United Republic of Tanzania

NATIONAL SAMPLE CENSUS OF AGRICULTURE
2002/2003

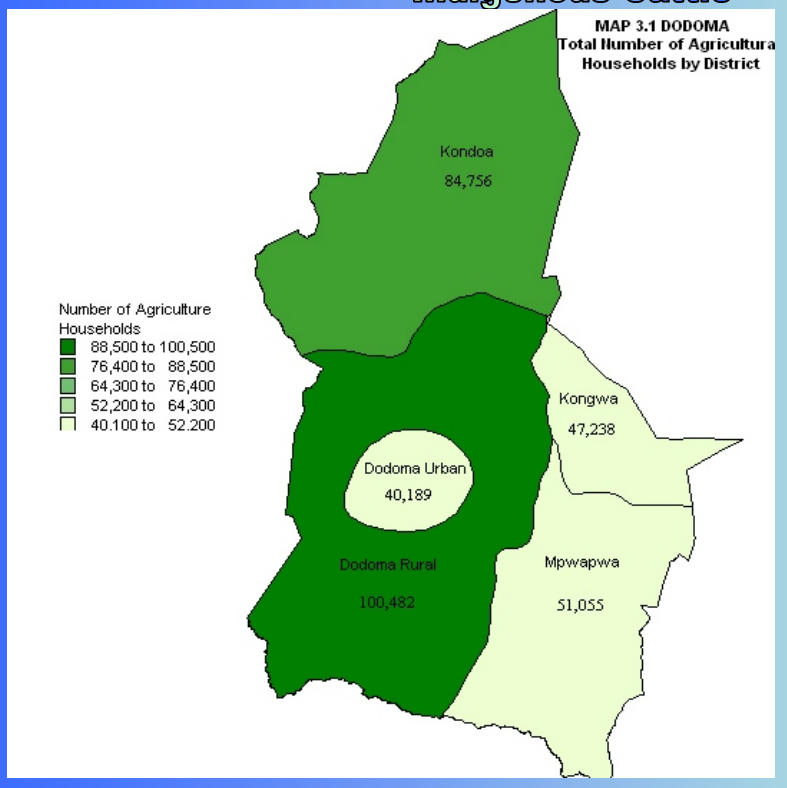
Volume VIII-a: REGIONAL REPORT: DODOMA REGION

Groundnuts

Indigenous Cattle

Chickens

Bullrush Millet



Tractor

Condition of Household

Maize

Sorghum

Pigeon Pea

Off Farm Income - Beer Making

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

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United Republic of Tanzania

NATIONAL SAMPLE CENSUS OF AGRICULTURE 2002/2003

VOLUME Va: REGIONAL REPORT: DODOMA 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

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ABBREVIATIONS

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*
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*
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 Dodoma 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.

Radegunda Maro
Ag. Director General
National Bureau of Statistics

EXECUTIVE SUMMARY

The executive summary highlights the main census results obtained during the National Sample Census of Agriculture 2002/03. This report covers small-scale agriculture households which were selected using statistical sampling techniques in rural areas of Dodoma region. 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 Dodoma region. It provides an overview of the rural agricultural households and their levels of involvement in agricultural related activities at region level.

i) Household Characteristics

The number of agricultural households in Dodoma region was 323,719 out of which 233,709 (72.2%) were involved in growing crops only, 608 (0.2%) were involved in livestock keeping only and 89,402 (27.6%) were involved in crop production as well as livestock keeping.

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

Dodoma region had a total literacy rate of 60.6 percent. The highest literacy rate was found in Kondoa district (64.1%) followed by Dodoma Urban district (62.8%) and Mpwapwa district (62.7%) and Kongwa (60.7%). Dodoma Rural district had the lowest literacy rate of 55.4 percent. The literacy rate for the heads of households in the region was 62.1 percent 68% for male heads and 40.9% for female heads).

The number of heads of agricultural households with formal education in Dodoma region was 193,009 (59.6%), those without formal education were 122,648 (37.9%) and those with only adult education were 8,062 (2.5%). The majority of heads of agricultural households (57.1%) had primary level education whereas only 2.6 percent had post primary education.

In Dodoma region 47,080 households (15%) had only one member aged 5 and above involved in off-farm income generating activities, 177,373 households (55%) had two members involved in off-farm income generating activities and 95,192 households (30%) had more than two members involved in off-farm income generating activities.

ii) Land Use

The total area of land available to smallholders in Dodoma region was 855,264 ha. The Regional average land area utilised for agriculture per household was only 2.4 ha. This figure is above the national average which is estimated at 2.0 hectares.

iii) Annual Crop and Vegetable Production

The area planted with annual crops and vegetables was 658,978 hectares out of which 980 hectares (0.15%) were planted during dry season and 657,998 hectares (99.85%) during wet season. The area planted with cereals in Dodoma region was 502,753 ha (76.3% of the total planted area with annual and vegetable crops), followed by oils seeds with 120,211 ha (18.2%), pulses 20,554 ha (3.1%), root and tubers 13,419 ha (2.0%) and fruit and vegetables 2,041 ha (0.3%). No annual cash crops production was reported in the region.

- **Maize**

Maize is the dominant annual crop grown in Dodoma region and it has a planted area 4.4 times greater than bulrush millet, which had the second largest planted area. The area planted with maize constitutes 52.5 percent of the total area planted with annual crops in the region. Other crops in order of their importance (based on area planted) are groundnuts, sorghum, sunflower, simsim and cassava.

There was a sharp increase in maize production over the period of 1995 to 1996 (106%), after which the production dropped by 58 percent over the period 1996 to 1997. There was a gradual increase in production over the period 1997 to 2000 followed by a decline in production over the period 2000 to 2003. The average area planted with maize per household was 1.3 hectares, however it ranged from 0.7 hectares in Dodoma Urban district to 2.9 hectares in Kongwa district. Kongwa district had the largest area of maize (131,930 ha), followed by Kondoa (79,653 ha), Dodoma Rural (62,118 ha), Mpwapwa (51,352 ha) and Dodoma Urban (20,887 ha).

- **Bulrush Millet**

Bulrush millet is the second most important cereal crop in the region in terms of planted area. The number of households that grew bulrush millet in Dodoma region during the wet season was 105,464. This represents 33 percent of the total crop growing households in Dodoma region in the wet season. The total production of bulrush millet was 22,711 tonnes from a planted area of 78,496 hectares resulting in a yield of 0.29 t/ha.

- **Sorghum**

Sorghum is the third most important cereal crop in the region in terms of planted area. The number of households that grew sorghum in Dodoma region during the wet season was 87,136. This represents 23 percent of the total crop growing households in Dodoma region in the wet season. The total production of sorghum was 22,032 tonnes from a planted area of 63,932 hectares resulting in a yield of 0.34 t/ha.

- **Roots and Tubers**

The total production of roots and tubers was 5,544 tonnes. Cassava production was higher than any other root and tuber crop in the region with a total production of 3,896 tonnes representing 70.3 percent of the total root and tuber crops production. This was followed by Irish potatoes with 1,268 tonnes (22.9%) and sweet potatoes (380 tonnes, 6.8%).

- **Pulse Crops Production**

The total area planted with pulses was 20,554 hectares, of which 9,620 ha were planted with beans (46.8 percent of the total area planted with pulses), followed by cow peas (5,737 ha, 27.9%), bambaranuts (4,956 ha, 24.1%), green gram (96 ha, 0.5%), chick peas (88 ha, 0.4%) and mung beans (57 ha, 0.3%).

- **Oil Seed Production**

The total production of oilseed crops was 43,948 tonnes planted on an area of 120,211 hectares. Groundnuts were most important oilseed crop with 78,311 ha (65.1% of the total area planted with oil seeds), followed by sunflower (21,074 ha, 17.5%), simsim (20,709 ha, 17.2%) and soya beans (116 ha, 0.1%).

- **Fruit and Vegetables**

The total production of fruit and vegetables was 3,419 tonnes. The most cultivated fruit and vegetable crop was tomatoes with a production of 1,982 tonnes (58% of the total fruit and vegetables produced) followed by cabbage (511t, 15%) and amaranths (352t, 10%). The production of the other fruit and vegetables crops was relatively small.

iv) Permanent Crops

The area planted with permanent crops by smallholders was 24,734 hectares (4% of the area planted with annual and permanent crops in the region). The most important permanent crop in Dodoma region is pigeon pea which accounts for a planted area of 19,678 ha, (80% of the planted area of all permanent crops), followed by bananas (1,786 ha, 7%), guava (1,225 ha, 5%), mango (669 ha, 3%), sugar cane (598 ha, 2%), pawpaw (312 ha, 1%) and grape (278 ha, 1%).

v) Inputs/Implement Use

- **Methods of Soil Preparation**

Hand cultivation is mostly used for soil preparation and it has been used on an area of 432,437 ha which represents 66 percent of the total planted area, followed by ox-ploughing (157,101 ha, 24%) and tractor ploughing (62,555 ha, 10%).

- **Improved Seeds**

The planted area using improved seeds was estimated at 85,495 ha which represents 13 percent of the total area planted with the annual crops and vegetables. The percentage use of improved seed in the wet season was 13 percent, is much higher than the corresponding percentage use for the dry season (1.3%).

- **Use of Fertilisers**

The use of fertilisers on annual crops is very small with a planted area of only 166,015 ha (25.2% of the total planted area in the region). The planted area without fertiliser for annual crops was 492,963 hectares representing 74.8 percent of the total planted area with annual crops. Of the planted area with fertiliser application, farm yard manure was applied to 155,984 ha which represents 23.7 percent of the total planted area in the region (94% of the area planted with fertiliser application in the region), followed by compost (1.2% of the total planted area in the region or 4.8% of the area planted with fertiliser application in the region) and inorganic (0.3% of the total planted area in the region or 1.8% of the area planted with fertiliser application in the region).

- **Pesticide Use**

Insecticides are the most common pesticide used in the region (60% of the total planted area applied with pesticides). This was followed by fungicides (23%) and herbicides (17%). The planted area applied with insecticides was 24,511 ha which represents 3.7 percent of the total planted area for annual crops and vegetables. The planted area applied with herbicides was 6,915 ha which represented 11 percent of the total planted area annual crops and vegetables. The planted area applied with fungicides was 9,252 ha which represented 1.4 percent of the total planted area for annual crops and vegetables.

vi) Irrigation

In Dodoma region, the area of annual crops under irrigation was 12,074 ha representing 2 percent of the total area planted. The area under irrigation during the dry season was 15 ha accounting for 0.12 percent of the total area under irrigation. Cabbage is the only crop that was irrigated during the dry season.

vii) Crop Storage, Processing and Marketing

- **Crop Storage**

There were 288,389 crop growing households (89% of the total crop growing households) that stored various agricultural products in the region.

The most important stored crop was maize with 133,858 households storing 37,052 tonnes as of 1st January 2004. This was followed by sorghum and millet (71,917 households, 9,743t), groundnuts and bambaranuts (64,253 households, 4,084t), pulses (16,974 households, 793t) and paddy (1,388 households, 276t). Other crops were stored in very small amounts.

- **Processing**

Agro-processing was practiced in most crop growing households in Dodoma region (296,901 households, 92% of the total crop growing households). The percent of households processing crops was very high in most districts (above 80%). Dodoma Rural district had the lowest percent of households processing crops (88% of crop growing households respectively). The most common method of processing in the region was by neighbours machines.

- **Crop Marketing**

The number of households that reported selling crops was 190,800 which represent 59.1 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Kondoa (74.2%) followed by Mpwapwa (65.0%), Dodoma Rural (54.4%), Kongwa (51.7%) and Dodoma Urban (40%).

viii) Access to Crop Production Services

- **Access to Agricultural Credits**

In Dodoma region very few agricultural households (1,759, 0.5%) accessed credit out of which 1,493 (85%) were male-headed households and 266 (15%) were female headed households. In Kongwa, Dodoma Rural and Dodoma Urban districts, only female headed households got agricultural credit whereas in Kondoa and Mpwapwa both male and female headed households accessed agricultural credits.

