 0.00 | 0.00 | 0.00 | 3.19 | 54.65 | 100.00 |
| Kilindi | 0.00 | 27.04 | 0.25 | 0.00 | 0.50 | 0.00 | 3.25 | 68.97 | 100.00 |
| Total | 0.88 | 28.55 | 0.11 | 0.19 | 0.65 | 0.06 | 2.64 | 66.92 | 100.00 |

## IRRIGATION / EROSION CONTROL

**11.1 IRRIGATION: Number and Percent of Households Reporting use of irrigation during 2002/03 Agricultural year by District**

| District | Households Practicing Irrigation | | Households not Practicing Irrigation | | Total Number of households |
|---|---|---|---|---|---|
| | Number of Household | % | Number of Household | % | |
| Lushoto | 15,391 | 18 | 71,188 | 82 | 86,580 |
| Korogwe | 5,673 | 12 | 40,317 | 88 | 45,990 |
| Muheza | 929 | 2 | 48,266 | 98 | 49,195 |
| Tanga | 306 | 3 | 8,608 | 97 | 8,914 |
| Pangani | 129 | 2 | 6,998 | 98 | 7,128 |
| Handeni | 427 | 1 | 47,312 | 99 | 47,739 |
| Kilindi | 482 | 2 | 19,172 | 98 | 19,654 |
| Total | 23,338 | 9 | 241,860 | 91 | 265,198 |

**11.2 IRRIGATION: Area (ha) of Irrigatable and NON irrigated land by district during 2002/03 agriculture year**

| District | Irrigatable Area (ha) | Irrigated Land (ha) | % |
|---|---|---|---|
| Lushoto | 4,819 | 4,011 | 83 |
| Korogwe | 2,817 | 2,276 | 81 |
| Muheza | 229 | 156 | 68 |
| Tanga | 237 | 181 | 77 |
| Pangani | 150 | 149 | 99 |
| Handeni | 289 | 202 | 70 |
| Kilindi | 119 | 103 | 87 |
| Total | 8,660 | 7,079 | 82 |

**11.3 IRRIGATION: Number of Agriculture Households using irrigation by Source of Irrigation Water by districts during the 2002/03 agricultural Year**

| District | Source of Irrigation Water | | | | | | |
|---|---|---|---|---|---|---|---|
| | River | Dam | Well | Borehole | Canal | Pipe water | Total |
| Lushoto | 4,731 | 718 | 433 | 0 | 9,375 | 135 | 15,391 |
| Korogwe | 4,539 | 0 | 422 | 0 | 609 | 103 | 5,673 |
| Muheza | 354 | 0 | 418 | 79 | 78 | 0 | 929 |
| Tanga | 133 | 56 | 96 | 0 | 0 | 21 | 306 |
| Pangani | 41 | 0 | 36 | 34 | 18 | 0 | 129 |
| Handeni | 108 | 0 | 319 | 0 | 0 | 0 | 427 |
| Kilindi | 147 | 0 | 240 | 0 | 95 | 0 | 482 |
| Total | 10,052 | 774 | 1,965 | 113 | 10,176 | 258 | 23,338 |
| % | 43 | 3 | 8 | 0 | 44 | 1 | 100 |

**11.4 IRRIGATION: Number of Agriculture Households by method of used to obtain water and district during 2002/03 agriculture year**

| District | Method of Obtaining Water | | | | | |
|---|---|---|---|---|---|---|
| | Gravity | Hand Bucket | Hand Pump | Motor Pump | Other | Total |
| Lushoto | 8,480 | 6,911 | 0 | 0 | 0 | 15,391 |
| Korogwe | 4,149 | 1,334 | 84 | 0 | 106 | 5,673 |
| Muheza | 164 | 764 | 0 | 0 | 0 | 929 |
| Tanga | 23 | 248 | 0 | 36 | 0 | 306 |
| Pangani | 18 | 111 | 0 | 0 | 0 | 129 |
| Handeni | 0 | 321 | 0 | 0 | 106 | 427 |
| Kilindi | 49 | 433 | 0 | 0 | 0 | 482 |
| Total | 12,883 | 10,123 | 84 | 36 | 212 | 23,338 |
| % | 55.2 | 43.4 | 0.4 | 0.2 | 0.9 | 100 |

**11.5 IRRIGATION: Number of Agriculture Households by Method of Field Application of Irrigation Water and District for the 2002/03 Agricultural Year**

| District | Method of field Application | | | | |
|---|---|---|---|---|---|
| | Flood | Sprinkler | Water Hose | Bucket / Watering Can | Total |
| Lushoto | 7,898 | 434 | 0 | 7,060 | 15,391 |
| Korogwe | 3,941 | 87 | 186 | 1,459 | 5,673 |
| Muheza | 78 | 0 | 0 | 851 | 929 |
| Tanga | 23 | 0 | 36 | 248 | 306 |
| Pangani | 18 | 0 | 0 | 111 | 129 |
| Handeni | 0 | 0 | 0 | 427 | 427 |
| Kilindi | 49 | 0 | 0 | 433 | 482 |
| Total | 12,006 | 521 | 222 | 10,588 | 23,338 |
| % | 51 | 2 | 1 | 45 | 100 |

**11.6 EROSION CONTROL: Number of Households with Erosion Control/Water Harvesting Facilities on their Land By District**

| District | Presence of Erosion Control/Water Harvesting Facilities | | | | |
|---|---|---|---|---|---|
| | Have facility | | Does Not Have Facility | | Total Number of households |
| | Number | % | Number | % | |
| Lushoto | 20,308 | 23 | 66,271 | 77 | 86,580 |
| Korogwe | 4,540 | 10 | 41,450 | 90 | 45,990 |
| Muheza | 3,815 | 8 | 45,380 | 92 | 49,195 |
| Tanga | 55 | 1 | 8,859 | 99 | 8,914 |
| Pangani | 33 | 0 | 7,095 | 100 | 7,128 |
| Handeni | 952 | 2 | 46,787 | 98 | 47,739 |
| Kilindi | 585 | 3 | 19,069 | 97 | 19,654 |
| Total | 30,288 | 11 | 234,910 | 89 | 265,198 |

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

| District | Type of Erosion Control | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Terraces | Erosion Control Bunds | Gabions / Sandbag | Vetiver Grass | Tree Belts | Water Harvesting Bunds | Drainage Ditches | Dam | Total Number of Structures |
| Lushoto | 77,536 | 11,978 | 0 | 46,100 | 24,407 | 43,906 | 578 | 146 | 204,651 |
| Korogwe | 1,825 | 21,794 | 2,203 | 14,657 | 6,957 | 1,587 | 4,112 | 421 | 53,555 |
| Muheza | 1,654 | 5,956 | 919 | 2,290 | 1,433 | 13,571 | 2,104 | . | 27,925 |
| Tanga | 2,388 | 227 | 45 | 91 | 205 | 68 | 114 | 45 | 3,183 |
| Pangani | 0 | 0 | 0 | 0 | 410 | 0 | 0 | 0 | 410 |
| Handeni | 644 | 321 | . | . | 192 | . | 3,963 | . | 5,120 |
| Kilindi | 436 | 2,243 | . | 245 | 2,710 | 925 | 582 | . | 7,141 |
| Total | 84,481 | 42,520 | 3,167 | 63,382 | 36,312 | 60,056 | 11,453 | 613 | 301,985 |

# ACCESS TO FARM INPUTS / IMPLEMENTS

**12.1.1 ACCESS TO INPUTS: Number of Crop Growing Households Using Chemical Fertilizer by District, 2002/03 Agricultural Year**

| District | Using Chemical Fertilizer | | NOT Using Chemical Fertilizer | | Total Number of Crop growing households |
|---|---|---|---|---|---|
| | No of households | % | No of households | % | |
| Lushoto | 5,915 | 7 | 80,665 | 93 | 86,580 |
| Korogwe | 1,388 | 3 | 44,602 | 97 | 45,990 |
| Muheza | 509 | 1 | 48,686 | 99 | 49,195 |
| Tanga | 158 | 2 | 8,756 | 98 | 8,914 |
| Pangani | 0 | 0 | 7,086 | 100 | 7,086 |
| Handeni | 204 | 0 | 47,535 | 100 | 47,739 |
| Kilindi | 49 | 0 | 19,605 | 100 | 19,654 |
| Total | 8,223 | 3 | 256,933 | 97 | 265,156 |

**12.1.2 ACCESS TO INPUTS: Number of Agricultural Households Using Farm Yard Manure by District during 2002/03 Agricultural Year**

| District | Using Farm Yard Manure | | Not Using Farm Yard Manure | | Total Number of Crop growing households |
|---|---|---|---|---|---|
| | No of households | % | No of households | % | |
| Lushoto | 33,587 | 39 | 53,285 | 61 | 86,872 |
| Korogwe | 8,623 | 19 | 37,367 | 81 | 45,990 |
| Muheza | 5,103 | 10 | 44,092 | 90 | 49,195 |
| Tanga | 1,449 | 16 | 7,465 | 84 | 8,914 |
| Pangani | 275 | 4 | 6,963 | 96 | 7,238 |
| Handeni | 2,238 | 5 | 45,501 | 95 | 47,739 |
| Kilindi | 537 | 3 | 19,117 | 97 | 19,654 |
| Total | 51,812 | 20 | 213,789 | 80 | 265,601 |

**12.1.3 ACCESS TO INPUTS: Number of Agricultural Households Using COMPOST Manure by District during 2002/03 Agricultural Year**

| District | Using Compost | | Not Using Compost | | Total Number of Crop growing households |
|---|---|---|---|---|---|
| | No of households | % | No of households | % | |
| Lushoto | 5,932 | 7 | 80,647 | 93 | 86,580 |
| Korogwe | 5,434 | 12 | 40,556 | 88 | 45,990 |
| Muheza | 688 | 1 | 48,507 | 99 | 49,195 |
| Tanga | 442 | 5 | 8,471 | 95 | 8,914 |
| Pangani | 85 | 1 | 7,021 | 99 | 7,106 |
| Handeni | 935 | 2 | 46,804 | 98 | 47,739 |
| Kilindi | 1,063 | 5 | 18,590 | 95 | 19,654 |
| Total | 14,580 | 5 | 250,597 | 95 | 265,177 |

**12.1.4 ACCESS TO INPUTS: Number of Crop Growing Households Using Insecticides/Fungicides by District during 2002/03 Agricultural Year**

| District | Using Insecticide/Fungicide | | Not Using Insecticide/Fungicide | | Total Number of Crop growing households |
|---|---|---|---|---|---|
| | No of households | % | No of households | % | |
| Lushoto | 8,505 | 10 | 77,929 | 90 | 86,434 |
| Korogwe | 2,214 | 5 | 43,776 | 95 | 45,990 |
| Muheza | 469 | 1 | 48,725 | 99 | 49,195 |
| Tanga | 201 | 2 | 8,713 | 98 | 8,914 |
| Pangani | 201 | 3 | 6,903 | 97 | 7,104 |
| Handeni | 2,093 | 4 | 45,646 | 96 | 47,739 |
| Kilindi | 289 | 1 | 19,365 | 99 | 19,654 |
| Total | 13,971 | 5 | 251,058 | 95 | 265,029 |

**12.1.5 ACCESS TO INPUTS: Number of Crop Growing Households Using Herbicides by District during 2002/03 Agricultural Year**

| District | Using Herbicides | | Not Using Herbicides | | Total Number of Crop growing households |
|---|---|---|---|---|---|
| | No of households | % | No of households | % | |
| Lushoto | 721 | 1 | 86,150 | 99 | 86,871 |
| Korogwe | 103 | 0 | 45,887 | 100 | 45,990 |
| Muheza | 0 | 0 | 49,195 | 100 | 49,195 |
| Tanga | 0 | 0 | 8,914 | 100 | 8,914 |
| Pangani | 11 | 0 | 7,092 | 100 | 7,104 |
| Handeni | 0 | 0 | 47,739 | 100 | 47,739 |
| Kilindi | 0 | 0 | 19,654 | 100 | 19,654 |
| Total | 835 | 0 | 264,630 | 100 | 265,466 |

**12.1.6 ACCESS TO INPUTS: Number of Crop Growing Households using Improved Seeds by District during 2002/03 Agricultural Year**

| District | Using Improved Seeds | | Not Using Improved Seeds | | Total Number of Crop growing households |
|---|---|---|---|---|---|
| | No of households | % | No of households | % | |
| Lushoto | 14,855 | 17 | 71,433 | 83 | 86,288 |
| Korogwe | 8,835 | 19 | 37,155 | 81 | 45,990 |
| Muheza | 1,907 | 4 | 47,288 | 96 | 49,195 |
| Tanga | 1,166 | 13 | 7,748 | 87 | 8,914 |
| Pangani | 737 | 10 | 6,391 | 90 | 7,128 |
| Handeni | 5,183 | 11 | 42,556 | 89 | 47,739 |
| Kilindi | 818 | 4 | 18,836 | 96 | 19,654 |
| Total | 33,500 | 13 | 231,407 | 87 | 264,907 |

**12.1.7 ACCESS TO INPUTS: Number of Agricultural Households by Source of Chemical Fertilizer and District, 2002/03 Agricultural Year**

| District | Co-operative | | Local Market / Trade Store | | Development Project | | Large Scale Farm | | Locally Produced by Household | | Neighbour | | Not applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 146 | 0 | 5,623 | 6 | 0 | 0 | 0 | 0 | 146 | 0 | 0 | 0 | 80,665 | 93 | 86,580 |
| Korogwe | 107 | 0 | 1,175 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 44,602 | 97 | 45,990 |
| Muheza | 0 | 0 | 352 | 1 | 0 | 0 | 156 | 0 | 0 | 0 | 0 | 0 | 48,686 | 99 | 49,195 |
| Tanga | 0 | 0 | 135 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 8,756 | 98 | 8,914 |
| Pangani | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,086 | 100 | 7,086 |
| Handeni | 0 | 0 | 108 | 0 | 96 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47,535 | 100 | 47,739 |
| Kilindi | 0 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19,605 | 100 | 19,654 |
| Total | 253 | 0 | 7,443 | 3 | 96 | 0 | 156 | 0 | 146 | 0 | 129 | 0 | 256,933 | 97 | 265,156 |

**12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year**

| District | Local Market / Trade Store | | Secondary Market | | Development Project | | Large Scale Farm | | Locally Produced by Household | | Neighbour | | Other | | Not applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 582 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 20,335 | 23 | 12,524 | 14 | 146 | 0 | 53,285 | 61 | 86,872 |
| Korogwe | 103 | 0 | 107 | 0 | 0 | 0 | 0 | 0 | 4,456 | 10 | 3,957 | 9 | 0 | 0 | 37,367 | 81 | 45,990 |
| Muheza | 0 | 0 | 91 | 0 | 92 | 0 | 0 | 0 | 2,158 | 4 | 2,761 | 6 | 0 | 0 | 44,092 | 90 | 49,195 |
| Tanga | 21 | 0 | 0 | 0 | 18 | 0 | 23 | 0 | 428 | 5 | 926 | 10 | 33 | 0 | 7,465 | 84 | 8,914 |
| Pangani | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110 | 2 | 128 | 2 | 37 | 1 | 6,963 | 96 | 7,238 |
| ACCESS TO | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,169 | 2 | 963 | 2 | 0 | 0 | 45,501 | 95 | 47,739 |
| Kilindi | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1 | 293 | 1 | 0 | 0 | 19,117 | 97 | 19,654 |
| Total | 812 | 0 | 199 | 0 | 110 | 0 | 23 | 0 | 28,900 | 11 | 21,552 | 8 | 216 | 0 | 213,789 | 80 | 265,601 |

**12.1.9 ACCESS TO INPUTS: Number of Agricultural Households by Source of COMPOST Manure and District, 2002/03 Agricultural Year**

| District | Co-operative | | Locally Produced by Household | | Neighbour | | Not applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 146 | 0 | 5,202 | 6 | 584 | 1 | 80,647 | 93 | 86,580 |
| Korogwe | 0 | 0 | 5,125 | 11 | 309 | 1 | 40,556 | 88 | 45,990 |
| Muheza | 0 | 0 | 688 | 1 | 0 | 0 | 48,507 | 99 | 49,195 |
| Tanga | 0 | 0 | 442 | 5 | 0 | 0 | 8,471 | 95 | 8,914 |
| Pangani | 0 | 0 | 41 | 1 | 44 | 1 | 7,021 | 99 | 7,106 |
| Handeni | 0 | 0 | 935 | 2 | 0 | 0 | 46,804 | 98 | 47,739 |
| Kilindi | 0 | 0 | 1,063 | 5 | 0 | 0 | 18,590 | 95 | 19,654 |
| Total | 146 | 0 | 13,497 | 5 | 937 | 0 | 250,597 | 95 | 265,177 |

**12.1.10 ACCESS TO INPUTS: Number of Agricultural Households by Source of Pesticides/Fungicides and District, 2002/03 Agricultural Year**

| District | Co-operative | | Local Farmers Group | | Local Market / Trade Store | | Secondary Market | | Development Project | | Crop Buyers | | Large Scale Farm | | Locally Produced by Household | | Neighbour | | Other | | Not applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 146 | 0 | 0 | 0 | 8,358 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77,929 | 90 | 86,434 |
| Korogwe | 0 | 0 | 0 | 0 | 1,896 | 4 | 105 | 0 | 107 | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 0 | 0 | 0 | 0 | 43,776 | 95 | 45,990 |
| Muheza | 0 | 0 | 0 | 0 | 384 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 0 | 0 | 0 | 0 | 0 | 48,725 | 99 | 49,195 |
| Tanga | 0 | 0 | 0 | 0 | 201 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,713 | 98 | 8,914 |
| Pangani | 21 | 0 | 11 | 0 | 63 | 1 | 0 | 0 | 72 | 1 | 0 | 0 | 22 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 6,903 | 97 | 7,104 |
| Handeni | 0 | 0 | 0 | 0 | 1,566 | 3 | 0 | 0 | 0 | 0 | 204 | 0 | 106 | 0 | 0 | 0 | 108 | 0 | 108 | 0 | 45,646 | 96 | 47,739 |
| Kilindi | 0 | 0 | 0 | 0 | 242 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 19,365 | 99 | 19,654 |
| Total | 167 | 0 | 11 | 0 | 12,711 | 5 | 105 | 0 | 179 | 0 | 204 | 0 | 128 | 0 | 190 | 0 | 166 | 0 | 108 | 0 | 251,058 | 95 | 265,029 |

**12.1.11 ACCESS TO INPUTS: Number of Agricultural Households by Source of Herbicides and District, 2002/03 Agricultural Year**

| District | Local Market / Trade Store | | Neighbour | | Not applicable | | Total |
|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | |
| Lushoto | 577 | 1 | 144 | 0 | 86,150 | 99 | 86,871 |
| Korogwe | 103 | 0 | 0 | 0 | 45,887 | 100 | 45,990 |
| Muheza | 0 | 0 | 0 | 0 | 49,195 | 100 | 49,195 |
| Tanga | 0 | 0 | 0 | 0 | 8,914 | 100 | 8,914 |
| Pangani | 0 | 0 | 11 | 0 | 7,092 | 100 | 7,104 |
| Handeni | 0 | 0 | 0 | 0 | 47,739 | 100 | 47,739 |
| Kilindi | 0 | 0 | 0 | 0 | 19,654 | 100 | 19,654 |
| Total | 679 | 0 | 156 | 0 | 264,630 | 100 | 265,466 |

**12.1.12 ACCESS TO INPUTS: Number of Agricultural Households by Source of Improved Seeds and District, 2002/03 Agricultural Year**

| District | Co-operative | | Local Farmers Group | | Local Market / Trade Store | | Secondary Market | | Development Project | | Crop Buyers | | Large Scale Farm | | Locally Produced by Household | | Neighbour | | Other | | Not applicable | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 292 | 0 | 0 | 0 | 13,846 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 430 | 0 | 286 | 0 | 0 | 0 | 71,433 | 83 | 86,288 |
| Korogwe | 0 | 0 | 192 | 0 | 5,950 | 13 | 0 | 0 | 881 | 2 | 0 | 0 | 0 | 0 | 1,217 | 3 | 597 | 1 | 0 | 0 | 37,155 | 81 | 45,990 |
| Muheza | 0 | 0 | 0 | 0 | 1,379 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 0 | 171 | 0 | 265 | 1 | 0 | 0 | 47,288 | 96 | 49,195 |
| Tanga | 0 | 0 | 0 | 0 | 979 | 11 | 21 | 0 | 57 | 1 | 0 | 0 | 0 | 0 | 35 | 0 | 43 | 0 | 31 | 0 | 7,748 | 87 | 8,914 |
| Pangani | 0 | 0 | 0 | 0 | 581 | 8 | 0 | 0 | 72 | 1 | 0 | 0 | 0 | 0 | 30 | 0 | 54 | 1 | 0 | 0 | 6,391 | 90 | 7,128 |
| Handeni | 0 | 0 | 0 | 0 | 2,416 | 5 | 0 | 0 | 1,168 | 2 | 204 | 0 | 212 | 0 | 214 | 0 | 859 | 2 | 108 | 0 | 42,556 | 89 | 47,739 |
| Kilindi | 48 | 0 | 0 | 0 | 769 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,836 | 96 | 19,654 |
| Total | 341 | 0 | 192 | 0 | 25,921 | 10 | 21 | 0 | 2,178 | 1 | 204 | 0 | 303 | 0 | 2,097 | 1 | 2,104 | 1 | 140 | 0 | 231,407 | 87 | 264,907 |

**12.1.13 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Chemical Fertilizer by District, 2002/03 Agricultural Year**

| District | Less than 1 km | | Between 1 and 3 km | | Between 3 and 10 km | | Between 10 and 20 km | | 20 km and Above | | Total Number |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 1,297 | 22 | 1,443 | 24 | 3,029 | 51 | 145 | 2 | 0 | 0 | 5,915 |
| Korogwe | 107 | 8 | 779 | 56 | 0 | 0 | 101 | 7 | 401 | 29 | 1,388 |
| Muheza | 78 | 15 | 169 | 33 | 79 | 15 | 0 | 0 | 183 | 36 | 509 |
| Tanga | 10 | 6 | 0 | 0 | 93 | 59 | 55 | 35 | 0 | 0 | 158 |
| Handeni | 96 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 53 | 204 |
| Kilindi | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 100 | 49 |
| Total | 1,587 | 19 | 2,392 | 29 | 3,201 | 39 | 302 | 4 | 741 | 9 | 8,223 |

**12.1.14 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Farm Yard Manure by District, 2002/03 Agricultural Year**

| District | Less than 1 km | | Between 1 and 3 km | | Between 3 and 10 km | | Between 10 and 20 km | | Total Number |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 31,565 | 94 | 1,735 | 5 | 143 | 0 | 144 | 0 | 33,587 |
| Korogwe | 7,930 | 92 | 492 | 6 | 202 | 2 | 0 | 0 | 8,623 |
| Muheza | 4,511 | 88 | 500 | 10 | 91 | 2 | 0 | 0 | 5,103 |
| Tanga | 1,114 | 77 | 264 | 18 | 62 | 4 | 8 | 1 | 1,449 |
| Pangani | 275 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 275 |
| Handeni | 1,707 | 76 | 531 | 24 | 0 | 0 | 0 | 0 | 2,238 |
| Kilindi | 390 | 73 | 147 | 27 | 0 | 0 | 0 | 0 | 537 |
| Total | 47,492 | 92 | 3,668 | 7 | 498 | 1 | 153 | 0 | 51,812 |

**12.1.15 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of COMPOST Manure by District, 2002/03 Agricultural Year**

| District | Less than 1 km | | Between 1 and 3 km | | Total Number |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 5,932 | 100 | 0 | 0 | 5,932 |
| Korogwe | 5,237 | 96 | 197 | 4 | 5,434 |
| Muheza | 598 | 87 | 90 | 13 | 688 |
| Tanga | 409 | 92 | 33 | 8 | 442 |
| Pangani | 85 | 100 | 0 | 0 | 85 |
| Handeni | 935 | 100 | 0 | 0 | 935 |
| Kilindi | 1,063 | 100 | 0 | 0 | 1,063 |
| Total | 14,259 | 98 | 321 | 2 | 14,580 |

**12.1.18 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Improved Seeds by District, 2002/03 Agricultural Year**

| District | Less than 1 km | | Between 1 and 3 km | | Between 3 and 10 km | | Between 10 and 20 km | | 20 km and Above | | Total Number |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 5,481 | 37 | 4,178 | 28 | 4,473 | 30 | 291 | 2 | 431 | 3 | 14,855 |
| Korogwe | 2,626 | 30 | 1,300 | 15 | 1,201 | 14 | 2,383 | 27 | 1,325 | 15 | 8,835 |
| Muheza | 556 | 29 | 92 | 5 | 160 | 8 | 398 | 21 | 701 | 37 | 1,907 |
| Tanga | 154 | 13 | 53 | 5 | 569 | 49 | 234 | 20 | 156 | 13 | 1,166 |
| Pangani | 113 | 15 | 0 | 0 | 67 | 9 | 108 | 15 | 448 | 61 | 737 |
| Handeni | 846 | 16 | 1,269 | 24 | 743 | 14 | 638 | 12 | 1,687 | 33 | 5,183 |
| Kilindi | 238 | 29 | 47 | 6 | 49 | 6 | 144 | 18 | 341 | 42 | 818 |
| Total | 10,013 | 30 | 6,939 | 21 | 7,263 | 22 | 4,197 | 13 | 5,088 | 15 | 33,500 |

**12.1.16 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Pesticides/Fungicides by District, 2002/03 Agricultural Year**

| District | Less than 1 km | | Between 1 and 3 km | | Between 3 and 10 km | | Between 10 and 20 km | | 20 km and Above | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % |
| Lushoto | 2021 | 24 | 2731 | 32 | 3169 | 37 | 437 | 5 | 146 | 2 | 8505 | 100 |
| Korogwe | 0 | 0 | 364 | 16 | 522 | 24 | 713 | 32 | 615 | 28 | 2214 | 100 |
| Muheza | 0 | 0 | 85 | 18 | 0 | 0 | 0 | 0 | 384 | 82 | 469 | 100 |
| Tanga | 0 | 0 | 0 | 0 | 104 | 52 | 66 | 33 | 31 | 16 | 201 | 100 |
| Pangani | 82 | 41 | 0 | 0 | 11 | 6 | 0 | 0 | 108 | 54 | 201 | 100 |
| Handeni | 321 | 15 | 210 | 10 | 430 | 21 | 0 | 0 | 1132 | 54 | 2093 | 100 |
| Kilindi | 142 | 49 | 0 | 0 | 0 | 0 | 49 | 17 | 98 | 34 | 289 | 100 |
| Total | 2565 | 18 | 3389 | 24 | 4236 | 30 | 1265 | 9 | 2515 | 18 | 13971 | 100 |

**12.1.25 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Chemical Fertilizer by District, 2002/03 Agricultural Year**

| District | 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 | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 4,053 | 5 | 70,581 | 87 | 4,580 | 6 | 0 | 0 | 583 | 1 | 726 | 1 | 0 | 0 | 142 | 0 | 80,665 |
| Korogwe | 4,222 | 9 | 33,146 | 74 | 825 | 2 | 305 | 1 | 1,229 | 3 | 3,851 | 9 | 0 | 0 | 1,024 | 2 | 44,602 |
| Muheza | 3,853 | 8 | 34,042 | 70 | 617 | 1 | 0 | 0 | 2,464 | 5 | 7,448 | 15 | 0 | 0 | 262 | 1 | 48,686 |
| Tanga | 543 | 6 | 5,867 | 67 | 47 | 1 | 0 | 0 | 656 | 7 | 1,564 | 18 | 45 | 1 | 33 | 0 | 8,756 |
| Pangani | 1,678 | 24 | 3,706 | 52 | 289 | 4 | 0 | 0 | 199 | 3 | 1,192 | 17 | 0 | 0 | 22 | 0 | 7,086 |
| Handeni | 9,209 | 19 | 19,831 | 42 | 428 | 1 | 0 | 0 | 6,849 | 14 | 10,358 | 22 | 0 | 0 | 860 | 2 | 47,535 |
| Kilindi | 6,388 | 33 | 4,581 | 23 | 95 | 0 | 0 | 0 | 775 | 4 | 7,523 | 38 | 0 | 0 | 243 | 1 | 19,605 |
| Total | 29,946 | 12 | 171,754 | 67 | 6,880 | 3 | 305 | 0 | 12,756 | 5 | 32,663 | 13 | 45 | 0 | 2,586 | 1 | 256,933 |

**12.1.26 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Farm Yard Manure by District, 2002/03 Agricultural Year**

| District | Not Available | | Price Too High | | No Money to Buy | | Too Much Labour Required | | Do not Know How to Use | | Input is of No Use | | Other | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 5,555 | 10 | 9,733 | 18 | 28,458 | 53 | 7,676 | 14 | 711 | 1 | 1,151 | 2 | 0 | 0 | 53,285 |
| Korogwe | 3,023 | 8 | 2,953 | 8 | 25,114 | 67 | 1,865 | 5 | 1,114 | 3 | 2,374 | 6 | 924 | 2 | 37,367 |
| Muheza | 10,410 | 24 | 1,484 | 3 | 22,556 | 51 | 3,370 | 8 | 1,794 | 4 | 4,298 | 10 | 180 | 0 | 44,092 |
| Tanga | 2,441 | 33 | 323 | 4 | 2,646 | 35 | 739 | 10 | 270 | 4 | 1,013 | 14 | 32 | 0 | 7,465 |
| Pangani | 2,525 | 36 | 2,020 | 29 | 1,494 | 21 | 381 | 5 | 131 | 2 | 366 | 5 | 46 | 1 | 6,963 |
| Handeni | 5,880 | 13 | 1,165 | 3 | 25,498 | 56 | 935 | 2 | 3,147 | 7 | 8,230 | 18 | 647 | 1 | 45,501 |
| Kilindi | 2,629 | 14 | 2,245 | 12 | 5,989 | 31 | 98 | 1 | 1,119 | 6 | 6,795 | 36 | 243 | 1 | 19,117 |
| Total | 32,464 | 15 | 19,922 | 9 | 111,756 | 52 | 15,063 | 7 | 8,286 | 4 | 24,228 | 11 | 2,071 | 1 | 213,789 |

**12.1.27 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using COMPOST Manure by District, 2002/03 Agricultural Year**

| District | 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 | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 6,831 | 8 | 13,925 | 17 | 39,102 | 48 | 9,281 | 12 | 5,020 | 6 | 6,488 | 8 | 0 | 0 | 0 | 0 | 80,647 |
| Korogwe | 1,785 | 4 | 3,676 | 9 | 25,266 | 62 | 2,198 | 5 | 3,390 | 8 | 3,422 | 8 | 0 | 0 | 820 | 2 | 40,556 |
| Muheza | 1,804 | 4 | 1,248 | 3 | 24,437 | 50 | 5,196 | 11 | 10,654 | 22 | 4,282 | 9 | 268 | 1 | 618 | 1 | 48,507 |
| Tanga | 1,006 | 12 | 378 | 4 | 3,398 | 40 | 213 | 3 | 2,151 | 25 | 1,163 | 14 | 0 | 0 | 163 | 2 | 8,471 |
| Pangani | 553 | 8 | 2,043 | 29 | 2,315 | 33 | 396 | 6 | 1,232 | 18 | 328 | 5 | 0 | 0 | 154 | 2 | 7,021 |
| Handeni | 3,087 | 7 | 1,912 | 4 | 19,665 | 42 | 520 | 1 | 13,602 | 29 | 7,267 | 16 | 106 | 0 | 647 | 1 | 46,804 |
| Kilindi | 1,216 | 7 | 2,583 | 14 | 4,869 | 26 | 195 | 1 | 2,782 | 15 | 6,360 | 34 | 245 | 1 | 340 | 2 | 18,590 |
| Total | 16,282 | 6 | 25,764 | 10 | 119,052 | 48 | 17,999 | 7 | 38,831 | 15 | 29,310 | 12 | 618 | 0 | 2,741 | 1 | 250,597 |

**12.1.28 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Pesticides/Fungicides by District, 2002/03 Agricultural Year**

| District | Not Available | | Price Too High | | No Money to Buy | | Too Much Labour Required | | Do not Know How to Use | | Input is of No Use | | Other | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 1,599 | 2 | 72,257 | 93 | 584 | 1 | 146 | 0 | 1,162 | 1 | 2,182 | 3 | 0 | 0 | 77,929 |
| Korogwe | 2,975 | 7 | 32,004 | 73 | 1,047 | 2 | 300 | 1 | 2,170 | 5 | 4,568 | 10 | 712 | 2 | 43,776 |
| Muheza | 2,417 | 5 | 34,766 | 71 | 403 | 1 | 0 | 0 | 2,713 | 6 | 8,072 | 17 | 355 | 1 | 48,725 |
| Tanga | 306 | 4 | 5,308 | 61 | 92 | 1 | 21 | 0 | 1,216 | 14 | 1,707 | 20 | 63 | 1 | 8,713 |
| Pangani | 1,105 | 16 | 4,812 | 70 | 369 | 5 | 36 | 1 | 257 | 4 | 259 | 4 | 65 | 1 | 6,903 |
| Handeni | 3,805 | 8 | 25,653 | 56 | 205 | 0 | 108 | 0 | 11,384 | 25 | 3,950 | 9 | 541 | 1 | 45,646 |
| Kilindi | 4,243 | 22 | 9,480 | 49 | 290 | 1 | 0 | 0 | 1,021 | 5 | 4,039 | 21 | 291 | 2 | 19,365 |
| Total | 16,449 | 7 | 184,281 | 73 | 2,990 | 1 | 611 | 0 | 19,923 | 8 | 24,777 | 10 | 2,027 | 1 | 251,058 |

**12.1.29 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Herbicides by District, 2002/03 Agricultural Year**

| District | 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 | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 5,101 | 6 | 66,833 | 78 | 728 | 1 | 0 | 0 | 3,930 | 5 | 9,558 | 11 | 0 | 0 | 0 | 0 | 86,150 |
| Korogwe | 3,607 | 8 | 33,365 | 73 | 419 | 1 | 302 | 1 | 3,173 | 7 | 3,680 | 8 | 107 | 0 | 1,234 | 3 | 45,887 |
| Muheza | 1,522 | 3 | 34,018 | 69 | 407 | 1 | 0 | 0 | 4,969 | 10 | 7,927 | 16 | 0 | 0 | 351 | 1 | 49,195 |
| Tanga | 336 | 4 | 4,507 | 51 | 66 | 1 | 24 | 0 | 2,402 | 27 | 1,517 | 17 | 0 | 0 | 63 | 1 | 8,914 |
| Pangani | 1,134 | 16 | 4,790 | 68 | 411 | 6 | 0 | 0 | 373 | 5 | 361 | 5 | 0 | 0 | 22 | 0 | 7,092 |
| Handeni | 5,261 | 11 | 23,281 | 49 | 309 | 1 | 0 | 0 | 12,776 | 27 | 5,466 | 11 | 0 | 0 | 647 | 1 | 47,739 |
| Kilindi | 4,535 | 23 | 8,747 | 45 | 387 | 2 | 0 | 0 | 1,116 | 6 | 4,625 | 24 | 0 | 0 | 243 | 1 | 19,654 |
| Total | 21,496 | 8 | 175,541 | 66 | 2,727 | 1 | 327 | 0 | 28,740 | 11 | 33,132 | 13 | 107 | 0 | 2,560 | 1 | 264,630 |

**12.1.30 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Improved Seeds by District, 2002/03 Agricultural Year**

| District | 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 | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 2,744 | 4 | 68,105 | 95 | 146 | 0 | 0 | 0 | 292 | 0 | 146 | 0 | 0 | 0 | 0 | 0 | 71,433 |
| Korogwe | 2,024 | 5 | 31,981 | 86 | 522 | 1 | 195 | 1 | 613 | 2 | 693 | 2 | 107 | 0 | 1,020 | 3 | 37,155 |
| Muheza | 5,726 | 12 | 38,231 | 81 | 404 | 1 | 0 | 0 | 356 | 1 | 1,920 | 4 | 357 | 1 | 250 | 1 | 47,245 |
| Tanga | 1,282 | 17 | 5,446 | 70 | 18 | 0 | 0 | 0 | 181 | 2 | 676 | 9 | 45 | 1 | 100 | 1 | 7,748 |
| Pangani | 1,640 | 26 | 4,263 | 67 | 356 | 6 | 0 | 0 | 23 | 0 | 87 | 1 | 0 | 0 | 22 | 0 | 6,391 |
| Handeni | 6,653 | 16 | 31,820 | 75 | 0 | 0 | 105 | 0 | 1,714 | 4 | 1,616 | 4 | 108 | 0 | 540 | 1 | 42,556 |
| Kilindi | 5,987 | 32 | 9,059 | 48 | 341 | 2 | 48 | 0 | 436 | 2 | 2,625 | 14 | 49 | 0 | 291 | 2 | 18,836 |
| Total | 26,054 | 11 | 188,905 | 82 | 1,787 | 1 | 349 | 0 | 3,617 | 2 | 7,762 | 3 | 667 | 0 | 2,223 | 1 | 231,364 |

**12.1.31 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Chemical Fertilizer by District, 2002/03 Agricultural Year**

| District | Excellent | | Good | | Average | | Poor | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 1,019 | 17 | 3,616 | 61 | 1,139 | 19 | 140 | 2 | 5,915 |
| Korogwe | 879 | 63 | 316 | 23 | 193 | 14 | 0 | 0 | 1,388 |
| Muheza | 157 | 31 | 261 | 51 | 91 | 18 | 0 | 0 | 509 |
| Tanga | 41 | 26 | 63 | 40 | 54 | 34 | 0 | 0 | 158 |
| Handeni | 108 | 53 | 96 | 47 | 0 | 0 | 0 | 0 | 204 |
| Kilindi | 0 | 0 | 49 | 100 | 0 | 0 | 0 | 0 | 49 |
| Total | 2,205 | 27 | 4,400 | 54 | 1,478 | 18 | 140 | 2 | 8,223 |

**12.1.32 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Farm Yard Manure by District, 2002/03 Agricultural Year**

| District | Excellent | | Good | | Average | | Poor | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 6,246 | 19 | 23,720 | 71 | 3,622 | 11 | 0 | 0 | 33,587 |
| Korogwe | 1,957 | 23 | 5,956 | 69 | 710 | 8 | 0 | 0 | 8,623 |
| Muheza | 2,151 | 42 | 2,260 | 44 | 691 | 14 | 0 | 0 | 5,103 |
| Tanga | 368 | 25 | 924 | 64 | 128 | 9 | 29 | 2 | 1,449 |
| Pangani | 104 | 38 | 159 | 58 | 11 | 4 | 0 | 0 | 275 |
| Handeni | 216 | 8 | 2,135 | 83 | 213 | 8 | 0 | 0 | 2,564 |
| Kilindi | 98 | 18 | 439 | 82 | 0 | 0 | 0 | 0 | 537 |
| Total | 11,140 | 21 | 35,593 | 68 | 5,375 | 10 | 29 | 0 | 52,137 |

**12.1.33 ACCESS TO INPUTS: Number of Agricultural Households and Quality of COMPOST Manure by District, 2002/03 Agricultural Year**

| District | Excellent | | Good | | Average | | Poor | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 859 | 14 | 4,791 | 81 | 142 | 2 | 140 | 2 | 5,932 |
| Korogwe | 835 | 15 | 4,296 | 79 | 304 | 6 | 0 | 0 | 5,434 |
| Muheza | 173 | 25 | 254 | 37 | 260 | 38 | 0 | 0 | 688 |
| Tanga | 129 | 29 | 280 | 63 | 33 | 7 | 0 | 0 | 442 |
| Pangani | 18 | 22 | 67 | 78 | 0 | 0 | 0 | 0 | 85 |
| Handeni | 105 | 11 | 734 | 78 | 96 | 10 | 0 | 0 | 935 |
| Kilindi | 243 | 23 | 774 | 73 | 47 | 4 | 0 | 0 | 1,063 |
| Total | 2,363 | 16 | 11,195 | 77 | 881 | 6 | 140 | 1 | 14,580 |