- **Crop Extension Services**

The number of Agricultural households that received crop extension was 132,389 (41% of total crop growing households in the region). Some districts have more access to extension services than others, with Kongwa having a relatively high proportion of households that received crop extension messages in Dodoma region (56.0%), followed by Dodoma Urban (52.3%), Dodoma Rural (51.8%), Mpwapwa (32.9 and Kondoa (19.0%).

ix) Access to Inputs

In Dodoma region farm yard manure was used by 96,837 households which represent 30.0 percent of the total number of crop growing households. This is followed by households using improved seeds (10.6%), pesticide/fungicide (2.8%) compost (1.4%), inorganic fertiliser (0.7%) and herbicide (0.1%).

x) Tree Planting

The number of households involved in tree farming was 22,308 representing 7 percent of the total number of agriculture households. The number of trees planted by smallholders on their allotted land was 1,459,972 trees. The average number of trees planted per household that plants trees on their land was 65 trees.

xi) Irrigation and Erosion Control Facilities

The number of agricultural households that had soil erosion and water harvesting facilities on their farms was 33,336 which represent 10 percent of the total number of agricultural households in the region. The proportion of households with soil erosion control and water harvesting facilities was highest in Kondoa district (28%) followed by Mpwapwa (5%), Dodoma Urban (4%), Dodoma Rural (4%) and Kongwa (3%).

xii) Livestock Results

- **Cattle**

The total number of cattle in Dodoma region was 1,031,889. Cattle are the dominant livestock type in the region followed by goats, sheep and pigs. The region had 6.1 percent of the total cattle population on Tanzania Mainland. The number of indigenous cattle in Dodoma region was 1,025,388 (99.4 % of the total number of cattle in the region), 4,645 cattle (0.5%) were improved dairy breeds and 1,856 cattle (0.2%) were improved beef breeds.

- **Goats**

The number of goat-rearing households in Dodoma region was 63,964 (19.7% of all agricultural households in the region) with a total of 797,481 goats giving an average of 12.5 head of goats per goat-rearing household.

- **Sheep**

The number of sheep-rearing households was 23,680 (7.3% of all agricultural households in Dodoma region) rearing 187,244 sheep, giving an average of 8 heads of sheep per sheep-rearing household.

- **Pigs**

The number of pig-rearing agricultural households in Dodoma region was 14,859 (4% of the total agricultural households in the region) rearing 43,835 pigs. This gives an average of 3 pigs per pig-rearing household.

- **Chicken**

The number of households keeping chicken was 139,992 raising about 1,825,867 chickens. This gives an average of 13 chickens per chicken-rearing household. In terms of total number of chickens in the country, Dodoma region was ranked eighth out of the 21 Mainland regions.

- **Pests and Parasites Incidences and Control**

The results indicate that 42 percent and 13 percent of the total livestock-keeping households reported to have encountered ticks and tsetse fly problems respectively. While incidences of ticks problems were highest in Mpwapwa district and lowest in Kongwa district, tseflies incidences were highest in Kondoa but lowest in Dodoma Urban district.

- **Access to Livestock Services**

The total number of households that received livestock advice was 34,318, representing 38 percent of the total livestock-rearing households and 11 percent of the agricultural households in the region. The main livestock extension agent was the government which provided service to about 22 percent of all households receiving livestock extension services, closely followed by NGOs/development projects (21%), cooperatives (19%) and large-scale farmers (19%).

Many veterinary clinics were located far from livestock rearing households. About 62 percent of the livestock rearing households accessed the services, at a distance of more than 14 kms. Only 38 percent of them accessed the services within 14 kms from their dwellings.

The number of livestock rearing households residing less than 5 kms from the nearest watering point was 31,168 (82% of livestock rearing households in Dodoma region) whilst 4,539 households (12%) resided between 5 and 14 kms. However, 2,169 households (6%) had to travel a distance of 15 or more kms to the nearest watering point.

- **Animal Contribution to Crop Production**

Use of draft animals for land cultivation in Dodoma region is moderate with 53,937 households (17% of the total households in the region) using them. The number of households that used draft animals in Kondoa district was 30,654 representing 56.8 percent of the households using draught animals in the region followed by Dodoma Rural (9,195 households, 17.0%), Kongwa (6,309 households, 11.7%), Mpwapwa (5,908 households, 11.0%) and Dodoma Urban (1,870 households, 3.5%).

The total area applied with organic fertiliser was 92,594 ha of which 88,456 hectares was applied with farm yard manure (95.5% of the total area applied with organic fertiliser or 14% of the area planted with annual crops and vegetables in Dodoma region).

- **Fish Farming**

The number of households involved in fish farming in Dodoma region was 129, representing 0.04 percent of the total agricultural households in the region. Mpwapwa was the only district in the region practicing fish farming.

xiii) Poverty Indicators

- **Type of Toilets**

About 90.9 percent of all rural agricultural households in Dodoma region used traditional pit latrines, 1.3 percent used improved pit latrine and 0.1 percent had flush toilets. The remaining 1.0 percent of households had other unspecified types of toilets. However, households with no toilet facilities represent 6.2 percent of the total agriculture households in the region and most of these are found in Dodoma Rural district.

- **Household Assets**

Radios are owned by most rural agricultural households in Dodoma region with 158,476 households owning the asset (49.0% of total agricultural households in the region), followed by bicycle (32.5%), iron (12.8%), wheelbarrow (2.7%), vehicle (0.7%) mobile phone (0.6%), television/video (0.6%), and landline phone (0.4%).

- **Source of Lighting Energy**

Wick lamp is the most common source of lighting energy in the region with 72 percent of the total rural households using this source of energy followed by hurricane lamp (16%), firewood (9%), pressure lamp (2%), main electricity (0.6%), candle (0.4%), gas (biogas) (0.2%) and solar (0.1%).

- **Energy for Cooking**

The most prevalent source of energy for cooking was firewood, which was used by 96.2 percent of all rural agricultural households in Dodoma region. This is followed by charcoal (2.15%) and crop residues (0.84%). The rest of the energy sources accounted for 0.81 percent. These were livestock dung (0.16%), Solar (0.15%), paraffin/kerosene (0.15%), biogas (0.14%), main electricity (0.13%) and bottled gas (0.08%).

- **Roofing Materials**

The most common material used for roofing of the main dwelling was grass and mud and it was used by 51.9 percent of the rural agricultural households. This was closely followed by iron sheets (39.0%), grass/leaves (7.7%), tiles (0.6%), asbestos (0.5%), concrete (0.1%) and others (0.2%)

- **Sources of Drinking Water**

The main source of drinking water for rural agricultural households in Dodoma region was piped water (36% of households use piped water during the wet season and 50% of the households during the dry season). This is followed by unprotected wells (28% of households during the wet season and 28% in the dry season), unprotected spring (8.6% of households in the wet season and 9.1% during the dry season) and protected wells (8.2% of households using the source in the wet season and 8.8% in the dry season).

- **Food Consumption Pattern**

The majority of households in Dodoma region normally have 2 meals per day (69.8 percent of the households in the region). This is followed by 3 meals per day (25.5 percent) and 1 meal per day (4.5 percent). Only 0.1 percent of the households have 4 meals per day.

The number of agricultural households that consumed meat during the week preceding the census was 208,654 (64% of the agricultural households in Dodoma region) with 115,314 households (55.3 % of those who consumed consuming meat only once during the respective week). This was followed by those who had meat twice during the week (30.0%). Very few households had meat four times or more during the respective week.

The number of agricultural households that consumed fish during the week preceding the census was 138,561(42.8% of the total agricultural households in Dodoma region). Of these households 38,764 households consumed fish twice during the week (28.0 % of those who consumed fish in the region). This was followed by those who had fish three times (7.4%). About 57.2 percent of the agricultural households in Dodoma region did not eat fish during the week preceding the census.

- **Food Security**

About 32.6 percent of the agricultural households said they did not experience any problems in satisfying their food requirements, whilst 34 percent of them rarely experienced food sufficiency problems. However, of the remaining 33.4 percent of the households, 26 percent experience food sufficiency problems on a regular basis.

- **Main Source of Cash Income**

The main cash income of the households in Dodoma region was from casual cash earnings (35.4 percent of smallholder households), followed by selling of food crops (14.7%), businesses (13.5%), selling of cash crops (13.1%), and sale of livestock (8.8%). Only 6.1% of smallholder households reported the sale of forest product as their main source of income, followed by cash remittance (4.6%), wages and salaries (2.2%), sale of livestock products (0.8%) and fishing (0.5%) and fishing (0.5%).

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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 potential of the region and its resources.

1.2 Geographical Location and Boundaries

Dodoma region is centrally positioned in Tanzania mainland. The region lies between latitude 4^0 and 7^0 (degrees) South Latitude and 35^0 - 37^0 (degrees) East Longitude. Four regions border Dodoma regions as follows: To the north, Dodoma region shares boarders with Arusha and to the East with Morogoro region. In the south it shares boarders with Iringa region and to the west, it shares borders with Singida region. Much of the region is plateau rising gradually from some 830 meters in Bahi swamps to 2,000 meters above sea level in the highlands North of Kondoa.

1.3 Land Area

Dodoma region is ranked 12th largest among the regions in Tanzania Mainland and covers an area of 41,310 square kilometers (equivalent to about 5% of the total area of Tanzania Mainland), of which 35,309 square kilometers are potential land (which is 85% of regions total land area).

1.4 Climate

Dodoma region has a dry savanna type of climate, which is characterized by a long dry season lasting between late April to early December and a short single wet season during the remaining months. The region lies in a rain shadow behind the mountains area of Dodoma in the eastern side.

1.4.1 Temperature

Temperature in the region varies according to altitude but generally the average maximum and minimum for October to December are 31^0C and 18^0C (degrees Centigrade) respectively. The corresponding figures for the cool dry season of June – August are 27^0C to 28^0 and 10^0 to 11^0C (degree centigrade).

1.4.2 Rainfall

The average rainfall for Dodoma town is 570mm, and about 85% of this falls in four months between December and March. Rainfall is somewhat higher in the more agriculturally productive parts of Mpwapwa and Kondoa districts.

Rainfall in Dodoma region is not only low but it is rather unpredictable in frequency and amount, particularly in the month of January in which most crops are generally sown.

1.5 Administrative Setup

Dodoma region is divided into five administrative districts as follows: Dodoma Rural with total land of 5,951 square kilometers (36% of the total region land area), Dodoma Urban (Municipality) has a total land area of 795 square kilometers (5%), Kondoa district occupies a total land area of 5,092 square kilometers (31%), Mpwapwa district with a total land of 3,284 square (20%) and Kongwa district 1,272 square kilometers (8%).

1.6 Population

According to the 2002 Population and Housing Census, there were 1,698,996 inhabitants in Dodoma region and an average household size of 4.5 persons. The population of Dodoma region ranked eighth of the 21 regions in Tanzania. The annual Average Population growth rate (1988 – 2002) was 2.3 percent.

1.7 Socio - Economic Indicators

The regional Gross Domestic Product (GDP) at current prices for the year 2003 was estimated to be TShs 325,233 million. The region held 16th position among regions on GDP and contributed about 3.3 percent to the national GDP[1]

- **Food Crops**

  Food crops grown in Dodoma region are sorghum, maize, paddy, beans, bulrush millet, groundnuts and finger millet.

- **Cash Crops**

  Cash crops grown are sunflower and simsim.

- **Livestock**

  Dodoma region is almost entirely dependent on agriculture and animal husbandry, which are practiced in rural areas at subsistence level. It is also one of the regions with large numbers of livestock including cattle, goats, sheep, poultry and pigs.

[1] National Bureau of Statistics

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, Dodoma profiles (Regional and Districts) 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 151 villages were from Dodoma 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 Statistics Act 2002, 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 pretesting of the census instruments
- Training of trainers, supervisors and enumerators
- Information Education and Communication (IEC) campaign
- Data Collection
- Field supervision and consistency checks
- Data processing:
    - Scanning
    - ICR extraction of data
    - Structure formatting application
    - Batch validation application

Manual data entry application

Tabulation preparation using SPSS

- Table formatting and charts using Excel and map generation using Mapinfo.
- 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 either 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

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

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 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 these 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 the trainers' guiding document on the procedures to follow during tha 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 for the purpose of testing 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 were 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 were 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 complex 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 assistance were managed by Ultek Laurence Gould Consultants (ULG), Scotts Agriculture Consultancy (SAC) and the Food and Agriculture Organisation (FAO).

PART III: CENSUS RESULTS AND ANALYSIS

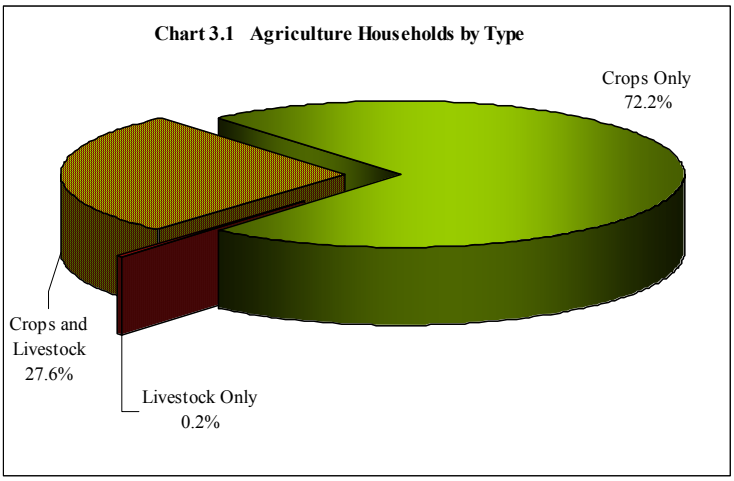
This part of the report presents the results of the census data for Dodoma Region which are based on the data tables presented in Appendix II. The results are presented in different forms including brief summaries, charts, condensed tables, graphs and maps in order to make it easier for the users to 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 Survey, 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 and in the preparation of district profiles than in previous censuses and surveys.