**12.1.34 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Pesticides/Fungicides by District, 2002/03 Agricultural Year**

| District | Excellent | | Good | | Average | | Poor | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 1,452 | 17 | 5,185 | 61 | 1,727 | 20 | 140 | 2 | 8,505 |
| Korogwe | 382 | 17 | 1,536 | 69 | 190 | 9 | 106 | 5 | 2,214 |
| Muheza | 235 | 50 | 235 | 50 | 0 | 0 | 0 | 0 | 469 |
| Tanga | 32 | 16 | 136 | 68 | 32 | 16 | 0 | 0 | 201 |
| Pangani | 21 | 11 | 180 | 89 | 0 | 0 | 0 | 0 | 201 |
| Handeni | 0 | 0 | 1,709 | 82 | 383 | 18 | 0 | 0 | 2,093 |
| Kilindi | 98 | 34 | 191 | 66 | 0 | 0 | 0 | 0 | 289 |
| Total | 2,220 | 16 | 9,171 | 66 | 2,332 | 17 | 247 | 2 | 13,971 |

**12.1.35 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Herbicides by District, 2002/03 Agricultural Year**

| District | Good | | Total |
|---|---|---|---|
| | Number | % | |
| Lushoto | 721 | 100 | 721 |
| Korogwe | 103 | 100 | 103 |
| Pangani | 11 | 100 | 11 |
| Total | 835 | 100 | 835 |

**12.1.36 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Improved Seeds by District, 2002/03 Agricultural Year**

| District | Excellent | | Good | | Average | | Poor | | Does not Work | | Total Number |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 2,478 | 17 | 10,523 | 71 | 1,854 | 12 | 0 | 0 | 0 | 0 | 14,855 |
| Korogwe | 2,248 | 25 | 5,651 | 64 | 723 | 8 | 107 | 1 | 106 | 1 | 8,835 |
| Muheza | 778 | 41 | 1,069 | 56 | 59 | 3 | 0 | 0 | 0 | 0 | 1,907 |
| Tanga | 422 | 36 | 694 | 60 | 49 | 4 | 0 | 0 | 0 | 0 | 1,166 |
| Pangani | 118 | 16 | 573 | 78 | 22 | 3 | 23 | 3 | 0 | 0 | 737 |
| Handeni | 638 | 12 | 4,332 | 79 | 432 | 8 | 107 | 2 | 0 | 0 | 5,508 |
| Kilindi | 244 | 30 | 525 | 64 | 49 | 6 | 0 | 0 | 0 | 0 | 818 |
| Total | 6,925 | 20 | 23,369 | 69 | 3,188 | 9 | 237 | 1 | 106 | 0 | 33,825 |

**12.1.37 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Chemical Fertilizers Next Year by District, 2002/03 Agricultural Year**

| District | | Agricultural Households With Plan to use Next Year | | Agricultural Households With NO Plan to use Next Year | | Total |
|---|---|---|---|---|---|---|
| | | Number | % | Number | % | |
| Lushoto | | 19,382 | 22 | 67,197 | 78 | 86,580 |
| Korogwe | | 10,738 | 23 | 35,252 | 77 | 45,990 |
| Muheza | | 1,804 | 4 | 47,391 | 96 | 49,195 |
| Tanga | | 717 | 8 | 8,197 | 92 | 8,914 |
| Pangani | | 474 | 7 | 6,611 | 93 | 7,086 |
| Handeni | | 1,912 | 4 | 45,827 | 96 | 47,739 |
| Kilindi | | 633 | 3 | 19,020 | 97 | 19,654 |
| Total | | 35,660 | 13 | 229,496 | 87 | 265,156 |

**12.1.38 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Farm Yard Manure Next Year by District, 2002/03 Agricultural Year**

| District | Agricultural Households With Plan to use Next Year | | Agricultural Households With NO Plan to use Next | | **Total** |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 52,735 | 61 | 34,136 | 39 | 86,872 |
| Korogwe | 25,606 | 56 | 20,384 | 44 | 45,990 |
| Muheza | 10,943 | 22 | 38,251 | 78 | 49,195 |
| Tanga | 3,675 | 41 | 5,239 | 59 | 8,914 |
| Pangani | 820 | 11 | 6,418 | 89 | 7,238 |
| Handeni | 14,829 | 31 | 32,910 | 69 | 47,739 |
| Kilindi | 3,753 | 19 | 15,900 | 81 | 19,654 |
| Total | 112,362 | 42 | 153,239 | 58 | 265,601 |

**12.1.39 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use COMPOST Manure Next Year by District, 2002/03 Agricultural Year**

| **District** | Agricultural Households With Plan to use Next Year | | Agricultural Households With NO Plan to use Next Year | | **Total** |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 18,205 | 21 | 68,374 | 79 | 86,580 |
| Korogwe | 16,446 | 36 | 29,544 | 64 | 45,990 |
| Muheza | 3,869 | 8 | 45,325 | 92 | 49,195 |
| Tanga | 1,716 | 19 | 7,198 | 81 | 8,914 |
| Pangani | 589 | 8 | 6,517 | 92 | 7,106 |
| Handeni | 4,126 | 9 | 43,613 | 91 | 47,739 |
| Kilindi | 3,157 | 16 | 16,497 | 84 | 19,654 |
| Total | 48,108 | 18 | 217,069 | 82 | 265,177 |

**12.1.40 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Pesticides/Fungicides Next Year by District, 2002/03 Agricultural Year**

| District | Agricultural Households With Plan to use Next Year | | Agricultural Households With NO Plan to use Next Year | | Total Number |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 16,325 | 19 | 70,109 | 81 | 86,434 |
| Korogwe | 12,094 | 26 | 33,896 | 74 | 45,990 |
| Muheza | 2,918 | 6 | 46,277 | 94 | 49,195 |
| Tanga | 1,110 | 12 | 7,804 | 88 | 8,914 |
| Pangani | 1,023 | 14 | 6,081 | 86 | 7,104 |
| Handeni | 6,690 | 14 | 41,048 | 86 | 47,739 |
| Kilindi | 3,704 | 19 | 15,950 | 81 | 19,654 |
| Total | 43,864 | 17 | 221,165 | 83 | 265,029 |

**12.1.41 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Herbicides Next Year by District, 2002/03 Agricultural Year**

| District | Agricultural Households With Plan to use Next Year | | Agricultural Households With NO Plan to use Next Year | | Total |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 3,455 | 4 | 83,416 | 96 | 86,871 |
| Korogwe | 5,668 | 12 | 40,322 | 88 | 45,990 |
| Muheza | 916 | 2 | 48,278 | 98 | 49,195 |
| Tanga | 267 | 3 | 8,646 | 97 | 8,914 |
| Pangani | 318 | 4 | 6,785 | 96 | 7,104 |
| Handeni | 3,729 | 8 | 44,010 | 92 | 47,739 |
| Kilindi | 1,751 | 9 | 17,903 | 91 | 19,654 |
| Total | 16,104 | 6 | 249,361 | 94 | 265,466 |

**12.1.42 ACCESS TO INPUTS: Number of Agricultural Households with Plan to use Improved Seeds next year by District, 2002/03 Agricultural Year**

| District | Agricultural Households With Plan to use Next Year | | Agricultural Households With NO Plan to use Next Year | | Total |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 28,186 | 33 | 58,103 | 67 | 86,288 |
| Korogwe | 25,581 | 56 | 20,409 | 44 | 45,990 |
| Muheza | 14,687 | 30 | 34,507 | 70 | 49,195 |
| Tanga | 3,657 | 41 | 5,257 | 59 | 8,914 |
| Pangani | 1,733 | 24 | 5,395 | 76 | 7,128 |
| Handeni | 18,984 | 40 | 28,755 | 60 | 47,739 |
| Kilindi | 7,961 | 41 | 11,693 | 59 | 19,654 |
| Total | 100,788 | 38 | 164,118 | 62 | 264,907 |

# AGRICULTURE CREDIT

**13.2a AGRICULTURE CREDIT: Number of Agriculture Households receiving Credit by sex of household head and District During the 2002/03 Agriculture Year**

| | Male | | Female | | |
|---|---|---|---|---|---|
| District | Number | % | Number | % | Total |
| Lushoto | 0 | 0 | 404 | 100 | 404 |
| Korogwe | 107 | 100 | 0 | 0 | 107 |
| Muheza | 78 | 32 | 165 | 68 | 243 |
| Tanga | 61 | 100 | 0 | 0 | 61 |
| Handeni | 208 | 100 | 0 | 0 | 208 |
| Total | 453 | 44 | 569 | 56 | 1,022 |
| % | 44 | | 56 | | |

**13.2c AGRICULTURE CREDIT: Number of Households receiving Credits by Main Source of credit and region District the 2002/03 Agriculture Year**

| District | Family, Friend and Relative | Commercial Bank | Saving & Credit Society | Trader / Trade Store | Religious Organisation / NGO / Project | Other | Total |
|---|---|---|---|---|---|---|---|
| Lushoto | 135 | 0 | 0 | 0 | 270 | 0 | 404 |
| Korogwe | 0 | 0 | 0 | 0 | 0 | 107 | 107 |
| Muheza | 79 | 0 | 0 | 78 | 86 | 0 | 243 |
| Tanga | 0 | 35 | 0 | 0 | 26 | 0 | 61 |
| Handeni | 0 | 0 | 208 | 0 | 0 | 0 | 208 |
| Total | 213 | 35 | 208 | 78 | 382 | 107 | 1,022 |
| % | 21 | 3 | 20 | 8 | 37 | 10 | 100 |

**13.1a AGRICULTURE CREDIT: Number of Households Reporting the Main reasons for Not Using Credit by District During the 2002/03 Agriculture Year**

| District | Did not know how to get credit | Don't know about credit | Not available | Did not want to go into debt | Difficult bureaucracy procedure | Not needed | Interest rate/cost too high | Credit granted too late | Other | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Lushoto | 54,575 | 13,490 | 12,226 | 3,326 | 1,156 | 291 | 975 | 135 | 0 | 86,175 |
| Korogwe | 26,004 | 11,093 | 2,914 | 2,459 | 1,161 | 603 | 1,275 | 281 | 94 | 45,883 |
| Muheza | 27,538 | 7,663 | 2,894 | 5,247 | 3,511 | 1,298 | 721 | 80 | 0 | 48,952 |
| Tanga | 4,076 | 1,293 | 689 | 1,459 | 500 | 418 | 265 | 32 | 121 | 8,853 |
| Pangani | 2,994 | 1,803 | 527 | 424 | 650 | 190 | 356 | 0 | 183 | 7,128 |
| Handeni | 26,688 | 10,207 | 4,021 | 2,336 | 2,299 | 1,253 | 409 | 107 | 212 | 47,531 |
| Kilindi | 9,591 | 4,671 | 4,031 | 536 | 193 | 436 | 97 | 49 | 49 | 19,654 |
| Total | 151,467 | 50,220 | 27,302 | 15,787 | 9,470 | 4,490 | 4,097 | 684 | 659 | 264,176 |

**13.1b AGRICULTURE CREDIT: Number of Credits Received by Main Purpose of Credit and District During the 2002/03 Agriculture Year**

| District | Total Credits | Other | Labour | Fertilizers | Seeds | Tools / Equipment | Irrigation Structures | Agro-chemicals | Livestock |
|---|---|---|---|---|---|---|---|---|---|
| Lushoto | 404 | 404 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Korogwe | 533 | 0 | 0 | 107 | 107 | 107 | 107 | 107 | 0 |
| Muheza | 400 | 0 | 79 | 157 | 79 | 0 | 0 | 0 | 86 |
| Tanga | 61 | 0 | 61 | 0 | 0 | 0 | 0 | 0 | 0 |
| Handeni | 208 | 0 | 208 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Credits | 1,606 | 404 | 347 | 263 | 185 | 107 | 107 | 107 | 86 |

# TREE FARMING AND AGROFORESTRY

**14.1 ON FARM TREE PLANTING: Number of Planted Trees by Species and District During the 2002/03 Agriculture Year, Tanga Region**

| Gravellis | Tectona Grandis | Eucalyptus Spp | Cyprus Spp | Senna Spp | Pinus Spp | Albizia Spp | Trichilia Spp | Casurina Equisetfilia | Kyaya Spp |
|---|---|---|---|---|---|---|---|---|---|
| 430,520 | 983 | 51,640 | 72,130 | 1,156 | 19,121 | 10,639 | 8,516 | 5,014 | 2,808 |
| 157,977 | . | 37,210 | . | 4,080 | . | . | . | 872 | 1,612 |
| 58,367 | 311,076 | 2,758 | . | 25,285 | . | . | . | . | . |
| . | . | . | . | 296 | . | . | . | . | . |
| 361 | 1,511 | . | . | 290 | . | . | . | . | . |
| 424 | . | . | . | 1,060 | . | . | . | . | . |
| 587 | . | 147 | . | . | . | . | . | 196 | . |
| 648,235 | 313,570 | 91,754 | 72,130 | 32,166 | 19,121 | 10,639 | 8,516 | 6,082 | 4,420 |
| 3 | 53 | 2 | 7 | 6 | 0 | 26 | 0 | 0 | 0 |

**cont…. ON FARM TREE PLANTING: Number of Planted Trees by Species and District During the 2002/03 Agriculture Year, Tanga Region**

| Leucena Spp | | Azadritachta Spp | Terminalia Catapa | Terminalia Ivorensis | Saraca Spp | Sesbania Spp | Jakaranda Spp | Syszygium Spp | Total |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | 584 | . | . | 603,112 |
| . | . | 2,270 | 2,000 | 1,301 | . | . | 206 | 194 | 207,720 |
| 4,052 | . | 504 | 336 | . | 734 | . | . | . | 403,112 |
| . | . | . | . | . | . | . | . | . | 296 |
| . | 447 | 576 | . | . | . | . | 45 | . | 3,229 |
| . | . | . | . | . | 531 | . | . | . | 2,014 |
| . | 3,200 | . | 147 | . | . | . | . | 49 | 4,326 |
| 4,052 | 3,646 | 3,350 | 2,483 | 1,301 | 1,265 | 584 | 251 | 243 | 1,223,809 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 100 |

**14.2 TREE FARMING: Number of Households with planted trees on their land and Number of Trees by Planting Location and District During the 2002/03 Agriculture Year, Tanga Region**

| District | 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 |
| Lushoto | 10,157 | 277,992 | 4,338 | 227,967 | 1,597 | 89,302 | 16,093 | 595,261 |
| Korogwe | 3,269 | 36,615 | 1,698 | 61,283 | 310 | 109,625 | 5,277 | 207,523 |
| Muheza | 3,878 | 163,425 | 1,495 | 133,151 | 529 | 106,536 | 5,902 | 403,112 |
| Tanga | 77 | 296 | 0 | . | 0 | . | 77 | 296 |
| Pangani | 121 | 1,900 | 22 | 1,328 | 0 | . | 143 | 3,229 |
| Handeni | 318 | 1,271 | 106 | 743 | 0 | . | 424 | 2,014 |
| Kilindi | 98 | 587 | 97 | 3,200 | 0 | . | 195 | 3,787 |
| Total | 17,917 | 482,086 | 7,757 | 427,672 | 2,436 | 305,464 | 28,110 | 1,215,222 |

**14.3 ON FARM TREE PLANTING: Number of responses by main use of planted trees and District for the 2002/03 agriculture yea, Tanga Region**

| District | Main Use | | | | | | |
|---|---|---|---|---|---|---|---|
| | Planks / Timber | Poles | Fuel for Wood | Shade | Medicinal | Other | Total |
| Lushoto | 8,931 | 1,148 | 9,152 | 1,595 | 144 | 0 | 20,971 |
| Korogwe | 3,685 | 425 | 845 | 945 | 0 | 504 | 6,403 |
| Muheza | 3,305 | 2,002 | 424 | 834 | 0 | 87 | 6,653 |
| Tanga | 0 | 0 | 0 | 77 | 0 | 0 | 77 |
| Pangani | 40 | 112 | 0 | 101 | 0 | 46 | 299 |
| Handeni | 106 | 0 | 106 | 318 | 0 | 0 | 530 |
| Kilindi | 147 | 98 | 0 | 0 | 49 | 97 | 391 |
| Total | 16,214 | 3,785 | 10,527 | 3,870 | 193 | 735 | 35,324 |

**14.4 TREE FARMING: Number of Agriculture Households Classified by Distance to Community Planted Forest (Km) By District During the 2002/03 Agriculture Year, Tanga Region**

| | Distance to Community Planted Forest (km) | | | | | | |
|---|---|---|---|---|---|---|---|
| District | 1-9 | 10-19 | 20-29 | 30-39 | 40-49 | Above 50 | Total |
| Lushoto | 10,235 | 3,878 | 3,905 | 1,746 | 0 | 146 | 19,909 |
| Korogwe | 854 | 522 | 736 | 852 | 213 | 103 | 3,279 |
| Muheza | 81 | 0 | 1,183 | 79 | 0 | 0 | 1,343 |
| Tanga | 458 | 0 | 0 | 0 | 0 | 0 | 458 |
| Pangani | 59 | 0 | 0 | 0 | 0 | 0 | 59 |
| Handeni | 0 | 0 | 485 | 862 | 192 | 0 | 1,539 |
| Kilindi | 0 | 97 | 0 | 0 | 0 | 390 | 487 |
| Total | 11,687 | 4,497 | 6,309 | 3,539 | 405 | 638 | 27,073 |
| % | 43 | 17 | 23 | 13 | 1 | 2 | 100 |

**14.5 ON FARM TREE PLANTING: Number of responses by Second use of planted trees and District for the 2002/03 agriculture yea, Tanga Region**

| | Second Use | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Planks / Timber | Poles | Charcoal | Fuel for Wood | Shade | Medicinal | Other | Total |
| Lushoto | 6,154 | 3,008 | 0 | 10,678 | 1,277 | 0 | 0 | 21,117 |
| Korogwe | 535 | 814 | 0 | 4,222 | 531 | 203 | 97 | 6,403 |
| Muheza | 601 | 1,079 | 90 | 4,375 | 253 | 84 | 260 | 6,742 |
| Tanga | 0 | 77 | 0 | 0 | 0 | 0 | 0 | 77 |
| Pangani | 0 | 0 | 0 | 176 | 22 | 78 | 0 | 277 |
| Handeni | 0 | 106 | 0 | 318 | 106 | 0 | 0 | 530 |
| Kilindi | 98 | 0 | 0 | 49 | 196 | 48 | 0 | 391 |
| Total | 7,388 | 5,084 | 90 | 19,818 | 2,384 | 414 | 357 | 35,536 |

**14 ON FARM TREE PLANTING: Number of responses by main use of planted trees and District for the 2002/03 agriculture yea, Tanga Region**

| Main Use | | | | | | |
|---|---|---|---|---|---|---|
| Planks / Timber | Poles | Fuel for Wood | Shade | Medicinal | Other | Total |
| 8,931 | 1,148 | 9,152 | 1,595 | 144 | 0 | 20,971 |
| 3,685 | 425 | 845 | 945 | 0 | 504 | 6,403 |
| 3,305 | 2,002 | 424 | 834 | 0 | 87 | 6,653 |
| 0 | 0 | 0 | 77 | 0 | 0 | 77 |
| 40 | 112 | 0 | 101 | 0 | 46 | 299 |
| 106 | 0 | 106 | 318 | 0 | 0 | 530 |
| 147 | 98 | 0 | 0 | 49 | 97 | 391 |
| 16,214 | 3,785 | 10,527 | 3,870 | 193 | 735 | 35,324 |

## CROP EXTENSION

**15.1 CROP EXTENSION: Number of Agriculture Households Receiving Extension Messages by District During the 2002/03 Agriculture Year, Tanga Region**

| District | Households Receiving Extension Advice | | Households Not Receiving Extension Advice | | Total Number of Households |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| Lushoto | 42,132 | 49 | 44,448 | 51 | 86,580 |
| Korogwe | 38,500 | 84 | 7,490 | 16 | 45,990 |
| Muheza | 21,091 | 43 | 28,103 | 57 | 49,195 |
| Tanga | 1,266 | 14 | 7,648 | 86 | 8,914 |
| Pangani | 2,807 | 39 | 4,321 | 61 | 7,128 |
| Handeni | 10,334 | 22 | 37,405 | 78 | 47,739 |
| Kilindi | 5,356 | 27 | 14,298 | 73 | 19,654 |
| Total | 121,487 | 46 | 143,711 | 54 | 265,198 |

**15.2 CROP EXTENSION: Number of Households By Quality of Extension Services and District During the 2002/03 Agricultural Year, Tanga Regio**

| District | Very Good | | Good | | Average | | Poor | | No Good | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number |
| Lushoto | 3,038 | 7 | 23,310 | 55 | 14,941 | 35 | 140 | 0 | 702 | 2 | 42,132 |
| Korogwe | 4,187 | 11 | 26,875 | 70 | 6,943 | 18 | 495 | 1 | 0 | 0 | 38,500 |
| Muheza | 2,093 | 10 | 13,998 | 66 | 3,703 | 18 | 406 | 2 | 892 | 4 | 21,091 |
| Tanga | 63 | 5 | 841 | 66 | 234 | 18 | 127 | 10 | 0 | 0 | 1,266 |
| Pangani | | | | 54 | 1,141 | 41 | 35 | 1 | 0 | 0 | 2,807 |
| Handeni | 538 | 5 | 5,684 | 55 | 3,909 | 38 | 203 | 2 | 0 | 0 | 10,334 |
| Kilindi | 194 | 4 | 3,647 | 68 | 1,417 | 26 | 98 | 2 | 0 | 0 | 5,356 |
| Total | 10,217 | 8 | 75,884 | 62 | 32,287 | 27 | 1,505 | 1 | 1,594 | 1 | 121,487 |

**15.3 EXTENSION MESSAGES: Number of Agriculture Households By Source of Crop Extension Messages and District During the 2002/03 Agriculture Year, Tanga Region**

| District | Government | | NGO / Development Project | | Cooperative | | Large Scale Farm | | Other | | Not | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number |
| Lushoto | 42,132 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42,132 |
| Korogwe | 37,886 | 99 | 321 | 1 | 0 | 0 | 104 | 0 | 0 | 0 | 97 | 0 | 38,407 |
| Pangani | 104 | 4 | 1,527 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 0 | 21,001 |
| Tanga | 1,194 | 94 | 10 | 1 | 0 | 0 | 21 | 2 | 10 | 1 | 32 | 3 | 1,266 |
| Pangani | 2,677 | 96 | 18 | 1 | 0 | 0 | 24 | 1 | 22 | 1 | 47 | 2 | 2,788 |
| Handeni | 9,624 | 94 | 0 | 0 | 107 | 1 | 284 | 3 | 215 | 2 | 0 | 0 | 10,231 |
| Kilindi | 5,258 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 1 | 49 | 1 | 5,356 |
| Total | 119,592 | 99 | 438 | 0 | 107 | 0 | 433 | 0 | 296 | 0 | 313 | 0 | 121,180 |

**15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Spacing | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Cooperative | Large Scale Farm | Other | Not applicable | Total receiving advice | Total Number of households | % of total number of households |
| Lushoto | 41,406 | 0 | 0 | 0 | 0 | 0 | 41,406 | 86,580 | 48 |
| Korogwe | 37,461 | 321 | 0 | 0 | 0 | 97 | 37,878 | 45,990 | 82 |
| Muheza | 20,606 | 0 | 0 | 0 | 0 | 89 | 20,695 | 49,195 | 42 |
| Tanga | 1,148 | 0 | 0 | 21 | 0 | 32 | 1,201 | 8,914 | 13 |
| Pangani | 2,538 | 18 | 0 | 24 | 22 | 47 | 2,649 | 7,128 | 37 |
| Handeni | 9,520 | 0 | 107 | 284 | 215 | 0 | 10,127 | 47,739 | 21 |
| Kilindi | 5,160 | 0 | 0 | 0 | 49 | 49 | 5,258 | 19,654 | 27 |
| Total | 117,838 | 339 | 107 | 329 | 287 | 313 | 119,213 | 265,198 | 45 |

**15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agrochemicals by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Use of Agrochemicals | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 26,180 | 140 | 0 | 0 | 728 | 27,049 | 86,580 | 31.2 |
| Korogwe | 14,577 | 285 | 0 | 107 | 921 | 15,890 | 45,990 | 34.6 |
| Muheza | 7,374 | 0 | 0 | 0 | 292 | 7,666 | 49,195 | 15.6 |
| Tanga | 624 | 0 | 21 | 0 | 201 | 845 | 8,914 | 9.5 |
| Pangani | 1,626 | 0 | 0 | 0 | 119 | 1,745 | 7,128 | 24.5 |
| Handeni | 3,026 | 217 | 0 | 0 | 1,712 | 4,956 | 47,739 | 10.4 |
| Kilindi | 2,193 | 0 | 0 | 0 | 196 | 2,388 | 19,654 | 12.2 |
| Total | 55,601 | 643 | 21 | 107 | 4,169 | 60,540 | 265,198 | 22.8 |

**15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Erosion Control | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 31,324 | 2,439 | 145 | 0 | 432 | 34,340 | 86,580 | 39.7 |
| Korogwe | 19,453 | 720 | 0 | 107 | 307 | 20,587 | 45,990 | 44.8 |
| Muheza | 9,849 | 630 | 0 | 0 | 214 | 10,693 | 49,195 | 21.7 |
| Tanga | 340 | 0 | 0 | 0 | 323 | 663 | 8,914 | 7.4 |
| Pangani | 665 | 142 | 0 | 0 | 95 | 901 | 7,128 | 12.6 |
| Handeni | 1,574 | 217 | 0 | 0 | 2,253 | 4,044 | 47,739 | 8.5 |
| Kilindi | 926 | 49 | 0 | 0 | 489 | 1,464 | 19,654 | 7.5 |
| Total | 64,130 | 4,197 | 145 | 107 | 4,113 | 72,692 | 265,198 | 27.4 |

**15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertiliser Use by Source and District During the 2002/03 Agriculture Year**

| | Organic Fertilizer Use | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 37,396 | 1,560 | 0 | 0 | 292 | 39,248 | 86,580 | 45.3 |
| Korogwe | 29,487 | 401 | 104 | 0 | 1,116 | 31,107 | 45,990 | 67.6 |
| Muheza | 13,274 | 0 | 0 | 0 | 396 | 13,670 | 49,195 | 27.8 |
| Tanga | 733 | 42 | 43 | 10 | 190 | 1,018 | 8,914 | 11.4 |
| Pangani | 1,414 | 45 | 0 | 0 | 119 | 1,577 | 7,128 | 22.1 |
| Handeni | 4,918 | 108 | 0 | 107 | 1,062 | 6,196 | 47,739 | 13.0 |
| Kilindi | 1,611 | 49 | 0 | 0 | 196 | 1,856 | 19,654 | 9.4 |
| Total | 88,833 | 2,206 | 147 | 117 | 3,370 | 94,673 | 265,198 | 35.7 |

**15.8 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Inorganic Fertilizer Use by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Inorganic Fertilizer Use | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 23,282 | 146 | 0 | 146 | 2,171 | 25,745 | 86,580 | 29.7 |
| Korogwe | 12,384 | 194 | 0 | 107 | 1,918 | 14,602 | 45,990 | 31.8 |
| Muheza | 7,325 | 0 | 0 | 0 | 986 | 8,311 | 49,195 | 16.9 |
| Tanga | 246 | 0 | 21 | 0 | 381 | 647 | 8,914 | 7.3 |
| Pangani | 862 | 0 | 0 | 0 | 164 | 1,027 | 7,128 | 14.4 |
| Handeni | 1,033 | 217 | 0 | 0 | 2,559 | 3,809 | 47,739 | 8.0 |
| Kilindi | 586 | 0 | 0 | 0 | 637 | 1,222 | 19,654 | 6.2 |
| Total | 45,718 | 557 | 21 | 253 | 8,815 | 55,363 | 265,198 | 20.9 |

**15.9 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source and District During the 2002/03 Agriculture Year**

| | Use of Improved Seeds | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 36,343 | 292 | 0 | 0 | 286 | 36,921 | 86,580 | 42.6 |
| Korogwe | 28,534 | 721 | 0 | 0 | 1,229 | 30,484 | 45,990 | 66.3 |
| Muheza | 15,977 | 0 | 0 | 59 | 656 | 16,692 | 49,195 | 33.9 |
| Tanga | 839 | 19 | 21 | 23 | 61 | 963 | 8,914 | 10.8 |
| Pangani | 1,848 | 45 | 48 | 0 | 71 | 2,012 | 7,128 | 28.2 |
| Handeni | 7,377 | 216 | 188 | 108 | 427 | 8,316 | 47,739 | 17.4 |
| Kilindi | 3,262 | 49 | 0 | 49 | 196 | 3,555 | 19,654 | 18.1 |
| Total | 94,180 | 1,341 | 257 | 239 | 2,924 | 98,942 | 265,198 | 37.3 |
| % | 95.2 | 1.4 | 0.3 | 0.2 | 3.0 | 100.0 | | |

**15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Mechanisation/LST by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Mechanisation / LST | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 3,304 | 0 | 0 | 146 | 1,441 | 4,891 | 86,580 | 6 |
| Korogwe | 8,660 | 107 | 0 | 107 | 1,225 | 10,098 | 45,990 | 22 |
| Muheza | 1,972 | 0 | 0 | 0 | 215 | 2,187 | 49,195 | 4 |
| Tanga | 338 | 0 | 23 | 0 | 321 | 681 | 8,914 | 8 |
| Pangani | 494 | 65 | 24 | 0 | 167 | 750 | 7,128 | 11 |
| Handeni | 3,331 | 108 | 188 | 0 | 2,351 | 5,979 | 47,739 | 13 |
| Kilindi | 975 | 0 | 0 | 49 | 832 | 1,857 | 19,654 | 9 |
| Total | 19,073 | 280 | 235 | 302 | 6,552 | 26,443 | 265,198 | 10 |

**15.11 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Irrigation Technology by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Irrigation Technology | | | | | |
|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 25,905 | 708 | 436 | 27,049 | 86,580 | 31 |
| Korogwe | 17,626 | 506 | 1,227 | 19,360 | 45,990 | 42 |
| Muheza | 4,716 | 0 | 584 | 5,300 | 49,195 | 11 |
| Tanga | 250 | 0 | 350 | 600 | 8,914 | 7 |
| Pangani | 254 | 72 | 164 | 490 | 7,128 | 7 |
| Handeni | 1,055 | 0 | 2,350 | 3,405 | 47,739 | 7 |
| Kilindi | 534 | 49 | 734 | 1,317 | 19,654 | 7 |
| Total | 50,340 | 1,335 | 5,846 | 57,521 | 265,198 | 22 |

**15.12 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Crop Storage by Source and District During the 2002/03 Agriculture Year, Tanga Region**.

| | Crop Storage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 39,553 | 0 | 0 | 144 | 146 | 39,844 | 86,580 | 46.0 |
| Korogwe | 28,076 | 210 | 204 | 0 | 495 | 28,986 | 45,990 | 63.0 |
| Muheza | 15,724 | 59 | 0 | 0 | 322 | 16,106 | 49,195 | 32.7 |
| Tanga | 607 | 0 | 0 | 0 | 248 | 855 | 8,914 | 9.6 |
| Pangani | 1,789 | 73 | 0 | 0 | 143 | 2,004 | 7,128 | 28.1 |
| Handeni | 6,176 | 213 | 0 | 107 | 971 | 7,467 | 47,739 | 15.6 |
| Kilindi | 3,364 | 146 | 49 | 49 | 146 | 3,755 | 19,654 | 19.1 |
| Total | 95,290 | 701 | 253 | 301 | 2,472 | 99,017 | 265,198 | 37.3 |

**15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Vermin Control by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Vermin Control | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 11,037 | 140 | 0 | 0 | 2,332 | 13,509 | 86,580 | 15.6 |
| Korogwe | 27,016 | 401 | 0 | 0 | 1,115 | 28,531 | 45,990 | 62.0 |
| Muheza | 11,579 | 88 | 0 | 0 | 129 | 11,797 | 49,195 | 24.0 |
| Tanga | 801 | 0 | 0 | 0 | 259 | 1,060 | 8,914 | 11.9 |
| Pangani | 1,961 | 0 | 22 | 0 | 120 | 2,103 | 7,128 | 29.5 |
| Handeni | 2,289 | 106 | 476 | 429 | 1,399 | 4,699 | 47,739 | 9.8 |
| Kilindi | 2,735 | 0 | 0 | 0 | 48 | 2,783 | 19,654 | 14.2 |
| Total | 57,417 | 735 | 498 | 429 | 5,403 | 64,482 | 265,198 | 24.3 |
| % | 89.0 | 1.1 | 0.8 | 0.7 | 8.4 | 100.0 | | |

**15.14 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro-Processing by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Agro-progressing | | | | | | Total Number of households | % of total number of households |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | | |
| Lushoto | 36,643 | 140 | 0 | 0 | 581 | 37,364 | 86,580 | 43.2 |
| Korogwe | 19,470 | 84 | 107 | 0 | 599 | 20,260 | 45,990 | 44.1 |
| Muheza | 8,033 | 183 | 0 | 0 | 213 | 8,429 | 49,195 | 17.1 |
| Tanga | 254 | 0 | 0 | 0 | 445 | 699 | 8,914 | 7.8 |
| Pangani | 499 | 177 | 0 | 0 | 143 | 818 | 7,128 | 11.5 |
| Handeni | 1,353 | 0 | 0 | 643 | 2,125 | 4,121 | 47,739 | 8.6 |
| Kilindi | 2,590 | 0 | 0 | 0 | 49 | 2,639 | 19,654 | 13.4 |
| Total | 68,840 | 584 | 107 | 643 | 4,156 | 74,331 | 265,198 | 28.0 |

**15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro-Forestry by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Agro-forestry | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Cooperative | Large Scale Farm | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 26,965 | 1,283 | 0 | 0 | 578 | 28,826 | 86,580 | 33.3 |
| Korogwe | 12,040 | 1,173 | 107 | 107 | 611 | 14,040 | 45,990 | 30.5 |
| Muheza | 5,896 | 720 | 0 | 0 | 217 | 6,833 | 49,195 | 13.9 |
| Tanga | 274 | 0 | 0 | 0 | 283 | 557 | 8,914 | 6.3 |
| Pangani | 492 | 65 | 0 | 0 | 167 | 724 | 7,128 | 10.2 |
| Handeni | 2,824 | 213 | 0 | 96 | 2,357 | 5,491 | 47,739 | 11.5 |
| Kilindi | 1,268 | 97 | 0 | 0 | 0 | 1,366 | 19,654 | 6.9 |
| Total | 49,760 | 3,553 | 107 | 203 | 4,213 | 57,837 | 265,198 | 21.8 |
| % | 86.0 | 6.1 | 0.2 | 0.4 | 7.3 | 100.0 | | |

**15.16 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Bee Keeping by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Beekeeping | | | | | |
|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 3,025 | 710 | 859 | 4,594 | 86,580 | 5.3 |
| Korogwe | 2,031 | 958 | 1,017 | 4,007 | 45,990 | 8.7 |
| Muheza | 927 | 0 | 59 | 986 | 49,195 | 2.0 |
| Tanga | 36 | 0 | 404 | 440 | 8,914 | 4.9 |
| Pangani | 162 | 48 | 167 | 377 | 7,128 | 5.3 |
| Handeni | 212 | 316 | 2,774 | 3,302 | 47,739 | 6.9 |
| Kilindi | 293 | 48 | 783 | 1,125 | 19,654 | 5.7 |
| Total | 6,685 | 2,082 | 6,064 | 14,831 | 265,198 | 6 |
| % | 12,337 | 3,841 | 11,190 | 27,368 | | |

**15.17 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Fish Farming by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Fish Farming | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 2,877 | 713 | 0 | 0 | 433 | 4,022 | 86,580 | 4.6 |
| Korogwe | 2,478 | 1,384 | 0 | 0 | 1,124 | 4,986 | 45,990 | 10.8 |
| Muheza | 1,843 | 720 | 59 | 78 | 0 | 2,701 | 49,195 | 5.5 |
| Tanga | 0 | 0 | 0 | 0 | 440 | 440 | 8,914 | 4.9 |
| Pangani | 0 | 48 | 0 | 0 | 191 | 239 | 7,128 | 3.4 |
| Handeni | 106 | 418 | 0 | 0 | 2,672 | 3,196 | 47,739 | 6.7 |
| Kilindi | 97 | 0 | 0 | 0 | 734 | 832 | 19,654 | 4.2 |
| Total | 7,400 | 3,284 | 59 | 78 | 5,594 | 16,415 | 265,198 | 6.2 |

**15.18 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 1) During the 2002/03 Agriculture Year, Tanga Region**

| | Spacing | | | Use of Agrochemicals | | | Erosion Control | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 41,407 | 38,827 | 94 | 26,611 | 5,749 | 22 | 33,324 | 11,795 | 35 |
| Korogwe | 37,795 | 36,111 | 96 | 14,048 | 1,391 | 10 | 20,486 | 4,442 | 22 |
| Muheza | 20,695 | 16,121 | 78 | 7,189 | 824 | 11 | 10,493 | 4,477 | 43 |
| Tanga | 1,169 | 1,061 | 91 | 565 | 213 | 38 | 308 | 153 | 50 |
| Pangani | 2,625 | 2,533 | 97 | 1,626 | 637 | 39 | 764 | 372 | 49 |
| Handeni | 10,231 | 9,919 | 97 | 2,925 | 812 | 28 | 1,477 | 427 | 29 |
| Kilindi | 5,209 | 4,476 | 86 | 2,193 | 191 | 9 | 1,073 | 293 | 27 |
| Total | 119,130 | 109,047 | 92 | 55,156 | 9,817 | 18 | 67,925 | 21,958 | 32 |

**15.19 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 2) During the 2002/03 Agriculture Year, Tanga Region**

| | Organic Fertilizer Use | | | Inorganic Fertilizer Use | | | Use of Improved Seed | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 39,095 | 20,744 | 53 | 23,283 | 4,031 | 17 | 36,633 | 12,112 | 33 |
| Korogwe | 30,635 | 9,858 | 32 | 11,666 | 1,073 | 9 | 30,299 | 8,881 | 29 |
| Muheza | 13,699 | 4,629 | 34 | 7,145 | 553 | 8 | 16,716 | 2,664 | 16 |
| Tanga | 839 | 494 | 59 | 168 | 51 | 30 | 892 | 447 | 50 |
| Pangani | 1,459 | 529 | 36 | 884 | 172 | 19 | 1,941 | 1,065 | 55 |
| Handeni | 4,923 | 1,270 | 26 | 625 | 213 | 34 | 8,085 | 3,666 | 45 |
| Kilindi | 1,661 | 341 | 21 | 537 | 195 | 36 | 3,553 | 726 | 20 |
| Total | 92,312 | 37,865 | 41 | 44,307 | 6,288 | 14 | 98,120 | 29,562 | 30 |

**15.20 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 3) During the 2002/03 Agriculture Year, Tanga region**

| | Mechanisation / LST | | | Irrigation Technology | | | Crop Storage | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 1,713 | 714 | 42 | 25,453 | 9,346 | 37 | 39,697 | 37,242 | 94 |
| Korogwe | 8,438 | 793 | 9 | 16,525 | 4,665 | 28 | 28,757 | 20,086 | 70 |
| Muheza | 1,876 | 85 | 5 | 4,165 | 585 | 14 | 15,888 | 10,513 | 66 |
| Tanga | 291 | 32 | 11 | 240 | 51 | 21 | 607 | 528 | 87 |
| Pangani | 583 | 176 | 30 | 254 | 145 | 57 | 1,909 | 1,697 | 89 |
| Handeni | 3,419 | 511 | 15 | 851 | 428 | 50 | 6,500 | 4,500 | 69 |
| Kilindi | 1,024 | 97 | 9 | 485 | 193 | 40 | 3,804 | 2,436 | 64 |
| Total | 17,344 | 2,408 | 14 | 47,974 | 15,413 | 32 | 97,163 | 77,002 | 79 |

**15.21 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 4) During the 2002/03 Agriculture Year, Tanga Region**

| | Vermin Control | | | Agro-progressing | | | Agro-forestry | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 7,975 | 5,521 | 69 | 36,200 | 34,752 | 96 | 28,547 | 15,683 | 55 |
| Korogwe | 27,020 | 22,813 | 84 | 19,441 | 16,567 | 85 | 13,222 | 2,949 | 22 |
| Muheza | 11,855 | 9,030 | 76 | 8,370 | 6,197 | 74 | 6,810 | 3,120 | 46 |
| Tanga | 801 | 685 | 86 | 254 | 297 | 117 | 274 | 241 | 88 |
| Pangani | 2,031 | 1,843 | 91 | 652 | 520 | 80 | 534 | 470 | 88 |
| Handeni | 3,300 | 3,086 | 94 | 1,357 | 1,678 | 124 | 3,231 | 1,252 | 39 |
| Kilindi | 2,735 | 2,540 | 93 | 2,639 | 2,493 | 94 | 1,317 | 195 | 15 |
| Total | 55,716 | 45,519 | 82 | 68,912 | 62,505 | 91 | 53,935 | 23,909 | 44 |

**15.22 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 5) During the 2002/03 Agriculture Year, Tanga region**

| | Agro-forestry | | | Beekeeping | | | Fish Farming | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 28,547 | 15,683 | 55 | 2,282 | 718 | 31 | 2,131 | 0 | 0 |
| Korogwe | 13,222 | 2,949 | 22 | 2,354 | 178 | 8 | 3,336 | 531 | 16 |
| Muheza | 6,810 | 3,120 | 46 | 596 | 0 | 0 | 2,530 | 449 | 18 |
| Tanga | 274 | 241 | 88 | 36 | 0 | 0 | 0 | 0 | 0 |
| Pangani | 534 | 470 | 88 | 138 | 162 | 117 | 0 | 0 | 0 |
| Handeni | 3,231 | 1,252 | 39 | 102 | 0 | 0 | 204 | 104 | 51 |
| Kilindi | 1,317 | 195 | 15 | 341 | 147 | 43 | 97 | 0 | 0 |
| Total | 53,935 | 23,909 | 44 | 5,849 | 1,205 | 21 | 8,297 | 1,085 | 13 |

**15.1 CROP EXTENSION: Number of Households By Quality of Extension Services and District During the 2002/03 Agricultural Year, Tanga Region**

| District | Very Good | | Good | | Average | | Poor | | No Good | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % |
| Lushoto | 3,038 | 7 | 23,310 | 55 | 14,941 | 35 | 140 | 0 | 702 | 2 |
| Korogwe | 4,187 | 11 | 26,875 | 70 | 6,943 | 18 | 495 | 1 | 0 | 0 |
| Muheza | 2,093 | 10 | 13,998 | 66 | 3,703 | 18 | 406 | 2 | 892 | 4 |
| Tanga | 63 | 5 | 841 | 66 | 234 | 18 | 127 | 10 | 0 | 0 |
| Pangani | 104 | 4 | 1,527 | 54 | 1,141 | 41 | 35 | 1 | 0 | 0 |
| Handeni | 538 | 5 | 5,684 | 55 | 3,909 | 38 | 203 | 2 | 0 | 0 |
| Kilindi | 194 | 4 | 3,647 | 68 | 1,417 | 26 | 98 | 2 | 0 | 0 |
| Total | 10,217 | 8 | 75,884 | 62 | 32,287 | 27 | 1,505 | 1 | 1,594 | 1 |

**15.3 EXTENSION MESSAGES: Number of Agriculture Households By Source of Crop Extension Messages and District During t 2002/03 Agriculture Year, Tanga Region**

| District | Government | | NGO / Development Project | | Cooperative | | Large Scale Farm | | Other | | Not applicable | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % | Number | % | % | Number |
| Lushoto | 42,132 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42,132 |
| Korogwe | 37,886 | 99 | 321 | 1 | 0 | 0 | 104 | 0 | 0 | 0 | 0 | 38,407 |
| Muheza | 20,822 | 99 | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21,001 |
| Tanga | 1,194 | 94 | 10 | 1 | 0 | 0 | 21 | 2 | 10 | 1 | 3 | 1,266 |
| Pangani | 2,677 | 96 | 18 | 1 | 0 | 0 | 24 | 1 | 22 | 1 | 2 | 2,788 |
| Handeni | 9,624 | 94 | 0 | 0 | 107 | 1 | 284 | 3 | 215 | 2 | 0 | 10,231 |
| Kilindi | 5,258 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 1 | 1 | 5,356 |
| Total | 119,592 | 99 | 438 | 0 | 107 | 0 | 433 | 0 | 296 | 0 | 0 | 121,180 |

**15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Spacing | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Cooperative | Large Scale Farm | Other | Not applicable | Total receiving advice | Total Number of households | % of total number of households |
| Lushoto | 41,406 | 0 | 0 | 0 | 0 | 0 | 41,406 | 86,580 | 48 |
| Korogwe | 37,461 | 321 | 0 | 0 | 0 | 97 | 37,878 | 45,990 | 82 |
| Muheza | 20,606 | 0 | 0 | 0 | 0 | 89 | 20,695 | 49,195 | 42 |
| Tanga | 1,148 | 0 | 0 | 21 | 0 | 32 | 1,201 | 8,914 | 13 |
| Pangani | 2,538 | 18 | 0 | 24 | 22 | 47 | 2,649 | 7,128 | 37 |
| Handeni | 9,520 | 0 | 107 | 284 | 215 | 0 | 10,127 | 47,739 | 21 |
| Kilindi | 5,160 | 0 | 0 | 0 | 49 | 49 | 5,258 | 19,654 | 27 |
| Total | 117,838 | 339 | 107 | 329 | 287 | 313 | 119,213 | 265,198 | 45 |
| % | 99 | 0 | 0 | 0 | 0 | 0 | 100 | | |

**15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agrochemicals by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Use of Agrochemicals | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 26,180 | 140 | 0 | 0 | 728 | 27,049 | 86,580 | 31.2 |
| Korogwe | 14,577 | 285 | 0 | 107 | 921 | 15,890 | 45,990 | 34.6 |
| Muheza | 7,374 | 0 | 0 | 0 | 292 | 7,666 | 49,195 | 15.6 |
| Tanga | 624 | 0 | 21 | 0 | 201 | 845 | 8,914 | 9.5 |
| Pangani | 1,626 | 0 | 0 | 0 | 119 | 1,745 | 7,128 | 24.5 |
| Handeni | 3,026 | 217 | 0 | 0 | 1,712 | 4,956 | 47,739 | 10.4 |
| Kilindi | 2,193 | 0 | 0 | 0 | 196 | 2,388 | 19,654 | 12.2 |
| Total | 55,601 | 643 | 21 | 107 | 4,169 | 60,540 | 265,198 | 22.8 |
| % | 91.8 | 1.1 | 0.0 | 0.2 | 6.9 | 100 | | |

**15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Erosion Control | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 31,324 | 2,439 | 145 | 0 | 432 | 34,340 | 86,580 | 39.7 |
| Korogwe | 19,453 | 720 | 0 | 107 | 307 | 20,587 | 45,990 | 44.8 |
| Muheza | 9,849 | 630 | 0 | 0 | 214 | 10,693 | 49,195 | 21.7 |
| Tanga | 340 | 0 | 0 | 0 | 323 | 663 | 8,914 | 7.4 |
| Pangani | 665 | 142 | 0 | 0 | 95 | 901 | 7,128 | 12.6 |
| Handeni | 1,574 | 217 | 0 | 0 | 2,253 | 4,044 | 47,739 | 8.5 |
| Kilindi | 926 | 49 | 0 | 0 | 489 | 1,464 | 19,654 | 7.5 |
| Total | 64,130 | 4,197 | 145 | 107 | 4,113 | 72,692 | 265,198 | 27.4 |
| % | 88.2 | 5.8 | 0.2 | 0.1 | 5.7 | 100.0 | | |

**15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertiliser Use by Source and District During the 2002/03 Agriculture Year**

| | Organic Fertilizer Use | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 37,396 | 1,560 | 0 | 0 | 292 | 39,248 | 86,580 | 45.3 |
| Korogwe | 29,487 | 401 | 104 | 0 | 1,116 | 31,107 | 45,990 | 67.6 |
| Muheza | 13,274 | 0 | 0 | 0 | 396 | 13,670 | 49,195 | 27.8 |
| Tanga | 733 | 42 | 43 | 10 | 190 | 1,018 | 8,914 | 11.4 |
| Pangani | 1,414 | 45 | 0 | 0 | 119 | 1,577 | 7,128 | 22.1 |
| Handeni | 4,918 | 108 | 0 | 107 | 1,062 | 6,196 | 47,739 | 13.0 |
| Kilindi | 1,611 | 49 | 0 | 0 | 196 | 1,856 | 19,654 | 9.4 |
| Total | 88,833 | 2,206 | 147 | 117 | 3,370 | 94,673 | 265,198 | 35.7 |
| % | 93.8 | 2.3 | 0.2 | 0.1 | 3.6 | 100.0 | | |

**15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Inorganic Fertilizer Use by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Inorganic Fertilizer Use | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 23,282 | 146 | 0 | 146 | 2,171 | 25,745 | 86,580 | 29.7 |
| Korogwe | 12,384 | 194 | 0 | 107 | 1,918 | 14,602 | 45,990 | 31.8 |
| Muheza | 7,325 | 0 | 0 | 0 | 986 | 8,311 | 49,195 | 16.9 |
| Tanga | 246 | 0 | 21 | 0 | 381 | 647 | 8,914 | 7.3 |
| Pangani | 862 | 0 | 0 | 0 | 164 | 1,027 | 7,128 | 14.4 |
| Handeni | 1,033 | 217 | 0 | 0 | 2,559 | 3,809 | 47,739 | 8.0 |
| Kilindi | 586 | 0 | 0 | 0 | 637 | 1,222 | 19,654 | 6.2 |
| Total | 45,718 | 557 | 21 | 253 | 8,815 | 55,363 | 265,198 | 20.9 |
| % | | | | | | | | |

**15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source and District During the 2002/03 Agriculture Year**

| | Use of Improved Seeds | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 36,343 | 292 | 0 | 0 | 286 | 36,921 | 86,580 | 42.6 |
| Korogwe | 28,534 | 721 | 0 | 0 | 1,229 | 30,484 | 45,990 | 66.3 |
| Muheza | 15,977 | 0 | 0 | 59 | 656 | 16,692 | 49,195 | 33.9 |
| Tanga | 839 | 19 | 21 | 23 | 61 | 963 | 8,914 | 10.8 |
| Pangani | 1,848 | 45 | 48 | 0 | 71 | 2,012 | 7,128 | 28.2 |
| Handeni | 7,377 | 216 | 188 | 108 | 427 | 8,316 | 47,739 | 17.4 |
| Kilindi | 3,262 | 49 | 0 | 49 | 196 | 3,555 | 19,654 | 18.1 |
| Total | 94,180 | 1,341 | 257 | 239 | 2,924 | 98,942 | 265,198 | 37.3 |
| % | 95.2 | 1.4 | 0.3 | 0.2 | 3.0 | 100.0 | | |

**15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Mechanisation/LST by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Mechanisation / LST | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 3,304 | 0 | 0 | 146 | 1,441 | 4,891 | 86,580 | 6 |
| Korogwe | 8,660 | 107 | 0 | 107 | 1,225 | 10,098 | 45,990 | 22 |
| Muheza | 1,972 | 0 | 0 | 0 | 215 | 2,187 | 49,195 | 4 |
| Tanga | 338 | 0 | 23 | 0 | 321 | 681 | 8,914 | 8 |
| Pangani | 494 | 65 | 24 | 0 | 167 | 750 | 7,128 | 11 |
| Handeni | 3,331 | 108 | 188 | 0 | 2,351 | 5,979 | 47,739 | 13 |
| Kilindi | 975 | 0 | 0 | 49 | 832 | 1,857 | 19,654 | 9 |
| Total | 19,073 | 280 | 235 | 302 | 6,552 | 26,443 | 265,198 | 10 |
| % | 72 | 1 | 1 | 1 | 25 | 100 | | |

**15.11 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Irrigation Technology by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Irrigation Technology | | | | | |
|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 25,905 | 708 | 436 | 27,049 | 86,580 | 31 |
| Korogwe | 17,626 | 506 | 1,227 | 19,360 | 45,990 | 42 |
| Muheza | 4,716 | 0 | 584 | 5,300 | 49,195 | 11 |
| Tanga | 250 | 0 | 350 | 600 | 8,914 | 7 |
| Pangani | 254 | 72 | 164 | 490 | 7,128 | 7 |
| Handeni | 1,055 | 0 | 2,350 | 3,405 | 47,739 | 7 |
| Kilindi | 534 | 49 | 734 | 1,317 | 19,654 | 7 |
| Total | 50,340 | 1,335 | 5,846 | 57,521 | 265,198 | 22 |
| % | 88 | 2 | 10 | 100 | | |

**15.12 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Crop Storage by Source and District During the 2002/03 Agriculture Year, Tanga Region.**

| | Crop Storage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 39,553 | 0 | 0 | 144 | 146 | 39,844 | 86,580 | 46.0 |
| Korogwe | 28,076 | 210 | 204 | 0 | 495 | 28,986 | 45,990 | 63.0 |
| Muheza | 15,724 | 59 | 0 | 0 | 322 | 16,106 | 49,195 | 32.7 |
| Tanga | 607 | 0 | 0 | 0 | 248 | 855 | 8,914 | 9.6 |
| Pangani | 1,789 | 73 | 0 | 0 | 143 | 2,004 | 7,128 | 28.1 |
| Handeni | 6,176 | 213 | 0 | 107 | 971 | 7,467 | 47,739 | 15.6 |
| Kilindi | 3,364 | 146 | 49 | 49 | 146 | 3,755 | 19,654 | 19.1 |
| Total | 95,290 | 701 | 253 | 301 | 2,472 | 99,017 | 265,198 | 37.3 |
| % | 96.2 | 0.7 | 0.3 | 0.3 | 2.5 | 100.0 | | |

**15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Vermin Control by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Vermin Control | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 11,037 | 140 | 0 | 0 | 2,332 | 13,509 | 86,580 | 15.6 |
| Korogwe | 27,016 | 401 | 0 | 0 | 1,115 | 28,531 | 45,990 | 62.0 |
| Muheza | 11,579 | 88 | 0 | 0 | 129 | 11,797 | 49,195 | 24.0 |
| Tanga | 801 | 0 | 0 | 0 | 259 | 1,060 | 8,914 | 11.9 |
| Pangani | 1,961 | 0 | 22 | 0 | 120 | 2,103 | 7,128 | 29.5 |
| Handeni | 2,289 | 106 | 476 | 429 | 1,399 | 4,699 | 47,739 | 9.8 |
| Kilindi | 2,735 | 0 | 0 | 0 | 48 | 2,783 | 19,654 | 14.2 |
| Total | 57,417 | 735 | 498 | 429 | 5,403 | 64,482 | 265,198 | 24.3 |
| % | 89.0 | 1.1 | 0.8 | 0.7 | 8.4 | 100.0 | | |

**15.14 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro-Processing by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Agro-progressing | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 36,643 | 140 | 0 | 0 | 581 | 37,364 | 86,580 | 43.2 |
| Korogwe | 19,470 | 84 | 107 | 0 | 599 | 20,260 | 45,990 | 44.1 |
| Muheza | 8,033 | 183 | 0 | 0 | 213 | 8,429 | 49,195 | 17.1 |
| Tanga | 254 | 0 | 0 | 0 | 445 | 699 | 8,914 | 7.8 |
| Pangani | 499 | 177 | 0 | 0 | 143 | 818 | 7,128 | 11.5 |
| Handeni | 1,353 | 0 | 0 | 643 | 2,125 | 4,121 | 47,739 | 8.6 |
| Kilindi | 2,590 | 0 | 0 | 0 | 49 | 2,639 | 19,654 | 13.4 |
| Total | 68,840 | 584 | 107 | 643 | 4,156 | 74,331 | 265,198 | 28.0 |
| % | 92.6 | 0.8 | 0.1 | 0.9 | 5.6 | 100.0 | | |

**15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro-Forestry by Source and District During the 2002/03 Agriculture Year, Tanga region**

| | Agro-forestry | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Cooperative | Large Scale Farm | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 26,965 | 1,283 | 0 | 0 | 578 | 28,826 | 86,580 | 33.3 |
| Korogwe | 12,040 | 1,173 | 107 | 107 | 611 | 14,040 | 45,990 | 30.5 |
| Muheza | 5,896 | 720 | 0 | 0 | 217 | 6,833 | 49,195 | 13.9 |
| Tanga | 274 | 0 | 0 | 0 | 283 | 557 | 8,914 | 6.3 |
| Pangani | 492 | 65 | 0 | 0 | 167 | 724 | 7,128 | 10.2 |
| Handeni | 2,824 | 213 | 0 | 96 | 2,357 | 5,491 | 47,739 | 11.5 |
| Kilindi | 1,268 | 97 | 0 | 0 | 0 | 1,366 | 19,654 | 6.9 |
| Total | 49,760 | 3,553 | 107 | 203 | 4,213 | 57,837 | 265,198 | 21.8 |
| % | 86.0 | 6.1 | 0.2 | 0.4 | 7.3 | 100.0 | | |

**15.16 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Bee Keeping by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Beekeeping | | | | | |
|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 3,025 | 710 | 859 | 4,594 | 86,580 | 5.3 |
| Korogwe | 2,031 | 958 | 1,017 | 4,007 | 45,990 | 8.7 |
| Muheza | 927 | 0 | 59 | 986 | 49,195 | 2.0 |
| Tanga | 36 | 0 | 404 | 440 | 8,914 | 4.9 |
| Pangani | 162 | 48 | 167 | 377 | 7,128 | 5.3 |
| Handeni | 212 | 316 | 2,774 | 3,302 | 47,739 | 6.9 |
| Kilindi | 293 | 48 | 783 | 1,125 | 19,654 | 5.7 |
| Total | 6,685 | 2,082 | 6,064 | 14,831 | 265,198 | 5.6 |
| % | 45.1 | 14.0 | 40.9 | 100.0 | | |

**15.17 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Fish Farming by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Fish Farming | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 2,877 | 713 | 0 | 0 | 433 | 4,022 | 86,580 | 4.6 |
| Korogwe | 2,478 | 1,384 | 0 | 0 | 1,124 | 4,986 | 45,990 | 10.8 |
| Muheza | 1,843 | 720 | 59 | 78 | 0 | 2,701 | 49,195 | 5.5 |
| Tanga | 0 | 0 | 0 | 0 | 440 | 440 | 8,914 | 4.9 |
| Pangani | 0 | 48 | 0 | 0 | 191 | 239 | 7,128 | 3.4 |
| Handeni | 106 | 418 | 0 | 0 | 2,672 | 3,196 | 47,739 | 6.7 |
| Kilindi | 97 | 0 | 0 | 0 | 734 | 832 | 19,654 | 4.2 |
| Total | 7,400 | 3,284 | 59 | 78 | 5,594 | 16,415 | 265,198 | 6.2 |
| % | 45.1 | 20.0 | 0.4 | 0.5 | 34.1 | 100.0 | | |

**15.18 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 1) During the 2002/03 Agriculture Year, Tanga Region**

| | Spacing | | | Use of Agrochemicals | | | Erosion Control | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 41,407 | 38,827 | 94 | 26,611 | 5,749 | 22 | 33,324 | 11,795 | 35 |
| Korogwe | 37,795 | 36,111 | 96 | 14,048 | 1,391 | 10 | 20,486 | 4,442 | 22 |
| Muheza | 20,695 | 16,121 | 78 | 7,189 | 824 | 11 | 10,493 | 4,477 | 43 |
| Tanga | 1,169 | 1,061 | 91 | 565 | 213 | 38 | 308 | 153 | 50 |
| Pangani | 2,625 | 2,533 | 97 | 1,626 | 637 | 39 | 764 | 372 | 49 |
| Handeni | 10,231 | 9,919 | 97 | 2,925 | 812 | 28 | 1,477 | 427 | 29 |
| Kilindi | 5,209 | 4,476 | 86 | 2,193 | 191 | 9 | 1,073 | 293 | 27 |
| Total | 119,130 | 109,047 | 92 | 55,156 | 9,817 | 18 | 67,925 | 21,958 | 32 |

**15.19 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 2) During the 2002/03 Agriculture Year, Tanga Region**

| | Organic Fertilizer Use | | | Inorganic Fertilizer Use | | | Use of Improved Seed | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 39,095 | 20,744 | 53 | 23,283 | 4,031 | 17 | 36,633 | 12,112 | 33 |
| Korogwe | 30,635 | 9,858 | 32 | 11,666 | 1,073 | 9 | 30,299 | 8,881 | 29 |
| Muheza | 13,699 | 4,629 | 34 | 7,145 | 553 | 8 | 16,716 | 2,664 | 16 |
| Tanga | 839 | 494 | 59 | 168 | 51 | 30 | 892 | 447 | 50 |
| Pangani | 1,459 | 529 | 36 | 884 | 172 | 19 | 1,941 | 1,065 | 55 |
| Handeni | 4,923 | 1,270 | 26 | 625 | 213 | 34 | 8,085 | 3,666 | 45 |
| Kilindi | 1,661 | 341 | 21 | 537 | 195 | 36 | 3,553 | 726 | 20 |
| Total | 92,312 | 37,865 | 41 | 44,307 | 6,288 | 14 | 98,120 | 29,562 | 30 |

**15.20 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 3) During the 2002/03 Agriculture Year, Tanga region**

| | Mechanisation / LST | | | Irrigation Technology | | | Crop Storage | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 1,713 | 714 | 42 | 25,453 | 9,346 | 37 | 39,697 | 37,242 | 94 |
| Korogwe | 8,438 | 793 | 9 | 16,525 | 4,665 | 28 | 28,757 | 20,086 | 70 |
| Muheza | 1,876 | 85 | 5 | 4,165 | 585 | 14 | 15,888 | 10,513 | 66 |
| Tanga | 291 | 32 | 11 | 240 | 51 | 21 | 607 | 528 | 87 |
| Pangani | 583 | 176 | 30 | 254 | 145 | 57 | 1,909 | 1,697 | 89 |
| Handeni | 3,419 | 511 | 15 | 851 | 428 | 50 | 6,500 | 4,500 | 69 |
| Kilindi | 1,024 | 97 | 9 | 485 | 193 | 40 | 3,804 | 2,436 | 64 |
| Total | 17,344 | 2,408 | 14 | 47,974 | 15,413 | 32 | 97,163 | 77,002 | 79 |

**15.21 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 4) During the 2002/03 Agriculture Year, Tanga Region**

| | Vermin Control | | | Agro-progressing | | | Agro-forestry | | |
|---|---|---|---|---|---|---|---|---|---|
| District | Received | Adopted | % | Received | Adopted | % | Received | Adopted | % |
| Lushoto | 7,975 | 5,521 | 69 | 36,200 | 34,752 | 96 | 28,547 | 15,683 | 55 |
| Korogwe | 27,020 | 22,813 | 84 | 19,441 | 16,567 | 85 | 13,222 | 2,949 | 22 |
| Muheza | 11,855 | 9,030 | 76 | 8,370 | 6,197 | 74 | 6,810 | 3,120 | 46 |
| Tanga | 801 | 685 | 86 | 254 | 297 | 117 | 274 | 241 | 88 |
| Pangani | 2,031 | 1,843 | 91 | 652 | 520 | 80 | 534 | 470 | 88 |
| Handeni | 3,300 | 3,086 | 94 | 1,357 | 1,678 | 124 | 3,231 | 1,252 | 39 |
| Kilindi | 2,735 | 2,540 | 93 | 2,639 | 2,493 | 94 | 1,317 | 195 | 15 |
| Total | 55,716 | 45,519 | 82 | 68,912 | 62,505 | 91 | 53,935 | 23,909 | 44 |

**15.22 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 5) During the 2002/03 Agriculture Year, Tanga region**

| District | Agro-forestry | | | Beekeeping | | | Fish Farming | | |
|---|---|---|---|---|---|---|---|---|---|
| | Received | Adopted | % | Receivec | Adopted | % | Received | Adopted | % |
| Lushoto | 28,547 | 15,683 | 55 | 2,282 | 718 | 31 | 2,131 | 0 | 0 |
| Korogwe | 13,222 | 2,949 | 22 | 2,354 | 178 | 8 | 3,336 | 531 | 16 |
| Muheza | 6,810 | 3,120 | 46 | 596 | 0 | 0 | 2,530 | 449 | 18 |
| Tanga | 274 | 241 | 88 | 36 | 0 | 0 | 0 | 0 | 0 |
| Pangani | 534 | 470 | 88 | 138 | 162 | 117 | 0 | 0 | 0 |
| Handeni | 3,231 | 1,252 | 39 | 102 | 0 | 0 | 204 | 104 | 51 |
| Kilindi | 1,317 | 195 | 15 | 341 | 147 | 43 | 97 | 0 | 0 |
| Total | 53,935 | 23,909 | 44 | 5,849 | 1,205 | 21 | 8,297 | 1,085 | 13 |

**15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agrochemicals by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Use of Agrochemicals | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 26,180 | 140 | 0 | 0 | 728 | 27,049 | 86,580 | 31.2 |
| Korogwe | 14,577 | 285 | 0 | 107 | 921 | 15,890 | 45,990 | 34.6 |
| Muheza | 7,374 | 0 | 0 | 0 | 292 | 7,666 | 49,195 | 15.6 |
| Tanga | 624 | 0 | 21 | 0 | 201 | 845 | 8,914 | 9.5 |
| Pangani | 1,626 | 0 | 0 | 0 | 119 | 1,745 | 7,128 | 24.5 |
| Handeni | 3,026 | 217 | 0 | 0 | 1,712 | 4,956 | 47,739 | 10.4 |
| Kilindi | 2,193 | 0 | 0 | 0 | 196 | 2,388 | 19,654 | 12.2 |
| Total | 55,601 | 643 | 21 | 107 | 4,169 | 60,540 | 265,198 | 22.8 |
| % | 91.8 | 1.1 | 0.0 | 0.2 | 6.9 | 100.0 | | |

**15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertiliser Use by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Organic Fertilizer Use | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 37,396 | 1,560 | 0 | 0 | 292 | 39,248 | 86,580 | 45.3 |
| Korogwe | 29,487 | 401 | 104 | 0 | 1,116 | 31,107 | 45,990 | 67.6 |
| Muheza | 13,274 | 0 | 0 | 0 | 396 | 13,670 | 49,195 | 27.8 |
| Tanga | 733 | 42 | 43 | 10 | 190 | 1,018 | 8,914 | 11.4 |
| Pangani | 1,414 | 45 | 0 | 0 | 119 | 1,577 | 7,128 | 22.1 |
| Handeni | 4,918 | 108 | 0 | 107 | 1,062 | 6,196 | 47,739 | 13.0 |
| Kilindi | 1,611 | 49 | 0 | 0 | 196 | 1,856 | 19,654 | 9.4 |
| Total | 88,833 | 2,206 | 147 | 117 | 3,370 | 94,673 | 265,198 | 35.7 |
| % | 93.8 | 2.3 | 0.2 | 0.1 | 3.6 | 100.0 | | |

**15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source and District During the 2002/03 Agriculture Year**

| District | Use of Improved Seeds | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 36,343 | 292 | 0 | 0 | 286 | 36,921 | 86,580 | 42.6 |
| Korogwe | 28,534 | 721 | 0 | 0 | 1,229 | 30,484 | 45,990 | 66.3 |
| Muheza | 15,977 | 0 | 0 | 59 | 656 | 16,692 | 49,195 | 33.9 |
| Tanga | 839 | 19 | 21 | 23 | 61 | 963 | 8,914 | 10.8 |
| Pangani | 1,848 | 45 | 48 | 0 | 71 | 2,012 | 7,128 | 28.2 |
| Handeni | 7,377 | 216 | 188 | 108 | 427 | 8,316 | 47,739 | 17.4 |
| Kilindi | 3,262 | 49 | 0 | 49 | 196 | 3,555 | 19,654 | 18.1 |
| Total | 94,180 | 1,341 | 257 | 239 | 2,924 | 98,942 | 265,198 | 37.3 |
| % | 95.2 | 1.4 | 0.3 | 0.2 | 3.0 | 100.0 | | |

**15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Agro-Forestry by Source and District During the 2002/03 Agriculture Year, Tanga region**

| District | Agro-forestry | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Cooperative | Large Scale Farm | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 26,965 | 1,283 | 0 | 0 | 578 | 28,826 | 86,580 | 33.3 |
| Korogwe | 12,040 | 1,173 | 107 | 107 | 611 | 14,040 | 45,990 | 30.5 |
| Muheza | 5,896 | 720 | 0 | 0 | 217 | 6,833 | 49,195 | 13.9 |
| Tanga | 274 | 0 | 0 | 0 | 283 | 557 | 8,914 | 6.3 |
| Pangani | 492 | 65 | 0 | 0 | 167 | 724 | 7,128 | 10.2 |
| Handeni | 2,824 | 213 | 0 | 96 | 2,357 | 5,491 | 47,739 | 11.5 |
| Kilindi | 1,268 | 97 | 0 | 0 | 0 | 1,366 | 19,654 | 6.9 |
| Total | 49,760 | 3,553 | 107 | 203 | 4,213 | 57,837 | 265,198 | 21.8 |
| % | 86.0 | 6.1 | 0.2 | 0.4 | 7.3 | 100.0 | | |

**15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Vermin Control by Source and District During the 2002/03 Agriculture Year, Tanga Region**

| | Vermin Control | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| District | Government | NGO / Development Project | Large Scale Farm | Other | Not applicable | Total | Total Number of households | % of total number of households |
| Lushoto | 11,037 | 140 | 0 | 0 | 2,332 | 13,509 | 86,580 | 15.6 |
| Korogwe | 27,016 | 401 | 0 | 0 | 1,115 | 28,531 | 45,990 | 62.0 |
| Muheza | 11,579 | 88 | 0 | 0 | 129 | 11,797 | 49,195 | 24.0 |
| Tanga | 801 | 0 | 0 | 0 | 259 | 1,060 | 8,914 | 11.9 |
| Pangani | 1,961 | 0 | 22 | 0 | 120 | 2,103 | 7,128 | 29.5 |
| Handeni | 2,289 | 106 | 476 | 429 | 1,399 | 4,699 | 47,739 | 9.8 |
| Kilindi | 2,735 | 0 | 0 | 0 | 48 | 2,783 | 19,654 | 14.2 |
| Total | 57,417 | 735 | 498 | 429 | 5,403 | 64,482 | 265,198 | 24.3 |
| % | 89.0 | 1.1 | 0.8 | 0.7 | 8.4 | 100.0 | | |

# ANIMAL CONTRIBUTION TO CROP PRODUCTION

**17.1 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Number of agriculoture households using draft animal to cultive land by District during 2002/03 agriculture year, Tanga Region**

| | Using draft animal | | Not using draft animal | | Total households |
|---|---|---|---|---|---|
| | No of households | % | No of households | % | |
| Korogwe | 395 | 1 | 45,595 | 99 | 45,990 |
| Kilindi | 49 | 0 | 19,605 | 100 | 19,654 |
| Lushoto | 0 | 0 | 86,580 | 100 | 86,580 |
| Muheza | 0 | 0 | 49,195 | 100 | 49,195 |
| Tanga | 0 | 0 | 8,914 | 100 | 8,914 |
| Pangani | 0 | 0 | 7,128 | 100 | 7,128 |
| Handeni | 0 | 0 | 47,739 | 100 | 47,739 |
| Total | 443 | 0 | 264,755 | 100 | 265,198 |

**17.2 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft By Number Owned, Used and Area Cultivated (acres) By District during 2002/03 agriculture year, Tanga Region**

| | Type of Craft | | | | | |
|---|---|---|---|---|---|---|
| | Oxen | | | Total | | |
| District | Number Owned | Number Used | Area Cultivated (acres) | Number Owned | Number Used | Area Cultivated (acres) |
| Korogwe | 592 | 987 | 1,973.4 | 592 | 987 | 1,973.4 |
| Kilindi | 146 | 146 | 679.9 | 146 | 146 | 679.9 |
| Total | 738 | 1,132 | 2,653.3 | 738 | 1,132 | **2,653.3** |

**17.3 ANIMAL CONTRIBUTION TO CROPS: Number of Crop Growing households using organic fertilizer by District during 2002/03 agriculture year, Tanga region**

| | Did you apply organic fertilizer during 2002/03? | | | | |
|---|---|---|---|---|---|
| | Using Organic Fertilizer | | Not Using Organic Fertilizer | | |
| District | Number | % | Number | % | Total number of crop growing households |
| Lushoto | 31,882 | 37 | 54,406 | 63 | 86,288 |
| Korogwe | 9,889 | 22 | 34,951 | 78 | 44,841 |
| Muheza | 5,076 | 10 | 44,040 | 90 | 49,116 |
| Tanga | 1,302 | 15 | 7,576 | 85 | 8,878 |
| Pangani | 245 | 3 | 6,883 | 97 | 7,128 |
| Handeni | 1,894 | 4 | 45,526 | 96 | 47,420 |
| Kilindi | 1,215 | 6 | 18,439 | 94 | 19,654 |
| Total | 51,503 | 20 | 211,820 | 80 | 263,323 |

**17.4 ANIMAL CONTRIBUTION TO CROPS: Area of farm yard manure and Compost Application by District during 2002/03 agriculture year, Tanga Region**

| | Farm Yard Manure Area Applied | | Compost Area Applied | | Total Area aplied with Organic Fertilizers | |
|---|---|---|---|---|---|---|
| District | Area (Ha) | % | Area (Ha) | % | Area (%) | % |
| Lushoto | 13,238 | 60 | 1,035 | 19 | 14,273 | 52 |
| Korogwe | 4,160 | 19 | 1,440 | 27 | 5,600 | 20 |
| Muheza | 2,467 | 11 | 340 | 6 | 2,807 | 10 |
| Tanga | 657 | 3 | 105 | 2 | 762 | 3 |
| Pangani | 147 | 1 | 17 | 0 | 164 | 1 |
| Handeni | 896 | 4 | 772 | 14 | 1,668 | 6 |
| Kilindi | 389 | 2 | 1,668 | 31 | 2,057 | 8 |
| Total | 21,954 | 100 | 5,377 | 100 | 27,331 | 100 |

## CATTLE PRODUCTION

**18.1 CATTLE PRODUCTION: Total Number Households rearing Cattle by District during 2002/03 agriculture year, Tanga Region**

| District | Households Rearing Cattle | | Households Not Rearing Cattle | | Total Agriculture households | Total livestock keeping households |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | | |
| Lushoto | 33,672 | 39 | 52,908 | 61 | 86,580 | 37,986 |
| Korogwe | 9,314 | 20 | 36,676 | 80 | 45,990 | 14,885 |
| Muheza | 3,778 | 8 | 45,416 | 92 | 49,195 | 11,365 |
| Tanga | 1,093 | 12 | 7,821 | 88 | 8,914 | 1,939 |
| Pangani | 191 | 3 | 6,936 | 97 | 7,128 | 911 |
| Handeni | 5,231 | 11 | 42,508 | 89 | 47,739 | 14,886 |
| Kilindi | 2,484 | 13 | 17,170 | 87 | 19,654 | 4,820 |
| Total | 55,762 | 21 | 209,436 | 79 | 265,198 | **86,792** |

**18.3: Number of Households Rearing Cattle, Heads of Cattle and Average Heads per Household by Herd Size; on 1st October 2003**

| Herd Size | Cattle Rearing Households | | Heads of Cattle | | Average Number Per Household |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| 1-5 | 45,258 | 81 | 107,005 | 28 | 2 |
| 6-10 | 4,931 | 9 | 37,621 | 10 | 8 |
| 11-15 | 1,310 | 2 | 16,539 | 4 | 13 |
| 16-20 | 1,632 | 3 | 30,286 | 8 | 19 |
| 21-30 | 1,253 | 2 | 30,831 | 8 | 25 |
| 31-40 | 389 | 1 | 14,253 | 4 | 37 |
| 41-50 | 49 | 0 | 2,448 | 1 | 50 |
| 51-60 | 374 | 1 | 21,053 | 6 | 56 |
| 61-100 | 286 | 1 | 22,417 | 6 | 78 |
| 151+ | 280 | 1 | 95,883 | 25 | 342 |
| Total | 55,762 | 100 | 378,338 | 100 | 7 |

**Table 18.4: Total Number of Cattle by Category and Type of Cattle; on 1st October 2003**

| Category of cattle | Indigenous Cattle | | Improved Beef Cattle | | Improved Dairy Cattle | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % |
| Regions | Number of Indigenous | % | Number of Improved Beef | % | Number of Improved Dairy | % | Total | % |
| Bulls | 25,822 | 92.2 | 175 | 0.6 | 2,022 | 7.2 | 28,018 | 7.4 |
| Cows | 142,064 | 92.6 | 0 | 0.0 | 11,357 | 7.4 | 153,421 | 40.6 |
| Steers | 12,100 | 92.6 | 123 | 0.9 | 846 | 6.5 | 13,069 | 3.5 |
| Heifers | 81,149 | 93.5 | 0 | 0.0 | 5,654 | 6.5 | 86,803 | 22.9 |
| Male Calves | 43,500 | 91.8 | 0 | 0.0 | 3,862 | 8.2 | 47,362 | 12.5 |
| Female Calves | 45,576 | 91.8 | 0 | 0.0 | 4,088 | 8.2 | 49,664 | 13.1 |
| Total | 350,210 | 92.6 | 298 | 0.1 | 27,829 | 7.4 | 378,338 | 100.0 |

**18.2 CATTLE PRODUCTION: Total Number of Cattle by Type and District As of 1st October 2003**

| | Indigenous | | | Beef | | | Dairy | | | Total Cattle | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| District | Number of households | Number of Cattle | % | Number of households | Number of Cattle | % | Number of households | Number of Cattle | % | Number of households | Number of Cattle | % |
| Handeni | 5,125 | 106,690 | 99.8 | 0 | 0 | 0.0 | 106 | 212 | 0.2 | 5,231 | 106,901 | 28.3 |
| Korogwe | 8,895 | 72,264 | 97.3 | 0 | 0 | 0.0 | 720 | 1,975 | 2.7 | 9,314 | 74,238 | 19.6 |
| Lushoto | 27,444 | 60,120 | 79.2 | 143 | 143 | 0.2 | 8,264 | 15,648 | 20.6 | 33,672 | 75,911 | 20.1 |
| Muheza | 2,235 | 57,618 | 90.9 | 0 | 0 | 0.0 | 1,800 | 5,736 | 9.1 | 3,778 | 63,355 | 16.7 |
| Kilindi | 2,484 | 46,019 | 100.0 | 0 | 0 | 0.0 | 0 | 0 | 0.0 | 2,484 | 46,019 | 12.2 |
| Tanga | 663 | 7,003 | 63.6 | 52 | 155 | 1.4 | 526 | 3,854 | 35.0 | 1,093 | 11,012 | 2.9 |
| Pangani | 101 | 497 | 55.1 | 0 | 0 | 0.0 | 114 | 405 | 44.9 | 191 | 901 | 0.2 |
| Total | 46,947 | 350,210 | 92.6 | 195 | 298 | 0.1 | 11,529 | 27,829 | 7.4 | 55,762 | 378,338 | 100.0 |