3.1 Household Characteristics

3.1.1 Type of Households

The number of agricultural households in Dodoma region was 323,719 out of which 233,709 (72.2%) were involved in growing crops only, 608 (0.2%) were involved in livestock keeping only and 89,402 (27.6%) were involved in crop production as well as livestock keeping. There were no pastoralists in the region (Chart 3.1 and Maps 3.1, 3.2, 3.3 and 3.4, 3.5 and 3.6).

Chart 3.1 Agriculture Households by Type



3.1.2 Livelihood Activities/Source of Income

The census results for Dodoma region indicate that most of the agricultural households ranked annual crop farming as the activity that provides most of their cash income followed by off farm income, tree/forest resources, livestock keeping/herding, remittances, permanent crop farming and fishing/hunting and gathering (Table 3.1).

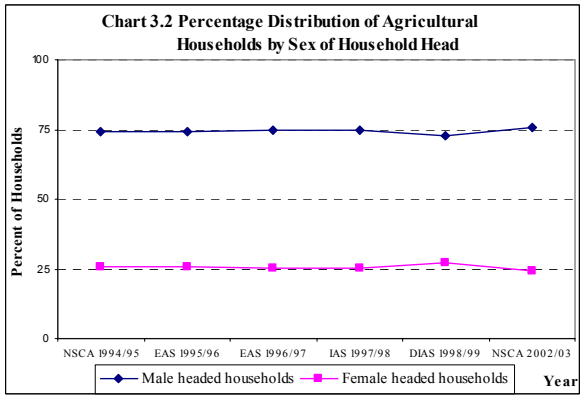
Table 3.1 Rank in Order of Importance Livelihood Activities/Source of Income of the Household in Order of Importance By District

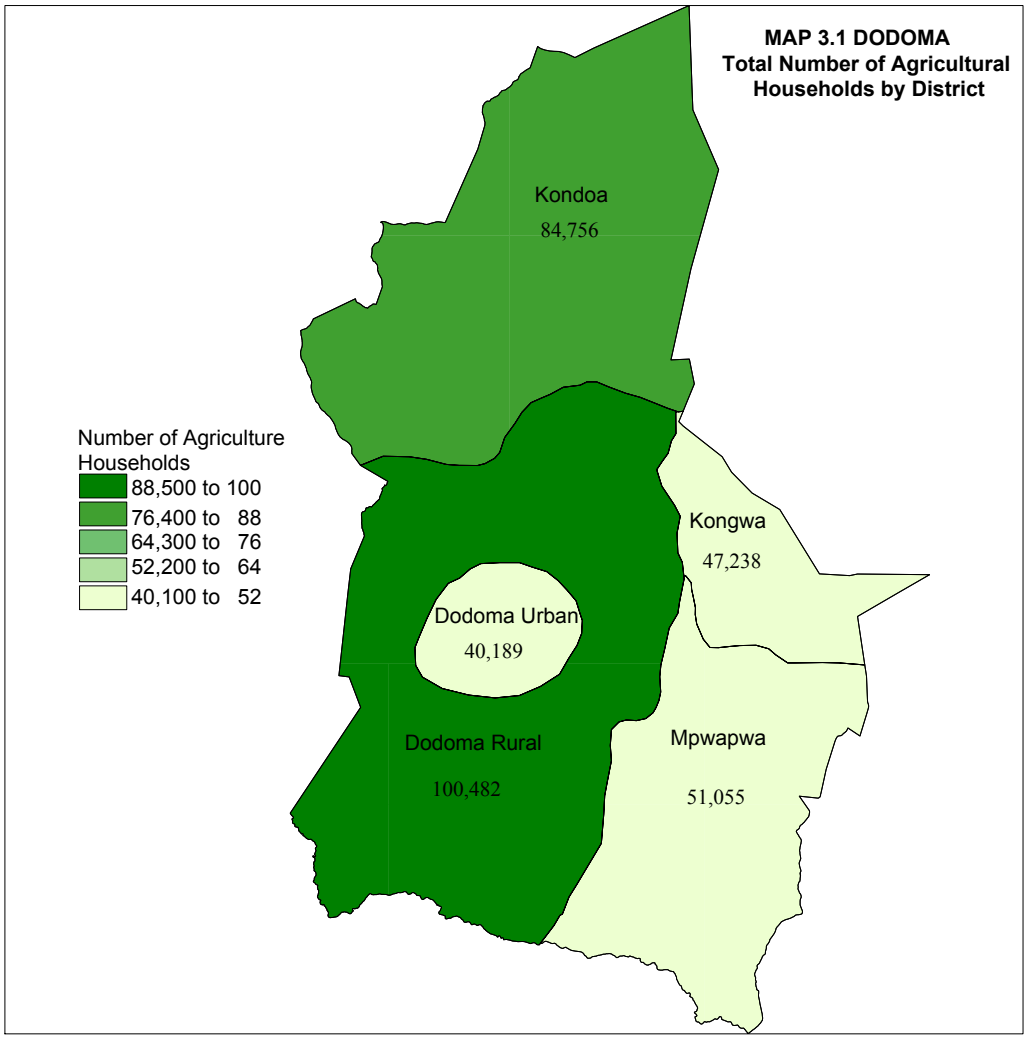
District	Livelihood Activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Kondoa	1	6	4	2	5	7	3
Mpwapwa	1	7	4	2	5	6	3
Kongwa	1	6	4	2	5	7	3
Dodoma Rural	1	6	4	2	5	7	3
Dodoma Urban	2	6	4	1	5	7	3
Total	**1**	**6**	**4**	**2**	**5**	**7**	**3**

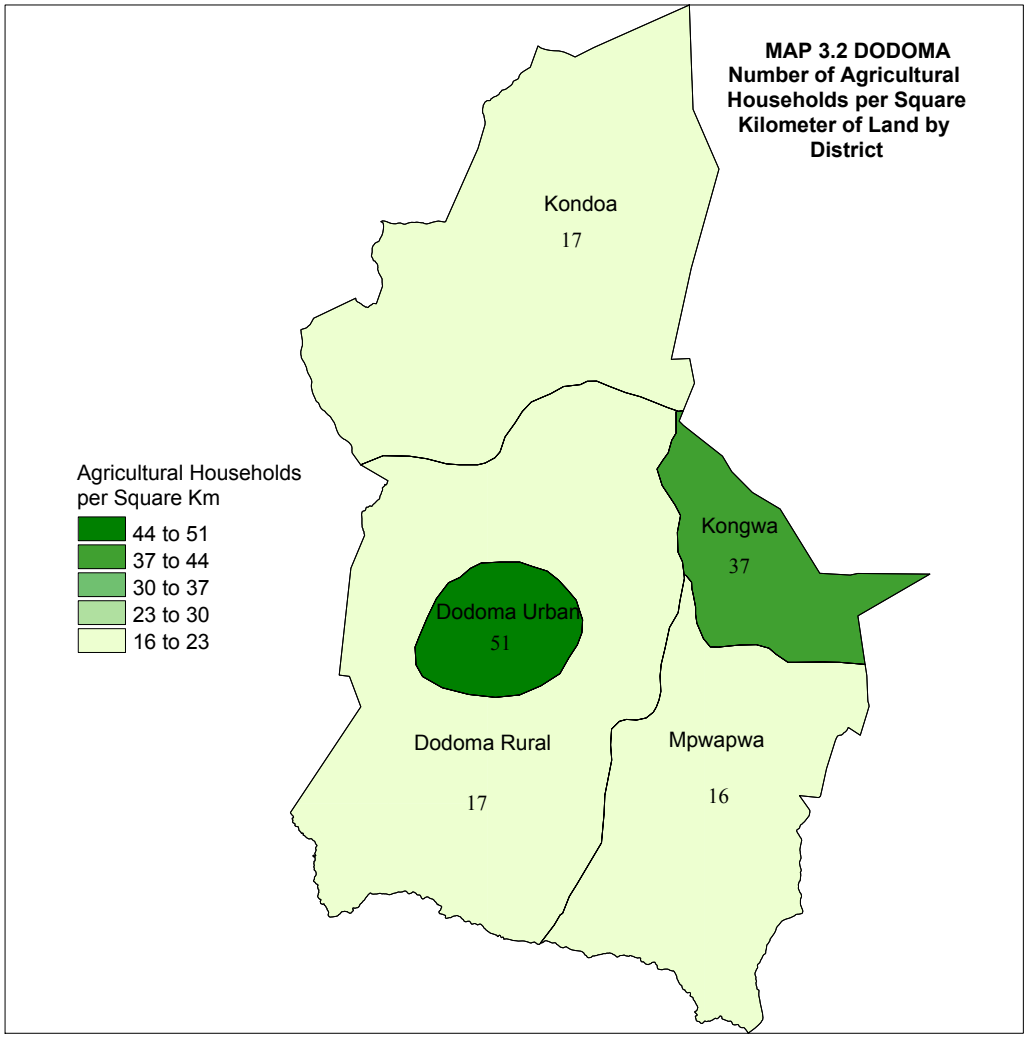
3.1.3 Sex and Age of Heads of Households

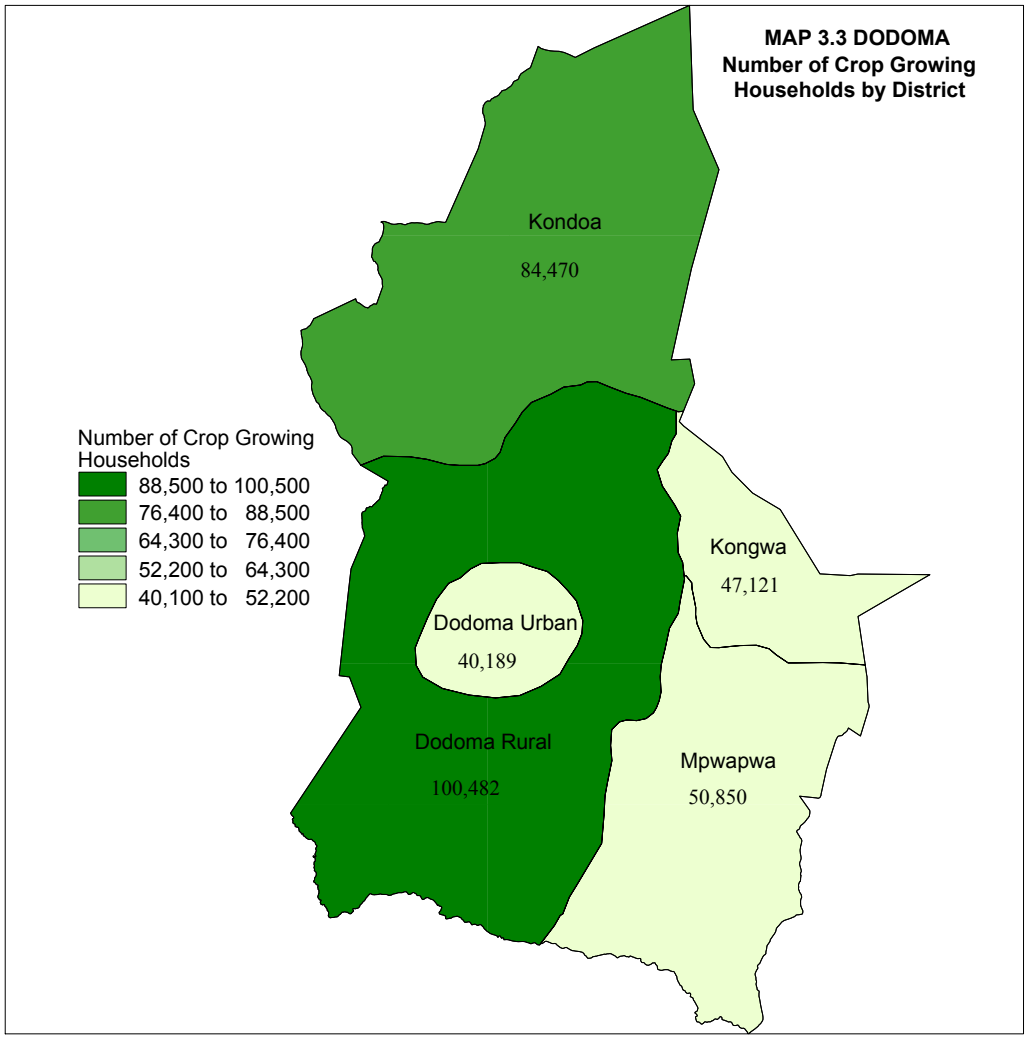
The number of male-headed agricultural households in Dodoma region was 253,566 (78% of the total regional agricultural households) while female-headed households was 70,153 (22%). The percentage trend for six censuses/surveys show that there has

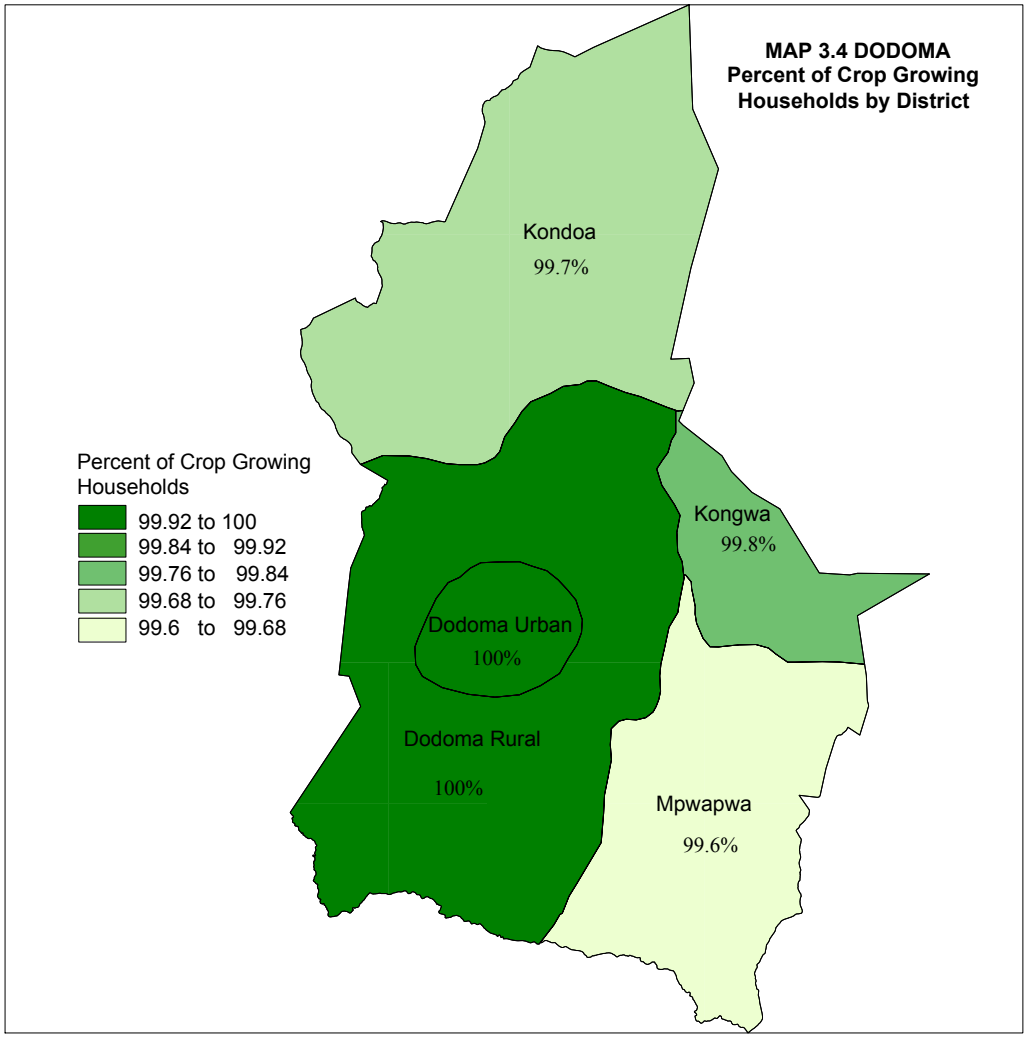
Chart 3.2 Percentage Distribution of Agricultural Households by Sex of Household Head

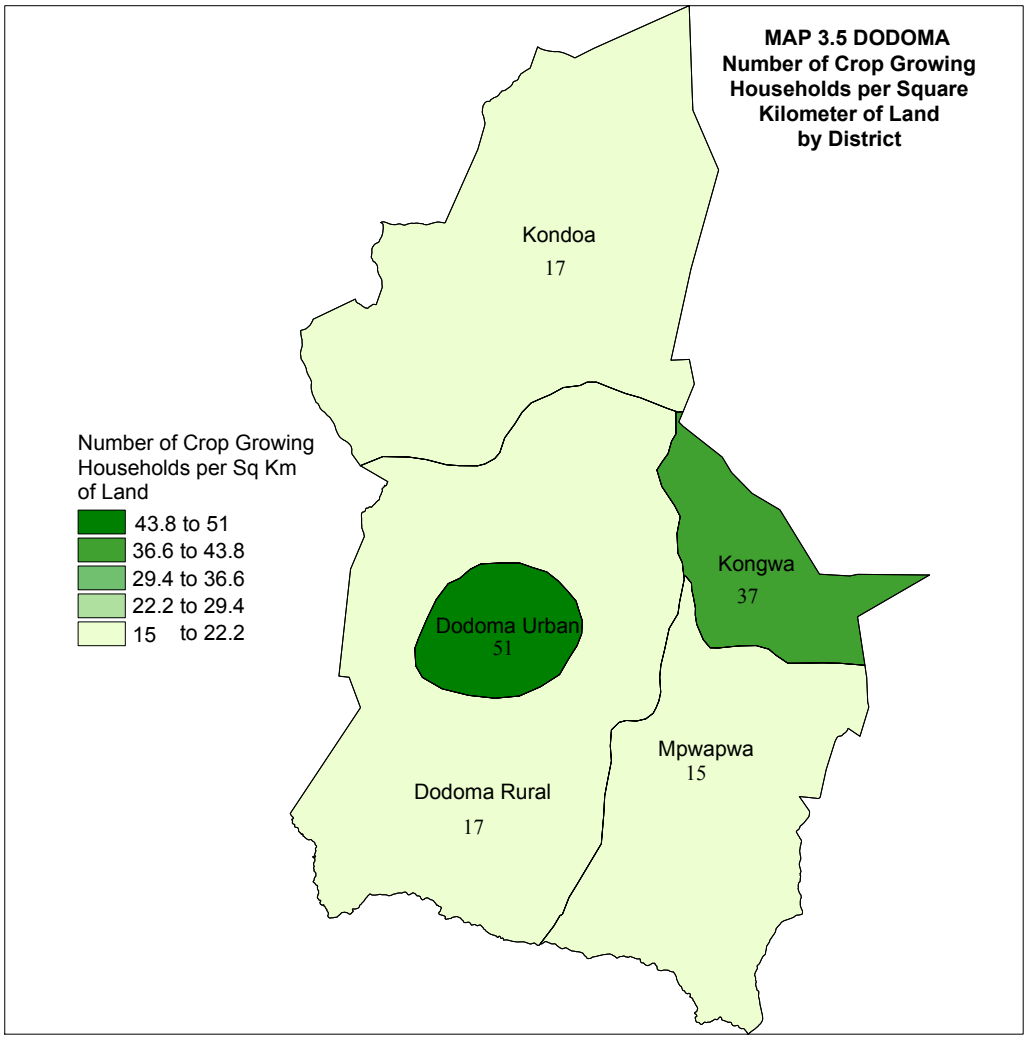


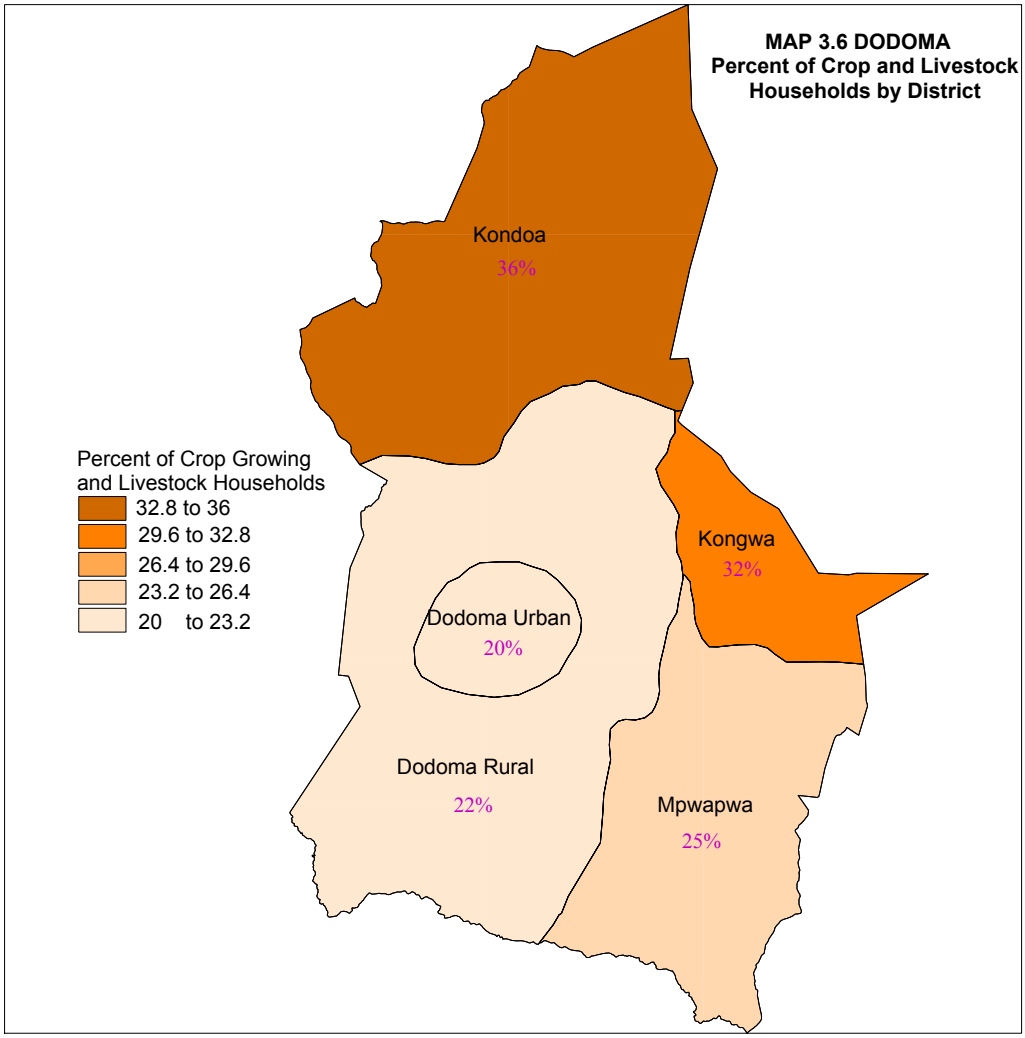

MAP 3.1 DODOMA
Total Number of Agricultural Households by District
Kondoa
84,756
Kongwa
47,238
Dodoma Urban
40,189
Dodoma Rural
100,482
Mpwapwa
51,055
Number of Agriculture Households
88,500 to 100
76,400 to 88
64,300 to 76
52,200 to 64
40,100 to 52


MAP 3.2 DODOMA
Number of Agricultural Households per Square Kilometer of Land by District
Kondoa
17
Kongwa
37
Dodoma Urban
51
Dodoma Rural
17
Mpwapwa
16
Agricultural Households per Square Km
44 to 51
37 to 44
30 to 37
23 to 30
16 to 23


MAP 3.3 DODOMA
Number of Crop Growing Households by District
Kondoa
84,470
Kongwa
47,121
Dodoma Urban
40,189
Dodoma Rural
100,482
Mpwapwa
50,850
Number of Crop Growing Households
88,500 to 100,500
76,400 to 88,500
64,300 to 76,400
52,200 to 64,300
40,100 to 52,200


MAP 3.4 DODOMA
Percent of Crop Growing Households by District
Kondoa
99.7%
Kongwa
99.8%
Dodoma Urban
100%
Dodoma Rural
100%
Mpwapwa
99.6%
Percent of Crop Growing Households
99.92 to 100
99.84 to 99.92
99.76 to 99.84
99.68 to 99.76
99.6 to 99.68

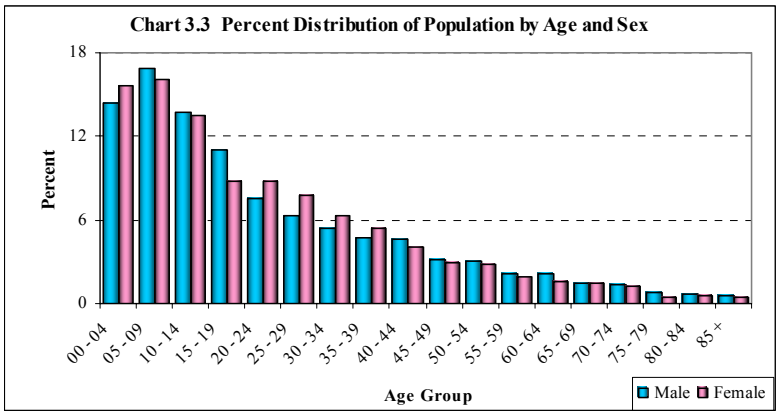

MAP 3.5 DODOMA
Number of Crop Growing Households per Square Kilometer of Land by District
Kondoa
17
Kongwa
37
Dodoma Urban
51
Mpwapwa
15
Dodoma Rural
17
Number of Crop Growing Households per Sq Km of Land
43.8 to 51
36.6 to 43.8
29.4 to 36.6
22.2 to 29.4
15 to 22.2


MAP 3.6 DODOMA
Percent of Crop and Livestock Households by District
Kondoa
36%
Kongwa
32%
Dodoma Urban
20%
Dodoma Rural
22%
Mpwapwa
25%
Percent of Crop Growing and Livestock Households
32.8 to 36
29.6 to 32.8
26.4 to 29.6
23.2 to 26.4
20 to 23.2

not been any significant change in the distribution of agricultural households between male and female headed households (Chart 3.2). The mean age of household heads is 45 years (44 years for male heads and 49 years for female heads).