**18.5: Total Number of indigenous Cattle by Category of Cattle and District as on 1st October 2003**

| | Category - Indigenous | | | | | | |
|---|---|---|---|---|---|---|---|
| District | Bulls | Cows | Steers | Heifers | Male Calves | Female Calves | Total |
| Lushoto | 3,603 | 22,614 | 1,004 | 15,192 | 7,762 | 9,945 | 60,120 |
| Korogwe | 4,149 | 30,262 | 1,544 | 14,027 | 10,130 | 12,153 | 72,264 |
| Muheza | 3,372 | 30,612 | 244 | 10,920 | 5,637 | 6,833 | 57,618 |
| Tanga | 772 | 2,805 | 570 | 1,272 | 793 | 792 | 7,003 |
| Pangani | 37 | 74 | 37 | 242 | 70 | 37 | 497 |
| Handeni | 7,938 | 38,925 | 5,146 | 31,644 | 12,872 | 10,164 | 106,690 |
| Kilindi | 5,951 | 16,771 | 3,556 | 7,852 | 6,237 | 5,652 | 46,019 |
| Total | 25,822 | 142,064 | 12,100 | 81,149 | 43,500 | 45,576 | 350,210 |

**18.6: Total Number of Dairy Cattle by Category of cattle and District as on 1st October 2003**

| | Number of Improved Dairy Cattle | | | | | | |
|---|---|---|---|---|---|---|---|
| District | Bulls | Cows | Steers | Heifers | Male Calves | Female Calves | Total |
| Lushoto | 727 | 6,523 | . | 3,622 | 2,750 | 2,026 | 15,648 |
| Korogwe | 422 | 720 | 97 | 320 | 107 | 308 | 1,975 |
| Muheza | 301 | 2,475 | 227 | 1,072 | 496 | 1,165 | 5,736 |
| Tanga | 550 | 1,394 | 481 | 544 | 484 | 400 | 3,854 |
| Pangani | 21 | 138 | 42 | 96 | 24 | 84 | 405 |
| Handeni | . | 106 | . | . | . | 106 | 212 |
| Kilindi | . | . | . | . | . | . | . |
| Total | 2,022 | 11,357 | 846 | 5,654 | 3,862 | 4,088 | 27,829 |

**18.7: Total Number of Beef Cattle by Category of Cattle and District as on 1st October 2003**

| District | Category - Number of Improved Beef | | | | | | |
|---|---|---|---|---|---|---|---|
| | Bulls | Cows | Steers | Heifers | Male Calves | Female Calves | Total |
| Lushoto | 143 | . | . | . | . | . | 143 |
| Korogwe | . | . | . | . | . | . | . |
| Muheza | . | . | . | . | . | . | . |
| Tanga | 32 | . | 123 | . | . | . | 155 |
| Pangani | . | . | . | . | . | . | . |
| Handeni | . | . | . | . | . | . | . |
| Kilindi | . | . | . | . | . | . | . |
| Total | 175 | . | 123 | . | . | . | 298 |

**18.8: Total Number of Cattle by Category and District as on 1st October 2003**

| District | Total Cattle | | | | | | |
|---|---|---|---|---|---|---|---|
| | Bulls | Cows | Steers | Heifers | Male Calves | Female Calves | Total |
| Lushoto | 4,473 | 29,138 | 1,004 | 18,814 | 10,512 | 11,971 | 75,911 |
| Korogwe | 4,570 | 30,982 | 1,640 | 14,347 | 10,237 | 12,461 | 74,238 |
| Muheza | 3,673 | 33,087 | 471 | 11,992 | 6,133 | 7,998 | 63,355 |
| Tanga | 1,354 | 4,199 | 1,174 | 1,816 | 1,277 | 1,192 | 11,012 |
| Pangani | 58 | 212 | 78 | 338 | 94 | 121 | 901 |
| Handeni | 7,938 | 39,031 | 5,146 | 31,644 | 12,872 | 10,269 | 106,901 |
| Kilindi | 5,951 | 16,771 | 3,556 | 7,852 | 6,237 | 5,652 | 46,019 |
| Total | 28,018 | 153,421 | 13,069 | 86,803 | 47,362 | 49,664 | 378,338 |

## GOATS PRODUCTION

**19.1 GOAT PRODUCTION: Total Number of Goats by goat type and District as on 1st October 2003**

| District | Indigenous | | | Improved for Meat | | | Improved Dairy | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of households | Number of Goats | % | Number of households | Number of Goats | % | Number of households | Number of Goats | % | Number of households | Number of Goats |
| Lushoto | 18,308 | 60,498 | 82 | 280 | 9,049 | 12 | 283 | 3,901 | 5.3 | 18,447 | 73,449 |
| Korogwe | 12,551 | 85,858 | 99 | 99 | 99 | 0 | 291 | 484 | 0.6 | 12,648 | 86,441 |
| Muheza | 11,478 | 94,480 | 98 | 246 | 1,222 | 1 | 121 | 493 | 0.5 | 11,478 | 96,195 |
| Tanga | 1,445 | 10,287 | 99 | 0 | . | 0 | 51 | 103 | 1.0 | 1,445 | 10,390 |
| Pangani | 839 | 10,278 | 99 | 0 | . | 0 | 80 | 80 | 0.8 | 839 | 10,357 |
| Handeni | 18,159 | 163,482 | 96 | 204 | 1,529 | 1 | 845 | 5,849 | 3.4 | 18,159 | 170,860 |
| Kilindi | 5,212 | 65,615 | 98 | 97 | 1,166 | 2 | 49 | 147 | 0.2 | 5,212 | 66,928 |
| Total | 67,991 | 490,499 | 95 | 925 | 13,064 | 3 | 1,720 | 11,057 | 2.1 | 68,227 | 514,620 |

**19.2 Number of Households Rearing Goats and Heads of Goats by Herd Size on 1st October 2003**

| Herd Size | Goat Rearing Households | | Head of Goats | | Average per Household |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| 1-4 | 684,045 | 50.1 | 2,742,006 | 23.2 | 4.0 |
| 5-9 | 412,350 | 30.2 | 3,268,273 | 27.7 | 7.9 |
| 10-14 | 143,889 | 10.5 | 1,890,115 | 16.0 | 13.1 |
| 15-19 | 52,541 | 3.8 | 957,755 | 8.1 | 18.2 |
| 20-24 | 31,066 | 2.3 | 721,644 | 6.1 | 23.2 |
| 25-29 | 13,098 | 1.0 | 395,397 | 3.3 | 30.2 |
| 30-39 | 13,013 | 1.0 | 480,002 | 4.1 | 36.9 |
| 40+ | 16,615 | 1.2 | 1,351,536 | 11.4 | 81.3 |
| Total | 1,366,618 | 100.0 | 11,806,728 | 100.0 | 8.6 |

**19.3 Total Number of Goats by Category and Type of Goat on 1st October 2003**

| Category of Goats | Indigenous Goats | | Improved Meat Goats | | Improved Dairy Goats | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | Number | % |
| Billy Goats | 62,759 | 82.5 | 9,164 | 12.0 | 4,180 | 5.5 | 76,102 | 15 |
| She Goats | 256,571 | 99.1 | 331 | 0.1 | 1,884 | 0.7 | 258,786 | 50 |
| Castrated G | 28,226 | 98.5 | | 0.0 | 423 | 1.5 | 28,649 | 6 |
| Male Kid | 65,381 | 96.3 | 2,234 | 3.3 | 258 | 0.4 | 67,873 | 13 |
| She Kid | 77,562 | 93.2 | 1,335 | 1.6 | 4,312 | 5.2 | 83,209 | 16 |
| Total | 490,499 | 95.3 | 13,064 | 2.5 | 11,057 | 2.1 | 514,620 | 100 |

**19.4 Total Number of Indigenous Goat by Category and District on 1st October 2003**

| | Type | | | | | |
|---|---|---|---|---|---|---|
| District | Billy Goats | Castrated Goats | She Goats | Male Kids | She Kids | Total |
| Lushoto | 6,879 | 437 | 36,646 | 7,997 | 8,539 | 60,498 |
| Korogwe | 8,660 | 1,856 | 41,725 | 13,967 | 19,650 | 85,858 |
| Muheza | 11,368 | 6,186 | 51,204 | 13,261 | 12,461 | 94,480 |
| Tanga | 1,613 | 1,301 | 5,019 | 1,319 | 1,035 | 10,287 |
| Pangani | 1,497 | 179 | 5,647 | 1,672 | 1,283 | 10,278 |
| Handeni | 22,561 | 11,839 | 87,103 | 16,701 | 25,278 | 163,482 |
| Kilindi | 10,181 | 6,428 | 29,226 | 10,465 | 9,315 | 65,615 |
| Total | 62,759 | 28,226 | 256,571 | 65,381 | 77,562 | 490,499 |

**19.5 Total Number of Improved Goat for Meat by Category and District on 1st October 2003**

| | Number of Improved Meat Goats | | | | | |
|---|---|---|---|---|---|---|
| District | Billy Goats | Castrated Goats | She Goats | Male Kids | She Kids | Total |
| Lushoto | 8,347 | . | . | 702 | . | 9,049 |
| Korogwe | . | . | . | 99 | . | 99 |
| Muheza | 156 | . | 234 | 413 | 418 | 1,222 |
| Tanga | . | . | . | . | . | . |
| Pangani | . | . | . | . | . | . |
| Handeni | 611 | . | . | . | 917 | 1,529 |
| Kilindi | 49 | . | 97 | 1,020 | . | 1,166 |
| Total | 9,164 | . | 331 | 2,234 | 1,335 | 13,064 |

**19.6 Total Number of Improved Dairy Goats by Category and District on 1st October 2003**

| District | Number of Improved Dairy Goats | | | | | |
|---|---|---|---|---|---|---|
| | Billy Goats | Castrated Goats | She Goats | Male Kids | She Kids | Total |
| Lushoto | 3,609 | 292 | . | . | . | 3,901 |
| Korogwe | . | . | 484 | . | . | 484 |
| Muheza | . | . | 258 | 78 | 156 | 493 |
| Tanga | . | 23 | 23 | 57 | . | 103 |
| Pangani | 43 | . | . | 19 | 18 | 80 |
| Handeni | 528 | 108 | 1,070 | 104 | 4,039 | 5,849 |
| Kilindi | . | . | 49 | . | 98 | 147 |
| Total | 4,180 | 423 | 1,884 | 258 | 4,312 | 11,057 |

**19.7 Total Number of Goats by Category and District on 1st October 2003**

| District | Total Goats | | | | | |
|---|---|---|---|---|---|---|
| | Billy Goats | Castrated Goats | She Goats | Male Kids | She Kids | Total |
| Lushoto | 18,835.52 | 729.41 | 36,646.29 | 8,698.66 | 8,539.13 | 73,449.01 |
| Korogwe | 8,660.33 | 1,855.64 | 42,209.41 | 14,065.41 | 19,650.27 | 86,441.06 |
| Muheza | 11,524.54 | 6,186.39 | 51,696.48 | 13,752.16 | 13,034.94 | 96,194.52 |
| Tanga | 1,612.70 | 1,323.78 | 5,041.44 | 1,376.74 | 1,034.97 | 10,389.63 |
| Pangani | 1,539.24 | 178.62 | 5,647.18 | 1,690.63 | 1,301.64 | 10,357.32 |
| Handeni | 23,700.82 | 11,947.11 | 88,172.98 | 16,804.35 | 30,235.00 | 170,860.25 |
| Kilindi | 10,229.16 | 6,427.91 | 29,372.40 | 11,484.89 | 9,413.38 | 66,927.74 |
| Total | 76,102.31 | 28,648.85 | 258,786.17 | 67,872.86 | 83,209.33 | 514,619.53 |

# SHEEP PRODUCTION

**20.1 Total Number of Sheep by Breed Type on 1st October 2003**

| Breed | Number of Indigenous Sheep | | Number of Improved Mutton Sheep | | Total Sheep | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| Ram | 16,121 | 61 | 10,275 | 39 | 26,396 | 16 |
| Castrated Sheep | 11,043 | 100 | . | 0 | 11,043 | 7 |
| She Sheep | 87,623 | 98 | 1,400 | 2 | 89,023 | 54 |
| Male Lamb | 15,318 | 84 | 2,945 | 16 | 18,262 | 11 |
| She Lamb | 19,292 | 99 | 194 | 1 | 19,485 | 12 |
| Total | 149,396 | 91 | 14,813 | 9 | 164,209 | 100 |

**20.2 Number of Households Raising or Managing Sheep by District on 1st October 2003**

| District | Households Raising Sheep | | Households Not Raising Sheep | | Number of Agriculture Households | Total Livestock Keeping Households |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | | |
| Lushoto | 24,660 | 28 | 61,919 | 72 | 86,580 | 37,986 |
| Korogwe | 5,569 | 12 | 40,421 | 88 | 45,990 | 14,885 |
| Muheza | 3,027 | 6 | 46,168 | 94 | 49,195 | 11,365 |
| Tanga | 109 | 1 | 8,804 | 99 | 8,914 | 1,939 |
| Pangani | 61 | 1 | 7,067 | 99 | 7,128 | 911 |
| Handeni | 640 | 1 | 47,099 | 99 | 47,739 | 14,886 |
| Kilindi | 1,314 | 7 | 18,340 | 93 | 19,654 | 4,820 |
| Total | 35,381 | 13 | 229,817 | 87 | 265,198 | **86,792** |

**20.3 Number of Sheep by Type of Sheep and District on 1st October 2003.**

| District | Number of Indigenous Sheep | | Number of Improved for Mutton Sheep | | Total Sheep | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| Lushoto | 60,715 | 94 | 4,028 | 6 | 64,742 | 39 |
| Korogwe | 24,975 | 71 | 10,391 | 29 | 35,367 | 22 |
| Muheza | 25,059 | 100 | 81 | 0 | 25,140 | 15 |
| Tanga | 988 | 98 | 23 | 2 | 1,010 | 1 |
| Pangani | 158 | 100 | 0 | 0 | 158 | 0 |
| Handeni | 19,570 | 100 | 0 | 0 | 19,570 | 12 |
| Kilindi | 17,932 | 98 | 290 | 2 | 18,222 | 11 |
| Total | 149,396 | 91 | 14,813 | 9 | 164,209 | 100 |

**20.4 Number of Sheep per Household by Category and Region as of 1st October 2003**

| District | Indigenous Sheep | | Improved for Mutton Sheep | | Total Households Raising Sheep | Average Sheep |
|---|---|---|---|---|---|---|
| | Number of Households | Average Sheep | Number of Households | Average Sheep | | |
| Lushoto | 24,371 | 2 | 1,157 | 3 | 24,660 | 3 |
| Korogwe | 5,569 | 4 | 188 | 55 | 5,569 | 6 |
| Muheza | 3,027 | 8 | 81 | 1 | 3,027 | 8 |
| Tanga | 87 | 11 | 23 | 1 | 109 | 9 |
| Pangani | 61 | 3 | 0 | 0 | 61 | 3 |
| Handeni | 640 | 31 | 0 | 0 | 640 | 31 |
| Kilindi | 1,314 | 14 | 97 | 3 | 1,314 | 14 |
| Total | 35,068 | 4 | 1,547 | 10 | 35,381 | 5 |

**20.5 Number of Households and Heads of Sheep by Herd Size on 1st October 2003**

| Herd Size | Number of Households | % | Number of Sheep | % | Average Number per Household |
|---|---|---|---|---|---|
| 1-4 | 27,110 | 77 | 57,107 | 35 | 2 |
| 5-9 | 5,431 | 15 | 33,298 | 20 | 6 |
| 10-14 | 1,649 | 5 | 19,175 | 12 | 12 |
| 15-19 | 296 | 1 | 4,636 | 3 | 16 |
| 20-24 | 227 | 1 | 4,764 | 3 | 21 |
| 25-29 | 91 | 0 | 2,559 | 2 | 28 |
| 30-39 | 233 | 1 | 7,559 | 5 | 32 |
| 40+ | 344 | 1 | 35,111 | 21 | 102 |
| Total | 35,381 | 100 | 164,209 | 100 | 5 |

**20.6 Total Number of Indigenous Sheep by Sheep Type and District on 1st October 2003**

| | Number of Indigenous Sheep | | | | | |
|---|---|---|---|---|---|---|
| District | Rams | Castrated Sheep | She Sheep | Male Lambs | She Lambs | Total |
| Lushoto | 6,070 | 1,722 | 40,668 | 5,750 | 6,504 | 60,715 |
| Korogwe | 3,741 | 643 | 14,093 | 3,295 | 3,204 | 24,975 |
| Muheza | 2,684 | 604 | 14,765 | 2,384 | 4,622 | 25,059 |
| Tanga | 64 | 33 | 614 | 97 | 179 | 988 |
| Pangani | 61 | . | 98 | . | . | 158 |
| Handeni | 1,067 | 5,357 | 10,269 | 1,600 | 1,277 | 19,570 |
| Kilindi | 2,436 | 2,684 | 7,116 | 2,191 | 3,506 | 17,932 |
| Total | 16,121 | 11,043 | 87,623 | 15,318 | 19,292 | 149,396 |

**20.7 Total Number of Improved Mutton Sheep by Type and District on 1st October 2003**

| | Number of Improved for Mutton | | | | | |
|---|---|---|---|---|---|---|
| District | Rams | Castrated Sheep | She Sheep | Male Lambs | She Lambs | Total |
| Lushoto | 144 | . | 1,296 | 2,588 | . | 4,028 |
| Korogwe | 10,130 | . | . | 261 | . | 10,391 |
| Muheza | . | . | 81 | . | . | 81 |
| Tanga | . | . | 23 | . | . | 23 |
| Pangani | . | . | . | . | . | . |
| Handeni | . | . | . | . | . | . |
| Kilindi | . | . | . | 96 | 194 | 290 |
| Total | 10,275 | . | 1,400 | 2,945 | 194 | 14,813 |

**20.8: Total Number of Sheep by Sheep Type and District on 1st October 2003**

| | Total Sheep | | | | | |
|---|---|---|---|---|---|---|
| District | Rams | Castrated Sheep | She Sheep | Male Lambs | She Lambs | Total |
| Lushoto | 6,214 | 1,722 | 41,964 | 8,338 | 6,504 | 64,742 |
| Korogwe | 13,871 | 643 | 14,093 | 3,556 | 3,204 | 35,367 |
| Muheza | 2,684 | 604 | 14,846 | 2,384 | 4,622 | 25,140 |
| Tanga | 64 | 33 | 636 | 97 | 179 | 1,010 |
| Pangani | 61 | . | 98 | . | . | 158 |
| Handeni | 1,067 | 5,357 | 10,269 | 1,600 | 1,277 | 19,570 |
| Kilindi | 2,436 | 2,684 | 7,116 | 2,287 | 3,699 | 18,222 |
| Total | 26,396 | 11,043 | 89,023 | 18,262 | 19,485 | 164,209 |

# PIGS PRODUCTION

**21.1 Number of Households and Pigs by Herd Size on 1st October 2003**

| Herd Size | Pig Rearing Households | | Heads of pigs | | Average per Household |
|---|---|---|---|---|---|
| | Number | % | Number | % | |
| 1-4 | 2,118 | 81 | 3,336 | 53 | 2 |
| 5-9 | 467 | 18 | 2,694 | 43 | 6 |
| 10-14 | 8 | 0 | 117 | 2 | 14 |
| 15-19 | 8 | 0 | 134 | 2 | 16 |
| Total | 2,601 | 100 | 6,281 | 100 | 2 |

**21.2 Number of Households and Pigs by District on 1st October 2003**

| District | Number of Households | Number of Pigs | Average per Household |
|---|---|---|---|
| Lushoto | 146 | 292 | 2 |
| Korogwe | 1,160 | 2,886 | 2 |
| Muheza | 972 | 1,582 | 2 |
| Tanga | 58 | 373 | 6 |
| Handeni | 217 | 759 | 4 |
| Kilindi | 49 | 389 | 8 |
| Total | 2,601 | 6,281 | 2 |

**21.3 Number of Pigs by Type of Pig and District on 1st October 2003**

| District | Pig Type | | | | | |
|---|---|---|---|---|---|---|
| | Boars | Castrated Males | Sow / Gilt | Male Piglets | She Piglets | Total |
| Lushoto | 146 | . | 146 | . | . | 292 |
| Korogwe | 633 | 796 | 942 | 300 | 215 | 2,886 |
| Muheza | 347 | 181 | 873 | 90 | 90 | 1,582 |
| Tanga | 27 | . | 68 | 87 | 192 | 373 |
| Handeni | 108 | . | 434 | 217 | . | 759 |
| Kilindi | 49 | . | 146 | 97 | 97 | 389 |
| Total | 1,310 | 977 | 2,609 | 791 | 594 | 6,281 |

**LIVESTOCK PESTS AND PARASITE CONTROL**

**22.1 PESTS AND PARASITES: Number of Livestock Rearing households deworming Livestock by District during the 2002/03 Agricultural Year**

| District | Deworming Livestock | | Not deworming Livestock | | Total |
|---|---|---|---|---|---|
| | No of Households | % | No of Households | % | |
| Lushoto | 22,075 | 59 | 15,180 | 41 | 37,255 |
| Korogwe | 6,784 | 46 | 7,908 | 54 | 14,692 |
| Muheza | 6,064 | 55 | 4,973 | 45 | 11,037 |
| Tanga | 961 | 51 | 934 | 49 | 1,895 |
| Pangani | 411 | 46 | 478 | 54 | 889 |
| Handeni | 9,176 | 63 | 5,495 | 37 | 14,671 |
| Kilindi | 3,116 | 65 | 1,656 | 35 | 4,772 |
| Total | 48,587 | 57 | 36,624 | 43 | 85,210 |

**22.2 PESTS AND PARASITE: Number of Livestock Rearing Households that dewormed Livestock by type of Livestock and District during the 2002/03 Agricultural Year**

| District | Cattle | | Goats | | Sheep | | Pigs | |
|---|---|---|---|---|---|---|---|---|
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % |
| Lushoto | 19,044 | 58 | 8,100 | 30 | 10,263 | 69 | 1,004 | 29 |
| Korogwe | 4,329 | 13 | 3,463 | 13 | 1,640 | 11 | 1,356 | 39 |
| Muheza | 2,765 | 8 | 3,519 | 13 | 1,310 | 9 | 543 | 16 |
| Tanga | 679 | 2 | 434 | 2 | 90 | 1 | 86 | 2 |
| Pangani | 87 | 0 | 365 | 1 | 0 | 0 | 0 | 0 |
| Handeni | 4,044 | 12 | 8,322 | 31 | 529 | 4 | 424 | 12 |
| Kilindi | 1,703 | 5 | 2,676 | 10 | 973 | 7 | 49 | 1 |
| Total | 32,653 | 100 | 26,881 | 100 | 14,805 | 100 | 3,463 | 100 |

**22.3 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of agricultural households reporting to have encountered tsetse flies problems during 2002/03 Agriculture Year by District, 2002/03 Agricultural Year**

| District | Tsetse flies problems | | No Tsetse flies problems | | Total |
|---|---|---|---|---|---|
| | No of Households | % | No of Households | % | |
| Lushoto | 3,047 | 8 | 34,500 | 92 | 37,547 |
| Korogwe | 3,823 | 26 | 10,764 | 74 | 14,587 |
| Muheza | 3,014 | 27 | 8,264 | 73 | 11,278 |
| Tanga | 633 | 34 | 1,254 | 66 | 1,887 |
| Pangani | 396 | 45 | 493 | 55 | 889 |
| Handeni | 7,054 | 48 | 7,723 | 52 | 14,777 |
| Kilindi | 3,167 | 69 | 1,410 | 31 | 4,577 |
| Total | 21,134 | 25 | 64,409 | 75 | 85,543 |

**22.4 PESTS AND PARASITE: Number of Livestock Rearing Households by methods of tsetse flies control use and district during the 2002/03 Agricultural Year.**

| District | Method of Tsetse Flies Control | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | None | | Spray | | Dipping | | Trapping | | |
| | No of Households | age | No of Households | % | No of Households | % | No of Households | % | Total |
| Lushoto | 2,760 | 91 | 287 | 9 | 0 | 0 | 0 | 0 | 3,047 |
| Korogwe | 1,191 | 31 | 2,113 | 55 | 305 | 8 | 215 | 6 | 3,823 |
| Muheza | 1,042 | 35 | 1,892 | 63 | 80 | 3 | 0 | 0 | 3,014 |
| Tanga | 260 | 41 | 373 | 59 | 0 | 0 | 0 | 0 | 633 |
| Pangani | 143 | 36 | 165 | 42 | 41 | 10 | 46 | 12 | 396 |
| Handeni | 1,615 | 23 | 3,630 | 51 | 1,809 | 26 | 0 | 0 | 7,054 |
| Kilindi | 585 | 18 | 2,049 | 65 | 533 | 17 | 0 | 0 | 3,167 |
| Total | 7,595 | 36 | 10,510 | 50 | 2,768 | 13 | 261 | 1 | 21,134 |

**OTHER LIVESTOCK**

**23a OTHER LIVESTOCK: Total Number of Other Livestock by Type as of 1st October 2003**

| | Chicken | | Others | |
|---|---|---|---|---|
| Type | Number | % | Type | Number |
| Indigenous Chicken | 1,751,278 | 98 | Ducks | 117,486 |
| Layer | 29,630 | 2 | Turkeys | 503 |
| Broiler | 7,859 | 0 | Rabbits | 16,611 |
| | | | Donkeys | 17,502 |
| | | | | |
| Total | 1,788,767 | 100 | | 152,103 |

**23b OTHER LIVESTOCK: Number of Chicken by Category of chicken and District as of 1st October 2003**

| | Number of Chicken | | | |
|---|---|---|---|---|
| District | Indigenous Chicken | Layer | Broiler | Total number of chicken |
| Muheza | 468,222 | . | 78 | 468,300 |
| Handeni | 430,586 | . | . | 430,586 |
| Korogwe | 262,842 | 533 | 1,172 | 264,547 |
| Lushoto | 238,080 | 8,764 | 1,022 | 247,867 |
| Kilindi | 162,907 | . | . | 162,907 |
| Pangani | 121,187 | . | 205 | 121,393 |
| Tanga | 67,454 | 20,332 | 5,381 | 93,168 |
| Total | 1,751,278 | 29,630 | 7,859 | 1,788,767 |

**23d OTHER LIVESTOCK: Total Number of households and chickens raised by flock size as of 1st October 2005**

| | Chicken rearing Households | | Number of Chicken | Average chicken by households |
|---|---|---|---|---|
| Flock size | Number | % | | |
| 1 - 4 | 66,036 | 37 | 164,365 | 2 |
| 5 - 9 | 47,677 | 27 | 308,323 | 6 |
| 10 - 19 | 36,365 | 21 | 461,035 | 13 |
| 20 - 29 | 15,520 | 9 | 345,418 | 22 |
| 30 - 39 | 4,980 | 3 | 157,343 | 32 |
| 40 - 49 | 3,245 | 2 | 137,272 | 42 |
| 50 - 99 | 2,760 | 2 | 168,679 | 61 |
| 100+ | 223 | 0 | 46,333 | 208 |
| Total | 176,806 | 100 | 1,788,767 | 10 |

**23e Head Number of Other Livestock by Type of Livestock and District**

| | Type of livestock | | | | |
|---|---|---|---|---|---|
| District | Ducks | Turkeys | Rabbits | Donkeys | Other |
| Lushoto | 7,722 | 0 | 12,558 | 8,764 | 0 |
| Korogwe | 28,561 | 0 | 2,024 | 643 | 0 |
| Muheza | 42,980 | 322 | 674 | 0 | 0 |
| Tanga | 5,556 | 182 | 416 | 25 | 239 |
| Pangani | 1,822 | 0 | 0 | 48 | 22 |
| Handeni | 25,758 | 0 | 940 | 6,082 | 530 |
| Kilindi | 5,088 | 0 | 0 | 1,940 | 773 |
| Total | 117,486 | 503 | 16,611 | 17,502 | 1,563 |

**23f LIVESTOCK/POULTRY POPULATION TREND**

| | 1995 | 1999 | 2003 |
|---|---|---|---|
| Cattle | 653,549 | 277,000 | 378,338 |
| Improved Dairy | 20,420 | 25,675 | 28,127 |
| Goats | 736,727 | 317,924 | 514,620 |
| Sheep | 246,263 | 85,679 | 164,209 |
| Pigs | 1,072 | 2,715 | 6,281 |
| Indigenous Chicken | 1,670,790 | 735,916 | 1,751,278 |
| Layers | - | 6,136 | 29,630 |
| Broilers | 2,986 | 22,327 | 7,859 |
| Total Chickens | 1,673,776 | 764,379 | 1,788,767 |

**FISH FARMING**

**28.1a FISH FARMING: Number of Agriculture Households By Fish Farming And District during the 2002/03 Agriculture Year**

| District | Was Fish farming carried out by this household during 2002/03 | | | | |
|---|---|---|---|---|---|
| | Yes | % | No | % | Total |
| Korogwe | 634 | 1.4 | 45,356 | 98.62 | 45,990 |
| Lushoto | 430 | 0.5 | 86,149 | 99.50 | 86,580 |
| Muheza | 336 | 0.7 | 48,858 | 99.32 | 49,195 |
| Tanga | 23 | 0.3 | 8,891 | 99.74 | 8,914 |
| Pangani | 0 | 0.0 | 7,128 | 100.00 | 7,128 |
| Handeni | 0 | 0.0 | 47,739 | 100.00 | 47,739 |
| Kilindi | 0 | 0.0 | 19,654 | 100.00 | 19,654 |
| Total | 1,423 | 0.5 | 263,775 | 99.5 | 265,198 |

**28.2a FISH FARMING: Number of Agriculture Households by System of Fish Farming and District during the 2002/03 Agriculture Year**

| District | System of fish farming | | | | |
|---|---|---|---|---|---|
| | Natural Pond | Dug out Pond | Natural Lake | Water Resevoir | Other |
| Lushoto | 0 | 576 | 0 | 0 | 0 |
| Korogwe | 0 | 532 | 0 | 0 | 0 |
| Muheza | 0 | 336 | 0 | 0 | 0 |
| Tanga | 0 | 23 | 0 | 0 | 0 |
| Total | 0 | 1,467 | 0 | 0 | 0 |

**28.2b FISH FARMING: Number of Agriculture Households by Source of Fingerling and District During the 2002/03 Agriculture Year**

| District | Source of fingerlings | | | | | |
|---|---|---|---|---|---|---|
| | Own Pond | Government Institution | NGOs / Project | Neighbour | Private Trader | Other |
| Lushoto | 0 | 0 | 576 | 0 | 0 | 0 |
| Korogwe | 0 | 0 | 213 | 319 | 0 | 0 |
| Muheza | 0 | 156 | 0 | 90 | 0 | 90 |
| Tanga | 0 | 0 | 23 | 0 | 0 | 0 |
| Total | 0 | 156 | 812 | 409 | 0 | 90 |

**28.2c FISH FARMING: Number of Agriculture Households by Location of Selling Fish and District During the 2002/03 Agriculture Year**

| District | Where sold | | | | | |
|---|---|---|---|---|---|---|
| | Neighbour | Local Market | Large Scale Farm | Trader at Farm | Did not Sell | Other |
| Lushoto | 576 | 0 | 0 | 0 | 0 | 0 |
| Korogwe | 319 | 0 | 0 | 0 | 213 | 0 |
| Muheza | 180 | 0 | 0 | 0 | 156 | 0 |
| Tanga | 23 | 0 | 0 | 0 | 0 | 0 |
| Total | 1,098 | 0 | 0 | 0 | 369 | 0 |

**28.5 FISH FARMING: Total Number of Fish Harvested by Type and District, 2002/03 Agricultural Year**

| District | Number of Tilapia | Number of Carp | Number of Others |
|---|---|---|---|
| Lushoto | 124.4 | 0 | 0 |
| Korogwe | 95.9 | 0 | 0 |
| Muheza | 28.2 | 0 | 0 |
| Tanga | 0.5 | 0.7 | 0 |
| Total | 248,888 | 682 | 0 |

# LIVESTOCK EXTENSION

**29.1a LIVESTOCK EXTENSION: Number of households receiving extension advice by District during the 2002/03 agriculture year**

| District | Received livestock advice | | Did Not receive livestock advice | | Total | Total Number of households raising livestock | % |
|---|---|---|---|---|---|---|---|
| | No of households | % | No of households | % | | | |
| Lushoto | 15,548 | 18.0 | 71,031 | 82.0 | 86,580 | 37,986 | 41 |
| Korogwe | 16,976 | 36.9 | 29,014 | 63.1 | 45,990 | 14,885 | 114 |
| Muheza | 9,898 | 20.1 | 39,296 | 79.9 | 49,195 | 11,365 | 87 |
| Tanga | 608 | 6.8 | 8,305 | 93.2 | 8,914 | 1,939 | 31 |
| Pangani | 1,064 | 14.9 | 6,064 | 85.1 | 7,128 | 911 | 117 |
| Handeni | 7,485 | 15.7 | 40,254 | 84.3 | 47,739 | 14,886 | 50 |
| Kilindi | 2,086 | 10.6 | 17,567 | 89.4 | 19,654 | 4,820 | 43 |
| Total | 53,666 | 20.2 | 211,532 | 79.8 | 265,198 | 86,792 | 62 |

**29.1b Livestock Extension Service Providers: Number of Households By Source of Extension and District during the 2002/03 agriculture year**

| District | Source of extension advice | | | | | |
|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other(former coding) | Other |
| Lushoto | 10,493 | 140 | 0 | 0 | 0 | 0 |
| Korogwe | 13,369 | 0 | 0 | 0 | 0 | 0 |
| Muheza | 6,219 | 85 | 0 | 89 | 0 | 0 |
| Tanga | 212 | 40 | 0 | 0 | 0 | 0 |
| Pangani | 567 | 0 | 0 | 0 | 0 | 0 |
| Handeni | 1,057 | 104 | 0 | 0 | 0 | 0 |
| Kilindi | 582 | 0 | 0 | 0 | 0 | 0 |
| Total | 32,500 | 370 | 0 | 89 | 0 | 0 |

**29.1c LIVESTOCK EXTENSION: Number of Households Receiving Advice on Proper Milking by Source and Region**

| District | Source of Advice Proper Milking | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 7,885 | 562 | 0 | 0 | 0 | 8,447 | 37,986 | 22.2 |
| Korogwe | 2,899 | 107 | 0 | 0 | 0 | 3,006 | 14,885 | 20.2 |
| Muheza | 1,777 | 0 | 0 | 0 | 0 | 1,777 | 11,365 | 15.6 |
| Tanga | 168 | 76 | 0 | 0 | 0 | 243 | 1,939 | 12.6 |
| Pangani | 135 | 0 | 0 | 0 | 0 | 135 | 911 | 14.9 |
| Handeni | 520 | 104 | 0 | 0 | 0 | 624 | 14,886 | 4.2 |
| Kilindi | 242 | 0 | 0 | 0 | 0 | 242 | 4,820 | 5.0 |
| Total | 13,626 | 849 | 0 | 0 | 0 | 14,475 | **86,792** | 16.7 |
| % | 94.1 | 5.9 | 0.0 | 0.0 | 0.0 | 100.0 | | |

**29.1d LIVESTOCK EXTENSION: Number of Households Receiving Advice on Milk Hygene by Source and District**

| District | Source of Advice on Milk Hygene | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 8,616 | 562 | 0 | 0 | 0 | 9,178 | 37,986 | 24.2 |
| Korogwe | 4,045 | 107 | 0 | 0 | 0 | 4,153 | 14,885 | 27.9 |
| Muheza | 1,792 | 81 | 80 | 0 | 0 | 1,954 | 11,365 | 17.2 |
| Tanga | 203 | 76 | 0 | 0 | 0 | 278 | 1,939 | 14.4 |
| Pangani | 158 | 0 | 0 | 0 | 0 | 158 | 911 | 17.3 |
| Handeni | 735 | 104 | 0 | 0 | 0 | 839 | 14,886 | 5.6 |
| Kilindi | 435 | 0 | 0 | 0 | 0 | 435 | 4,820 | 9.0 |
| Total | 15,984 | 930 | 80 | 0 | 0 | 16,995 | **86,792** | 19.6 |
| % | 94.1 | 5.5 | 0.5 | 0.0 | 0.0 | 100.0 | | |

**29.1e LIVESTOCK EXTENSION: Number of Households Receiving Advice on Disease Control by Source and District**

| District | Source of Advice on Disease control (dipping/spraying) | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 11,368 | 0 | 0 | 0 | 146 | 11,514 | 37,986 | 30.3 |
| Korogwe | 11,807 | 107 | 0 | 0 | 0 | 11,914 | 14,885 | 80.0 |
| Muheza | 5,060 | 0 | 0 | 89 | 0 | 5,148 | 11,365 | 45.3 |
| Tanga | 234 | 76 | 0 | 0 | 0 | 310 | 1,939 | 16.0 |
| Pangani | 492 | 0 | 0 | 0 | 22 | 515 | 911 | 56.5 |
| Handeni | 5,711 | 104 | 0 | 0 | 0 | 5,815 | 14,886 | 39.1 |
| Kilindi | 1,359 | 0 | 0 | 0 | 0 | 1,359 | 4,820 | 28.2 |
| Total | 36,031 | 286 | 0 | 89 | 169 | 36,574 | **86,792** | 42.1 |
| % | 41.5 | 0.3 | 0.0 | 0.1 | 0.2 | 42.1 | | |

**29.1f LIVESTOCK EXTENSION: Number of Households Receiving Advice on Herd/Flock Size & Selection by Source and District**

| District | Source of Advice on Herd / Flock Size & Selection | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 6,578 | 146 | 0 | 0 | 0 | 6,724 | 37,986 | 17.7 |
| Korogwe | 3,001 | 107 | 0 | 0 | 0 | 3,107 | 14,885 | 20.9 |
| Muheza | 1,570 | 0 | 0 | 0 | 0 | 1,570 | 11,365 | 13.8 |
| Tanga | 95 | 76 | 0 | 0 | 0 | 170 | 1,939 | 8.8 |
| Pangani | 269 | 0 | 0 | 0 | 0 | 269 | 911 | 29.5 |
| Handeni | 961 | 104 | 0 | 0 | 0 | 1,065 | 14,886 | 7.2 |
| Kilindi | 290 | 0 | 0 | 0 | 48 | 338 | 4,820 | 7.0 |
| Total | 12,764 | 433 | 0 | 0 | 48 | 13,245 | **86,792** | 15.3 |
| % | 14.7 | 0.5 | 0.0 | 0.0 | 0.1 | 15.3 | | |

**29.1g LIVESTOCK EXTENSION: Number of Households Receiving Advice on Pasture Establishment by Source and District**

| District | Source of Advice on Pasture Establishment | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 3,088 | 146 | 0 | 0 | 0 | 3,234 | 37,986 | 8.5 |
| Korogwe | 2,057 | 0 | 0 | 0 | 0 | 2,057 | 14,885 | 13.8 |
| Muheza | 2,025 | 0 | 0 | 0 | 0 | 2,025 | 11,365 | 17.8 |
| Tanga | 39 | 32 | 0 | 0 | 0 | 71 | 1,939 | 3.7 |
| Pangani | 111 | 0 | 0 | 0 | 0 | 111 | 911 | 12.2 |
| Handeni | 637 | 104 | 0 | 0 | 0 | 741 | 14,886 | 5.0 |
| Kilindi | 580 | 0 | 0 | 0 | 0 | 580 | 4,820 | 12.0 |
| Total | 8,537 | 282 | 0 | 0 | 0 | 8,819 | **86,792** | 10.2 |
| % | 9.8 | 0.3 | 0.0 | 0.0 | 0.0 | 10.2 | | |