3.1.4 Number and Age of Household Members

Dodoma region had a total rural agricultural population of 1,504,645 of which 735,628 (49%) were males and 769,019 (51%) were females. The population of the 0-14 age group was 678,649 representing 45 percent of the total rural agricultural population. Age group 15–64 (active population) was 756,851 which is equivalent to 50 percent. Dodoma region had an average household size of 4.6 with Dodoma Rural district having the lowest household size of 4.2 (Chart 3.3).



3.1.4 Level of Education

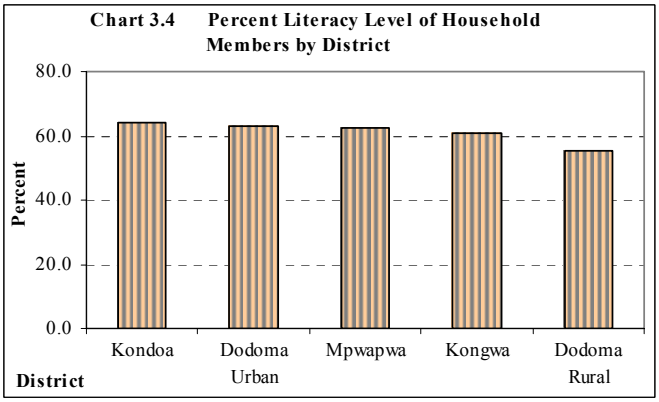
In order to obtain information on the level of education, information on literacy and education attainment were obtained for all persons aged five years and above in all households.

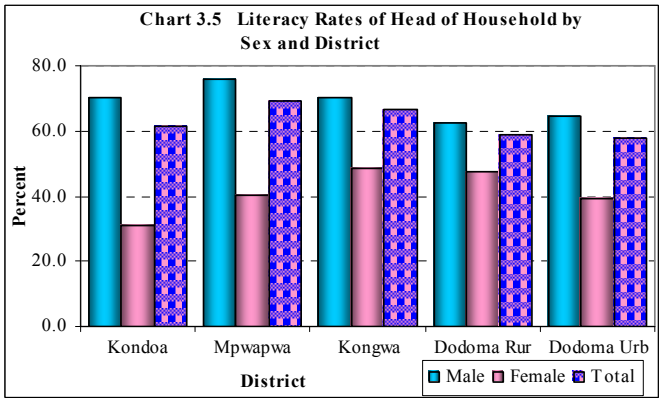
Literacy

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 other other languages.

Literacy Level for Household Members

Dodoma region had a total literacy rate of 60.6 percent. The highest literacy rate was found in Kondoa district (64.1%) followed by Dodoma Urban district (62.8%) and Mpwapwa district (62.7%) and Kongwa (60.7%). Dodoma Rural district had the lowest literacy rate of 55.4 percent (Chart 3.4).





Literacy Rates for Heads of Households

The literacy rate for the heads of households in the region was 62.1 percent. The literacy rates among the male and female heads of households were 68.0 and 40.9 percent respectively. The 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 Mpwapwa (69.0%) followed by Kongwa (66.7%), Kondoa (61.2%), Dodoma Rural (59.0%) and Dodoma Urban (58.0%) (Chart 3.5).

Educational Status

Information on educational status was collected from individual agricultural households. The results show that 37 percent of the population aged 5 years and above in agricultural households in the region had completed different levels of education and 28 percent were still attending school. Those who have never attended school were 35 percent (Chart 3.6).

Agricultural households in Mpwapwa district had the highest percentage of population aged 5 years and above who had completed different levels of education (41%). This was followed by Kongwa (39%), Dodoma Urban districts (38%), Dodoma Rural district (37%) and the last district is Kondoa with 35 percent (Chart 3.7).

Chart 3.6 Percentage of Persons Aged 5 Years and Above by Education Status

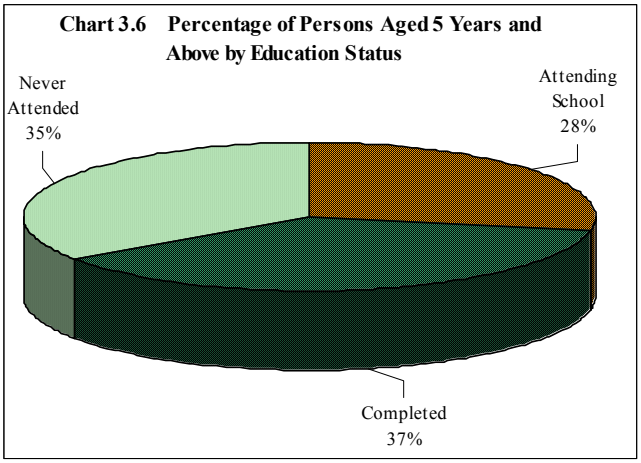
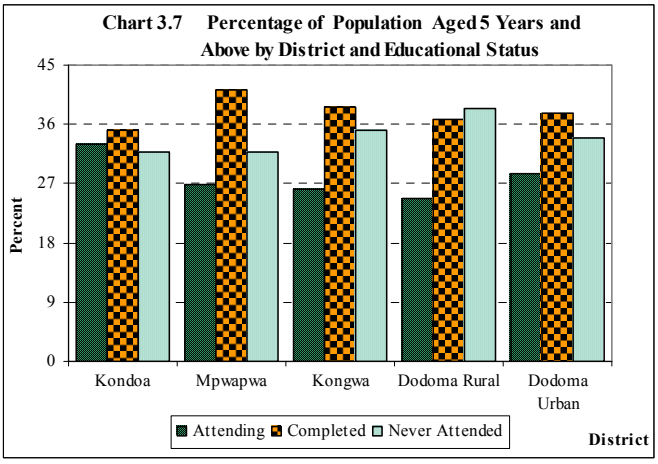
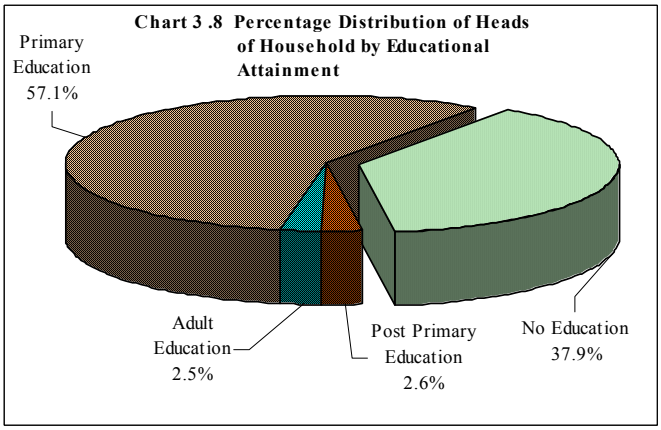


Chart 3.7 Percentage of Population Aged 5 Years and Above by District and Educational Status



The number of heads of agricultural households with formal education in Dodoma region was 193,009 (60%), those without any education were 122,648 (38%) and those with only adult education were 8,062 (2%). The majority of heads of agricultural households had primary level education (57.1%) whereas only 2.6 percent had post primary education (Chart 3.8).

Chart 3 .8 Percentage Distribution of Heads of Household by Educational Attainment



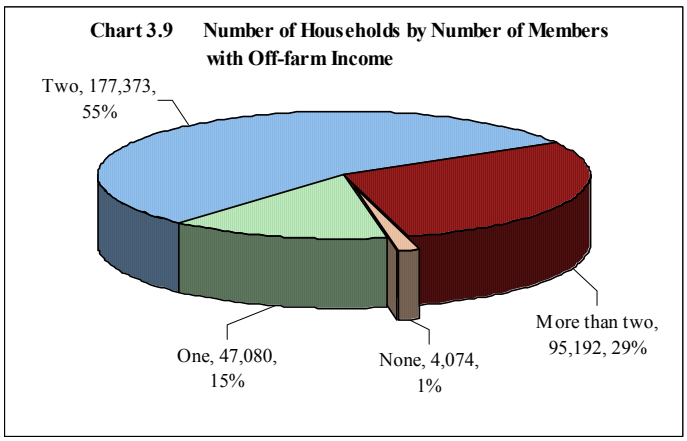
With regard to the heads of agricultural households with primary education in Dodoma region, Mpwapwa district had the highest percentage (63.1%). This was followed by Kongwa (58.6%), Kondoa (56.2%), Dodoma Rural (55.8%) and Dodoma Urban (52.8%). There are very minor variations among the districts with regard to heads of agricultural households with secondary education (Mpwapwa had 1.9% and the rest of the districts 2.0%).

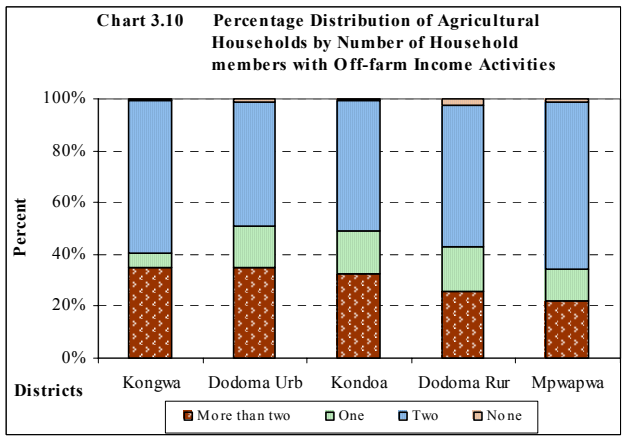
3.1.6 Off-farm Income

Off-farm income refers to cash generated from activities other than from the households holding. This can be either from permanent employment, 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 Dodoma with 98.7 percent of

households having at least one member with off-farm income. In Dodoma region 47,080 households (15%) had only one member aged 5 and above involved in off-farm income generating activity, 177,373 households (55%) had two members involved in off-farm income generating activities and 95,192 households (30%) had more than two members involved in off-farm income generating activities (Chart 3.9).

Kongwa and Kondoa districts had the highest percentage of agriculture households with off-farm income (over 99% of total agriculture households in each district). Other districts with a high percent of agriculture households with off-farm income were Mpwapwa (99.0%) and Dodoma Urban (98.7%). Dodoma Rural had the lowest percent of agriculture households





with off-farm income (97.6%). The district with the highest percent of agriculture households with more than one member with off-farm income was Kongwa (94.3%). Dodoma Rural district had the lowest percent of households with more than one member having off-farm income (82.1%).

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:

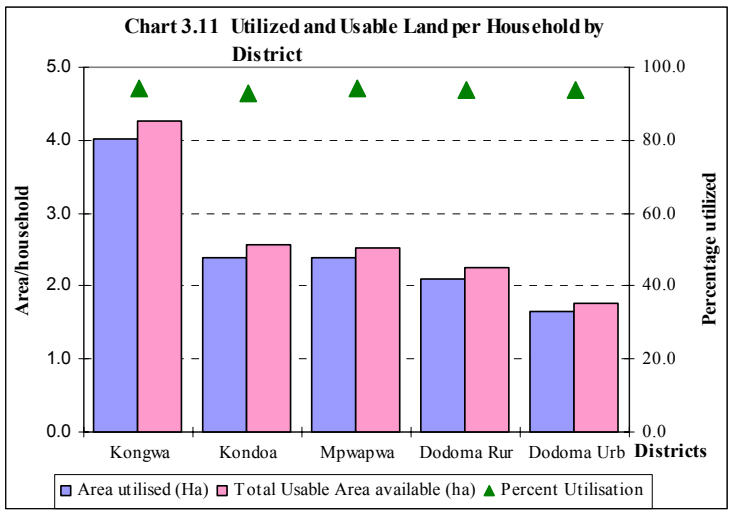
Land available refers to the area of land that has been allocated to smallholders through customary law, official title or other forms of ownership. Land available does NOT mean the total area of land that is designated as agriculture land in the country, however it is the land that is available to smallholders 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

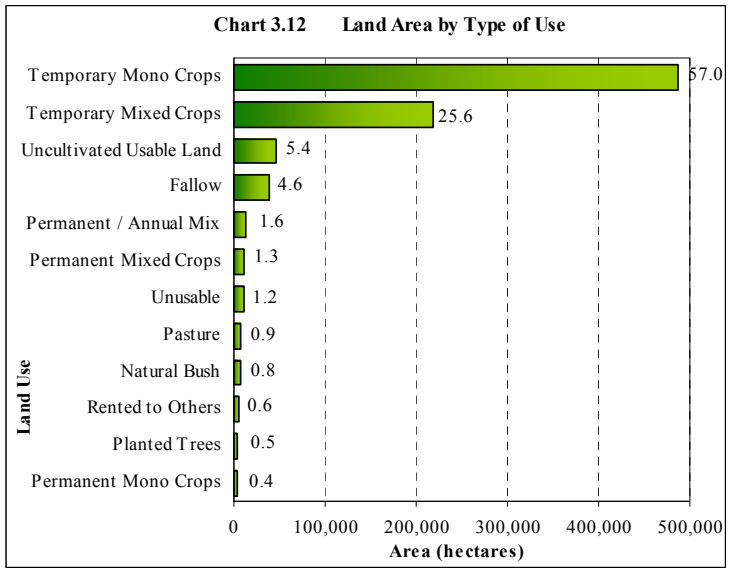
The total area of land available to smallholders in Dodoma Region was 855,264 ha which is 94 percent of the total land available to smallholders in the region. The regional average land area utilised for agriculture per household was only 2.4 ha. This figure is above the national average of 2.0 ha.