**29.1h LIVESTOCK EXTENSION: Number of Households Receiving Advice on Group Formation and Strengthing by Source and District**

| District | Source of Advice on Group Formation & Strengthening | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 7,732 | 421 | 0 | 0 | 0 | 8,153 | 37,986 | 21.5 |
| Korogwe | 5,174 | 107 | 0 | 0 | 0 | 5,281 | 14,885 | 35.5 |
| Muheza | 2,565 | 0 | 0 | 0 | 0 | 2,654 | 11,365 | 23.4 |
| Tanga | 188 | 40 | 0 | 0 | 0 | 228 | 1,939 | 11.8 |
| Pangani | 134 | 0 | 0 | 0 | 0 | 134 | 911 | 14.7 |
| Handeni | 1,277 | 104 | 0 | 0 | 108 | 1,489 | 14,886 | 10.0 |
| Kilindi | 628 | 0 | 0 | 0 | 0 | 628 | 4,820 | 13.0 |
| Total | 17,698 | 673 | 0 | 0 | 108 | 18,567 | **86,792** | 21.4 |
| % | 95.3 | 3.6 | 0.0 | 0.0 | 0.6 | 100.0 | | |

**29.1i LIVESTOCK EXTENSION: Number of Agriculture Households Receiving Advice on Calf Rearing by Source and District During the 2002/03 Agriculture Year**

| District | Source of Advice on Calf Rearing | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 7,732 | 421 | 0 | 0 | 0 | 8,153 | 37,986 | 21.5 |
| Korogwe | 5,174 | 107 | 0 | 0 | 0 | 5,281 | 14,885 | 35.5 |
| Muheza | 2,565 | 0 | 0 | 0 | 0 | 2,654 | 11,365 | 23.4 |
| Tanga | 188 | 40 | 0 | 0 | 0 | 228 | 1,939 | 11.8 |
| Pangani | 134 | 0 | 0 | 0 | 0 | 134 | 911 | 14.7 |
| Handeni | 1,277 | 104 | 0 | 0 | 108 | 1,489 | 14,886 | 10.0 |
| Kilindi | 628 | 0 | 0 | 0 | 0 | 628 | 4,820 | 13.0 |
| Total | 17,698 | 673 | 0 | 0 | 108 | 18,567 | **86,792** | 21.4 |
| % | 95.3 | 3.6 | 0.0 | 0.0 | 0.6 | 100.0 | | |

**29.1j LIVESTOCK EXTENSION: Number of Agriculture Households Receiving Advice on Improved Bulls by Source and District During the 2002/03 Agriculture Year**

| District | Source of Advice on Use of Improved Bulls | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 8,169 | 281 | 0 | 0 | 0 | 8,449 | 37,986 | 22.2 |
| Korogwe | 4,330 | 107 | 0 | 0 | 0 | 4,436 | 14,885 | 29.8 |
| Muheza | 3,328 | 92 | 0 | 0 | 0 | 3,509 | 11,365 | 30.9 |
| Tanga | 236 | 40 | 0 | 0 | 0 | 277 | 1,939 | 14.3 |
| Pangani | 386 | 0 | 0 | 0 | 0 | 386 | 911 | 42.3 |
| Handeni | 1,363 | 104 | 0 | 0 | 0 | 1,467 | 14,886 | 9.9 |
| Kilindi | 533 | 0 | 0 | 0 | 0 | 533 | 4,820 | 11.1 |
| Total | 18,345 | 624 | 0 | 0 | 0 | 19,057 | **86,792** | 22.0 |
| % | 98.8 | 3.4 | 0.0 | 0.0 | 0.0 | 102.6 | | |

**29.1l LIVESTOCK EXTENSION: Number of Agricultural Households By Quality of Extension Services and District, 2002/03 Agricultural Year**

| District | Quality of Service | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No Good | | |
| | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 4,946 | 27 | 9,088 | 50 | 3,927 | 22 | 146 | 1 | 0 | 0 | 18,108 |
| Korogwe | 2,107 | 12 | 12,024 | 68 | 2,431 | 14 | 619 | 4 | 405 | 2 | 17,586 |
| Muheza | 1,773 | 10 | 12,265 | 70 | 3,431 | 20 | 0 | 0 | 0 | 0 | 17,469 |
| Tanga | 32 | 6 | 209 | 41 | 144 | 28 | 117 | 23 | 11 | 2 | 513 |
| Pangani | 39 | 3 | 470 | 37 | 744 | 59 | 17 | 1 | 0 | 0 | 1,270 |
| Handeni | 305 | 5 | 3,861 | 69 | 847 | 15 | 0 | 0 | 614 | 11 | 5,626 |
| Kilindi | 341 | 13 | 1,749 | 65 | 194 | 7 | 0 | 0 | 391 | 15 | 2,675 |
| Total | 9,543 | 15 | 39,666 | 63 | 11,718 | 19 | 899 | 1 | 1,421 | 2 | 63,247 |

**29.1e LIVESTOCK EXTENSION: Number of Households Receiving Advice on Proper Milking by Source and Region**

| District | Source of Advice Proper Milking | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 7,885 | 562 | 0 | 0 | 0 | 8,447 | 37,986 | 22.2 |
| Korogwe | 2,899 | 107 | 0 | 0 | 0 | 3,006 | 14,885 | 20.2 |
| Muheza | 1,777 | 0 | 0 | 0 | 0 | 1,777 | 11,365 | 15.6 |
| Tanga | 168 | 76 | 0 | 0 | 0 | 243 | 1,939 | 12.6 |
| Pangani | 135 | 0 | 0 | 0 | 0 | 135 | 911 | 14.9 |
| Handeni | 520 | 104 | 0 | 0 | 0 | 624 | 14,886 | 4.2 |
| Kilindi | 242 | 0 | 0 | 0 | 0 | 242 | 4,820 | 5.0 |
| Total | 13,626 | 849 | 0 | 0 | 0 | 14,475 | **86,792** | 16.7 |
| % | 94.1 | 5.9 | 0.0 | 0.0 | 0.0 | 100.0 | | |

**29.1f LIVESTOCK EXTENSION: Number of Households Receiving Advice on Milk Hygene by Source and District**

| District | Source of Advice on Milk Hygene | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 8,616 | 562 | 0 | 0 | 0 | 9,178 | 37,986 | 24.2 |
| Korogwe | 4,045 | 107 | 0 | 0 | 0 | 4,153 | 14,885 | 27.9 |
| Muheza | 1,792 | 81 | 80 | 0 | 0 | 1,954 | 11,365 | 17.2 |
| Tanga | 203 | 76 | 0 | 0 | 0 | 278 | 1,939 | 14.4 |
| Pangani | 158 | 0 | 0 | 0 | 0 | 158 | 911 | 17.3 |
| Handeni | 735 | 104 | 0 | 0 | 0 | 839 | 14,886 | 5.6 |
| Kilindi | 435 | 0 | 0 | 0 | 0 | 435 | 4,820 | 9.0 |
| Total | 15,984 | 930 | 80 | 0 | 0 | 16,995 | **86,792** | 19.6 |
| % | 94.1 | 5.5 | 0.5 | 0.0 | 0.0 | 100.0 | | |

**29.1g LIVESTOCK EXTENSION: Number of Households Receiving Advice on Disease Control by Source and District**

| District | Source of Advice on Disease control (dipping/spraying) | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 11,368 | 0 | 0 | 0 | 146 | 11,514 | 37,986 | 30.3 |
| Korogwe | 11,807 | 107 | 0 | 0 | 0 | 11,914 | 14,885 | 80.0 |
| Muheza | 5,060 | 0 | 0 | 89 | 0 | 5,148 | 11,365 | 45.3 |
| Tanga | 234 | 76 | 0 | 0 | 0 | 310 | 1,939 | 16.0 |
| Pangani | 492 | 0 | 0 | 0 | 22 | 515 | 911 | 56.5 |
| Handeni | 5,711 | 104 | 0 | 0 | 0 | 5,815 | 14,886 | 39.1 |
| Kilindi | 1,359 | 0 | 0 | 0 | 0 | 1,359 | 4,820 | 28.2 |
| Total | 36,031 | 286 | 0 | 89 | 169 | 36,574 | **86,792** | 42.1 |
| % | 98.5 | 0.8 | 0.0 | 0.2 | 0.5 | 100.0 | | |

**29.1h LIVESTOCK EXTENSION: Number of Households Receiving Advice on Herd/Flock Size & Selection by Source and District**

| District | Source of Advice on Herd / Flock Size & Selection | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 6,578 | 146 | 0 | 0 | 0 | 6,724 | 37,986 | 17.7 |
| Korogwe | 3,001 | 107 | 0 | 0 | 0 | 3,107 | 14,885 | 20.9 |
| Muheza | 1,570 | 0 | 0 | 0 | 0 | 1,570 | 11,365 | 13.8 |
| Tanga | 95 | 76 | 0 | 0 | 0 | 170 | 1,939 | 8.8 |
| Pangani | 269 | 0 | 0 | 0 | 0 | 269 | 911 | 29.5 |
| Handeni | 961 | 104 | 0 | 0 | 0 | 1,065 | 14,886 | 7.2 |
| Kilindi | 290 | 0 | 0 | 0 | 48 | 338 | 4,820 | 7.0 |
| Total | 12,764 | 433 | 0 | 0 | 48 | 13,245 | **86,792** | 15.3 |
| % | 96.4 | 3.3 | 0.0 | 0.0 | 0.4 | 100.0 | | |

**29.1i LIVESTOCK EXTENSION: Number of Households Receiving Advice on Pasture Establishment by Source and District**

| District | Source of Advice on Pasture Establishment | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 3,088 | 146 | 0 | 0 | 0 | 3,234 | 37,986 | 8.5 |
| Korogwe | 2,057 | 0 | 0 | 0 | 0 | 2,057 | 14,885 | 13.8 |
| Muheza | 2,025 | 0 | 0 | 0 | 0 | 2,025 | 11,365 | 17.8 |
| Tanga | 39 | 32 | 0 | 0 | 0 | 71 | 1,939 | 3.7 |
| Pangani | 111 | 0 | 0 | 0 | 0 | 111 | 911 | 12.2 |
| Handeni | 637 | 104 | 0 | 0 | 0 | 741 | 14,886 | 5.0 |
| Kilindi | 580 | 0 | 0 | 0 | 0 | 580 | 4,820 | 12.0 |
| Total | 8,537 | 282 | 0 | 0 | 0 | 8,819 | **86,792** | 10.2 |
| % | 96.8 | 3.2 | 0.0 | 0.0 | 0.0 | 100.0 | | |

**29.1j LIVESTOCK EXTENSION: Number of Households Receiving Advice on Group Formation and Strengthing by Source and District**

| District | Source of Advice on Group Formation & Strengthening | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 7,732 | 421 | 0 | 0 | 0 | 8,153 | 37,986 | 21.5 |
| Korogwe | 5,174 | 107 | 0 | 0 | 0 | 5,281 | 14,885 | 35.5 |
| Muheza | 2,565 | 0 | 0 | 0 | 0 | 2,654 | 11,365 | 23.4 |
| Tanga | 188 | 40 | 0 | 0 | 0 | 228 | 1,939 | 11.8 |
| Pangani | 134 | 0 | 0 | 0 | 0 | 134 | 911 | 14.7 |
| Handeni | 1,277 | 104 | 0 | 0 | 108 | 1,489 | 14,886 | 10.0 |
| Kilindi | 628 | 0 | 0 | 0 | 0 | 628 | 4,820 | 13.0 |
| Total | 17,698 | 673 | 0 | 0 | 108 | 18,567 | **86,792** | 21.4 |
| % | 95.3 | 3.6 | 0.0 | 0.0 | 0.6 | 100.0 | | |

Source of Advice on Group Formation & Strengthening

**29.1k LIVESTOCK EXTENSION: Number of Agriculture Households Receiving Advice on Calf Rearing by Source and District During the 2002/03 Agriculture Year**

| District | Source of Advice on Calf Rearing | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 7,732 | 421 | 0 | 0 | 0 | 8,153 | 37,986 | 21.5 |
| Korogwe | 5,174 | 107 | 0 | 0 | 0 | 5,281 | 14,885 | 35.5 |
| Muheza | 2,565 | 0 | 0 | 0 | 0 | 2,654 | 11,365 | 23.4 |
| Tanga | 188 | 40 | 0 | 0 | 0 | 228 | 1,939 | 11.8 |
| Pangani | 134 | 0 | 0 | 0 | 0 | 134 | 911 | 14.7 |
| Handeni | 1,277 | 104 | 0 | 0 | 108 | 1,489 | 14,886 | 10.0 |
| Kilindi | 628 | 0 | 0 | 0 | 0 | 628 | 4,820 | 13.0 |
| Total | 17,698 | 673 | 0 | 0 | 108 | 18,567 | **86,792** | 21.4 |
| % | 95.3 | 3.6 | 0.0 | 0.0 | 0.6 | 100.0 | | |

**29.1l LIVESTOCK EXTENSION: Number of Agriculture Households Receiving Advice on Improved Bulls by Source and District During the 2002/03 Agriculture Year**

| District | Source of Advice on Use of Improved Bulls | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 8,169 | 281 | 0 | 0 | 0 | 8,449 | 37,986 | 22.2 |
| Korogwe | 4,330 | 107 | 0 | 0 | 0 | 4,436 | 14,885 | 29.8 |
| Muheza | 3,328 | 92 | 0 | 0 | 0 | 3,509 | 11,365 | 30.9 |
| Tanga | 236 | 40 | 0 | 0 | 0 | 277 | 1,939 | 14.3 |
| Pangani | 386 | 0 | 0 | 0 | 0 | 386 | 911 | 42.3 |
| Handeni | 1,363 | 104 | 0 | 0 | 0 | 1,467 | 14,886 | 9.9 |
| Kilindi | 533 | 0 | 0 | 0 | 0 | 533 | 4,820 | 11.1 |
| Total | 18,345 | 624 | 0 | 0 | 0 | 19,057 | **86,792** | 22.0 |
| % | 98.8 | 3.4 | 0.0 | 0.0 | 0.0 | 102.6 | | |

**29.1f LIVESTOCK EXTENSION: Number of Households Receiving Advice on Milk Hygene by Source and District**

| District | Source of Advice on Milk Hygene | | | | | | Total Number of households raising livestock | % receiving advice out of total |
|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other | Total | | |
| Lushoto | 8,616 | 562 | 0 | 0 | 0 | 9,178 | 37,986 | 24.2 |
| Korogwe | 4,045 | 107 | 0 | 0 | 0 | 4,153 | 14,885 | 27.9 |
| Muheza | 1,792 | 81 | 80 | 0 | 0 | 1,954 | 11,365 | 17.2 |
| Tanga | 203 | 76 | 0 | 0 | 0 | 278 | 1,939 | 14.4 |
| Pangani | 158 | 0 | 0 | 0 | 0 | 158 | 911 | 17.3 |
| Handeni | 735 | 104 | 0 | 0 | 0 | 839 | 14,886 | 5.6 |
| Kilindi | 435 | 0 | 0 | 0 | 0 | 435 | 4,820 | 9.0 |
| Total | 15,984 | 930 | 80 | 0 | 0 | 16,995 | **86,792** | 19.6 |
| % | 94.1 | 5.5 | 0.5 | 0.0 | 0.0 | 100.0 | | |

**29.13 LIVESTOCK EXTENSION: Number of Agricultural Households By Quality of Extension Services and District, 2002/03 Agricultural Year**

| District | Quality of Service | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No Good | | |
| | Number | % | Number | % | Number | % | Number | % | Number | % | |
| Lushoto | 4,946 | 27 | 9,088 | 50 | 3,927 | 22 | 146 | 1 | 0 | 0 | 18,108 |
| Korogwe | 2,107 | 12 | 12,024 | 68 | 2,431 | 14 | 619 | 4 | 405 | 2 | 17,586 |
| Muheza | 1,773 | 10 | 12,265 | 70 | 3,431 | 20 | 0 | 0 | 0 | 0 | 17,469 |
| Tanga | 32 | 6 | 209 | 41 | 144 | 28 | 117 | 23 | 11 | 2 | 513 |
| Pangani | 39 | 3 | 470 | 37 | 744 | 59 | 17 | 1 | 0 | 0 | 1,270 |
| Handeni | 305 | 5 | 3,861 | 69 | 847 | 15 | 0 | 0 | 614 | 11 | 5,626 |
| Kilindi | 341 | 13 | 1,749 | 65 | 194 | 7 | 0 | 0 | 391 | 15 | 2,675 |
| **Total** | **9,543** | **15** | **39,666** | **63** | **11,718** | **19** | **899** | **1** | **1,421** | **2** | **63,247** |

**29.1 LIVESTOCK EXTENSION: Number of Households Receiving Advice on Other Extension Message by Source and District**

| District | Other Livestock Extension | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Government | NGO / Development Project | Co-operative | Large Scale Farmer | Other(former coding) | Other | Total | Total Number of households raising livestock | % |
| Lushoto | 15,548 | 14,975 | 14,975 | 14,975 | | 14,975 | 75,446 | 37,986 | 50 |
| Korogwe | 16,976 | 16,274 | 16,331 | 16,331 | | 16,331 | 82,244 | 14,885 | 18 |
| Muheza | 9,898 | 9,898 | 9,898 | 9,898 | | 9,898 | 49,492 | 11,365 | 23 |
| Tanga | 608 | 608 | 608 | 608 | | 608 | 3,042 | 1,939 | 64 |
| Pangani | 1,088 | 1,040 | 1,064 | 1,064 | | 1,064 | 5,318 | 911 | 17 |
| Handeni | 7,485 | 7,389 | 7,389 | 7,389 | | 7,389 | 37,041 | 14,886 | 40 |
| Kilindi | 2,086 | 2,038 | 2,038 | 2,038 | | 2,038 | 10,237 | 4,820 | 47 |
| Total | 53,690 | 52,221 | 52,303 | 52,303 | | 52,303 | 262,821 | **86,792** | **33** |
| **%** | 20 | 20 | 20 | 20 | 0 | 20 | 100 | | |

## ACCESS TO INFRASTRUCTURE AND OTHER SERVICES

**33.01a Mean distances from holders dwellings to infrustructures and services by districts**

| District | Mean Distance to | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Secondary Schools | Primary Schools | All weather roads | Feeder roads | Hospitals | Health Clinics | Regional Capital | Primary Markets | Secondary Market | Tertiary Market | Tarmac roads |
| Lushoto | 10.9 | 2.0 | 38.1 | 2.3 | 34 | 6.0 | 167.4 | 5.7 | 20.8 | 27.8 | 38.1 |
| Korogwe | 12.6 | 1.8 | 23.1 | 0.8 | 35 | 7.0 | 115.9 | 9.6 | 20.6 | 24.3 | 23.1 |
| Muheza | 13.1 | 2.2 | 24.5 | 1.1 | 28 | 5.6 | 49.7 | 12.3 | 23.8 | 29.2 | 24.5 |
| Tanga | 15.1 | 2.9 | 12.3 | 1.2 | 17 | 7.6 | 16.6 | 26.2 | 62.8 | 18.8 | 12.3 |
| Pangani | 21.4 | 2.3 | 48.7 | 0.7 | 24 | 4.7 | 67.7 | 10.6 | 56.1 | 27.3 | 48.7 |
| Handeni | 26.9 | 2.2 | 30.7 | 0.8 | 39 | 7.6 | 134.9 | 8.4 | 43.8 | 40.4 | 30.7 |
| Kilindi | 32.2 | 3.0 | 131.1 | 2.0 | 75 | 6.2 | 276.1 | 8.1 | 27.0 | 61.3 | 131.1 |
| Total | 16.5 | 2.2 | 38.0 | 1.5 | 36 | 6.4 | 131.1 | 9.1 | 28.3 | 31.9 | 38.0 |

| | |
|---|---|
| Regional Capital | 131.09 |
| All weather roads | 37.98 |
| Tarmac roads | 37.98 |
| Hospitals | 36.08 |
| Tertiary Market | 31.90 |
| Secondary Market | 28.29 |
| Secondary Schools | 16.50 |
| Primary Markets | 9.06 |
| Health Clinics | 6.40 |
| Primary Schools | 2.17 |
| Feeder roads | 1.45 |

**33.01b Mean distances from holders dwellings to infrustructures and services by districts**

| District | Distance to Secondary School | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 km | | 1-2.9 km | | 3.0-9.9 | | 10.0-19.9 | | Above 20 km | | | |
| | No of households | % | No of households | % | No of households | % | No of households | % | No of households | % | Total number of households | |
| Lushoto | 1,603 | 1.9 | 12,147 | 14.0 | 43,017 | 49.7 | 18,432 | 21.3 | 11,381 | 13.1 | 86,580 | 10.9 |
| Korogwe | 312 | 0.7 | 4,078 | 8.9 | 16,012 | 34.8 | 15,625 | 34.0 | 9,963 | 21.7 | 45,990 | 12.6 |
| Muheza | 1,372 | 2.8 | 5,077 | 10.3 | 14,786 | 30.1 | 16,467 | 33.5 | 11,491 | 23.4 | 49,195 | 13.1 |
| Tanga | 4 | 0.0 | 166 | 1.9 | 3,007 | 33.7 | 3,277 | 36.8 | 2,460 | 27.6 | 8,914 | 15.1 |
| Pangani | 169 | 2.4 | 112 | 1.6 | 2,060 | 28.9 | 2,495 | 35.0 | 2,292 | 32.2 | 7,128 | 21.4 |
| Handeni | 1,478 | 3.1 | 2,094 | 4.4 | 8,771 | 18.4 | 14,018 | 29.4 | 21,378 | 44.8 | 47,739 | 26.9 |
| Kilindi | 569 | 2.9 | 1,738 | 8.8 | 4,239 | 21.6 | 1,417 | 7.2 | 11,690 | 59.5 | 19,654 | 32.2 |
| Total | 5,507 | 2.1 | 25,413 | 9.6 | 91,893 | 34.7 | 71,731 | 27.0 | 70,655 | 26.6 | 265,198 | 16.5 |

**33.01c: Number of Households By Distance to All Weather Road by Distcrict for 2002/03 agriculture year**

| District | Distance to All Weather Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 km | | 1-2.9 km | | 3.0-9.9 | | 10.0-19.9 | | Above 20 km | | | |
| | No of households | % | No of households | % | No of households | % | No of households | % | No of households | % | Total number of households | Mean Distance |
| Lushoto | 23,935 | 27.6 | 22,413 | 25.9 | 28,563 | 33.0 | 5,654 | 6.5 | 5,113 | 5.9 | 86,580 | 38.1 |
| Korogwe | 20,979 | 45.6 | 11,323 | 24.6 | 11,459 | 24.9 | 10,668 | 23.2 | 1,289 | 2.8 | 45,990 | 23.1 |
| Muheza | 27,694 | 56.3 | 8,466 | 17.2 | 8,984 | 18.3 | 6,661 | 13.5 | 528 | 1.1 | 49,195 | 24.5 |
| Tanga | 4,815 | 54.0 | 1,578 | 17.7 | 2,347 | 26.3 | 2,175 | 24.4 | 35 | 0.4 | 8,914 | 12.3 |
| Pangani | 3,183 | 44.7 | 1,120 | 15.7 | 2,399 | 33.7 | 463 | 6.5 | 77 | 1.1 | 7,128 | 48.7 |
| Handeni | 21,142 | 44.3 | 9,232 | 19.3 | 11,998 | 25.1 | 4,632 | 9.7 | 650 | 1.4 | 47,739 | 30.7 |
| Kilindi | 6,103 | 31.1 | 1,165 | 5.9 | 4,436 | 22.6 | 0 | 0.0 | 5,268 | 26.8 | 19,654 | 131.1 |
| Total | 107,852 | 40.7 | 55,298 | 20.9 | 70,187 | 26.5 | 30,254 | 11.4 | 12,959 | 4.9 | 265,198 | 38.0 |

**33.01d: Number of Households by Distance to Feeder Road by District for 2002/03 agriculture year**

| District | Distance to Feeder Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 km | | 1-2.9 km | | 3.0-9.9 | | 10.0-19.9 | | Above 20 km | | | |
| | No of households | % | No of households | % | No of households | % | No of households | % | No of households | % | Total number of households | Mean Distance |
| Lushoto | 42,213 | 48.8 | 31,134 | 36.0 | 11,637 | 13.4 | 1,451 | 1.7 | 144 | 0.2 | 86,580 | 2.3 |
| Korogwe | 31,404 | 68.3 | 11,037 | 24.0 | 3,441 | 7.5 | 107 | 0.2 | 0 | 0.0 | 45,990 | 0.8 |
| Muheza | 37,686 | 76.6 | 5,864 | 11.9 | 4,574 | 9.3 | 981 | 2.0 | 90 | 0.2 | 49,195 | 1.1 |
| Tanga | 7,355 | 82.5 | 1,198 | 13.4 | 227 | 2.6 | 104 | 1.2 | 29 | 0.3 | 8,914 | 1.2 |
| Pangani | 4,994 | 70.1 | 1,720 | 24.1 | 372 | | 24 | 0.3 | 17 | 0.2 | 7,128 | 0.7 |
| Handeni | 31,037 | 65.0 | 13,082 | 27.4 | 3,620 | 7.6 | 0 | 0.0 | 0 | 0.0 | 47,739 | 0.8 |
| Kilindi | 13,074 | 66.5 | 3,409 | 17.3 | 2,879 | 14.6 | 97 | 0.5 | 195 | 1.0 | 19,654 | 2.0 |
| Total | 167,764 | 63.3 | 67,444 | 25.4 | 26,750 | 10.1 | 2,764 | 1.0 | 476 | 0.2 | 265,198 | 1.5 |

**33.01e: Number of Households By Distance to Hospital by District for 2002/03 agriculture year**

| District | Distance to hospital | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 km | | 1-2.9 km | | 3.0-9.9 | | 10.0-19.9 | | Above 20 km | | Total number of households | Mean Distance |
| | No of households | % | No of households | % | No of households | % | No of households | % | No of households | % | | |
| Lushoto | 291 | 0.3 | 6,465 | 7.5 | 14,370 | 16.6 | 11,611 | 13.4 | 53,842 | 62.2 | 86,580 | 34 |
| Korogwe | 107 | 0.2 | 174 | 0.4 | 3,860 | 8.4 | 10,759 | 23.4 | 31,090 | 67.6 | 45,990 | 35 |
| Muheza | 608 | 1.2 | 0 | 0.0 | 9,467 | 19.2 | 9,016 | 18.3 | 30,103 | 61.2 | 49,195 | 28 |
| Tanga | 0 | 0.0 | 96 | 1.1 | 2,010 | 22.6 | 3,670 | 41.2 | 3,137 | 35.2 | 8,914 | 17 |
| Pangani | 0 | 0.0 | 102 | 1.4 | 1,691 | 23.7 | 2,939 | 41.2 | 2,396 | 33.6 | 7,128 | 24 |
| Handeni | 408 | 0.9 | 713 | 1.5 | 2,984 | 6.3 | 16,990 | 35.6 | 26,644 | 55.8 | 47,739 | 39 |
| Kilindi | 145 | 0.7 | 0 | 0.0 | 0 | 0.0 | 2,001 | 10.2 | 17,507 | 89.1 | 19,654 | 75 |
| Total | 1,560 | 0.6 | 7,550 | 2.8 | 34,383 | 13.0 | 56,986 | 21.5 | 164,720 | 62.1 | 265,198 | 36 |

**33.01f: Number of Households by Distance to Health Clinic by District for 2002/03 agricultural year**

| District | Health clinic | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 km | | 1-2.9 km | | 3.0-9.9 | | 10.0-19.9 | | Above 20 km | | Total number of households | Mean Distance |
| | No of households | % | No of households | % | No of households | % | No of households | % | No of households | % | | |
| Lushoto | 2,685 | 3.1 | 28,612 | 33.0 | 43,991 | 50.8 | 10,127 | 11.7 | 1,164 | 1.3 | 86,580 | 6.0 |
| Korogwe | 6,139 | 13.3 | 10,583 | 23.0 | 21,926 | 47.7 | 2,963 | 6.4 | 4,380 | 9.5 | 45,990 | 7.0 |
| Muheza | 3,792 | 7.7 | 9,381 | 19.1 | 27,967 | 56.9 | 7,290 | 14.8 | 764 | 1.6 | 49,195 | 5.6 |
| Tanga | 1,432 | 16.1 | 2,740 | 30.7 | 3,975 | 44.6 | 709 | 8.0 | 58 | 0.7 | 8,914 | 7.6 |
| Pangani | 1,198 | 16.8 | 2,509 | 35.2 | 2,716 | | 605 | 8.5 | 99 | 1.4 | 7,128 | 4.7 |
| Handeni | 4,227 | 8.9 | 7,551 | 15.8 | 22,103 | 46.3 | 11,941 | 25.0 | 1,917 | 4.0 | 47,739 | 7.6 |
| Kilindi | 4,262 | 21.7 | 3,301 | 16.8 | 8,966 | 45.6 | 1,466 | 7.5 | 1,658 | 8.4 | 19,654 | 6.2 |
| Total | 23,734 | 8.9 | 64,679 | 24.4 | 131,644 | 49.6 | 35,101 | 13.2 | 10,040 | 3.8 | 265,198 | 6.4 |

**33.01g: Number of Households by distance to Primary School for 2002/03 agriculture year**

| District | Distance to Primary Schools | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 km | | 1-2.9 km | | 3.0-9.9 | | 10.0-19.9 | | Above 20 km | | Total number of households |
| | No of households | % | No of households | % | No of households | % | No of households | % | No of households | % | |
| Lushoto | 17,016 | 19.7 | 53,745 | 62.1 | 14,944 | 17.3 | 291 | 0.3 | 584 | 0.7 | 86,580 |
| Korogwe | 18,721 | 40.7 | 19,165 | 41.7 | 7,680 | 16.7 | 213 | 0.5 | 212 | 0.5 | 45,990 |
| Muheza | 12,612 | 25.6 | 21,399 | 43.5 | 14,582 | 29.6 | 515 | 1.0 | 87 | 0.2 | 49,195 |
| Tanga | 3,633 | 40.8 | 3,556 | 39.9 | 1,632 | 18.3 | 0 | 0.0 | 93 | 1.0 | 8,914 |
| Pangani | 1,983 | 27.8 | 3,462 | 48.6 | 1,516 | 21.3 | 95 | 1.3 | 72 | 1.0 | 7,128 |
| Handeni | 12,777 | 26.8 | 18,614 | 39.0 | 15,824 | 33.1 | 418 | 0.9 | 105 | 0.2 | 47,739 |
| Kilindi | 7,289 | 37.1 | 8,031 | 40.9 | 4,141 | 21.1 | 48 | 0.2 | 145 | 0.7 | 19,654 |
| Total | 74,029 | 27.9 | 127,973 | 48.3 | 60,319 | 22.7 | 1,579 | 0.6 | 1,298 | 0.5 | 265,198 |

**33.01h Number of Households by Distance to Regional Capital**

| Region | Less than 1 km | 1-2.9 km | 3.0-9.9 | 10.0-19.9 | Above 20 km | Total | Mean Distance |
|---|---|---|---|---|---|---|---|
| Lushoto | 1,157 | 144 | 135 | 0 | 85,143 | 86580 | 167.4 |
| Korogwe | 202 | 0 | 285 | 107 | 45,395 | 45990 | 115.9 |
| Muheza | 426 | 87 | 176 | 1,221 | 47,284 | 49195 | 49.7 |
| Tanga | 0 | 73 | 1,800 | 4,220 | 2,820 | 8914 | 16.6 |
| Pangani | 108 | 40 | 17 | 65 | 6,897 | 7128 | 67.7 |
| Handeni | 105 | 0 | 0 | 0 | 47,634 | 47739 | 134.9 |
| Kilindi | 49 | 0 | 0 | 49 | 19,556 | 19654 | 276.1 |
| Total | 2,047 | 345 | 2,414 | 5,662 | 254,730 | 265198 | 131.1 |

**33.01i Number of Households By Level of Satisfaction Using Infrastructure and Service by Region**

| District | Very Good | Good | Average | Poor | No good |
|---|---|---|---|---|---|
| Dodoma | 20,709 | 90,132 | 31,607 | 31,297 | 3,761 |
| Arusha | 16,615 | 45,509 | 26,865 | 15,292 | 7,340 |
| Kilimanjaro | 26,187 | 99,001 | 121,096 | 66,003 | 21,901 |
| Tanga | 5,679 | 64,192 | 49,751 | 29,061 | 7,120 |
| Morogoro | 8,272 | 43,910 | 26,476 | 88,592 | 28,157 |
| Pwani | 4,978 | 17,948 | 10,989 | 9,970 | 12,308 |
| Dar es Salaam | 745 | 4,045 | 5,935 | 6,606 | 936 |
| Lindi | 4,100 | 10,064 | 7,053 | 20,340 | 2,727 |
| Mtwara | 5,602 | 22,341 | 35,140 | 88,342 | 18,229 |
| Ruvuma | 10,629 | 59,679 | 45,037 | 19,278 | 7,838 |
| Iringa | 21,138 | 89,479 | 34,882 | 20,547 | 11,705 |
| Mbeya | 15,987 | 62,374 | 44,200 | 114,683 | 20,802 |
| Singida | 4,264 | 18,881 | 12,960 | 17,121 | 24,234 |
| Tabora | 6,818 | 28,787 | 18,702 | 69,550 | 33,657 |
| Rukwa | 1,358 | 6,158 | 7,035 | 7,494 | 7,751 |
| Kigoma | 11,644 | 16,820 | 34,718 | 29,280 | 1,304 |
| Shinyanga | 10,634 | 55,927 | 53,637 | 84,358 | 67,047 |
| Kagera | 9,677 | 59,292 | 28,756 | 35,937 | 5,897 |
| Mwanza | 13,417 | 43,860 | 48,127 | 71,684 | 58,486 |
| Mara | 11,188 | 23,922 | 17,080 | 27,217 | 21,643 |
| Manyara | 8,114 | 35,656 | 43,539 | 22,040 | 35,506 |
| Total | 217,754 | 897,977 | 703,585 | 874,695 | 398,349 |

**33.01jNumber of Households By Distance toTarmac Road and Distric for the 2002/03 Agricultural Year**

| Region | Less than 1 km | 1-2.9 km | 3.0-9.9km | 10.0-19.9km | Above 20 km | Total | Mean Distance |
|---|---|---|---|---|---|---|---|
| Lushoto | 0 | 1,845 | 10,506 | 5,654 | 68,574 | 86580 | 38.1 |
| Korogwe | 3,891 | 4,807 | 8,106 | 10,668 | 18,518 | 45990 | 23.1 |
| Muheza | 4,447 | 3,475 | 8,730 | 6,661 | 25,881 | 49195 | 24.5 |
| Tanga | 519 | 572 | 3,705 | 2,175 | 1,943 | 8914 | 12.3 |
| Pangani | 619 | 72 | 32 | 463 | 5,942 | 7128 | 48.7 |
| Handeni | 5,483 | 4,214 | 6,390 | 4,632 | 27,021 | 47739 | 30.7 |
| Kilindi | 95 | 49 | 196 | 0 | 19,314 | 19654 | 131.1 |
| Total | 15,054 | 15,034 | 37,664 | 30,254 | 167,192 | 265198 | 38.0 |

**33.01k Number of Households By Distance to Primary Market and Distric for the 2002/03 Agricultural Year**

| Region | Less than 1 km | 1-2.9 km | 3.0-9.9km | 10.0-19.9km | Above 20 km | Total | Mean Distance |
|---|---|---|---|---|---|---|---|
| Lushoto | 13,940 | 28,206 | 31,217 | 8,863 | 4,353 | 86580 | 5.7 |
| Korogwe | 9,883 | 8,124 | 17,879 | 5,941 | 4,164 | 45990 | 9.6 |
| Muheza | 2,805 | 4,196 | 19,683 | 12,040 | 10,471 | 49195 | 12.3 |
| Tanga | 324 | 105 | 1,205 | 2,067 | 5,213 | 8914 | 26.2 |
| Pangani | 987 | 858 | 2,019 | 2,441 | 821 | 7128 | 10.6 |
| Handeni | 8,400 | 6,077 | 16,587 | 11,208 | 5,467 | 47739 | 8.4 |
| Kilindi | 4,099 | 2,381 | 7,113 | 4,009 | 2,052 | 19654 | 8.1 |
| Total | 40,438 | 49,948 | 95,703 | 46,569 | 32,540 | 265198 | 9.1 |

**33.01l Number of Households By Distance to Tertiary Market Market and Distric for the 2002/03 Agricultural Year**

| Region | Less than 1 km | 1-2.9 km | 3.0-9.9km | 10.0-19.9km | Above 20 km | Total | Mean Distance |
|---|---|---|---|---|---|---|---|
| Lushoto | 1,880 | 6,185 | 20,040 | 13,491 | 44,983 | 86580 | 27.8 |
| Korogwe | 1,465 | 2,810 | 9,029 | 13,126 | 19,561 | 45990 | 24.3 |
| Muheza | 403 | 59 | 6,928 | 9,780 | 32,024 | 49195 | 29.2 |
| Tanga | 28 | 91 | 1,568 | 4,347 | 2,880 | 8914 | 18.8 |
| Pangani | 345 | 92 | 1,488 | 2,812 | 2,391 | 7128 | 27.3 |
| Handeni | 108 | 0 | 4,733 | 13,962 | 28,936 | 47739 | 40.4 |
| Kilindi | 1,825 | 333 | 1,413 | 2,733 | 13,350 | 19654 | 61.3 |
| Total | 6,055 | 9,569 | 45,198 | 60,250 | 144,126 | 265198 | 31.9 |

**33.01m Number of Households By Distance to Secondary Market Market and Distric for the 2002/03 Agricultural Year**

| Region | Less than 1 km | 1-2.9 km | 3.0-9.9km | 10.0-19.9km | Above 20 km | Total | Mean Distance |
|---|---|---|---|---|---|---|---|
| Lushoto | 8,536 | 10,288 | 14,620 | 21,564 | 31,572 | 86580 | 20.8 |
| Korogwe | 5,065 | 1,475 | 7,122 | 13,835 | 18,493 | 45990 | 20.6 |
| Muheza | 4,125 | 1,049 | 7,053 | 14,030 | 22,939 | 49195 | 23.8 |
| Tanga | 202 | 14 | 790 | 1,272 | 6,636 | 8914 | 62.8 |
| Pangani | 1,085 | 61 | 583 | 908 | 4,489 | 7128 | 56.1 |
| Handeni | 2,164 | 0 | 1,939 | 10,499 | 33,137 | 47739 | 43.8 |
| Kilindi | 1,064 | 580 | 6,141 | 5,076 | 6,792 | 19654 | 27.0 |
| Total | 22,243 | 13,466 | 38,248 | 67,183 | 124,058 | 265198 | 28.3 |

**33.19a TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Veterinary Clinic and District, 2002/03 Agricultural Year**

| District | Satisfaction of Using Veterinary Clinic | | | | | | | | | | Total number of households |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No good | | |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | |
| Lushoto | 1,314 | 2 | 28,724 | 42 | 21,083 | 31 | 16,013 | 23 | 1,011 | 1 | 68,145 |
| Korogwe | 2,752 | 8 | 19,800 | 60 | 9,095 | 28 | 1,160 | 4 | 0 | 0 | 32,807 |
| Muheza | 59 | 0 | 5,971 | 37 | 2,513 | 16 | 2,450 | 15 | 5,203 | 32 | 16,197 |
| Tanga | 199 | 6 | 869 | 26 | 1,572 | 48 | 645 | 20 | 0 | 0 | 3,285 |
| Pangani | 180 | 5 | 335 | 9 | 970 | 27 | 2,141 | 59 | 0 | 0 | 3,626 |
| Handeni | 836 | 4 | 6,408 | 29 | 9,743 | 44 | 4,846 | 22 | 418 | 2 | 22,251 |
| Kilindi | 340 | 4 | 2,085 | 22 | 4,775 | 50 | 1,806 | 19 | 487 | 5 | 9,492 |
| Total | 5,679 | 4 | 64,192 | 41 | 49,751 | 32 | 29,061 | 19 | 7,120 | 5 | 155,804 |