Large differences in land area utilised per household exist between districts in the region. In Kongwa the area utilised per household was 4.0 ha and in the rest of the districts it was between 1.6 ha (in Dodoma Urban) and 2.4 ha per household (in Kondoa and Mpwapwa). The smallest land area utilised per household is found in Dodoma Urban district (1.6 ha). The percent utilised of the usable land is high (around 94%). There is virtually no difference in the percentage of the usable land utilised per households between districts. The percentage utilized of the usable land per household is highest in Mpwapwa (94.4%) and lowest in Kondoa (92.8%). Ninety four percent of the total land available to smallholders was utilised. Only 6 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 monocrops was 487,445 hectares (57.0% of the total land available to smallholders in Dodoma), followed by temporary mixed crops (218,871 ha, 25.6%), uncultivatable usable land (46,108 ha, 5.4%), area under fallow (39,437 ha, 4.6%), permanent/annual mix (13,491 ha, 1.6%), permanent mixed crop (11,460 ha, 1.3%), area unusable (10,443 ha, 1.2%), area under pasture (7,801 ha, 0.9%), Area under natural bush (6,902 ha, 0.8%), area rented to others (5,533 ha, 0.6%), area under planted trees (4,431 ha, 0.5%), and area under permanent monocrop (33,42 ha, 0.4%) (Chart 3.12).

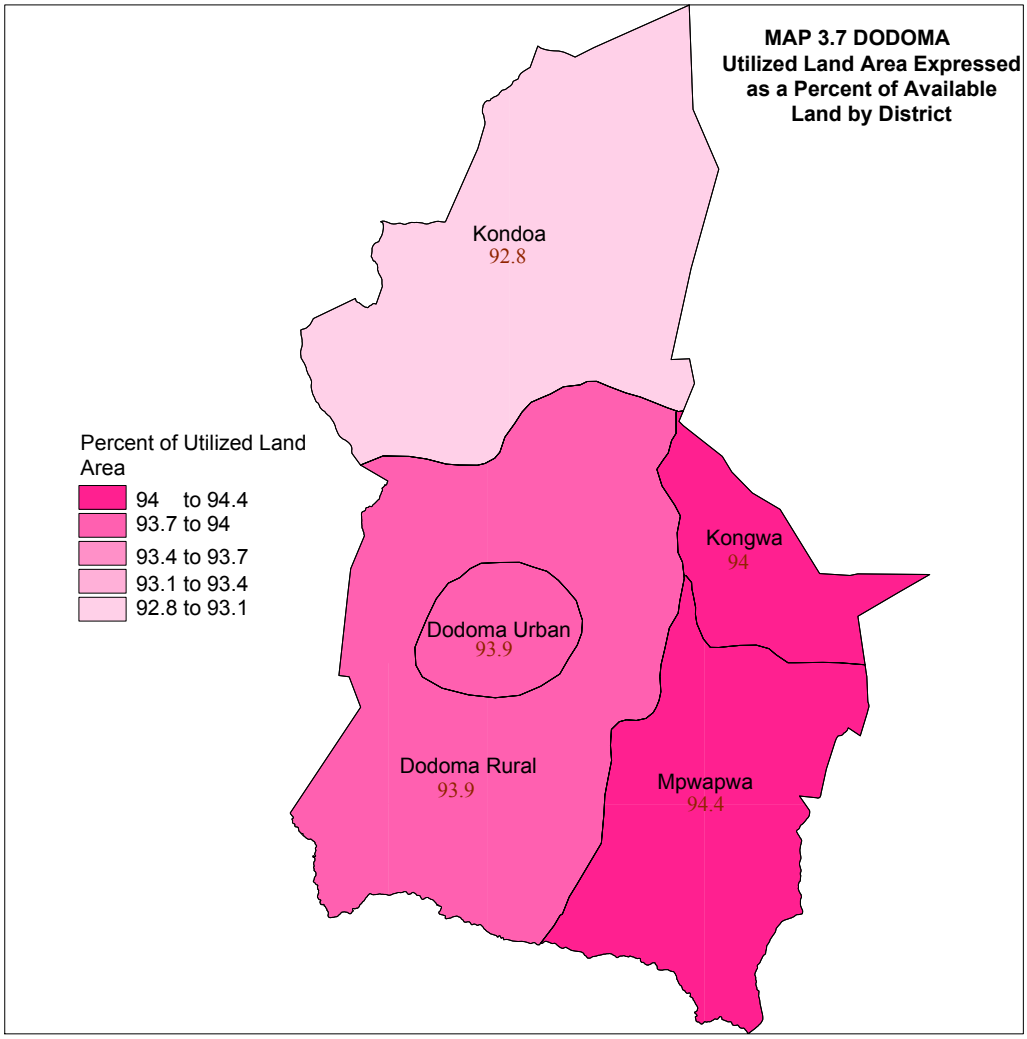


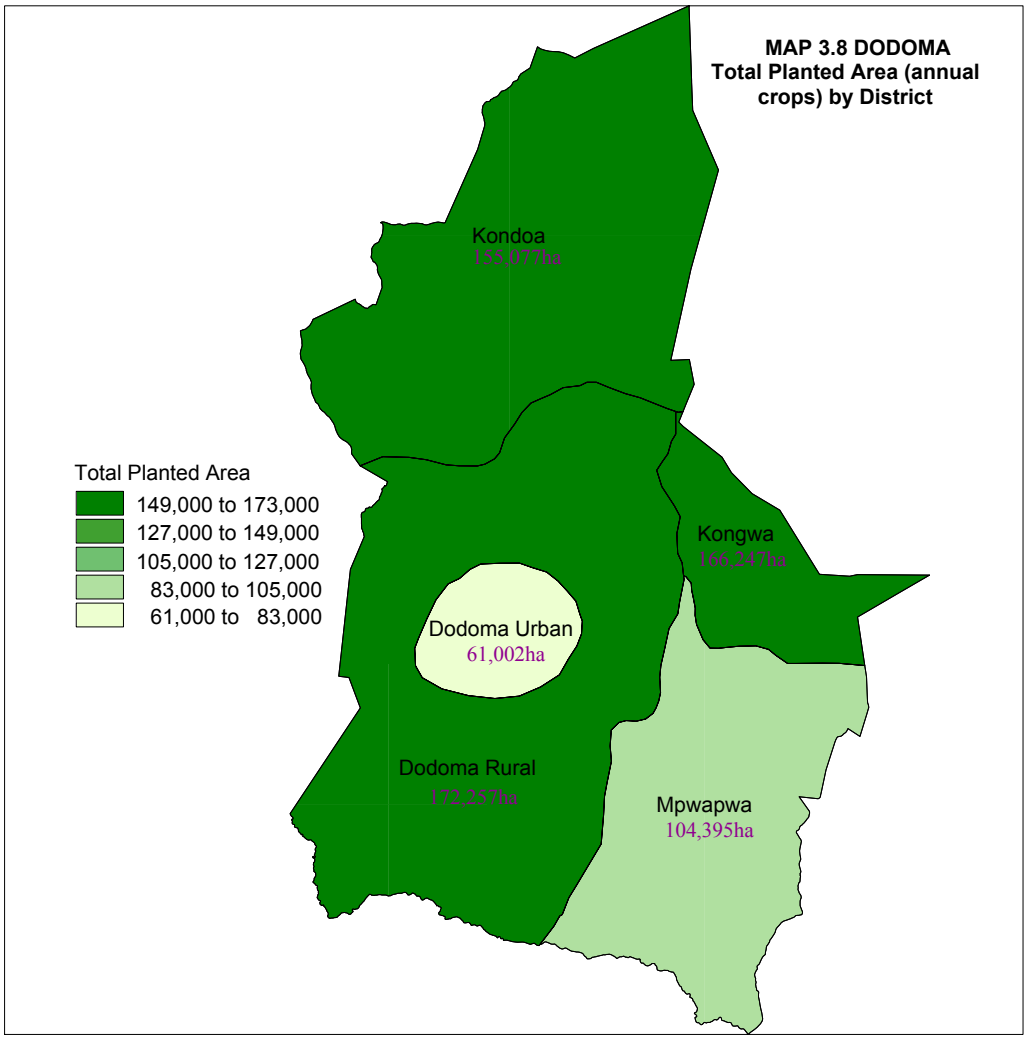
3.3 Annual Crop and Vegetable Production

Dodoma region has a unimodal rainfall pattern starting in December and ending in March. With the exception of some irrigated annual crops and vegetables grown in the dry season, the rest of the crops are produced during the wet season. The quantity of crops produced in both seasons will be used as a basis for comparison with the past surveys and censuses.

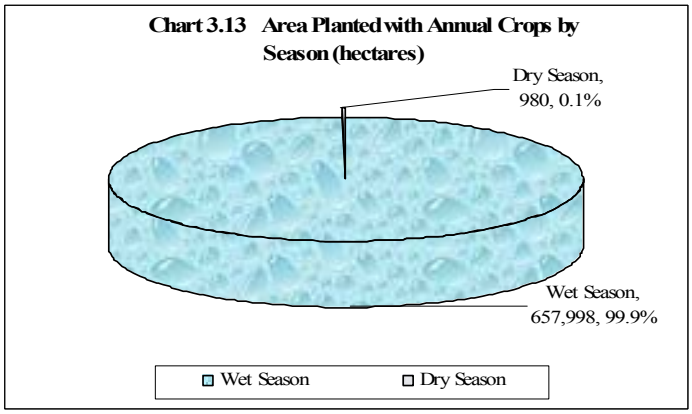
3.3.1 Area Planted

The area planted with annual crops and vegetables in the region was 658,978 hectares, of which 980 hectares (0.15%) were planted during dry season and 657,998 hectares (99.85%) in the wet season (Charts 3.13 and 3.14). The average areas planted per household in the dry and wet season were 0.8 and 0.9 ha respectively. Note that the number of households growing crops in the dry season was very small and therefore district comparisons for planted area per household should be treated with caution and the same also applies to Chart 3.15.


MAP 3.7 DODOMA
Utilized Land Area Expressed as a Percent of Available Land by District
Kondoa
92.8
Kongwa
94
Dodoma Urban
93.9
Dodoma Rural
93.9
Mpwapwa
94.4
Percent of Utilized Land Area
94 to 94.4
93.7 to 94
93.4 to 93.7
93.1 to 93.4
92.8 to 93.1


MAP 3.8 DODOMA
Total Planted Area (annual crops) by District
Kondoa
155,077ha
Kongwa
166,247ha
Dodoma Urban
61,002ha
Dodoma Rural
172,257ha
Mpwapwa
104,395ha
Total Planted Area
149,000 to 173,000
127,000 to 149,000
105,000 to 127,000
83,000 to 105,000
61,000 to 83,000

This is particularly in relation to the large area planted per household in Dodoma Rural district during the dry season.