**33.19b TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Extension Centre and District, 2002/03 Agricultural Year**

| District | Extension Centre | | | | | | | | | | Total number of households |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No good | | |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | |
| Lushoto | 584 | 2 | 16,456 | 58 | 9,370 | 33 | 1,602 | 6 | 146 | 1 | 28,159 |
| Korogwe | 1,161 | 8 | 10,195 | 70 | 3,202 | 22 | 107 | 1 | 0 | 0 | 14,665 |
| Muheza | 0 | 0 | 3,092 | 54 | 1,517 | 26 | 450 | 8 | 706 | 12 | 5,765 |
| Tanga | 23 | 2 | 320 | 35 | 361 | | 206 | 23 | 0 | 0 | 910 |
| Pangani | 101 | 8 | 268 | 21 | 881 | 70 | 0 | 0 | 0 | 0 | 1,250 |
| Handeni | 203 | 2 | 3,463 | 40 | 4,363 | 50 | 619 | 7 | 0 | 0 | 8,649 |
| Kilindi | 242 | 7 | 1,020 | 30 | 1,857 | 54 | 244 | 7 | 49 | 1 | 3,412 |
| Total | 2,314 | 4 | 34,816 | 55 | 21,550 | 34 | 3,228 | 5 | 901 | 1 | 62,810 |

**33.19c TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Research Station and District, 2002/03 Agricultural Year**

| District | Research Station | | | | | | | | | | Total number of households |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No good | | |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | |
| Lushoto | 146 | 4 | 146 | 4 | 144 | 4 | 3,060 | 84 | 146 | 4 | 3,643 |
| Korogwe | 215 | 50 | 215 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 430 |
| Muheza | 0 | 0 | 863 | 36 | 405 | 17 | 359 | 15 | 794 | 33 | 2,421 |
| Tanga | 0 | 0 | 27 | 12 | 176 | 79 | 19 | 9 | 0 | 0 | 222 |
| Pangani | 0 | 0 | 0 | 0 | 0 | 0 | 503 | 100 | 0 | 0 | 503 |
| Handeni | 96 | 5 | 108 | 5 | 973 | 46 | 824 | 39 | 107 | 5 | 2,109 |
| Kilindi | 0 | 0 | 49 | 6 | 390 | 50 | 293 | 38 | 48 | 6 | 780 |
| Total | 457 | 5 | 1,407 | 14 | 2,088 | 21 | 5,059 | 50 | 1,095 | 11 | 10,106 |

**33.19d TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Plant Protection Lab. and District, 2002/03 Agricultural Year**

| District | Plant Protection Lab | | | | | | | | | | Total number of households |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No good | | |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | |
| Lushoto | 146 | 4 | 0 | 0 | 436 | 12 | 2,765 | 76 | 282 | 8 | 3,629 |
| Korogwe | 107 | 50 | 0 | 0 | 0 | 0 | 107 | 50 | 0 | 0 | 215 |
| Muheza | 0 | 0 | 90 | 6 | 91 | 6 | 355 | 25 | 879 | 62 | 1,416 |
| Tanga | 0 | 0 | 8 | 2 | 227 | 66 | 107 | 31 | 0 | 0 | 342 |
| Pangani | 0 | 0 | 0 | 0 | 23 | 24 | 73 | 76 | 0 | 0 | 95 |
| Handeni | 214 | 10 | 108 | 5 | 867 | 39 | 824 | 37 | 216 | 10 | 2,230 |
| Kilindi | 0 | 0 | 49 | 10 | 145 | 30 | 293 | 60 | 0 | 0 | 487 |
| Total | 468 | 6 | 256 | 3 | 1,789 | 21 | 4,524 | 54 | 1,377 | 16 | 8,414 |

**33.19e TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Land Registration Office and District, 2002/03 Agricultural Year**

| District | Land Registration Office | | | | | | | | | | Total number of households |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No good | | |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | |
| Lushoto | 0 | 0 | 281 | 5 | 2,604 | 47 | 2,476 | 45 | 146 | 3 | 5,506 |
| Korogwe | 215 | 3 | 1,884 | 27 | 4,216 | 60 | 741 | 11 | 0 | 0 | 7,056 |
| Muheza | 0 | 0 | 304 | 12 | 260 | 10 | 852 | 33 | 1,146 | 45 | 2,561 |
| Tanga | 7 | 1 | 47 | 8 | 434 | 71 | 119 | 20 | 0 | 0 | 607 |
| Pangani | 18 | 3 | 18 | 3 | 67 | 11 | 527 | 84 | 0 | 0 | 631 |
| Handeni | 106 | 5 | 542 | 25 | 529 | 24 | 924 | 42 | 96 | 4 | 2,197 |
| Kilindi | 0 | 0 | 194 | 12 | 725 | 45 | 390 | 24 | 293 | 18 | 1,603 |
| Total | 347 | 2 | 3,271 | 16 | 8,834 | 44 | 6,029 | 30 | 1,680 | 8 | 20,161 |

**33.19f TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Livestock development Centre and District, 2002/03 Agricultural Year**

| District | Livestock Development Centre | | | | | | | | | | Total number of households |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No good | | |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % | |
| Lushoto | 146 | 1 | 6,535 | 50 | 3,621 | 28 | 2,621 | 20 | 146 | 1 | 13,069 |
| Korogwe | 101 | 11 | 484 | 54 | 210 | 23 | 103 | 11 | 0 | 0 | 898 |
| Muheza | 0 | 0 | 323 | 21 | 240 | 16 | 87 | 6 | 885 | 58 | 1,535 |
| Tanga | 53 | 12 | 165 | 39 | 157 | 37 | 48 | 11 | 0 | 0 | 422 |
| Pangani | 42 | 7 | 24 | 4 | 0 | 0 | 521 | 89 | 0 | 0 | 587 |
| Handeni | 217 | 10 | 108 | 5 | 1,183 | 53 | 714 | 32 | 0 | 0 | 2,222 |
| Kilindi | 0 | 0 | 0 | 0 | 586 | 60 | 293 | 30 | 97 | 10 | 975 |
| Total | 559 | 3 | 7,639 | 39 | 5,996 | 30 | 4,386 | 22 | 1,128 | 6 | 19,708 |

**33.19g TYPE OF SERVICE: Number of Agricultural Households by Level of Satisfaction of the Service and District, 2002/03 Agricultural Year**

| TYPE OF SERVICE | LEVEL OF SATISFACTION OF THE SERVICE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very Good | | Good | | Average | | Poor | | No good | |
| | No of Households | % | No of Households | % | No of Households | % | No of Households | % | No of Households | % |
| Veterinary Clinic | 5,679 | 4 | 64,192 | 41 | 49,751 | 32 | 29,061 | 19 | 7,120 | 0 |
| Extension Centre | 2,314 | 4 | 34,816 | 55 | 21,550 | 34 | 3,228 | 5 | 901 | 1 |
| Research Station | 457 | 5 | 1,407 | 14 | 2,088 | 21 | 5,059 | 50 | 1,095 | 11 |
| Plant Protection Lab | 468 | 6 | 256 | 3 | 1,789 | 21 | 4,524 | 54 | 1,377 | 16 |
| Land Registration Office | 347 | 2 | 3,271 | 16 | 8,834 | 44 | 6,029 | 30 | 1,680 | 8 |
| Livestock Development Centre | 559 | 3 | 7,639 | 39 | 5,996 | 30 | 4,386 | 22 | 1,128 | 6 |
| OVERALL % | | 3 | | 19.83 | | 29.37 | | 23.58 | | 3 |

# HOUSEHOLD FACILITIES

**34.1 Number of Agricultural Households by Type of Toilet and District during the 2002/03 Agriculture Year**

| District | Type of Toilet | | | | | |
|---|---|---|---|---|---|---|
| | No Toilet | Flush Toilet | Traditional Pit Latrine | Improved Pit Latrine | Other Type | Total Number of Households |
| Lushoto | 723 | 566 | 84,273 | 1,017 | - | 86,580 |
| Korogwe | 1,883 | 301 | 43,200 | 607 | - | 45,990 |
| Muheza | 7,747 | 322 | 39,502 | 1,345 | 279 | 49,195 |
| Tanga | 1,661 | 296 | 6,590 | 367 | - | 8,914 |
| Pangani | 1,679 | 47 | 5,286 | 115 | - | 7,128 |
| Handeni | 12,191 | 202 | 34,519 | 826 | - | 47,739 |
| Kilindi | 3,310 | - | 15,959 | 385 | - | 19,654 |
| Total | 29,194 | 1,733 | 229,330 | 4,663 | 279 | 265,198 |
| % | 11.0 | 0.7 | 86.5 | 1.8 | 0.1 | 100.0 |

**34.2 Number of Households Reporting Average Number of Rooms and Type of Roofing Materials by District; 2002/03 Agricultural Year**

| District | Average Number of Rooms per Household | Type of Roofing Material | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Iron Sheets | Tiles | Concrete | Asbestos | Grass / Leaves | Grass & Mud | Other | Total |
| Lushoto | 2 | 60,726 | 1,022 | 0 | 1,308 | 20,191 | 3,187 | 146 | 86,580 |
| Korogwe | 2 | 19,288 | 300 | 0 | 980 | 19,973 | 5,449 | 0 | 45,990 |
| Muheza | 2 | 14,233 | 519 | 43 | 323 | 33,362 | 626 | 89 | 49,195 |
| Tanga | 3 | 1,451 | 112 | 0 | 52 | 7,300 | 0 | 0 | 8,914 |
| Pangani | 3 | 918 | 171 | 21 | 0 | 5,973 | 44 | 0 | 7,128 |
| Handeni | 2 | 13,821 | 401 | 106 | 108 | 31,471 | 1,724 | 108 | 47,739 |
| Kilindi | 2 | 5,193 | 146 | 98 | 146 | 12,227 | 1,747 | 97 | 19,654 |
| Total | 2 | 115,628 | 2,671 | 268 | 2,917 | 130,497 | 12,778 | 440 | 265,198 |
| % | | 43.6 | 1.0 | 0.1 | 1.1 | 49.2 | 4.8 | 0.2 | 100.0 |

**34.3 Number of Agricultural Households by Type of Owned Assets and District during 2002/03 Agricultural YearDistrict**

| Type of Owned Asset | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| Radio | 52,670 | 32 | 25,596 | 16 | 32,362 | 20 | 6,032 | 4 | 5,415 | 3 | 29,309 | 18 | 11,227 | 7 | 162,610 | 61.3 |
| Landline phone | 427 | 32 | 181 | 14 | 356 | 27 | 110 | 8 | 0 | 0 | 214 | 16 | 49 | 4 | 1,337 | 0.5 |
| Mobile phone | 987 | 19 | 982 | 19 | 1,060 | 21 | 551 | 11 | 86 | 2 | 1,254 | 25 | 191 | 4 | 5,112 | 1.9 |
| Iron | 20,307 | 41 | 9,144 | 18 | 9,181 | 18 | 1,956 | 4 | 832 | 2 | 6,380 | 13 | 2,229 | 4 | 50,029 | 18.9 |
| Wheelbarrow | 2,720 | 30 | 809 | 9 | 1,583 | 18 | 812 | 9 | 146 | 2 | 2,275 | 25 | 584 | 7 | 8,928 | 3.4 |
| Bicycle | 12,641 | 15 | 12,226 | 14 | 19,009 | 22 | 4,602 | 5 | 4,098 | 5 | 24,042 | 28 | 8,420 | 10 | 85,039 | 32.1 |
| Vehicle | 282 | 12 | 562 | 24 | 380 | 16 | 222 | 10 | 155 | 7 | 427 | 18 | 291 | 13 | 2,319 | 0.9 |
| Television / Video | 285 | 10 | 562 | 21 | 520 | 19 | 286 | 11 | 81 | 3 | 738 | 27 | 241 | 9 | 2,714 | 1.0 |
| Total Number of Households | 86,580 | 33 | 45,990 | 17 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | 7 | 265,198 | 100.0 |

**34.4 Number of Agriculture Households by Main Source of Energy Used for Lighting and District during 2002/03 Agricultural Year**

| Main Source of Energy for Lighting | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | | |
| | Number of Households | % | Number of Households | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | | Number of Households | % |
| Mains Electricity | 561 | 17 | 1,088 | 480 | 14 | 482 | 15 | 198 | 6 | 506 | 15 | 0 | 0 | | 3,315 | 1.3 |
| Solar | 146 | 38 | 0 | 0 | 0 | 0 | 0 | 22 | 6 | 215 | 56 | 0 | 0 | | 383 | 0.1 |
| Gas (Biogas) | 137 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 137 | 0.1 |
| Hurricane Lamp | 20,468 | 46 | 4,465 | 9,198 | 21 | 1,382 | 3 | 1,553 | 4 | 4,704 | 11 | 2,328 | 5 | | 44,098 | 16.6 |
| Pressure Lamp | 2,747 | 25 | 1,677 | 3,557 | 32 | 282 | 3 | 179 | 2 | 1,824 | 17 | 776 | 7 | | 11,043 | 4.2 |
| Wick Lamp | 62,374 | 30 | 38,655 | 35,653 | 17 | 6,719 | 3 | 5,131 | 3 | 39,953 | 19 | 16,501 | 8 | | 204,986 | 77.3 |
| Candles | 146 | 45 | 0 | 0 | 0 | 49 | 15 | 21 | 6 | 105 | 33 | 0 | 0 | | 321 | 0.1 |
| Firewood | 0 | 0 | 105 | 306 | 33 | 0 | 0 | 23 | 3 | 432 | 47 | 49 | 5 | | 915 | 0.3 |
| Total | 86,580 | 33 | 45,990 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | | | 265,198 | 100.0 |

**34.5 Number of Households by Main Source of Energy for Cooking and District during 2002/03 Agricultural Year**

| Main Source of Energy for Cooking | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | | |
| | Number of Households | % | Number of Households | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | | Number of Households | % |
| Mains Electricity | 0 | 0 | 190 | 0 | 0 | 64 | 17 | 22 | 6 | 102 | 27 | 0 | 0 | | 378 | 0.1 |
| Solar | 278 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 278 | 0.1 |
| Gas (Biogas) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 100 | 0 | 0 | 0 | 0 | | 21 | 0.0 |
| Bottled Gas | 289 | 39 | 0 | 267 | 36 | 52 | 7 | 79 | 11 | 0 | 0 | 49 | 7 | | 736 | 0.3 |
| Parraffin / Kerocine | 0 | 0 | 0 | 90 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 90 | 0.0 |
| Charcoal | 572 | 8 | 1,564 | 650 | 9 | 515 | 7 | 123 | 2 | 3,302 | 46 | 484 | 7 | | 7,210 | 2.7 |
| Firewood | 85,151 | 33 | 44,027 | 48,188 | 19 | 8,283 | 3 | 6,743 | 3 | 44,226 | 17 | 19,024 | 7 | | 255,643 | 96.4 |
| Crop Residues | 289 | 39 | 103 | 0 | 0 | 0 | 0 | 138 | 19 | 108 | 15 | 97 | 13 | | 735 | 0.3 |
| Livestock Dung | 0 | 0 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 106 | 0.0 |
| Total | 86,580 | | 45,990 | 49,195 | | 8,914 | 3 | 7,128 | | 47,739 | | 19,654 | 7 | | 265,198 | 100.0 |

**34.6 Number of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03 Agricultural Year**

| Source | Season | District | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lushoto | Korogwe | Muheza | Tanga | Pangani | Handeni | Kilindi |
| Piped Water | Wet | 17,828 | 10,171 | 6,667 | 4,415 | 2,244 | 16,269 | 917 |
| | Dry | 15,090 | 9,737 | 7,152 | 4,961 | 2,247 | 17,675 | 1,698 |
| Protected Well | Wet | 4,777 | 6,271 | 8,074 | 1,108 | 1,097 | 1,399 | 1,941 |
| | Dry | 4,628 | 6,551 | 6,906 | 1,115 | 1,252 | 1,399 | 2,281 |
| Protected / Covered Spring | Wet | 2,874 | 2,887 | 2,120 | 154 | 83 | 531 | 535 |
| | Dry | 3,159 | 2,774 | 2,526 | 253 | 39 | 642 | 633 |
| Uprotected Well | Wet | 4,057 | 3,737 | 11,539 | 2,530 | 1,681 | 21,080 | 9,286 |
| | Dry | 3,913 | 6,062 | 12,566 | 1,906 | 1,504 | 18,276 | 11,335 |
| Unprotected Spring | Wet | 41,372 | 13,741 | 7,910 | 224 | 422 | 751 | 3,314 |
| | Dry | 42,086 | 12,133 | 7,766 | 400 | 433 | 320 | 829 |
| Surface Water (Lake / Dam / River / Stream) | Wet | 14,959 | 8,715 | 11,377 | 210 | 1,534 | 4,920 | 3,660 |
| | Dry | 17,129 | 8,380 | 11,132 | 191 | 1,630 | 6,967 | 2,684 |
| Covered Rainwater Catchment | Wet | 424 | 174 | 429 | 0 | 0 | 108 | 0 |
| | Dry | 285 | 84 | 349 | 0 | 0 | 108 | 0 |
| Uncovered Rainwater Catchment | Wet | 290 | 197 | 818 | 145 | 66 | 2,149 | 0 |
| | Dry | 146 | 99 | 239 | 26 | 23 | 1,716 | 194 |
| Water Vendor | Wet | 0 | 0 | 258 | 32 | 0 | 0 | 0 |
| | Dry | 0 | 171 | 474 | 32 | 0 | 108 | 0 |
| Tanker Truck | Wet | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| | Dry | 142 | 0 | 84 | 8 | 0 | 105 | 0 |
| Bottled Water | Wet | 0 | 0 | 0 | 21 | 0 | 0 | 0 |
| | Dry | 0 | 0 | 0 | 21 | 0 | 0 | 0 |
| Other | Wet | 0 | 97 | 0 | 68 | 0 | 533 | 0 |
| | Dry | 0 | 0 | 0 | 0 | 0 | 424 | 0 |
| Total Agricultural Households per District | | 86,580 | 45,990 | 49,195 | 8,914 | 7,128 | 47,739 | 19,654 |

**36.7 Proportion of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03 Agricultural Year**

| Source | Season | District | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lushoto | Korogwe | Muheza | Tanga | Pangani | Handeni | Kilindi |
| Piped Water | Wet | 21 | 22 | 14 | 50 | 31 | 34 | 5 |
| | Dry | 17 | 21 | 15 | 56 | 32 | 37 | 9 |
| Protected Well | Wet | 6 | 14 | 16 | 12 | 15 | 3 | 10 |
| | Dry | 5 | 14 | 14 | 13 | 18 | 3 | 12 |
| Protected / Covered Spring | Wet | 3 | 6 | 4 | 2 | 1 | 1 | 3 |
| | Dry | 4 | 6 | 5 | 3 | 1 | 1 | 3 |
| Uprotected Well | Wet | 5 | 8 | 23 | 28 | 24 | 44 | 47 |
| | Dry | 5 | 13 | 26 | 21 | 21 | 38 | 58 |
| Unprotected Spring | Wet | 48 | 30 | 16 | 3 | 6 | 2 | 17 |
| | Dry | 49 | 26 | 16 | 4 | 6 | 1 | 4 |
| Surface Water (Lake / Dam / River / Stream) | Wet | 17 | 19 | 23 | 2 | 22 | 10 | 19 |
| | Dry | 20 | 18 | 23 | 2 | 23 | 15 | 14 |
| Covered Rainwater Catchment | Wet | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| | Dry | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Uncovered Rainwater Catchment | Wet | 0 | 0 | 2 | 2 | 1 | 5 | 0 |
| | Dry | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| Water Vendor | Wet | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| | Dry | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Tanker Truck | Wet | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Dry | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bottled Water | Wet | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Dry | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | Wet | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| | Dry | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

**34.8 Number of Agricultural Households Reporting Distance to Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agriculture Year**

| Distance to Main Source of Drinking Water | Season | District | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lushoto | Korogwe | Muheza | Tanga | Pangani | Handeni | Kilindi |
| Less than 100m | Wet | 29,092 | 6,397 | 9,918 | 1,181 | 1,339 | 5,307 | 2,507 |
| | Dry | 27,073 | 4,295 | 4,837 | 943 | 961 | 1,794 | 1,308 |
| 100 - 299 m | Wet | 5,632 | 8,608 | 10,895 | 2,746 | 987 | 6,313 | 2,786 |
| | Dry | 5,345 | 8,500 | 8,959 | 2,395 | 907 | 4,928 | 1,563 |
| 300 - 499 m | Wet | 1,018 | 911 | 4,224 | 835 | 334 | 0 | 976 |
| | Dry | 1,018 | 830 | 4,378 | 646 | 384 | 0 | 880 |
| 500 - 999 m | Wet | 13,736 | 9,344 | 9,195 | 1,796 | 1,087 | 7,122 | 2,388 |
| | Dry | 13,584 | 8,597 | 7,683 | 1,460 | 947 | 5,203 | 2,244 |
| 1 - 1.99 Km | Wet | 26,671 | 14,901 | 10,830 | 982 | 2,036 | 15,087 | 7,294 |
| | Dry | 27,251 | 14,129 | 10,293 | 683 | 1,733 | 8,743 | 6,601 |
| 2 - 2.99 Km | Wet | 7,245 | 3,153 | 3,336 | 889 | 1,004 | 7,928 | 2,387 |
| | Dry | 8,260 | 3,986 | 5,229 | 1,084 | 1,196 | 9,942 | 3,304 |
| 3 - 4.99 Km | Wet | 2,757 | 1,973 | 564 | 395 | 319 | 5,018 | 682 |
| | Dry | 3,339 | 3,910 | 2,966 | 1,111 | 842 | 9,825 | 1,998 |
| 5 - 9.99 Km | Wet | 428 | 703 | 233 | 91 | 21 | 965 | 634 |
| | Dry | 708 | 1,742 | 4,602 | 526 | 158 | 6,111 | 1,660 |
| 10Km and above | Wet | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Dry | 0 | 0 | 247 | 67 | 0 | 1,193 | 97 |

**34.9 Proportion of Agricultural Households Reporting Distance to Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agriculture Year**

| Source | Season | District | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lushoto | Korogwe | Muheza | Tanga | Pangani | Handeni | Kilindi |
| Less than 100m | Wet | 34 | 14 | 20 | 13 | 19 | 11 | 13 |
| | Dry | 31 | 9 | 10 | 11 | 13 | 4 | 7 |
| 100 - 299 m | Wet | 7 | 19 | 22 | 31 | 14 | 13 | 14 |
| | Dry | 6 | 18 | 18 | 27 | 13 | 10 | 8 |
| 300 - 499 m | Wet | 1 | 2 | 9 | 9 | 5 | 0 | 5 |
| | Dry | 1 | 2 | 9 | 7 | 5 | 0 | 4 |
| 500 - 999 m | Wet | 16 | 20 | 19 | 20 | 15 | 15 | 12 |
| | Dry | 16 | 19 | 16 | 16 | 13 | 11 | 11 |
| 1 - 1.99 Km | Wet | 31 | 32 | 22 | 11 | 29 | 32 | 37 |
| | Dry | 31 | 31 | 21 | 8 | 24 | 18 | 34 |
| 2 - 2.99 Km | Wet | 8 | 7 | 7 | 10 | 14 | 17 | 12 |
| | Dry | 10 | 9 | 11 | 12 | 17 | 21 | 17 |
| 3 - 4.99 Km | Wet | 3 | 4 | 1 | 4 | 4 | 11 | 3 |
| | Dry | 4 | 9 | 6 | 12 | 12 | 21 | 10 |
| 5 - 9.99 Km | Wet | 0 | 2 | 0 | 1 | 0 | 2 | 3 |
| | Dry | 1 | 4 | 9 | 6 | 2 | 13 | 8 |
| 10Km and above | Wet | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Dry | 0 | 0 | 1 | 1 | 0 | 2 | 0 |

**34.10 Number of Agricultural Households by Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agricultural Year**

| Time Spent to and from Main Source of Drinking Water | Season | District | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lushoto | Korogwe | Muheza | Tanga | Pangani | Handeni | Kilindi |
| Less than 10 | Wet | 2,947 | 866 | 5,389 | 592 | 474 | 1,485 | 243 |
| | Dry | 2,384 | 589 | 3,609 | 497 | 320 | 523 | 97 |
| 10 - 19 Minutes | Wet | 16,553 | 13,128 | 13,140 | 2,759 | 2,423 | 8,474 | 4,670 |
| | Dry | 15,669 | 9,466 | 9,318 | 1,915 | 2,051 | 6,353 | 2,732 |
| 20 - 29 Minutes | Wet | 9,829 | 7,670 | 5,492 | 511 | 441 | 2,948 | 3,207 |
| | Dry | 8,661 | 7,155 | 3,565 | 447 | 423 | 1,149 | 1,696 |
| 30 - 39 Minutes | Wet | 33,306 | 12,275 | 11,633 | 1,964 | 1,470 | 14,536 | 5,257 |
| | Dry | 33,440 | 10,961 | 8,868 | 1,326 | 1,097 | 8,521 | 5,049 |
| 40 - 49 Minutes | Wet | 4,928 | 1,735 | 3,353 | 289 | 480 | 3,710 | 1,121 |
| | Dry | 5,501 | 2,227 | 4,066 | 239 | 510 | 1,468 | 1,412 |
| 50 - 59 Minutes | Wet | 5,026 | 2,750 | 4,687 | 1,452 | 45 | 3,154 | 1,507 |
| | Dry | 5,330 | 2,543 | 3,887 | 1,331 | 59 | 2,189 | 1,119 |
| above one Hour | Wet | 13,991 | 7,567 | 5,502 | 1,348 | 1,795 | 13,433 | 3,650 |
| | Dry | 15,596 | 13,049 | 15,882 | 3,159 | 2,667 | 27,537 | 7,547 |

**34.11 Proportion of Agricultural Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) and District during 2002/03 Agricultural Year**

| Time Spent to and from Main Source of Drinking Water | Season | District | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lushoto | Korogwe | Muheza | Tanga | Pangani | Handeni | Kilindi |
| Less than 10 | Wet | 3 | 2 | 11 | 7 | 7 | 3 | 1 |
| | Dry | 3 | 1 | 7 | 6 | 4 | 1 | 0 |
| 10 - 19 Minutes | Wet | 19 | 29 | 27 | 31 | 34 | 18 | 24 |
| | Dry | 18 | 21 | 19 | 21 | 29 | 13 | 14 |
| 20 - 29 Minutes | Wet | 11 | 17 | 11 | 6 | 6 | 6 | 16 |
| | Dry | 10 | 16 | 7 | 5 | 6 | 2 | 9 |
| 30 - 39 Minutes | Wet | 38 | 27 | 24 | 22 | 21 | 30 | 27 |
| | Dry | 39 | 24 | 18 | 15 | 15 | 18 | 26 |
| 40 - 49 Minutes | Wet | 6 | 4 | 7 | 3 | 7 | 8 | 6 |
| | Dry | 6 | 5 | 8 | 3 | 7 | 3 | 7 |
| 50 - 59 Minutes | Wet | 6 | 6 | 10 | 16 | 1 | 7 | 8 |
| | Dry | 6 | 6 | 8 | 15 | 1 | 5 | 6 |
| above one Hour | Wet | 16 | 16 | 11 | 15 | 25 | 28 | 19 |
| | Dry | 18 | 28 | 32 | 35 | 37 | 58 | 38 |

**34.12 Number of Households by Number of Meals the Household Normally Took per Day by District**

| Number of Meals per Day | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| One | 4,337 | 68 | 615 | 10 | 525 | 8 | 133 | 2 | 68 | 1 | 523 | 8 | 146 | 2 | 6,346 | 2.4 |
| Two | 33,209 | 50 | 7,894 | 12 | 7,550 | 11 | 2,926 | 4 | 1,408 | 2 | 6,878 | 10 | 6,964 | 10 | 66,829 | 25.2 |
| Three | 48,899 | 26 | 37,482 | 20 | 41,120 | 21 | 5,845 | 3 | 5,638 | 3 | 40,232 | 21 | 12,543 | 7 | 191,758 | 72.3 |
| Four | 135 | 51 | 0 | 0 | 0 | 0 | 10 | 4 | 14 | 5 | 106 | 40 | 0 | 0 | 265 | 0.1 |
| Total | 86,580 | 33 | 45,990 | 17 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | 7 | 265,198 | 100.0 |

**34.13 Number of Households by Number of Days the Household Consumed Meat during the Preceding Week by District**

| Number of Days | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| Not Eaten | 29,863 | 34 | 12,020 | 14 | 18,561 | 21 | 4,870 | 6 | 2,922 | 3 | 15,141 | 17 | 3,934 | 5 | 87,311 | 32.9 |
| One | 33,590 | 39 | 10,811 | 12 | 17,868 | 21 | 1,613 | 2 | 1,841 | 2 | 14,692 | 17 | 6,327 | 7 | 86,741 | 32.7 |
| Two | 17,538 | 29 | 13,673 | 23 | 9,011 | 15 | 1,440 | 2 | 1,661 | 3 | 10,416 | 17 | 6,271 | 10 | 60,009 | 22.6 |
| Three | 3,443 | 18 | 6,028 | 32 | 2,465 | 13 | 328 | 2 | 277 | 1 | 4,644 | 24 | 1,806 | 10 | 18,992 | 7.2 |
| Four | 722 | 12 | 1,883 | 30 | 764 | 12 | 258 | 4 | 227 | 4 | 1,690 | 27 | 683 | 11 | 6,227 | 2.3 |
| Five | 566 | 19 | 829 | 29 | 264 | 9 | 68 | 2 | 158 | 5 | 628 | 22 | 390 | 13 | 2,903 | 1.1 |
| Six | 719 | 51 | 430 | 31 | 90 | 6 | 8 | 1 | 0 | 0 | 106 | 8 | 49 | 3 | 1,402 | 0.5 |
| Seven | 139 | 9 | 315 | 20 | 171 | 11 | 329 | 20 | 43 | 3 | 422 | 26 | 194 | 12 | 1,613 | 0.6 |
| Total | 86,580 | 33 | 45,990 | 17 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | 7 | 265,198 | 100.0 |

**34.14 Number of Households by Number of Days the Household Consumed Fish during the Preceding Week by District**

| Number of Days | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| Not Eaten | 18,417 | 47 | 4,517 | 11 | 4,189 | 11 | 311 | 1 | 496 | 1 | 7,824 | 20 | 3,644 | 9 | 39,398 | 14.9 |
| One | 15,606 | 45 | 4,623 | 13 | 4,089 | 12 | 622 | 2 | 660 | 2 | 5,023 | 15 | 3,741 | 11 | 34,365 | 13.0 |
| Two | 20,754 | 39 | 8,321 | 16 | 8,621 | 16 | 1,270 | 2 | 1,033 | 2 | 8,779 | 17 | 4,180 | 8 | 52,958 | 20.0 |
| Three | 13,112 | 28 | 8,743 | 18 | 9,394 | 20 | 1,577 | 3 | 1,327 | 3 | 10,048 | 21 | 3,457 | 7 | 47,658 | 18.0 |
| Four | 10,499 | 29 | 4,988 | 14 | 8,188 | 23 | 1,264 | 4 | 1,198 | 3 | 7,494 | 21 | 2,245 | 6 | 35,877 | 13.5 |
| Five | 4,017 | 16 | 6,652 | 26 | 6,519 | 25 | 1,546 | 6 | 1,077 | 4 | 4,055 | 16 | 1,852 | 7 | 25,718 | 9.7 |
| Six | 1,291 | 13 | 2,607 | 26 | 2,773 | 28 | 521 | 5 | 330 | 3 | 2,205 | 22 | 244 | 2 | 9,971 | 3.8 |
| Seven | 2,884 | 15 | 5,539 | 29 | 5,421 | 28 | 1,802 | 9 | 1,006 | 5 | 2,310 | 12 | 292 | 2 | 19,254 | 7.3 |
| Total | 86,580 | 33 | 45,990 | 17 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | 7 | 265,198 | 100.0 |

**34.15 Number of Agricultural Households Reporting the Status of Food Satisfaction of the Household during the Preceding Year by District**

| Status of Food Satisfaction | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| Never | 26,975 | 29 | 18,422 | 20 | 22,501 | 24 | 3,211 | 3 | 3,392 | 4 | 11,013 | 12 | 7,194 | 8 | 92,707 | 35.0 |
| Seldom | 40,527 | 36 | 17,400 | 16 | 16,869 | 15 | 3,743 | 3 | 2,180 | 2 | 23,747 | 21 | 7,049 | 6 | 111,515 | 42.0 |
| Sometimes | 6,508 | 32 | 2,935 | 15 | 4,374 | 22 | 544 | 3 | 716 | 4 | 2,955 | 15 | 1,998 | 10 | 20,029 | 7.6 |
| Often | 6,493 | 29 | 3,572 | 16 | 3,424 | 15 | 920 | 4 | 441 | 2 | 5,438 | 25 | 1,850 | 8 | 22,138 | 8.3 |
| Always | 6,078 | 32 | 3,661 | 19 | 2,027 | 11 | 497 | 3 | 399 | 2 | 4,586 | 24 | 1,562 | 8 | 18,810 | 7.1 |
| Total | 86,580 | 33 | 45,990 | 17 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | 7 | 265,198 | 100.0 |

**34.16 Number of Households by Main Source of Cash Income and District during 2002/03 Agriculture Year**

| Main Source of Cash Income | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| Sales of Food Crops | 27,232 | 40 | 6,905 | 10 | 9,047 | 13 | 553 | 1 | 602 | 1 | 17,694 | 26 | 5,498 | 8 | 67,531 | 25.5 |
| Sale of Livestock | 3,321 | 31 | 4,294 | 40 | 412 | 4 | 33 | 0 | 0 | 0 | 1,281 | 12 | 1,313 | 12 | 10,655 | 4.0 |
| Sale of Livestock Products | 720 | 16 | 1,040 | 23 | 1,009 | 23 | 340 | 8 | 48 | 1 | 1,067 | 24 | 244 | 5 | 4,468 | 1.7 |
| Sales of Cash Crops | 11,767 | 26 | 6,876 | 15 | 17,481 | 39 | 2,421 | 5 | 1,739 | 4 | 3,133 | 7 | 1,073 | 2 | 44,491 | 16.8 |
| Sale of Forest Products | 433 | 6 | 1,338 | 20 | 735 | 11 | 222 | 3 | 431 | 6 | 3,161 | 47 | 438 | 6 | 6,758 | 2.5 |
| Business Income | 13,747 | 36 | 6,318 | 17 | 5,077 | 13 | 2,621 | 7 | 1,247 | 3 | 6,985 | 18 | 1,800 | 5 | 37,795 | 14.3 |
| Wages & Salaries in Cash | 2,843 | 21 | 4,345 | 33 | 2,227 | 17 | 936 | 7 | 702 | 5 | 2,066 | 16 | 190 | 1 | 13,308 | 5.0 |
| Other Casual Cash Earnings | 20,467 | 37 | 8,440 | 15 | 8,063 | 15 | 596 | 1 | 1,345 | 2 | 8,788 | 16 | 7,789 | 14 | 55,488 | 20.9 |
| Cash Remittance | 5,613 | 29 | 6,434 | 33 | 3,523 | 18 | 246 | 1 | 290 | 1 | 2,641 | 13 | 873 | 4 | 19,620 | 7.4 |
| Fishing | 0 | 0 | 0 | 0 | 891 | 37 | 913 | 37 | 633 | 26 | 0 | 0 | 0 | 0 | 2,437 | 0.9 |
| not applicable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97 | 100 | 97 | 0.0 |
| Total | 86,580 | 33 | 45,990 | 17 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | 7 | 265,198 | 100.0 |

**34.17 Number of Agricultural Households by Type of Roofing Material and District during the 2002/03 Agricultural Year**

| Roofing Materials | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| Iron Sheets | 60,726 | 53 | 19,288 | 17 | 14,233 | 12 | 1,451 | 1 | 918 | 1 | 13,821 | 12 | 5,193 | 4 | 115,628 | 43.6 |
| Tiles | 1,022 | 38 | 300 | 11 | 519 | 19 | 112 | 4 | 171 | 6 | 401 | 15 | 146 | 5 | 2,671 | 1.0 |
| Concrete | 0 | 0 | 0 | 0 | 43 | 16 | 0 | 0 | 21 | 8 | 106 | 40 | 98 | 36 | 268 | 0.1 |
| Asbestos | 1,308 | 45 | 980 | 34 | 323 | 11 | 52 | 2 | 0 | 0 | 108 | 4 | 146 | 5 | 2,917 | 1.1 |
| Grass / Leaves | 20,191 | 15 | 19,973 | 15 | 33,362 | 26 | 7,300 | 6 | 5,973 | 5 | 31,471 | 24 | 12,227 | 9 | 130,497 | 49.2 |
| Grass & Mud | 3,187 | 25 | 5,449 | 43 | 626 | 5 | 0 | 0 | 44 | 0 | 1,724 | 13 | 1,747 | 14 | 12,778 | 4.8 |
| Other | 146 | 33 | 0 | 0 | 89 | 20 | 0 | 0 | 0 | 0 | 108 | 25 | 97 | 22 | 440 | 0.2 |
| Total Number of Households | 86,580 | 33 | 45,990 | 17 | 49,195 | 19 | 8,914 | 3 | 7,128 | 3 | 47,739 | 18 | 19,654 | 7 | 265,198 | 100.0 |

**34.18 Number of Households by Main Source of Energy for Cooking and District during 2002/03 Agricultural Year**

| Main Source of Energy for Cooking | District | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lushoto | | Korogwe | | Muheza | | Tanga | | Pangani | | Handeni | | Kilindi | | | |
| | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % | Number of Households | % |
| Mains Electricity | 0 | | 190 | | 0 | | 64 | | 22 | | 102 | | 0 | | 378 | 0.1 |
| Solar | 278 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 278 | 0.1 |
| Gas (Biogas) | 0 | | 0 | | 0 | | 0 | | 21 | | 0 | | 0 | | 21 | 0.0 |
| Bottled Gas | 289 | | 0 | | 267 | | 52 | | 79 | | 0 | | 49 | | 736 | 0.3 |
| Parraffin / Kerocine | 0 | | 0 | | 90 | | 0 | | 0 | | 0 | | 0 | | 90 | 0.0 |
| Charcoal | 572 | | 1,564 | | 650 | | 515 | | 123 | | 3,302 | | 484 | | 7,210 | 2.7 |
| Firewood | 85,151 | | 44,027 | | 48,188 | | 8,283 | | 6,743 | | 44,226 | | 19,024 | | 255,643 | 96.4 |
| Crop Residues | 289 | | 103 | | 0 | | 0 | | 138 | | 108 | | 97 | | 735 | 0.3 |
| Livestock Dung | 0 | | 106 | | 0 | | 0 | | 0 | | 0 | | 0 | | 106 | 0.0 |
| Number of Households | 86,580 | | 45,990 | | 49,195 | | 8,914 | | 7,128 | | 47,739 | | 19,654 | | 265,198 | 100.0 |

# APPENDIX III QUESTIONNAIRES

**UNITED REPUBLIC OF TANZANIA**

Confidential

***Page Number ……..***

# Agriculture Sample Census 2002/03

**ACLF 1: Sub-village leader listing form**

| | |
|---|---|
| Region _____ Code ☐☐ | Ward _____ Code ☐☐☐ |
| District _____ Code ☐☐ | Village _____Code ☐☐ |

Name of Village Chairman:……..

| Sub-village leader number | Name of sub-village leader | Number of households | | Comments |
|---|---|---|---|---|
| | | From office register | After enumeration | |
| (1) | (2) | (3) | (4) | (5) |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| ☐☐ | | ☐☐☐☐ | ☐☐☐☐ | |
| | Total | ☐☐☐☐ | ☐☐☐☐ | |

Name of enumerator…… Signature ……. Date…….

Name of supervisor…… Signature ……. Date…….