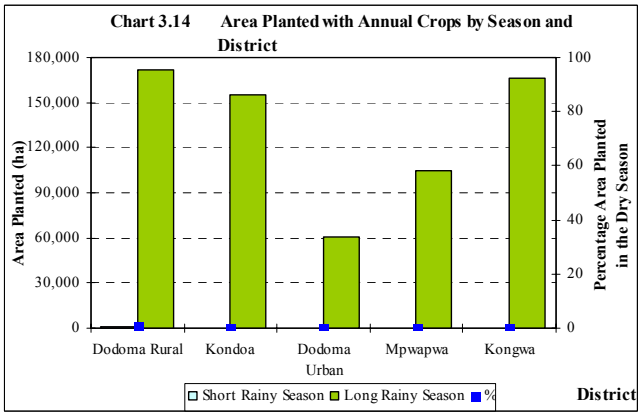
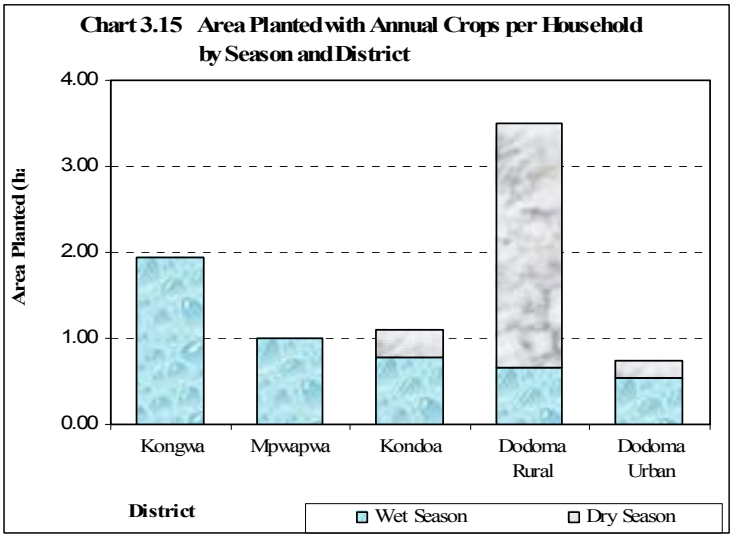


Chart 3.15 shows that the district with the largest area planted per household is Dodoma Rural with over 3 hectares per household (the sum of the two seasons) this is followed by Kongwa (1.9 ha). The district with the smallest area planted per household was Dodoma Urban (0.8 ha).

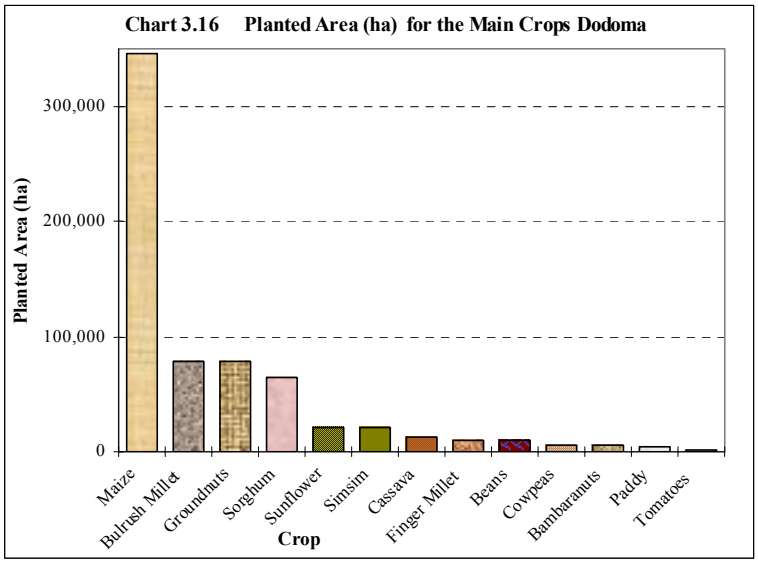
In Dodoma Rural district the average area planted during the dry season is higher than that of the wet season the reverse is true in the rest of the districts (Chart 3.15 and Map 3.8).



The average area planted per household during the wet season in Dodoma region was 0.9 hectares. Kongwa had the largest planted area per household in the wet season (1.9 ha) followed by Mpapwa and Kondoa (1.1 ha). The smallest planted area per household in the wet season is in Dodoma Urban (0.6ha). (Chart 3.15 and Map 3.9).

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.



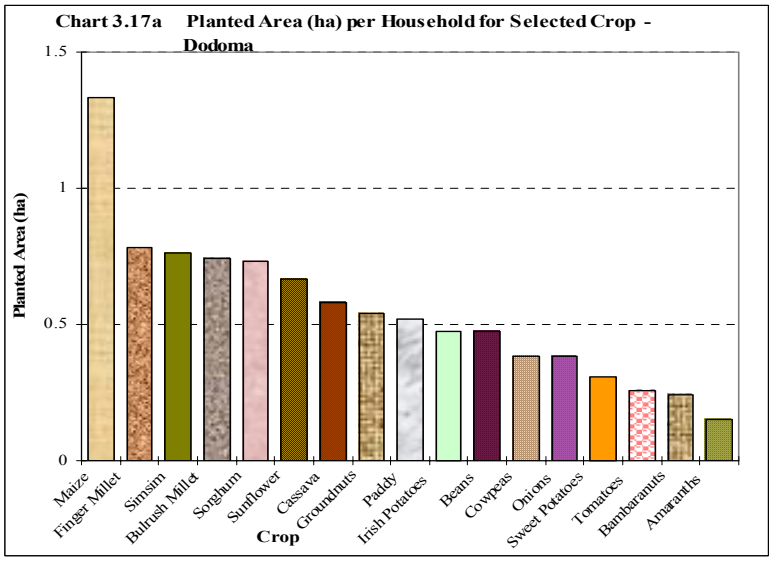
3.3.2 Crop Importance

Maize is the dominant annual crop grown in Dodoma region and it had a planted area 4.4 times greater than bulrush millet, which had the second largest planted area. The area planted with maize constitutes 52.5 percent of the total area planted with annual crops in the region.

Other annual crops of relative importance in the region (based on area planted) include groundnuts and sorghum. A small amount of sunflower, simsim, cassava, finger millet and beans are also grown in the region (Chart 3.16). Other annual crops are grown in minor quantities.

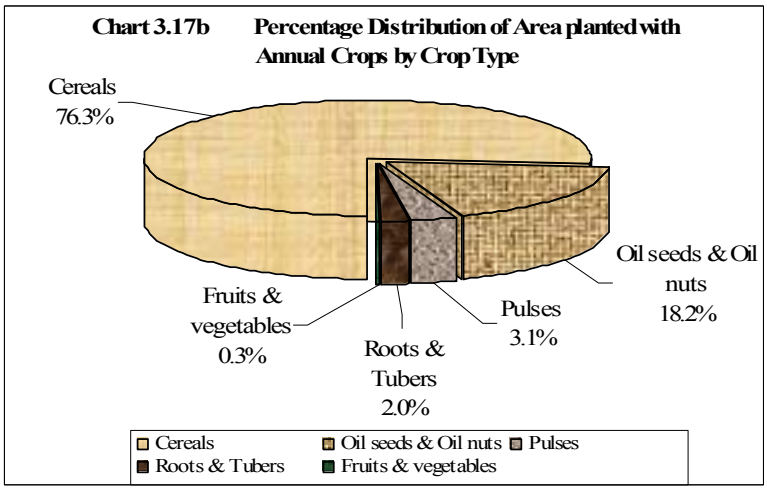
Chart 3.17a shows the area planted per household growing selected crops. Households that grow maize, finger millet, simsim, and bulrush millet have a larger planted area per household than for other crops

Vegetable crops have smaller planted area per household than cereals, roots and tubers and oilseed crops.

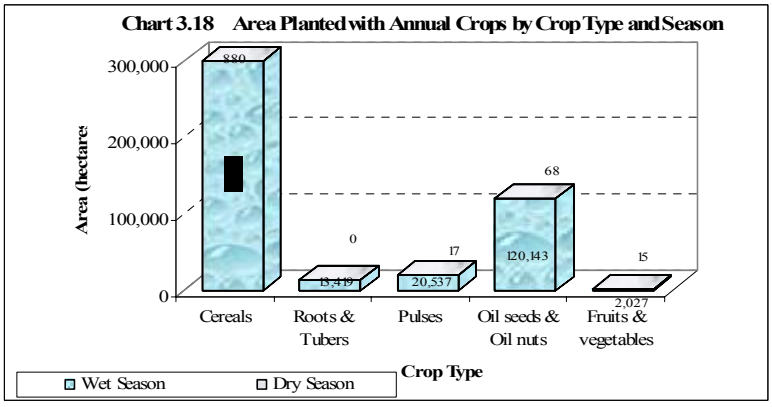


3.3.3 Crop Types

Cereals are the main crops grown in Dodoma region. The area planted with cereals was 502,753 ha (76.3% of the total planted area), followed by oils seeds with 120,211 ha (18.2%), pulses (20,554 ha, 3.1%), roots and tubers (13,419 ha, 2.0%) and fruit and vegetables (2,041 ha, 0.3%) (Chart 3.17b). No annual cash crop production was reported in the region.



The region has a single crop production season, in which almost all the crops are grown, with very little crops grown in the dry season. Due to the fact that the dry season production was very small, it is inappropriate to make detailed comparisons between the two seasons (Chart 3.18).