**UNITED REPUBLIC OF TANZANIA**

Confidential

Interval ☐☐
Starting point ☐☐

***Page Number……..***

# Agriculture Sample Census 2002/03

**ACLF: 2 Household listing form - form for listing household heads and their agriculture activities**

| | | | |
|---|---|---|---|
| Region | _____ | Code ☐☐ | Name of Sub-village Leaader _____ |
| District | _____ | Code ☐ | Subvillage leader code ☐☐ |
| Ward | _____ | Code ☐☐☐ | |
| Village | _____ | Code ☐☐ | Name of Sub-village _____ |

| Household Number | Household head name | Number of | | | | | | | | | | ✓ if the respodent qualifies to be a farmer * | Farmer Serial Numbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cattle | | | | | | | | | | |
| | | Fields + | Total Number | Adult male cattle | Adult female cattle | Calves | Goats | Sheep | Pigs | poultry/ducks | Rabbit | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| ☐☐☐☐ | | | | | | | | | | | | | |
| | **Totals** | | | | | | | | | | | | |

* **NOTE:** (Column 13) Place a "✓" if the household has at least 1 field over 25m$^2$ and/or keeps at least 1 Cow, 5 Goats/Sheep/Pigs or 50 Chicken/poultry or ducks

+(Column 3) A field must be at least 25 m$^2$

Name of enumerator…….. Signature ……. Date……..….

Name of supervisor……. Signature ……. Date……..…….

# UNITED REPUBLIC OF TANZANIA

**Confidential**

## National Agriculture Sample Census 2002/03

**ACLF: 3 Household listing of 15 selected farmers**

Region _____ Code ☐☐

District _____ Code ☐☐

Ward _____ Code ☐☐☐

Village _____ Code ☐☐

| S/N | Sub village leader number | Name of sub-village leader | Agriculture hh serial number | Name of selected head of household | Number of | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Fields | Cattle | Goat | Sheep | Pig | Poultry /ducks | Rabbits |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (12) |
| 01 | | | ☐☐☐ | | | | | | | | |
| 02 | | | ☐☐☐ | | | | | | | | |
| 03 | | | ☐☐☐ | | | | | | | | |
| 04 | | | ☐☐☐ | | | | | | | | |
| 05 | | | ☐☐☐ | | | | | | | | |
| 06 | | | ☐☐☐ | | | | | | | | |
| 07 | | | ☐☐☐ | | | | | | | | |
| 08 | | | ☐☐☐ | | | | | | | | |
| 09 | | | ☐☐☐ | | | | | | | | |
| 10 | | | ☐☐☐ | | | | | | | | |
| 11 | | | ☐☐☐ | | | | | | | | |
| 12 | | | ☐☐☐ | | | | | | | | |
| 13 | | | ☐☐☐ | | | | | | | | |
| 14 | | | ☐☐☐ | | | | | | | | |
| 15 | | | ☐☐☐ | | | | | | | | |

Name of Enumerator:_____Signature_____Date_____

Name of Supervisor_____Signature_____Date_____

Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development, Ministry of Cooperatives and Marketing and the National Bureau of Statistics

**United Republic of Tanzania**

**ACQ 1** **CONFIDENTIAL**

# Small holder/Small Scale Farmer Questionnaire

## Agriculture Sample Census

## 2002/2003

**Enumerator** Name ..... Signature .....

| | Hour | Minutes |
|---|---|---|
| Start time | □□ | □□ |
| End time | □□ | □□ |

Date Enumerated □□ / □□ / □□ (d d / m m / y y)

**Field level checking by:**

| | | | | |
|---|---|---|---|---|
| District Supervisor: | Name ..... | signature ..... | Date / / | *To be completed by the supervisor **ONLY** after field/farm level checking of the enumeration process. This should be countersigned by the enumerator.* |
| Regional Supervisor: | Name ..... | signature ..... | Date / / | |
| National Supervisor: | Name ..... | signature ..... | Date / / | |

**District checking in Office:**

| | | | | |
|---|---|---|---|---|
| District Supervisor | Name ..... | signature ..... | Date / / | *All questionnaires must be checked at the district office.* |

**For Use at National Level only:**

| | | | | |
|---|---|---|---|---|
| Data Entered by | Name ..... | signature ..... | Date / / | *See back page for details of query* |
| Queried | Name ..... | signature ..... | Date / / | |

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

## 1.0 IDENTIFICATION DETAILS

### 1.1 Location

| S/N | Location Name | Codes |
|---|---|---|
| 1.1.1 | Region …… | |
| 1.1.2 | District …… | |
| 1.1.3 | Ward …… | |
| 1.1.4 | Village …… | |

### 1.2 Details of the **respondent** and **household head**

| S/N | | Codes |
|---|---|---|
| 1.2.1 | Name & number of **local leader** …….. | |
| 1.2.2 | Name & number of **household head** …….. | |
| 1.2.3 | **Sex** of household head (Male = 1, Female = 2) | |
| 1.2.4 | Name of **respondent** …….. | |
| 1.2.5 | **Relationship of Respondent** to Household Head | |

***Relationship to household head codes (Q 1.2.5)***

*Head of Household…...1 Son/Daughter ……...3 Grandson/Granddaughter ……5 Other (friend, employee, etc)…8*
*Spouse ……..….2 Father/Mother ….…4 Other relative.……...6*

## 2.0 ACTIVITIES OF THE HOUSEHOLD

| | | |
|---|---|---|
| 2.1 | **Type** of Agriculture Household | |

***Agriculture household codes(Q2.1)***

*Crops only……...1 Livestock only ……..2 Pastoralist……...3 Crops and Livestock ……..4*

### 2.2 **Rank the following livelihood activities/source of income** of the household in order of importance

| 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 | | % |
| 2.2.2 | **Permanent** crop farming | | % |
| 2.2.3 | **Livestock** keeping/herding | | % |
| 2.2.4 | **Off Farm Income** | | % |
| 2.2.5 | **Remittances** | | % |
| 2.2.6 | **Fishing/hunting** and gathering | | % |
| 2.2.7 | **Tree/forest** resources (eg honey, firewood, timber,etc) | | % |
| | | | 1 0 0 % |

## 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 decissions.

**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 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 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

**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 | Relation-ship 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: Read & Write | Education Status | Education Level reached | Involvemen in farmin | Main activity (for aged 5 & above) | Off-farm Income Yes=1 No=2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Mother | Father | | | | | | |
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* | *(8)* | *(9)* | *(10)* | *(11)* | *(12)* |
| 3.1.1 | …… | 1 | | | | | | | | | | |
| 3.1.2 | …… | | | | | | | | | | | |
| 3.1.3 | …… | | | | | | | | | | | |
| 3.1.4 | …… | | | | | | | | | | | |
| 3.1.5 | …… | | | | | | | | | | | |
| 3.1.6 | …… | | | | | | | | | | | |
| 3.1.7 | …… | | | | | | | | | | | |
| 3.1.8 | …… | | | | | | | | | | | |
| 3.1.9 | …… | | | | | | | | | | | |
| 3.1.10 | …… | | | | | | | | | | | |
| 3.1.11 | …… | | | | | | | | | | | |
| 3.1.12 | …… | | | | | | | | | | | |
| 3.1.13 | …… | | | | | | | | | | | |
| 3.1.14 | …… | | | | | | | | | | | |
| 3.1.15 | …… | | | | | | | | | | | |
| 3.1.16 | …… | | | | | | | | | | | |

***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*

***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 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*

***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*

***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*

## 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.

**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.

## 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** | |
| 4.1.2 | Area owned under **Customary Law** | |
| 4.1.3 | Area **Bought** from others | |
| 4.1.4 | Area **Rented** from others | |
| 4.1.5 | Area **Borrowed** from others | |
| 4.1.6 | Area **Share -cropped** from others | |
| 4.1.7 | Area under **Other** forms of tenure …… | |
| | **Total area** | |

4.2 Was all land available to the hh used during 2002/03 (Yes=1, No=2) ☐

4.3 Do you consider that you have sufficient land for the hh (Yes=1, No=2) ☐

4.4 Do any female members of the hh own or have customary right to land (Yes=1, No=2) ☐

## 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 | Calculation area |
|---|---|---|---|
| 5.1.1 | Area under **Temporary Mono-crops** | | |
| 5.1.2 | Area under **Temporary Mixed** crops (eg Maize & beans) | | |
| 5.1.3 | Area under **Permanent Mono-crops** | | |
| 5.1.4 | Area under **Permanent Mixed** crops (eg bananas, coffee & trees) | | |
| 5.1.5 | Area under **Permanent/temporary mix** (eg bananas & maize) | | |
| 5.1.6 | Area under **Pasture** | | |
| 5.1.7 | Area under **Fallow** | | |
| 5.1.8 | Area under **Natural Bush** | | |
| 5.1.9 | Area under **Planted Trees** | | |
| 5.1.10 | Area **Rented** to others | | |
| 5.1.11 | Area **Unusable** | | |
| 5.1.12 | Area of **Uncultivated Usable** land (excluding fallow) | | |
| | **Total area** | | |

## 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: Homestead | Nearest road | Nearest Market |
|---|---|---|---|---|
| 6.1.1 | 1 | | | |
| 6.1.2 | 2 | | | |
| 6.1.3 | 3 | | | |

***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*

**6.2 In the following table indicate the distance and use of the following communal resources**

| S/N | Communal Resource | Distance to resource (km) dry season | wet season | Main hh use |
|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* |
| 6.2.1 | Water for **humans** | | | |
| 6.2.2 | Water for **livestock** | | | |
| 6.2.3 | Communal **Grazing** | | | |
| 6.2.4 | Communal **Firewood** | | | |
| 6.2.5 | Wood for **Charcoal** | | | |
| 6.2.6 | **Building** poles | | | |
| 6.2.7 | Forest for **bees (honey)** | | | |
| 6.2.8 | **Hunting(animal products)** | | | |
| 6.2.9 | **Fishing (Fish)** | | | |

**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

***Main hh use (Col 4)***

*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*

## 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 patterm 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 fertilized 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 landuse 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.**

**7.0 ANNUAL CROP AND VEGETABLE PRODUCTION - SHORT RAINY SEASON**

7.1.1 Did the hh **plant** any crops during the **Short Rainy** season? (Yes = 1, No=2) ☐ *If the response is **'NO'** give main reason* ☐ *Then go to section 7.2*

***Main Reason (Above)*** *No rains.....1 Rains came too late .....2 Does not plant annual crops .....3 No money 4 Don't get Vuli season ..5 Illness/social problems .....6 Has irrigation & does not follow season (give annual production in Masika) .....7*

7.1.2 For each crop planted during 2002/03 **Short Rainy** season provide the following information

| | | | | Planting | | Inputs | | | | | | Harvesting & Storage | | | | | | Marketing | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Name | Crop Code | Land Clea-ring | Soil prep-arat-ion | Planned area (acres) | Actual Planted area (acres) | % impr-oved seed | Irrig-at-ion use | Fer-til-iser use | Her-bic-ide use | Fun-gic-ide use | Pest-tic-ide use | How harv ested | How thres hed | Area Harvested (acres) | main prod-uct code | Quantity harvested (Kgs) | Quantity Stored (kgs) | Quantity sold (kgs) | Mostly sold to |
| *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* | *(8)* | *(9)* | *(10)* | *(11)* | *(12)* | *(13)* | *(14)* | *(15)* | *(16)* | *(17)* | *(18)* | *(19)* | *(20)* |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| ……. | | | | | | | | | | | | | | | | | | | |
| **Total Planned/Planted** | | | | | | | | | | | | **Total area harvested** | | | | | | | |

7.1.3 Main reason for difference between **Area Planned** and **Area Planted** ☐

7.1.4 Main reason for difference between **Area Planted** and **Area Harvested** ☐

***Land Clearing (Col 3)***
*Mostly bush clearance ...1*
*Mostly hand slashing .....2*
*Mostly tractor slashing ...3*
*Mostly burning .....4*
*No land clearing.....5*

***Soil preparation Method (Col 4)***
*Mostly tractor ploughing .1*
*Mostly Oxen ploughing ..2*
*Mostly Hand cultivation ..3*

***Improved seed Use (Col 7)***
*all Improved .....1*
*approx 3/4 improved.....2*
*approx 1/2 improved.....3*
*approx 1/4 improved.....4*
*less than 1/4 improved ..5*
*No improved seed used.6*

***Irrigation Use (Col 8)***
*Used on all crop .....1*
*Used on 3/4 of crop .....2*
*Used on 1/2 of crop.....3*
*Used on 1/4 of crop .....4*
*Used on less than 1/4....5*
*Not used .....6*

***Fertiliser codes (Col 9)***
*Mostly Farm Yard Manure 1*
*Mostly Compost .....2*
*Mostly Inorganic fertiliser ..3*
*No fertiliser applied ..... ..4*

***Agrochemical use codes (Col 10,11 &12)***
*Used on all crop .....1*
*Used on 3/4 of crop .....2*
*Used on 1/2 of crop.....3*
*Used on 1/4 of crop .....4*
*Used on less than 1/4 .....5*
*Not used .....6*

***Threshed/harvested (Col13 & 14)***
*By hand .....1*
*By draft animal .....2*
*By human powered tool.....3*
*By engine driven machine...4*
*Not applicable .....9*

***Main product (Col 16)***
*Dry Grain.....1*
*Green cob/green pod.....2*
*Green leaves & Stem.....3*
*Straw, dry stems etc .....4*
*Root, tuber, etc .....5*
*Flower eg pyrethrum .....6*
*Fruit/bunch .....7*
*Other.....8*
*Not harvested yet .....9*

***Mostly sold to (Col 20)***
*Neighbour.....01*
*Local market/trade store .....02*
*Secondary Market..03*
*Tertiary Market .....04*
*Marketing Coop ....05*
*Farmer Association06*
*Largescale farm ....07*
*Trader at Farm ....08*
*Contract Partner ...09*
*Did not sell .....10*
*Other .....98*

***Reason for difference between area planned and planted (Q7.1.3)***
*Drought .....1*
*Floods .....2*
*Access to land preparation tools (Draft animal/tractors).3*
*Credit .....4*
*Access to seeds/planting material.....5*
*Access to other inputs .....6*
*Other .....8*
*Not applicable .....9*

***Reason for difference between area planted and harvested (Q7.1.4)***
*Drought .....1*
*Rain/flood damage .....2*
*Fire damage .....3*
*Pest damage .....4*
*Animal damage .....5*
*Theft .....6*
*Illness/social problems .....7*
*Other .....8*
*Not applicable .....9*

**Definitions and working page for page 4**

*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) |
|---|---|---|---|---|---|
| *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* |
| Permanent crop 1 | | | 0.00 | | 0 . |
| Permanent crop 2 | | | 0.00 | | 0 . |
| Permanent crop 3 | | | 0.00 | | 0 . |
| Permanent crop 4 | | | 0.00 | | 0 . |
| Total Area of permanent crops in mix | | | | | 0 . |
| **REMAINING AREA UNDER TEMPORARY CROPS** | | | | | . |
| | | | | crop% | crop area |
| Temporary/permanent crop name 1 | | | | | . |
| Temporary/permanent crop name 2 | | | | | . |
| Temporary/permanent crop name 3 | | | | | . |
| Total area check | . | | | Crop total check | . |

| **Crop mixture 2** | Crop Name | Total area of mix (acre) | Ground area/plant (ACRE) | Total no. of plants | Total ground area of plants (ACRES) |
|---|---|---|---|---|---|
| *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* |
| Permanent crop 1 | | | 0.00 | | 0 . |
| Permanent crop 2 | | | 0.00 | | 0 . |
| Permanent crop 3 | | | 0.00 | | 0 . |
| Permanent crop 4 | | | 0.00 | | 0 . |
| Total Area of permanent crops in mix | | | | | 0 . |
| **REMAINING AREA UNDER TEMPORARY CROPS** | | | | | . |
| | | | | crop% | crop area |
| Temporary/permanent crop name 1 | | | | | . |
| Temporary/permanent crop name 2 | | | | | . |
| Temporary/permanent crop name 3 | | | | | . |
| Total area check | . | | | Crop total check | . |

**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** the 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/etc 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 | Bulrush Millet |
| 15 | Finger Millet |
| 16 | Wheat |
| 17 | Barley |
| 22 | Sweet Potatos |
| 23 | Irish potatos |
| 24 | Yams |
| 25 | Cocoyams |
| 26 | Onions |
| 27 | Ginger |

**Vegetable Codes:**

| Co -de | Crop |
|---|---|
| 86 | Cabbage |
| 87 | Tomatoes |
| 88 | Spinach |
| 89 | Carrot |
| 90 | Chillies |
| 91 | Amaranths |
| 92 | Pumpkins |
| 93 | Cucumber |
| 94 | Egg Plant |
| 95 | Water Mellon |
| 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 | Soyabeans |
| 48 | Caster seed |

**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 goto 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 peranent-annual crop mix/

(i) 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'.

(ii) obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.

(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 total area under temporary crops.

(v) 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.

## 7.2 ANNUAL CROP AND VEGETABLE PRODUCTION - LONG RAINY SEASON

7.2.1 Did the hh **plant** any crops during the **LONG RAINY** season? (Yes=1 No=2) ☐ *If the response is **'NO'** give main reason* ☐ *Then go to section 7.3*

***Main Reason (Above)*** *No rains.....1 Rains came too late .....2 Does not plant annual crops .....3 No money 4 Illness/social problems ..5*

7.2.2 For each crop planted during 2002/03 **Long Rainy** season provide the following information

| | | | | Planting | | Inputs | | | | | | | Harvesting & Storage | | | | | Marketing | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Name | Crop Code | Land Clea-ring | Soil prep-arat-ion | Planned area (acres) | Actual Planted area (acres) | % impr-oved seed | Irrig-at-ion use | Fer-til-iser use | Her-bic-ide use | Fun-gic-ide use | Pest-tic-ide use | How harv ested | How thres hed | Area Harvested (acres) | main prod-uct code | Quantity harvested (Kgs) | Quantity Stored (Kgs) | Quantity sold (kgs) | mostly sold to |
| *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* | *(8)* | *(9)* | *(10)* | *(11)* | *(12)* | *(13)* | *(14)* | *(15)* | *(16)* | *(17)* | *(18)* | *(19)* | *(20)* |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| ..... | | | | | | | | | | | | | | | | | | | |
| **Total Planned/Planted** | | | | | | | | | | | | **Total area harvested** | | | | | | | |

7.2.3 Main reason for difference between **Area Planned** and **Area Planted** ☐

7.2.4 Main reason for difference between **Area Planted** and **Area Harvested** ☐

***Land Clearing (Col 3)***
*Mostly bush clearance ...1*
*Mostly hand slashing .....2*
*Mostly tractor slashing ...3*
*Mostly burning .....4*
*No land clearing .....5*

***Soil preparation Method (Col 4)***
*Mostly tractor ploughing .1*
*Mostly Oxen ploughing ..2*
*Mostly Hand cultivation ..3*

***Improved seed Use (Col 7)***
*all Improved .....1*
*approx 3/4 improved.....2*
*approx 1/2 improved.....3*
*approx 1/4 improved.....4*
*less than 1/4 improved ..5*
*No improved seed used.6*

***Irrigation Use (Col 8)***
*Used on all crop .....1*
*Used on 3/4 crop .....2*
*Used on 1/2 crop .....3*
*Used on 1/4 of crop.....4*
*Used on less than 1/4 ...5*
*Not used .....6*

***Fertiliser codes (Col 9)***
*Mostly Farm Yard Manure 1*
*Mostly Compost .....2*
*Mostly Inorganic fertiliser ..3*
*No fertiliser applied ..... ..4*

***Agrochemical use codes (Col 10,11 &12)***
*Used on all crop .....1*
*Used on 3/4 of crop .....2*
*Used on half of crop.....3*
*Used on 1/4 of crop .....4*
*Used on less than 1/4 .....5*
*Not used .....6*

***Threshed/harvested (Col13 & 14)***
*By hand .....1*
*By draft animal .....2*
*By human powered tool.....3*
*By engine driven machine...4*
*Not applicable .....9*

***Main product (Col 16)***
*Dry Grain.....1*
*Green cob/green pod.....2*
*Green leaves & Stem.....3*
*Straw, dry stems etc .....4*
*Root, tuber, etc .....5*
*Flower eg pyrethrum .....6*
*Fruit/bunch.....7*
*Others .....8*
*Not harvested yet .....9*

***Mostly sold to (Col 20)***
*Neighbour.....01*
*Local market/trade store .....02*
*Secondary Market..03*
*Tertiary Market .....04*
*Marketing Coop ....05*
*Farmer Association06*
*Largescale farm ....07*
*Trader at Farm ....08*
*Contract Partner ...09*
*Did not sell .....10*
*Other .....98*

***Reason for difference between area planned and planted (Q7.2.3)***
*Drought .....1*
*Floods .....2*
*Access to land preparation tools (Draft animal/tractors).3*
*Credit .....4*
*Access to seeds/planting material.....5*
*Access to other inputs .....6*
*Other .....8*
*Not applicable .....9*

***Reason for difference between area planted and harvested (Q7.2.4)***
*Drought .....1*
*Rain/flood damage .....2*
*Fire damage .....3*
*Pest damage .....4*
*Animal damage .....5*
*Theft .....6*
*Illness/social problems .....7*
*Other .....8*
*Not applicable.....9*

**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) |
|---|---|---|---|---|---|
| *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* |
| Permanent crop 1 | | | 0.00 | | 0. |
| Permanent crop 2 | | | 0.00 | | 0. |
| Permanent crop 3 | | | 0.00 | | 0. |
| Permanent crop 4 | | | 0.00 | | 0. |
| Total Area of permanent crops in mix | | | | | 0. |
| **REMAINING AREA UNDER TEMPORARY CROPS** | | | | | . |
| | | | | Temp crop% | Temp crop area |
| Permanent/Temporary crop name 1 | | | | | . |
| Permanent/Temporary crop name 2 | | | | | . |
| Permanent/Temporary crop name 3 | | | | | . |
| Total area check | . | | Temoporary crop total check | | . |

| **Crop mixture 2** | Crop Name | Total area of mix (acre) | Ground area/plant (ACRE) | Total no. of plants | Total ground area of plants (ACRES) |
|---|---|---|---|---|---|
| *(a)* | *(b)* | *(c)* | *(d)* | *(e)* | *(f)* |
| Permanent crop 1 | | | 0.00 | | 0. |
| Permanent crop 2 | | | 0.00 | | 0. |
| Permanent crop 3 | | | 0.00 | | 0. |
| Permanent crop 4 | | | 0.00 | | 0. |
| Total Area of permanent crops in mix | | | | | 0. |
| **REMAINING AREA UNDER TEMPORARY CROPS** | | | | | . |
| | | | | Temp crop% | Temp crop area |
| Temporary/permanent crop name 1 | | | | | . |
| Temporary/permanent crop name 2 | | | | | . |
| Temporary/permanent crop name 3 | | | | | . |
| Total area check | . | | Temoporary crop total check | | . |

**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** 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

**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 | Bulrush Millet |
| 15 | Finger Millet |
| 16 | Wheat |
| 17 | Barley |
| 22 | Sweet Potatos |
| 23 | Irish potatos |
| 24 | Yams |
| 25 | Cocoyams |
| 26 | Onions |
| 27 | Ginger |

**Vegetable Codes:**

| Code | Crop |
|---|---|
| 27 | Ginger |
| 86 | Cabbage |
| 87 | Tomatoes |
| 88 | Spinach |
| 89 | Carrot |
| 90 | Chillies |
| 91 | Amaranths |
| 92 | Pumpkins |
| 93 | Cucumber |
| 94 | Egg Plant |
| 95 | Water Mellon |
| 96 | Cauliflower |
| 20 | Garlic |

**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 | Soyabeans |
| 48 | Caster seed |

**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 goto 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 peranent-annual crop mix
- (i) 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'.
- (ii) obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.
- (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 total area under temporary crops.
- (v) 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.

## 7.3 PERMANENT/PERENNIAL CROPS AND FRUIT TREE PRODUCTION

7.3.1 Does your household have any **permanent/perennial crops or fruit trees** (Yes=1, No=2) [1]

7.3.2 For each of the **permanent crops and fruit trees** owned by the household provide the following informatior

| | | Size of production unit | | | Inputs | | | | | Harvesting & Storage | | | | | | Marketing | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MONOCROP | MIXED CROP | | | | | | | | | | | | | | |
| Perm-anent Crop Name | Perman-ent crop/ fruit tree crop Code | Area of Plants/ trees/Bushes in MONO CROP (acres) | Area covered by Permanent Crop in a MIXED CROP (acre) | Number of permanent Plants/trees in a MIXED CROP | Irrig-at-ion use | Fert-ilis-er use | Herb-ic-ide use | Fun-gic-ide use | Pest-ici-de use | Area Harvested (acres) | Number of mature plants | main prod-uct code | Quantity harvested (kgs) | If no harvest give re-ason | Quantity Stored (Kgs) | Quantity sold (kgs) | mostly sold to |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |
| …… | | | | | | | | | | | | | | | | | |

***Irrigation Use (Col 6)***
*Used on all crop ……..1*
*Used on most crop ……..2*
*Used on half crop ……..3*
*Used on small amount of crop..4*
*Not used on crop ……..5*

***Fertiliser codes (Col 7)***
*Mostly Farm Yard Manure……1*
*Mostly Compost ……..2*
*Mostly Inorganic fertiliser …….3*
*No fertiliser applied ……..4*

***Agrochemical use codes (Col 8, 9 & 10)***
*Used on all crop ……1*
*Used on 3/4 of crop ……..2*
*Used on 1/2..of crop……..3*
*Used on 1/4 of crop ……..4*
*less than 1/4 of crop …….5*
*Not used ……6*

***Main product (Col 13)***
*Dry Grain……..1*
*Green cob/green pod..2*
*Green leaves & Stem..3*
*Straw, dry stems etc ...4*
*Root, tuber, etc ……..5*
*Flower ……..6*
*Fruit/bunch……..7*
*Other ……..8*
*Not harvested yet …..9*

***Main Reason for no harvest(Col 15)***
*Crop not harvested yet ……..1*
*Drought ……..2*
*Rain/flood damage ……..3*
*Fire damage ……..4*
*Pest damage ……..5*
*Animal damage ……..6*
*Theft ……..7*
*Other ……..8*
*Not applicable ……..9*

***Mostly sold to (Col 18)***
*Neighbour……..01*
*Local market/trade store…..02*
*Secondary Market ……..03*
*Tertiary Market ……..04*
*Marketing Coop ……05*
*Farmer Association ……..06*
*Largescale farm ……..07*
*Trader at farm ……08*
*Contract Partner ……..09*
*Did not sell ……..10*
*Other ……..98*

**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 neec 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).

**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 bared 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 (oils):**

| Code | Crop | Ground area/plant |
|---|---|---|
| 44 | Palm Oil | 0.00049 |
| 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 | Tamarin | 0.00099 |
| 64 | Cinamon | 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 | Pineapple | 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 |
| 76 | Orange | 0.00074 |
| 77 | Grapefruit | 0.00074 |
| 78 | Grapes | 0.00012 |
| 79 | Mandarin | 0.00074 |
| 80 | Guava | 0.00074 |
| 81 | Plums | 0.00074 |
| 82 | Apples | 0.00074 |
| 83 | Pears | 0.00074 |
| 84 | Peaches | 0.00074 |
| 85 | Lime/lemon | 0.00074 |
| 68 | Pomelo | 0.00099 |
| 69 | Jack fruit | 0.00074 |
| 97 | Durian | 0.00074 |
| 98 | Bilimbi | 0.00074 |
| 99 | Rambutan | 0.00074 |
| 67 | Bread fruit | 0.00099 |
| 38 | Malay apple | 0.00074 |
| 39 | Star fruit | 0.00074 |

**Working Area/calculation space**

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 | Whe-re sold | By-Prod-uct code | Used for | Unit | Quantity of by-product | Quan-tity 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 ……9*
*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 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 | Simsim | straw | oil | Cake | |
| 43 | Groundnut | straw | oil | Cake | |
| 47 | Soya beans | straw | oil | Cake | |
| 48 | Caster seed | straw | oil | Cake | |
| 75 | Pineapple | | 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 | | dried powder | | |
| 91 | Amaranths | | | | |
| 92 | Pumpkins | leaves | | | |
| 93 | Cucumber | | | | |
| 94 | Egg Plant | | | | |
| 95 | Water Mellon | | | | |
| 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 | Mandarin | 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:**

**1.** 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.
**2.** For the listed crops give details of the secondary products used.
**3.** If no units were sold, enter "0" in columns 8 & 9.

**Q 8.0 Agroprocessing & bi-products:**

**1.** From the list of crops in Q 7.1.2, 7.2.2 & 7.3.2, ask the respondant 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.
**2.** For the listed crops give details of the secondary crops used.
**3.** If no main product or bi-product was sold enter "0" in columns 8 & 14.
**4.** 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.

## 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 purpose | Estimate Storage loss |
|---|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* |
| 9.2.1 | Maize | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.2 | Paddy | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.3 | Sorghum/Millet | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.4 | Beans, peas, etc | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.5 | Wheat | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.6 | Coffee | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.7 | Cashewnut | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.8 | Tobacco | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.9 | Cotton | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |
| 9.2.10 | Groundnuts/bambara | ☐ | ☐☐☐☐ | ☐ | ☐ | ☐ | ☐ |

***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 67)***
*Little or no loss ……1*
*Up to 1/4 loss ……2*
*Between 1/4and 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 |
|---|---|---|
| | *(1)* | *(2)* |
| 10.2.1 | Maize | ☐☐ |
| 10.2.2 | Rice | ☐☐ |
| 10.2.3 | Sorghum/millet | ☐☐ |
| 10.2.4 | Wheat | ☐☐ |
| 10.2.5 | Beans, peas etc | ☐☐ |
| 10.2.6 | Cassava | ☐☐ |
| 10.2.7 | Bananas | ☐☐ |
| 10.2.8 | Coffee | ☐☐ |
| 10.2.9 | Vegetables | ☐☐ |
| 10.2.10 | Tree Fruits | ☐☐ |
| 10.2.11 | Cashewnut | ☐☐ |
| 10.2.12 | Cotton | ☐☐ |
| 10.2.13 | Tobacco | ☐☐ |
| 10.2.14 | Groundnuts/bamabara | ☐☐ |
| 10.2.15 | Trees/timber/poles | ☐☐ |
| 10.2.16 | Fish | ☐☐ |

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 | ☐☐ | |
| 10.3.2 | 2nd problem | ☐☐ | |
| 10.3.3 | 3rd problem | ☐☐ | |
| 10.3.4 | 4th problem | ☐☐ | |
| 10.3.5 | 5th problem | ☐☐ | |

***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 8**

**Question Specific definitions (Section 9.0)**
**Crop Storage, Section 9**

**Method of Storage (column 4)**

- **Locally made structure:** The structures that have been inherited from their fore fathers

- **Improved locally made structure:** Traditional structures that have been improved using modern technology.

- **Normal duration of storage:** 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.

**Marketing problems Q 10.2 and 10.3 col 2:**

- **Farmer Association:** 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.

- **Cooperative Union:** Large inter-village /community organisation set up on a district/regional or national basis for providing inputs, marketing and storing farmers products.

- **Government Regulatory board:** Government control body for setting prices and controlling quality of certain agriculture commodities.

**Procedures for Questions**

**Q 9.2 Details of Crop Storage:**

**1.** For the crops listed indicate if the household stored any during 2002/03 in column 2.

**2.** Check that the crops correspond to the crop lists in Q 7.1.2, 7.2.2 & 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

**3.** For the listed crops give details of storage.

**Q 10.2 Details on Crop Marketing:**

**1.** For each of the crops listed indicate the main problems in marketing during 2002/03 in column 2.

**2.** Check if the crops correspond to the crop lists list in Q 7.1.2, 7.2.2 & 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

**Q 10.3 Ranking of market problems:**

Rank in order of importance the 5 most important marketing problems from the codes in the Market Problems code box.

**Working Area/calculation space**

## 11.0 ON-FARM INVESTMENT

11.1 Does the household practice **irrigation** (Yes=1, No=2) ☐

*If the response is 'NO' go to section 11.3*

| S/N | Source of Irrigation water | Method of obtaining water | Method of applic -ation | Irrigatable area (acres) | Area of irrig ated land this year (acres) |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| 11.1.1 | ☐ | ☐ | ☐ | ☐☐☐.☐ | ☐☐☐.☐ |

***Source of irrigation water (Col 1)***
*River .....1 Borehole .....5*
*Lake .....2 Canal .....6*
*Dam .....3 Tap Water .....7*
*Well .....4*

***Method of obtaining water (Col 2)***
*Gravity .....1 motor pump .....4*
*Hand bucket .....2 Other .....8*
*Hand pump .....3*

***Method of application (Col 3)***
*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) ☐

*If the response is **'NO'** go to section 12.0*

| S/N | Type of erosion control/ water harvesting structure | Number of structures | Year of con- struction | S/N | Type of erosion control/ water harvesting structure | Number of structures | Year of con- struction |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | | (1) | (2) | (3) |
| 11.2.1 | Terraces | ☐☐ | ☐☐ | 11.2.5 | Tree belts | ☐☐ | ☐☐ |
| 11.2.2 | Erosion control bunds | ☐☐ | ☐☐ | 11.2.6 | Water harvesting bunds | ☐☐ | ☐☐ |
| 11.2.3 | Gabions/Sandbags | ☐☐ | ☐☐ | 11.2.7 | Drainage ditches | ☐☐ | ☐☐ |
| 11.2.4 | Vetiver Grass | ☐☐ | ☐☐ | 11.2.8 | Dam | ☐☐ | ☐☐ |

## 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 Fin -ance | 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 | ☐ | ☐☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12.1.2 | Farm Yard Manure | ☐ | ☐☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12.1.3 | Compost | ☐ | ☐☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12.1.4 | Pesticide/fungicide | ☐ | ☐☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12.1.5 | Herbicide | ☐ | ☐☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12.1.6 | Improved Seeds | ☐ | ☐☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12.1.7 | Other …… | ☐ | ☐☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

***Source (Col 3)***
*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*

***Distance to source (Col 4)***
*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*

***Source of finance (Col 5)***
*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*

***Reason for not using (Col 6)***
*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*

***Quality of input (Col 7)***
*Excellent .....1*
*Good .....2*
*Average .....3*
*Poor .....4*
*Does not work .5*
*not applicable...9*

## Definition and working page for page 9

### Overview of Investment activities (Section 11.0)

**Investment activities:**

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.

### Question Specific Definitions (Q 11.1)

**Source of irrigation Water (Col 1):** The main source of water from which water is obtained for irrigation.

**Method of obtaining water (Col 2):** The mechanism by which the water is extracted from the source,

**Application Method (Col 3):** 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.

**Irrigatable Area (Col 4):** The area the irrigation system is designed to cover in acres.

**Area of irrigated land this year (Col 5):** 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.

**Q 11.1 Irrigation**

**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.

### Question Specific Definitions (Q 11.3)

**Erosion control/water harvesting structure (Col 1)**

**Terraces:** 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/lowland rice production.

**Erosion Control Bunds:** 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.

**Gabions:** A gabion is a wire mesh box filled with rocks/stones and used to control or prevent gully erosion

**Sandbags** Used to prevent or control gully erosion

**Tree belts/Wind breaks:** A band of trees planted perpendicular to the prevailing wind whose main purpose is to slow down wind speed

**Water Harvesting bunds:** A bank of earth constructed horizontal to the slope of the land to trap water. They are usually banana shaped.

**Dam:** A bank of earth/material which traps river water to form a catchment of water behind it.

**Q 11.3 erosion control/water harvesting**

**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.

**Farm Inputs (Q 12.1.1 to 12.1.7)**

**Farm yard Manure:** An organic fertiliser made on farm composed of animal dung.

**Compost:** An organic fertiliser made on farm from decomposed plant material

**Pesticide:** Chemical used to either protect the plant from or kill insects, birds, molluscs, mites, etc attacking the plant

**Fungicide:** is a chemical that s used to protect the plant from or control a fungal disease.

**Herbicide:** A chemical used to control weeds.

**Q 12.0 Farm Inputs**

**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.

**NOTE: Cross check column 6, 7, 8 & 9 , Q 7.1.2, 7.2.2 & 7.3.2 to check what inputs were used.**

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 Owned | Number rented | 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 |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 12.2.1 | Hand Hoe | | | | | | | |
| 12.2.2 | Hand Powered Sprayer | | | | | | | |
| 12.2.3 | Oxen | | | | | | | |
| 12.2.4 | Ox Plough | | | | | | | |
| 12.2.5 | Ox Seed Planter | | | | | | | |
| 12.2.6 | Ox Cart | | | | | | | |
| 12.2.7 | Tractor | | | | | | | |
| 12.2.8 | Tractor Plough | | | | | | | |
| 12.2.9 | Tractor Harrow | | | | | | | |
| 12.2.10 | Shellers/threshers | | | | | | | |

***Source of equipment (Col 5)***
*Neighbour..... .....1 Development project .....5*
*Cooperative .....2 Government .....6*
*Local farmers association.....3 Large scale farm .....7*
*market/Trade store .....4 Other (specify) .....8*

***Source of finance (Col 6)***
*Sale of farm products .....1*
*Other income generating activities .2*
*Remittances .....3*
*Bank Loan .....4*
*Credit .....5*
*Other ..... .....8*
*Not applicable .....9*

***Reason for not using (Col 7)***
*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*

## 13.0 USE OF CREDIT FOR AGRICULTURE PURPOSES

13.1 During the year 2002/03 did any of the hh members **borrow money** for **agriculture** (Yes = 1, No = 2) ☐
*(if the response is 'NO' go to section 13.3)*

13.2 Give details of the **credit** obtained during the agricultural year **2002/03**
***(if the credit was provided in kind , for example by the provision of inputs, then estimate the value in 13.2.9)***

| | | Source "a" | Source "b" | Source "c" |
|---|---|---|---|---|
| | use codes to indicate source | ☐ | ☐ | ☐ |
| | Provided to Male = 1, Female 2 | ☐ | ☐ | ☐ |
| | | 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 | ☐ | ☐ | ☐ |
| 13.2.2 | Seeds | ☐ | ☐ | ☐ |
| 13.2.3 | Fertilisers | ☐ | ☐ | ☐ |
| 13.2.4 | Agrochemicals | ☐ | ☐ | ☐ |
| 13.2.5 | Tools/equipment | ☐ | ☐ | ☐ |
| 13.2.6 | Irrigation structures | ☐ | ☐ | ☐ |
| 13.2.7 | Livestock | ☐ | ☐ | ☐ |
| 13.2.8 | Other ……. | ☐ | ☐ | ☐ |
| 13.2.9 | **Value of Credit (Tsh.)** | ☐☐☐☐☐☐☐ | ☐☐☐☐☐☐☐ | ☐☐☐☐☐☐☐ |
| 13.2.10 | **Value of repayment (Tsh.)** | ☐☐☐☐☐☐☐ | ☐☐☐☐☐☐☐ | ☐☐☐☐☐☐☐ |
| 13.2.11 | **Period of repayment (months)** | ☐☐☐ | ☐☐☐ | ☐☐☐ |

***Source of credit (Q 13.2-a, b and c))*** *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? ☐

***Reason for not using credit (Q13.3)*** *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 ....9*

## Definition and working page for page 10

### Question Specific Definitions (Q 12.2)

**Farm Implements (Col 1):**

**Hand powered Sprayer:** Knapsack or bicycle pump sprayer

**Reason for not using (Col 6):** 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.

**Note:** If remittance is given as the main source of finance check for a response to remittances in **question 2.2.5**

### Question Specific Definitions (Q 13.0)

**Section 13.0 Credit for Agriculture Purposes**

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.

Credit may be paid back in the form of cash or agriculture produce.

**Section 13.0 Credit for Agriculture Purposes**

**Value of credit:** is the amount in cash received from the borrower. If the credit was paid in-kind, estimate the value of this.

**Value of repayment**: 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.

**Period of repayment:** This is the time **in months** the borrower has given for full repayment.

### Procedures for questions

**Q 12.0 Farm Inputs**

**1.** Indicate in column 2 and 3 whether each of the implements were used or not.

**2.** Complete cols 4, 5, 6, and 8 for inputs that are used and place **'9'** in column 7 (for not applicable).

3. Complete cols 7 & 8 for inputs not used.

**Section 13.2 Source of agriculture credit**

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".

**NOTE:** Check for use of inputs in column 7, 8 & 9 of questions 7.1.2, 7.2.2 & 7.3.2.

**Working Area/calculation space**

## 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 | Where planted | Main Use | Second Use | Number of Plank trees Sold | Number of Pole trees Sold | hh utilised Number of Poles | hh utilised Number of Timber | Total Value (Tsh.) |
|---|---|---|---|---|---|---|---|---|---|---|
| | (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 Involvement | 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 rehaiblitation ...4*
*Production of poles .....2* *Restoration of wildlife .....5*
*production of firewood..3* *Other (specify) .....8*

***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*

## Definition and working page for page 11

### General Definitions for section 14.0

**Tree Farming/Agroforestry**

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.

**Tree farming** 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.

**Agroforestry:** 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.

**Section 14.2 Details of planted trees**

**1.** Enter the tree codes of the main species grown by the hh

**2.** If no planks or poles are sold enter a "0" in columns 8, & 9.

**3.** Total value includes both value of hh utilised trees and sold trees.

**4.** If no trees were utilised by the hh or sold enter "0" in column 10

### Question Specific Definitions

**Tree farming (Section 14.0)**

**Pole trees (Col 6):** 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.

**Plank trees (Col 7):** Trees for sawing into timber planks.

**Animal shade:** Trees grown for the purpose of providing shade to animals.

**Community tree planting scheme (Section 14.3)**

**Community Forest:** A forest planted on the communal land which is planted, replanted or spot planted by the members of the village.

**Crop Extension Services (Section 15.1)**

**Contact Farmer:** 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

**Group member:** Member of a group under which the contact farmer leads

**Adoption:** This is the uptake of an intervention for 2 or more years

**Section 15.1 Crop Extension Services**

**1.** For each of the extension providers ask if the hh received extension during 2002/2003 agriculture year and indicate in column 2.

**2.** For each of the providers complete the rest of the columns

Tree Name Guide Col 1

| Code | Local Name | Botanical Name | English Name |
|---|---|---|---|
| 01 | | Senna siamea | Cassod tree |
| 02 | Msongoma | Gravellia | Silver oak |
| 03 | Mbarika | Afzelia quanzensis | Pod mahogony |
| 04 | Mkeshia | Acacia spp | Umbrella thorn |
| 05 | Msindano | Pinus spp | Pine |
| 06 | Mkaratusi | Eucalyptus spp | Red River Gum |
| 07 | | Cyprus spp | Cyprus tree |
| 08 | Mtondoo | Calophylum inophyllum | |
| 09 | Mvule | Melicia excelsa | Iroko |
| 10 | Mvinji | Casurina equisetfilia | Whistling oak |
| 11 | Msaji | Tectona grandis | Teak |
| 12 | Mkungu wa kienyeji | Terminalia catapa | Sea almond |
| 13 | Mkungu india | Terminilia ivorensis | Black afara |
| 14 | Muhumula | Maesopsis berchemoides | |
| 15 | | | |

| Code | Local Name | Botanical Name | English Name |
|---|---|---|---|
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |
| 21 | | | |
| 22 | | | |
| 23 | | | |
| 24 | | | |
| 25 | | | |
| 26 | | | |
| 27 | | | |
| 28 | | | |
| 29 | | | |
| 30 | | | |

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 | | | |
| 15.2.2 | Use of agrochemicals | | | |
| 15.2.3 | Erosion control | | | |
| 15.2.4 | Organic fertiliser use | | | |
| 15.2.5 | Inorganic fertiliser use | | | |
| 15.2.6 | Use of improved seed | | | |
| 15.2.7 | Mechanisation/LST | | | |
| 15.2.8 | Irrigation Technology | | | |
| 15.2.9 | Crop Storage | | | |
| 15.2.10 | Vermin control | | | |
| 15.2.11 | Agro-processing | | | |
| 15.2.12 | Agro-forestry | | | |
| 15.2.13 | Bee Keeping | | | |
| 15.2.14 | Fish Farming | | | |
| 15.2.15 | Other | | | |

***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:

| | the 5 most important problems | | | the 5 least important problems | |
|---|---|---|---|---|---|
| 16.1 | **Order of most importance** | **Constraint** | 16.2 | **Order of least importanc** | **Constraint** |
| | (1) | (2) | | (1) | (2) |
| 16.1.1 | most important | | 16.2.1 | Least important | |
| 16.1.2 | 2nd most important | | 16.2.2 | 2nd least important | |
| 16.1.3 | 3rd most important | | 16.2.3 | 3rd least important | |
| 16.1.4 | 4th most important | | 16.2.4 | 4th least important | |
| 16.1.5 | 5th most important | | 16.2.5 | 5th least important | |

**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. Distruction 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 | | | . |
| 17.1.2 | Bulls | | | . |
| 17.1.3 | Cows | | | |
| 17.1.4 | Donkeys | | | . |

17.2 Did you apply organic fertiliser during 02/03 (Yes=1, No=2) ☐

(If no, go to question 18)

| S/N | Type of organ Fertiliser | Area applied (acres) |
|---|---|---|
| | (1) | (2) |
| 17.2.1 | FYM | . |
| 17.2.2 | Compost | . |

**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 ✓ 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 ✗ 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

## 18.0 CATTLE POPULATION, INTAKE AND OFFTAKE

18.1 Did the household own, raise or manage any **CATTLE** during 2002/03 agriculture year? (Yes =1 No =2) ☐

(If **no** go to section 19.0)

**18.2 Cattle Population** as of 1st October 2003

| S/N | Cattle type | Number of Indigenous | Number of Improved: Beef | Number of Improved: Dairy | Total |
|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* |
| 18.2.1 | Bulls | | | | |
| 18.2.2 | Cows | | | | |
| 18.2.3 | Steers | | | | |
| 18.2.4 | Heifers | | | | |
| 18.2.5 | Male Calves | | | | |
| 18.2.6 | Female Calves | | | | |
| | **Grand Total** | | | | |

18.3 **Cattle Intake** during 2002/2003

| S/N | Number Purchased | Number given /obtained | Number Born | Total Intake of Cattle | Average Value per head |
|---|---|---|---|---|---|
| | *(6)* | *(7)* | *(8)* | *(9)* | *(10)* |
| 18.3.1 | | | X X X | | |
| 18.3.2 | | | X X X | | |
| 18.3.3 | | | X X X | | |
| 18.3.4 | | | X X X | | |
| 18.3.5 | | | | | |
| 18.3.6 | | | | | |
| | | **Total Intake** | | | |

18.4 **Cattle Offtake** during 2002/2003

| S/N | Cattle type | Number Sold/traded | Number consumed by hh | Number given away/stolen | Number died | Total Cattle Offtake | Average value per head |
|---|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* |
| 18.4.1 | Bulls | | | | | | |
| 18.4.2 | Cows | | | | | | |
| 18.4.3 | Steers | | | | | | |
| 18.4.4 | Heifers | | | | | | |
| 18.4.5 | Male Calves | | | | | | |
| 18.4.6 | Female Calves | | | | | | |
| | | | | | **Total Offtake** | | |

18.5 **Cattle diseases**

| S/N | Disease/ parasite | Number Infected | Number Treated | No. Rec-overed | Number Died | Last vaccinated | Main Source |
|---|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | (3) | *(4)* | *(5)* | *(6)* | *(7)* |
| 18.5.1 | Tick Borne diseases | | | | | | |
| 18.5.2 | CBPP | | | | | | |
| 18.5.3 | Trypanosomiasis | | | | | X | X |
| 18.5.4 | Lumpy Skin Disease | | | | | | |
| 18.5.5 | Helmenthioitis | | | | | X | X |
| 18.5.6 | FMD | | | | | | |

18.6 **Milk Production**

| S/N | Season | Litres of milk/day | No. of cattle milked/day | Value/litre | Sold to | Sold/day (Litres) |
|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* |
| 18.6.1 | Wet Season | | | | | |
| 18.6.2 | Dry Season | | | | | |

***Sold to Q18.6 Col 5)***

*Neighbour……..1 Largescale 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 13**

## General definitions for page 13

**Cattle Intake during 2002/03:** Cattle purchased, given or born which increases the number of cattle in the herd.

**Cattle Offtake during 2002/03:**
Cattle removed from the herd, either by selling, hh consumption, given away or stolen.

## Question Specific Definitions (Section 18.0)

**Cattle type (Q 18.2 & 18.4, Col 1)**

**Bull:** Mature **Uncastrated** male cattle used for breeding

**Cow:** Mature female cattle that has given birth at least once

**Steer:** Castrated male cattle over 1 year

**Heifer:** Female cattle of 1 year up to the first calving

**Calves:** Young cattle under 1 year of age

**Average Value per Head (Q 18.3, (Col 7 & 9) & 18.4 (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.

**Cattle vaccination (18.5 col 1)**

**ECF:** East Coast Fever

**FMD:** Foot and Mouth Disease

**CBPP:** Contagious Bovine Pleura Pneumonia

**Section 18.0 Cattle Population, Intake & Offtake.**

**NOTE: 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.**

**1.** If the household has cows, you would normally expect them to have calves in column 8

**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

**Note: If the farmer reports sales of cattle the importance of this must be reflected in Q 2.2.3**

**Section 18.5 If cattle are reported to have died in Column 5 then at least that number should be reported in 18.4 col 4**

**Working area for page 13**

## 19.0 GOAT POPULATION, INTAKE AND OFFTAKE

19.1 Did the household own, raise or manage any **GOATS** during the 2002/03 agriculture year? (Yes =1 No =2) ☐
(If no go to section 20.0)

**19.2 Goat Population** as of 1st October 2003

| S/N | Goat type | Number of Indigenous | Number of Improved for meat | Number of Improved Dairy | Total |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| 19.2.1 | Billy Goat | | | | |
| 19.2.2 | Castrated Goat | | | | |
| 19.2.3 | She Goat | | | | |
| 19.2.4 | Male Kid | | | | |
| 19.2.5 | She Kid | | | | |
| | | | | **Grand Total** | |

19.3 **Goat Intake** during 2002/2003

| S/N | Number Purchased | Number given /obtained | Number Born | Total Intake of Goats | Average Value per head |
|---|---|---|---|---|---|
| | (6) | (7) | (8) | (9) | (10) |
| 19.3.1 | | | X X X | | |
| 19.3.2 | | | X X X | | |
| 19.3.3 | | | X X X | | |
| 19.3.4 | | | | | |
| 19.3.5 | | | | | |
| | | | **Total Intake** | | |

19.4 **Goat Offtake** during 2002/2003

| S/N | Goat type | Number Sold/traded | Number consumed by hh | Number given away/stolen | Number died | Total Goat Offtake | Average value per head |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 19.4.1 | Male goat | | | | | | |
| 19.4.2 | Castrated Goat | | | | | | |
| 19.4.3 | She Goat | | | | | | |
| 19.4.4 | Male Kid | | | | | | |
| 19.4.5 | She Kid | | | | | | |
| | | | | | **Total Offtake** | | |

19.5 **Goat diseases**

| S/N | Disease/ parasite | Number Infected | Number Treated | No. Rec -overed | Number Died | Last vaccinated | Main Sou -rce |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 19.5.1 | Foot Rot | | | | | X | X |
| 19.5.2 | CC PP | | | | | | |
| 19.5.3 | Helminthiosis | | | | | X | X |
| 19.5.4 | Tetanus | | | | | | |
| 19.5.5 | Mange | | | | | X | X |

19.6 **Milk Production**

| S/N | Season | Litres of milk/day | No. of Goats milked/day | Value/litre | Sold to | Sold/day (Litres) |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| 19.6.1 | Wet Season | | | | | |
| 19.6.2 | Dry Season | | | | | |

***Sold to Q19.6 Col 5)***
*Neighbour…….....1 Largescale 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 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

**LSD:** 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 18.3 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**

## 20.0 SHEEP POPULATION, INTAKE AND OFFTAKE

20.1 Did the household own, raise or manage any **SHEEP** during the 2002/03 agriculture year? (Yes =1 No =2) ☐

(If no go to section 21.0)

20.2 **Sheep Population** as of 1st October 2003

| S/N | Sheep type | Number of Indigenous | Number of Improved for Mutton | Number of Improved Dairy | Total |
|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* |
| 20.2.1 | Ram | | | X X X | |
| 20.2.2 | Castrated Sheep | | | X X X | |
| 20.2.3 | She Sheep | | | X X X | |
| 20.2.4 | Male lamb | | | X X X | |
| 20.2.5 | She lamb | | | X X X | |
| | **Grand Total** | | | | |

20.3 **Sheep Intake** during 2002/2003

| S/N | Number Purchased | Number given /obtained | Number Born | Total Intake of Sheep | Average Value per head |
|---|---|---|---|---|---|
| | *(6)* | *(7)* | *(8)* | *(9)* | *(10)* |
| 20.3.1 | | | X X X | | |
| 20.3.2 | | | X X X | | |
| 20.3.3 | | | X X X | | |
| 20.3.4 | | | | | |
| 20.3.5 | | | | | |
| | | | | | |

20.4 **Sheep Offtake** during 2002/2003

| S/N | Sheep type | Number Sold/traded | Number consumed by hh | Number given away/stolen | Number died | Total Sheep Offtake | Average value per head |
|---|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* |
| 20.4.1 | Ram | | | | | | |
| 20.4.2 | Castrated Sheep | | | | | | |
| 20.4.3 | She Sheep | | | | | | |
| 20.4.4 | Male lamb | | | | | | |
| 20.4.5 | She lamb | | | | | | |
| | **Total Offtake** | | | | | | |

20.5 **Sheep diseases**

| S/N | Disease/ parasite | Number Infected | Number Treated | No. Rec-overed | Number Died | Last vaccinated | Main Source |
|---|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | (3) | *(4)* | *(5)* | *(6)* | *(7)* |
| 20.5.1 | Foot Rot | | | | | X | X |
| 20.5.2 | CC PP | | | | | | |
| 20.5.3 | Helminthiosis | | | | | X | X |
| 20.5.4 | Trypanosomiasis | | | | | | |
| 20.5.5 | FMD | | | | | | |

***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**

## 21.0 PIG POPULATION AND PRODUCTION

21.1 Did the household own, raise or manage any **PIGS** during the 2002/03 agriculture year (Yes =1 No =2) ☐
(If no go to section 22.0)

21.2 **PIG Population** as of 1 st October 2003

| S/N | Pig type | Number |
|---|---|---|
| | *(1)* | *(2)* |
| 21.2.1 | Boar | |
| 21.2.2 | Castrated male | |
| 21.2.3 | Sow/Gilt | |
| 21.2.4 | Male piglet | |
| 21.2.5 | She piglet | |
| | **Grand Total** | |

21.3 **Pig increase** during 2002/2003

| S/N | Number Purchased | Number given /obtained | Number Born | Total Pig Increase | Average Value per head |
|---|---|---|---|---|---|
| | *(3)* | *(4)* | *(5)* | *(9)* | *(10)* |
| 21.3.1 | | | X X X | | |
| 21.3.2 | | | X X X | | |
| 21.3.3 | | | X X X | | |
| 21.3.4 | | | | | |
| 21.3.5 | | | | | |
| | | | | | |

21.4 **Pig decrease** during 2002/2003

| S/N | Pig type | Number Sold/traded | Number consumed by hh | Number given away/stolen | Number died | Total Pig Offtake | Average value per head |
|---|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* |
| 21.4.1 | Boar | | | | | | |
| 21.4.2 | Castrated male | | | | | | |
| 21.4.3 | Sow/Gilt | | | | | | |
| 21.4.4 | Male piglet | | | | | | |
| 21.4.5 | She piglet | | | | | | |
| | **Total Offtake** | | | | | | |

21.5 **Pig diseases/pests/conditions**

| S/N | Disease/ parasite | Number Infected | Number Treated | No. Rec -overed | Number Died | Last vacci nated | Main Sou -rce |
|---|---|---|---|---|---|---|---|
| | *(1)* | *(2)* | (3) | *(4)* | *(5)* | *(6)* | *(7)* |
| 21.5.1 | Anthrax | | | | | | |
| 21.5.2 | ASF | | | | | | |
| 21.5.3 | Anemia | | | | | X | X |
| 21.5.4 | Helmenthiosis | | | | | X | X |

## 22.0 LIVESTOCK PEST & PARASITE CONTROL

22.1 Did you **deworm** your animals during 2002/03 (Yes=1, No-2) ☐
*(If the response is 'NO' go to section 22.3)*

22.2 Which animals did you **deworm**? (Tick appropriate boxes)
Cattle ☐ Goats ☐ Sheep ☐ Pigs ☐

22.3 Do you normally encounter a **tick** problem (Yes=1,No-2) ☐
*(If the response is 'NO' go to section 22.5)*

22.4 Which methods of tick control did you use ☐
***Control method (Q 22.4)*** *None..1 Spraying ..2 Dipping..3 Smearing ..4 Other.8*

22.5 Do you normally encounter a **tsetse fly** problem (Y=1,N=2) ☐
*(If the response is **'NO'** go to section 23.0)*

22.6 Which methods of control did you use ☐
***Control method (Q22.6)*** *None .1 Spray .2 Dipping .3 Trapping .4 Other .8*

***Last Vaccinated (Col 6)***
*2003 ..1 2000 ……..4*
*2002 ..2 before 2000 ….5*
*2001 ..3 Not Vaccinated.6*

***Main Source (Col 7)***
*Private Vet Clinic ..1*
*District Vet Clinic ..2*
*NGO/Project……..3*
*Other ……..……8*
*Not applicable ……9*

**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)**

**Boar:** 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)**

**ASF:** 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

**Note: 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**

**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 | CHICKEN DISEASES | Number infected | Number Treated | Number Died | Number Recovered |
|---|---|---|---|---|---|
| 24.1 | Newcastle Disease | | | | |
| 24.2 | Gumboro | | | | |
| 24.3 | Coccidiosis | | | | |
| 24.4 | Chorysa | | | | |
| 24.5 | Fowl typhoid | | | | |

| 25.0 | LIVESTOCK PRODUCTS | Sold during 2002/03 | | Consumed/utilised during 2002/03 | |
|---|---|---|---|---|---|
| | | 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 | Impo-rtan-ce of outlet | Outlets for Cattle | Out-lets for Goat | Outlets for Sheep | Outl-ets for Pigs | Outlets for Chick-ens |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| 26.1 | 1st | | | | | |
| 26.2 | 2nd | | | | | |
| 26.3 | 3rd | | | | | |
| 26.4 | 4th | | | | | |
| 26.5 | 5th | | | | | |

***Outlet code (Col 2, 3, 4 & 5)***

*Trader at farm……1* *Abattoir/factory……5*
*Local Market …… ……2* *Another farmer ……6*
*Secondary market/auction……3* *Other (Specify)……8*
*Neighbour ……4*

***Source of structure (Q27.0 - Col 2)***

*Owns ……1* *NGO ……6*
*Cooperative ……2* *Large scale farm ……7*
*Local farmers association …… 3* *Other …… ……8*
*Gov extension/veterinary ……4* *Not applicable ……9*
*Development project …… ……5*

**27.0** Access to **functional Livestock structures /accessories**

| S/N | Type of structure/accessory | Source of Structure | Distance to struct-ure (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 | | . |

**Definition and working page for page 17**

**Question Specific Definitions Section 26.0)**

**Question Specific Definitions Section 27.0)**

**Access to functional Livestock Structures/accessories (Section 27.0):**

**NOTE: 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.**

**Spray Race:** A fixed spray structure on an animal race for spraying acaricide

**Cattle crush:** Corridor structure for restraining cattle.

**Abattoir:** 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.

**Slaughter Slab:** Concrete slab designed fos slaughtering a small amount of animals

**Hides:** obtained from Cattle

**Skins:** Obtained from sheep and goats

**Hide/Skin Shed:** Shed for curing/tanning animal skins and hides

**Village holding Pen:** Enclosure for containing large amount of livestock which is owned communally.

**Drencher:** Device for orally administering medicine to livestock.
If no product was sold in 2002 enter "0" in columns 6, 7& 9.

**Procedures for questions**

**Section 23.0 - Other Livestock:**

**1.** The current number includes both adult and young animals. For example The number of chickens in col 1 would include adults and chicks.

**Section 26.0 - Outlets for livestock:**

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".

## 28.0 FISH FARMING

28.1 Was **Fish farming** carried out by this household during 2002/2003? (Yes =1, No=2) ☐ *(If the response is **'NO'** go to section 29.0)*

28.2 Specify details of **fish farming practices**

| S/N | Production unit number | Fish farming system | Size of unit/pond (m2) | Source of fingerling | frequency of stocking (No/year) | Number of stocked fish: Tilapia | Number of stocked fish: Carp | Number of stocked fish: Other | Number of fish harvested | weight of fish harvested | weight of fish sold | Mainly sold to |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 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 resevoir..4*

***Source of fingerlings (Col 4)***
*Own pond ……1 NGO/Project...3 P rivate trader ...5*
*Government Institution ..2 Neighbour …..4 Other……8*

***Mainly sold to (Col 12)***
*Neighbour…….1 Secondary Market.....3 Largescale farm .....5 Did not sell .....7*
*Local Market…...2 Processing industry ....4 Trader at Farm .....6 Other .....8*

## 29.0 LIVESTOCK EXTENSION

29.1 Did you receive **livestock extension advice** during 02/03 (Yes=1,No=2) ☐ *(If the response is **'NO'** go to section 30.0)*

| S/N | Livestock Extension Message | Received Advice Yes=1,No=2 | Adopted Yes=1 No=2 | Source of Livestock Extension |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| 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) ….8*

29.2 For the following **Livestock Extension Service Providers** give details

| S/N | Extension Provider | If you pay for extension, what is the cost/yr | Contact far-mer/group member (Y=1,N=2) | No. of visits by extension agency/year | No. of mess-ages adopted in the last 3 yrs | Quality of Service |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| 29.2.1 | Government | | | | | |
| 29.2.2 | NGO/dev project | | | | | |
| 29.2.3 | Cooperative | | | | | |
| 29.2.4 | Large Scale farmer | | | | | |
| 29.2.5 | Other…… | | | | | |

***Quality of service (Col 6)*** *Very good ...1 good ….2 Average…3 Poor…4 No Good ...5*

## 30.0 GOVERNMENT REGULATORY PROBLEMS

31.1 Did you face problems with government regulations during 2002/03 (Y=1, N=2) ☐

(If the response is no go to section 31.0)

List in order of importance

| | | Problem code |
|---|---|---|
| 30.1.1 | 1st | |
| 30.1.2 | 2nd | |
| 30.1.3 | 3rd | |

***Problem code***
*Land ownership by government ……..1*
*Restriction of sale between regions ..2*
*Import of food items ……3*
*Other (specify)……..8*

**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. Fishing 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 3):** 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**

| 31.0 | LABOUR USE | | |
|---|---|---|---|
| 31.1 | Who is **mainly responsible** for undertaking the following tasks: | | |
| S/N | **Activity** | **Tick if carried out by hh** | **Main responsibility** |
| | *(1)* | *(2)* | *(3)* |
| 31.1.1 | Land **Clearing** | | |
| 31.1.2 | Soil **preparation (by hand)** | | |
| 31.1.3 | Soil **preparation (oxen/trac** | | |
| 31.1.4 | **Planting** | | |
| 31.1.5 | **Weeding** | | |
| 31.1.6 | **Crop Protection** | | |
| 31.1.7 | **Harvesting** | | |
| 31.1.8 | Crop **processing** | | |
| 31.1.9 | Crop **marketing** | | |
| 31.1.10 | Cattle r**earing/husbandry** | | |
| 31.1.11 | Cattle **herding** | | |
| 31.1.12 | Cattle **marketing** | | |
| 31.1.13 | Goat/sheep **rearing/husband** | | |
| 31.1.14 | Goat and sheep **herding** | | |
| 31.1.15 | Goat and sheep **marketing** | | |
| 31.1.16 | **Milking** | | |
| 31.1.17 | Pig **rearing/husbandry** | | |
| 31.1.18 | Poultry **keeping** | | |
| 31.1.19 | Collecting **Water** | | |
| 31.1.20 | Collecting **Firewood** | | |
| 31.1.21 | **Pole** cutting | | |
| 31.1.22 | **Timber** wood cutting | | |
| 31.1.23 | **Building/maintaining** house | | |
| 31.1.24 | Making **Beer** | | |
| 31.1.25 | **Bee** keeping | | |
| 31.1.26 | **Fishing** | | |
| 31.1.27 | **Fish farming** | | |
| 31.1.28 | **Off-farm income** generation | | |

***Responsibility (Col 3)***

*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*

***Satisfied with service (Col 4)***

*Very good .....1 Average.....3 No good .....5*
*Good .....2 Poor .....4 Not applicable 9*

| 32.0 | SUBSISTENCE vs NON-SUBSISTENCE | | | | |
|---|---|---|---|---|---|
| 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 hh was involved in activit** | **Estimate % used fo subsistanc** | **Estimate % used for nc subsistence** | **Check Total** |
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* |
| 32.1.1 | **Crop** production | | | | 1 0 0 |
| 32.1.2 | **Livestock** production | | | | 1 0 0 |
| 32.1.3 | **Vegetable** production | | | | 1 0 0 |
| 32.1.4 | Tree cutting for **firewood** | | | | 1 0 0 |
| 32.1.5 | Tree logging for **poles** | | | | 1 0 0 |
| 32.1.6 | Tree logging for **timber** | | | | 1 0 0 |
| 32.1.7 | Tree logging for **charcoal** | | | | 1 0 0 |
| 32.1.8 | **fishing** | | | | 1 0 0 |
| 32.1.9 | **bee** keeping | | | | 1 0 0 |
| 32.1.10 | **employment/off farm** | | | | 1 0 0 |
| 32.1.11 | **employment/off farm** | | | | 1 0 0 |
| 32.1.12 | **Remittances** | | | | 1 0 0 |

| 33.0 | ACCESS TO INFRASTRUCTURE & OTHER SERVICES | | | |
|---|---|---|---|---|
| S/N | Type of service | **Distance in Km** | S/N | Type of service | **Distance in Km** |
| | *(1)* | *(2)* | | *(1)* | *(2)* |
| 33.1 | **Primary** School | . | 32.7 | **Feeder** Road | . |
| 33.2 | **Secondary** School | . | 32.8 | **All weather** roa | . |
| 33.3 | Health **Clinic** | . | 32.9 | **Tarmac** road | . |
| 33.4 | **Hospital** | . | 32.10 | **Primary** market | . |
| 33.5 | **District** Capital | . | 32.11 | **Secondary** mark | . |
| 33.6 | **Regional** Capital | . | 32.12 | **Tertiary** market | . |

| S/N | Type of service | **Distance in Km** | **No of visits/year** | **Satisfied with service** |
|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* |
| 33.13 | **Vet** Clinic | . | | |
| 33.14 | **Extension** Centre | . | | |
| 33.15 | **Research** Station | . | | |
| 33.16 | **Plant protection** Lab | . | | |
| 33.17 | **Land registration** offic | . | | |
| 33.18 | **Livestock Dev** Centre | . | | |

**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**

## 34.0 HOUSEHOLD FACILITIES

### 34.1 House Construction

For the **main dwelling**, what are the **main building materials used** in the construction of the following

34.1.1: Roof ☐ 34.1.2 Number of rooms ☐☐

***Roof Material***
*Iron Sheets.....1*
*Tiles .....2*
*Concrete .....3*
*Asbestos .....4*
*Grass/leaves.....5*
*Grass & mud.....6*
*Other (Specify) 8*

### 34.2 Household **assets**

Does your household **own** the following?

| | Asset | Y=1 N=2 |
|---|---|---|
| 34.2.1 | Radio/cassette, music system) | ☐ |
| 34.2.2 | Telephone (landline) | ☐ |
| 34.2.3 | Telephone (mobile) | ☐ |
| 34.2.4 | Iron | ☐ |
| 34.2.5 | Wheelbarrow | ☐ |
| 34.2.6 | Bicycle | ☐ |
| 34.2.7 | Vehicle | ☐ |
| 34.2.8 | Television | ☐ |

### 34.3 **Energy use** by the Household

Energy use and access by the household

Main Source of energy for

34.3.1 Lighting ☐☐ **34.3.2** Cooking ☐☐

***Lighting energy***
*Mains electricity.....01*
*Solar .....02*
*Gas (biogas) .....03*
*Hurricane Lamp .....04*
*Pressure Lamp .....05*
*Wick Lamp .....06*
*Candles .....07*
*Firewood .....08*
*Other (specify) ..... 98*

***Cooking energy***
*Mains electricity.....01*
*Solar .....02*
*Gas (hh biogas) .....03*
*Bottled gas .....04*
*Paraffin/kerocine.....05*
*Charcoal.....06*
*Firewood .....07*
*Crop Residues .....08*
*Livestock dung .....09*
*Other (specify) .....98*

### 34.4 Access to **drinking water**

| | Season | Main sou -rce of drinking water | Distance to source (in km) | Time to and from source (Hour : minute) |
|---|---|---|---|---|
| | *(1)* | *(2)* | *(3)* | *(4)* |
| 34.4.1 | Wet Season | ☐☐ | ☐☐.☐ | ☐☐:☐☐ |
| 34.4.2 | Dry Season | ☐☐ | ☐☐.☐ | ☐☐:☐☐ |

***Main Source of drinking water***
*Piped water .....01*
*Protected well .....02*
*Protected/covered spring ... .....03*
*Unprotected Well .....04*
*Unprotected spring .....05*
*Surface water (lake/dam/river/stream)06*
*Covered rainwater catchment ...07*
*Uncovered rainwater catchment 08*
*Water Vendor .....09*
*Tanker truck .....10*
*Bottled water .....11*
*Other (Specify) .....98*

### 34.5 Access to **toilet facilities**

34.5.1 What **type of toilet** does your hh use ☐

***Type of toilet***
*No toilet/bush.....1*
*Flush toilet .....2*
*Pit latrine - traditional ..3*
*Improved pit latrine - hh owned.....4*
*Other type (specify) .....5*

### 34.6 **Food consumption** patterns

| | | |
|---|---|---|
| 34.6.1 | **Number of meals** the hh normally has per day | ☐ |
| 34.6.2 | **Number of days** hh consumed **meat** last w | ☐ |
| 34.6.3 | How often did the hh have **problems in satisfying the food needs** of the hh last year? | ☐ |

***Problems satisfying hh food needs (row 34.6.3)***
*Never .....1*
*Seldom .....2*
*Sometimes .....3*
*Often .....4*
*Always .....5*

### 34.7 Source of Household **income**

34.7.1 What is the households **main source of cash income**? ☐☐

***Source of Income codes***
*Sale of food crops .....01*
*Sale of Livestock.....02*
*Sale of livestock products ...03*
*Sale of cash crops.....04*
*Sale of forest products .....05*
*Business income.....06*
*Wages or salaries in cash .....07*
*Other casual cash earnings ..08*
*Cash remittances .....09*
*Fishing .....10*
*Other .....98*
*Not applicable .....99*

## 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.

**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 | |
|---|---|---|---|---|---|
| | | Average | Max | Average | Max |
| 11 | Maize | 1200 | 6250 | 486 | 2530 |
| 12 | Paddy | 700 | 4000 | 283 | 1619 |
| 13 | Sorghum | 750 | 3500 | 304 | 1417 |
| 14 | Bulrush Millet | 350 | 3000 | 142 | 1215 |
| 15 | Finger Millet | 300 | 2500 | 121 | 1012 |
| 16 | Wheat | 1200 | 4500 | 486 | 1822 |
| 17 | Barley | 1400 | 2300 | 567 | 931 |
| 21 | Cassava | 3000 | 7000 | 1215 | 2834 |
| 22 | Sweet Potato | 600 | 8000 | 243 | 3239 |
| 23 | Irish potatoes | 750 | 8500 | 304 | 3441 |
| 24 | Yams | 4000 | 10000 | 1619 | 4049 |
| 25 | Cocoyams | 2500 | 5000 | 1012 | 2024 |
| 26 | Onions | | | 0 | 0 |
| 27 | Ginger | | | 0 | 0 |
| 31 | Beans | 400 | 1300 | 162 | 526 |
| 32 | Cowpeas | 300 | 1750 | 121 | 709 |
| 33 | Green gram | | | 0 | 0 |
| 34 | Pigeon pea | 600 | 2000 | 243 | 810 |
| 35 | Chick peas | 500 | 1500 | 202 | 607 |
| 36 | Bambara nut | 600 | 4000 | 243 | 1619 |
| 41 | Sunflower | 600 | 1700 | 243 | 688 |
| 42 | Simsim | 300 | 1000 | 121 | 405 |
| 43 | Groundnut | 600 | 4000 | 243 | 1619 |
| 47 | Soyabeans | 1300 | 2500 | 526 | 1012 |
| 48 | Caster seed | 300 | 750 | 121 | 304 |
| 75 | Pineapple | 25000 | 60000 | 10121 | 24291 |
| 50 | Cotton | 300 | 1500 | 121 | 607 |
| 51 | Tobacco | 500 | 2000 | 202 | 810 |
| 53 | Pyrethrum | | | 0 | 0 |
| 62 | Jute | 800 | 3500 | 324 | 1417 |
| 44 | Palm Oil | 1200 | 5000 | 486 | 2024 |
| 45 | Coconut | 2000 | 8000 | 810 | 3239 |
| 46 | Cashewnut | 9 | 60/tree | 4 | 24 |

| | Crop Name | kg/ha | | kg/acre | |
|---|---|---|---|---|---|
| | | Average | Max | Average | Max |
| 86 | Cabbage | | | 0 | 0 |
| 87 | Tomatoes | | | 0 | 0 |
| 88 | Spinach | | | 0 | 0 |
| 89 | Carrot | | | 0 | 0 |
| 90 | Chillies | | | 0 | 0 |
| 91 | Amaranths | | | 0 | 0 |
| 92 | Pumpkins | | | 0 | 0 |
| 93 | Cucumber | | | 0 | 0 |
| 94 | Egg Plant | | | 0 | 0 |
| 95 | Water Mellon | | | 0 | 0 |
| 96 | Cauliflower | | | 0 | 0 |
| 52 | Sisal | 800 | 25000 | 324 | 10121 |
| 54 | Coffee | 500 | 100 | 202 | 40 |
| 55 | Tea | 2500 | 10000 | 1012 | 4049 |
| 56 | Cacao | 200 | 1000 | 81 | 405 |
| 57 | Rubber | 400 | 1400 | 162 | 567 |
| 58 | Wattle | | | 0 | 0 |
| 59 | Kapok | | | 0 | 0 |
| 60 | Sugar Cane | 60000 | 150000 | 24291 | 60729 |
| 61 | Cardamom | | | 0 | 0 |
| 71 | Banana | 10000 | 50000 | 4049 | 20243 |
| 72 | Avocado | | | 0 | 0 |
| 73 | Mangoes | 10000 | 25000 | 4049 | 10121 |
| 74 | Papaw | 50000 | 70000 | 20243 | 28340 |
| 76 | Orange | 20000 | 40000 | 8097 | 16194 |
| 77 | Grape fruit | 30000 | 50000 | 12146 | 20243 |
| 78 | Grapes | 5000 | 30000 | 2024 | 12146 |
| 79 | Mandarin/tange | 20000 | 40000 | 8097 | 16194 |
| 80 | Guava | 7000 | 35000 | 2834 | 14170 |
| 81 | Plums | | | 0 | 0 |
| 82 | Apples | | | 0 | 0 |
| 83 | Pears | | | 0 | 0 |
| 84 | Pitches | | | 0 | 0 |

**Back Page Reference material**

This page contains reference information that may be required to complete some of the questions in the questionnaire.

**Weights and measures**

| | | |
|---|---|---|
| 1 hectare | = 10,000 sq metres | (100 x 100 metres) |
| 1 kilometre | = 1000 metres | |
| 1 acre | = 4840 square yards | (110 x 44 yards) |

**Conversions**

| | |
|---|---|
| 1 hectare | = 2.47 acres |
| 1 mile | = 1.61 Kilometres |

**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 Standard Bag | Standard Tin | Non-standard Name | Non-standard kgs |
|---|---|---|---|---|---|
| 11 | Maize | 100 | 18 | Rumbesi | 140 |
| 12 | Paddy | 75 | 15 | | |
| 13 | Sorghum | 100 | 18 | | |
| 14 | Bulrush Millet | 100 | 18 | | |
| 15 | Finger Millet | 120 | 20 | | |
| 16 | Wheat | 75 | 15 | | |
| 17 | Barley | 75 | 15 | | |
| 21 | Cassava | 60 | 12 | | |
| 22 | Sweet Potatoe | 80 | 16 | | |
| 23 | Irish potatoes | 80 | 16 | | |
| 24 | Yams | 80 | 16 | | |
| 25 | Cocoyams | 80 | 16 | | |
| 26 | Onions | 80 | 16 | | |
| 27 | Ginger | 75 | 15 | | |
| 31 | Beans | 100 | 20 | | |
| 32 | Cowpeas | 100 | 20 | | |
| 33 | Green ram | 100 | 20 | | |
| 34 | Pigeon pea | 100 | 20 | | |
| 35 | Chick peas | 100 | 20 | | |
| 36 | Bambara nut | 100 | 20 | | |
| 41 | Sunflower | 60 | 12 | | |
| 42 | Simsim | 100 | 20 | | |
| 43 | Groundnut | 50 | 10 | | |
| 47 | Soyabeans | 100 | 20 | | |
| 48 | Caster seed | 100 | 20 | | |
| 75 | Pineapple | 90 | 18 | | |
| 50 | Cotton | 50 | 10 | | |
| 51 | Tobacco | 70 | 14 | | |
| 53 | Pyrethrum | 60 | 12 | | |
| 62 | Jute | 50 | 10 | | |
| 44 | Palm Oil | 100 | | | |
| 45 | Coconut | 75 | | | |
| 46 | Cashewnut | 80 | | | |

| | Crop Name | Number of Kgs Standard Bag | Standard Tin | Non-standard Name | Non-standard kgs |
|---|---|---|---|---|---|
| 86 | Cabbage | 50 | | | |
| 87 | Tomatoes | 90 | | | |
| 88 | Spinach | 45 | | | |
| 89 | Carrot | 110 | | | |
| 90 | Chillies | 85 | | | |
| 91 | Amaranths | 50 | | | |
| 92 | Pumpkins | 60 | | | |
| 93 | Cucumber | 80 | | | |
| 94 | Egg Plant | 70 | | | |
| 95 | Water Mellon | 80 | | | |
| 96 | Cauliflower | 50 | | | |
| 52 | Sisal | 130 | | | |
| 54 | Coffee | 55 | | | |
| 55 | Tea | 60 | | | |
| 56 | Cacao | 60 | | | |
| 57 | Rubber | | | | |
| 58 | Wattle | 90 | | | |
| 59 | Kapok | | | | |
| 60 | Sugar Cane | 120 | | | |
| 61 | Cardamom | 100 | | | |
| 71 | Banana | 120 | | | |
| 72 | Avocado | 140 | | | |
| 73 | Mangoes | 130 | | | |
| 74 | Papaw | 100 | | | |
| 76 | Orange | 130 | | | |
| 77 | Grape fruit | 120 | | | |
| 78 | Grapes | 80 | | | |
| 79 | Mandarin/tange | 110 | | | |
| 80 | Guava | 110 | | | |
| 81 | Plums | 110 | | | |
| 82 | Apples | 110 | | | |
| 83 | Pears | 110 | | | |
| 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 ☐ Discard as missing data ☐