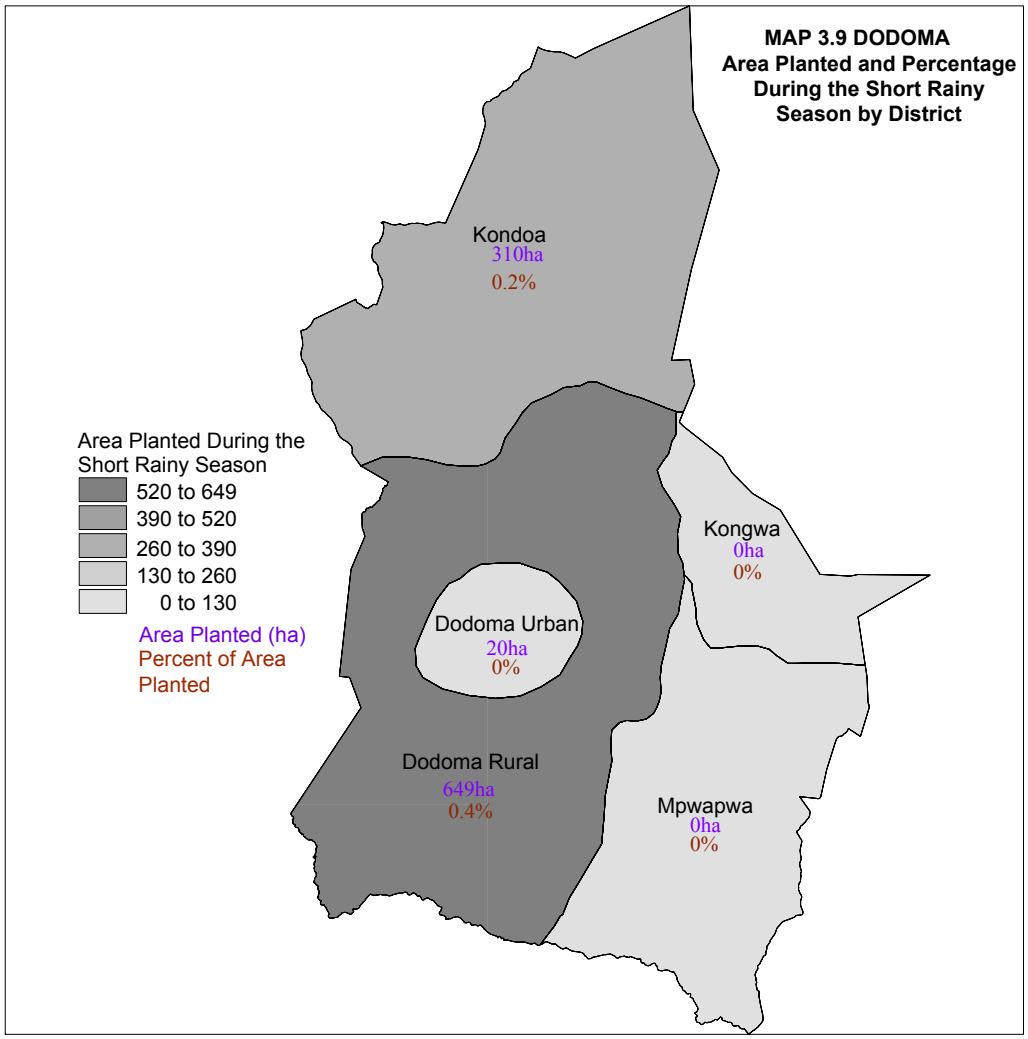


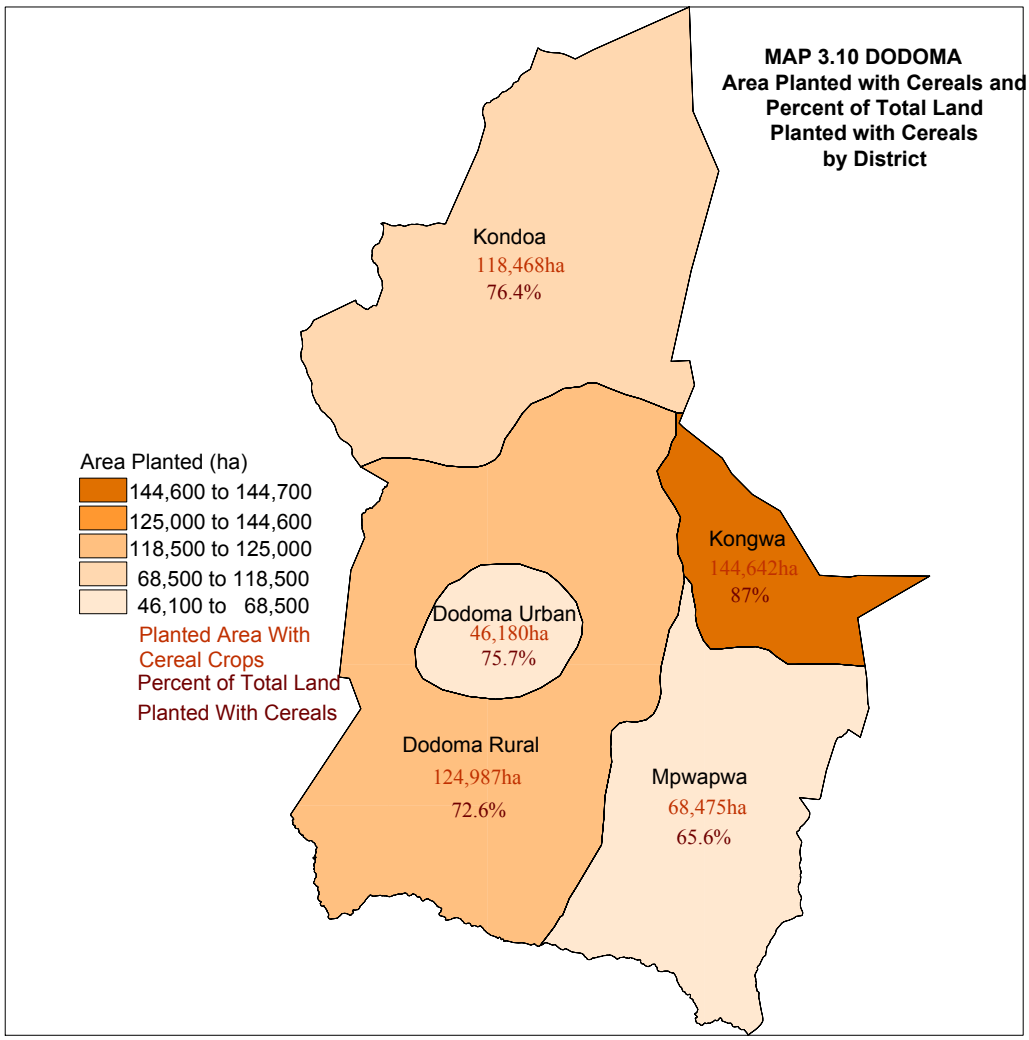
3.3.4 Cereal Crop Production

The total production of cereals in Dodoma region was 201,942 tonnes. Maize was the dominant cereal crop with 149,492 tonnes (74.0% of total cereal crops produced), followed by bulrush millet (11.3%), sorghum (10.9%), finger millet (2.5%) and paddy (1.3%).

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

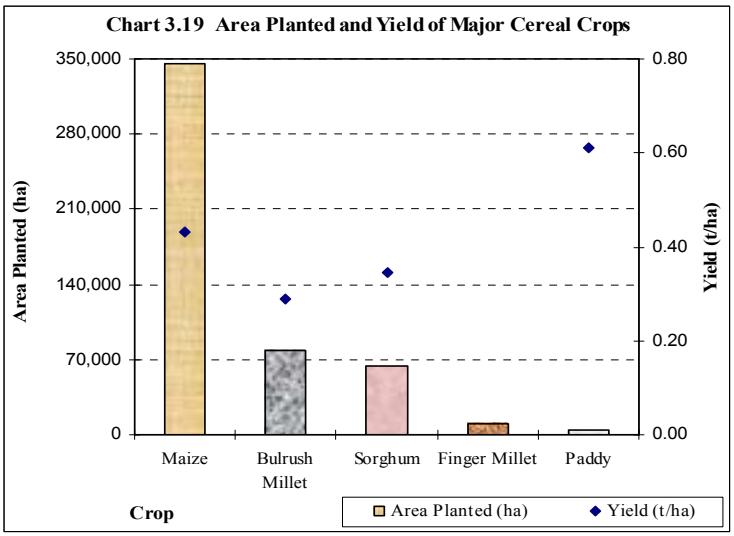
Crop	Dry Season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Maize	821	1,663	2026	345,066	147,829	428	345,887	149,492	432
Paddy	0	0	0	4,225	2,587	612	4,225	2,587	612
Sorghum	0	0	0	63,932	22,032	345	63,932	22,032	345
Bulrush Millet	59	14	247	78,496	22,711	289	78,555	22,726	289
Finger Millet	0	0	0	10,153	5,106	503	10,153	5,106	503
Total	**880**	**1,678**		**501,873**	**200,264**		**502,753**	**201,942**	


MAP 3.9 DODOMA
Area Planted and Percentage During the Short Rainy Season by District
Kondoa
310ha
0.2%
Kongwa
0ha
0%
Dodoma Urban
20ha
0%
Dodoma Rural
649ha
0.4%
Mpwapwa
0ha
0%
Area Planted During the Short Rainy Season
520 to 649
390 to 520
260 to 390
130 to 260
0 to 130
Area Planted (ha)
Percent of Area Planted


MAP 3.10 DODOMA
Area Planted with Cereals and Percent of Total Land Planted with Cereals by District
Kondoa
118,468ha
76.4%
Kongwa
144,642ha
87%
Dodoma Urban
46,180ha
75.7%
Dodoma Rural
124,987ha
72.6%
Mpwapwa
68,475ha
65.6%
Area Planted (ha)
144,600 to 144,700
125,000 to 144,600
118,500 to 125,000
68,500 to 118,500
46,100 to 68,500
Planted Area With Cereal Crops
Percent of Total Land Planted With Cereals

Kongwa had the largest planted area of cereals in the region (144,642 ha) followed by Dodoma Rural district (124,987 ha), Kondoa (118,468 ha), Mpwapwa (68,475 ha) and Dodoma Urban district (46,180 ha) (Map 3.10).

The total area planted with cereals during the wet and dry seasons was 502,753 ha, of which 501,873 ha (99.8%) was planted during the wet season and 880 ha (0.2%) was planted in dry season. The wet season accounts for 99.2 percent of the total cereals produced in both seasons. The planted area with maize was dominant and it represented 68.8 percent of the total area planted with cereal crops, then followed by bulrush millet (15.6%), sorghum (12.7%), finger millet (2.0%) and paddy (0.8%) (Table 3.2).



The yield of paddy was 612 kg/ha, followed by finger millet (503 kg/ha), maize (432 kg/ha), sorghum (345 kg/ha) and bulrush millet (280 kg/ha) (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 Dodoma region during the wet season was 258,629 (80% of the total crop growing households in the region during the wet season). The total production of maize was 149,492 tonnes from a planted area of 345,887 hectares resulting in a yield of 0.4 t/ha.

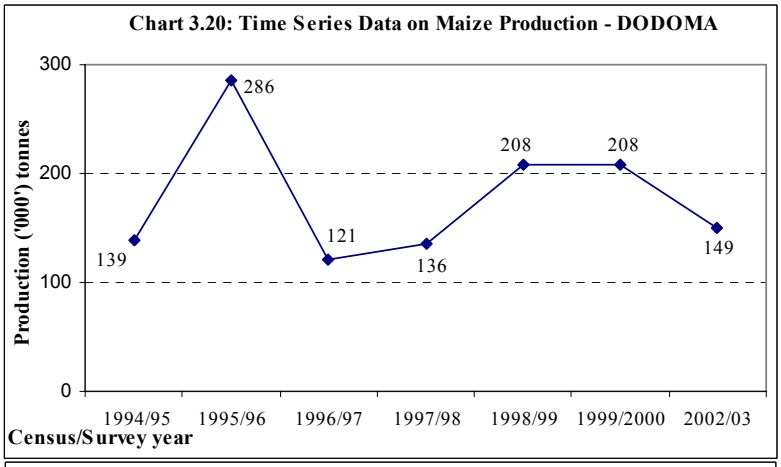
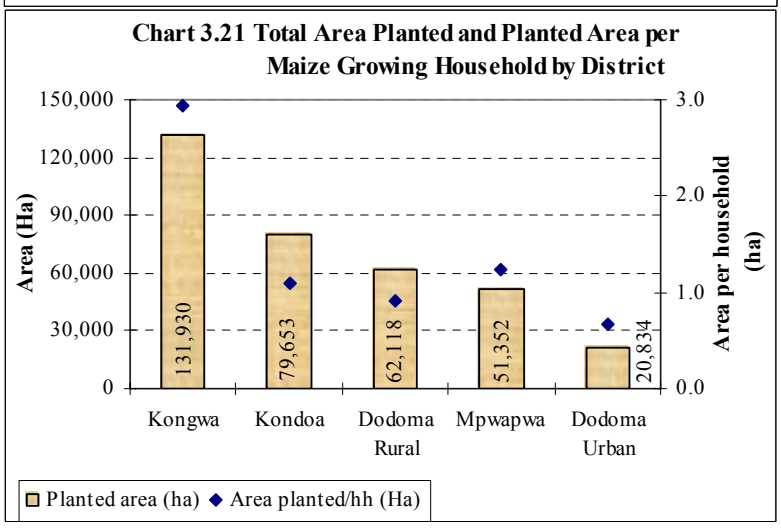
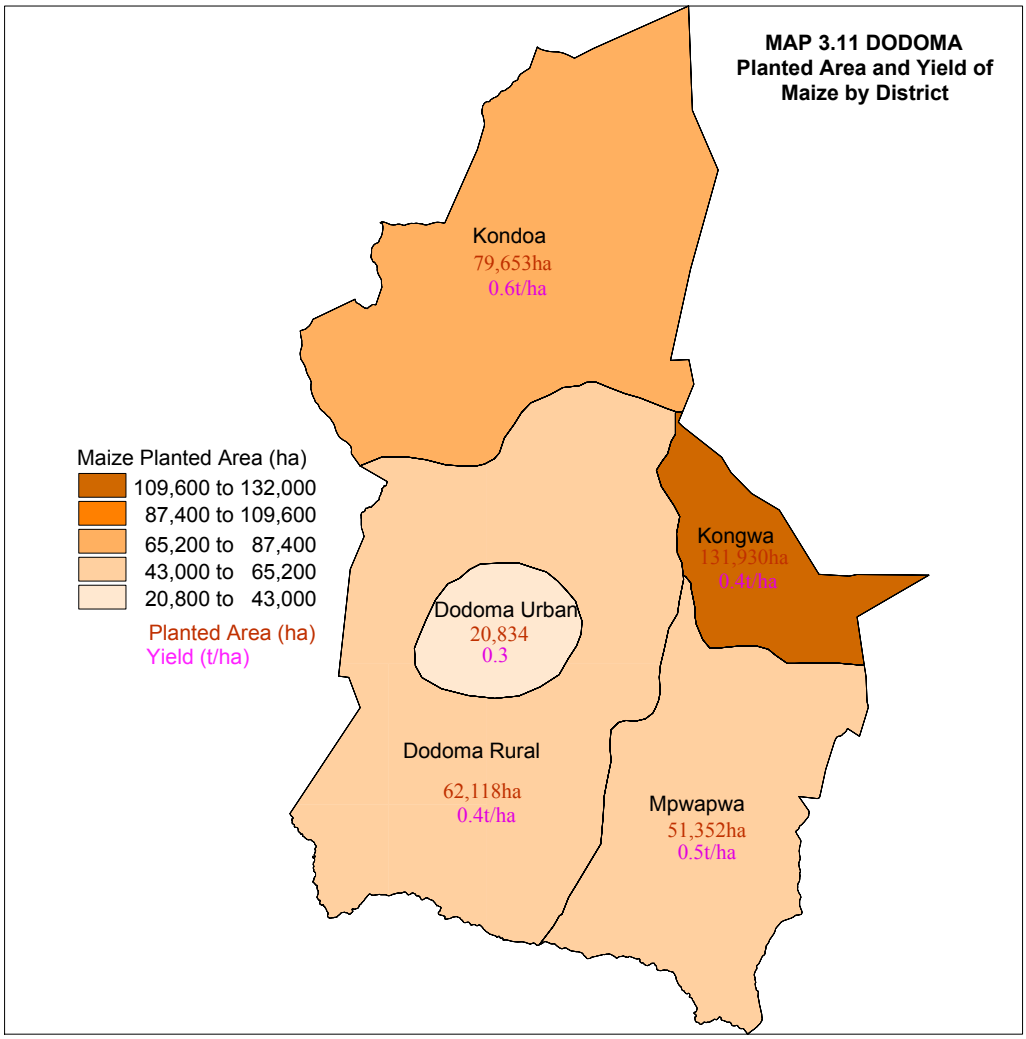
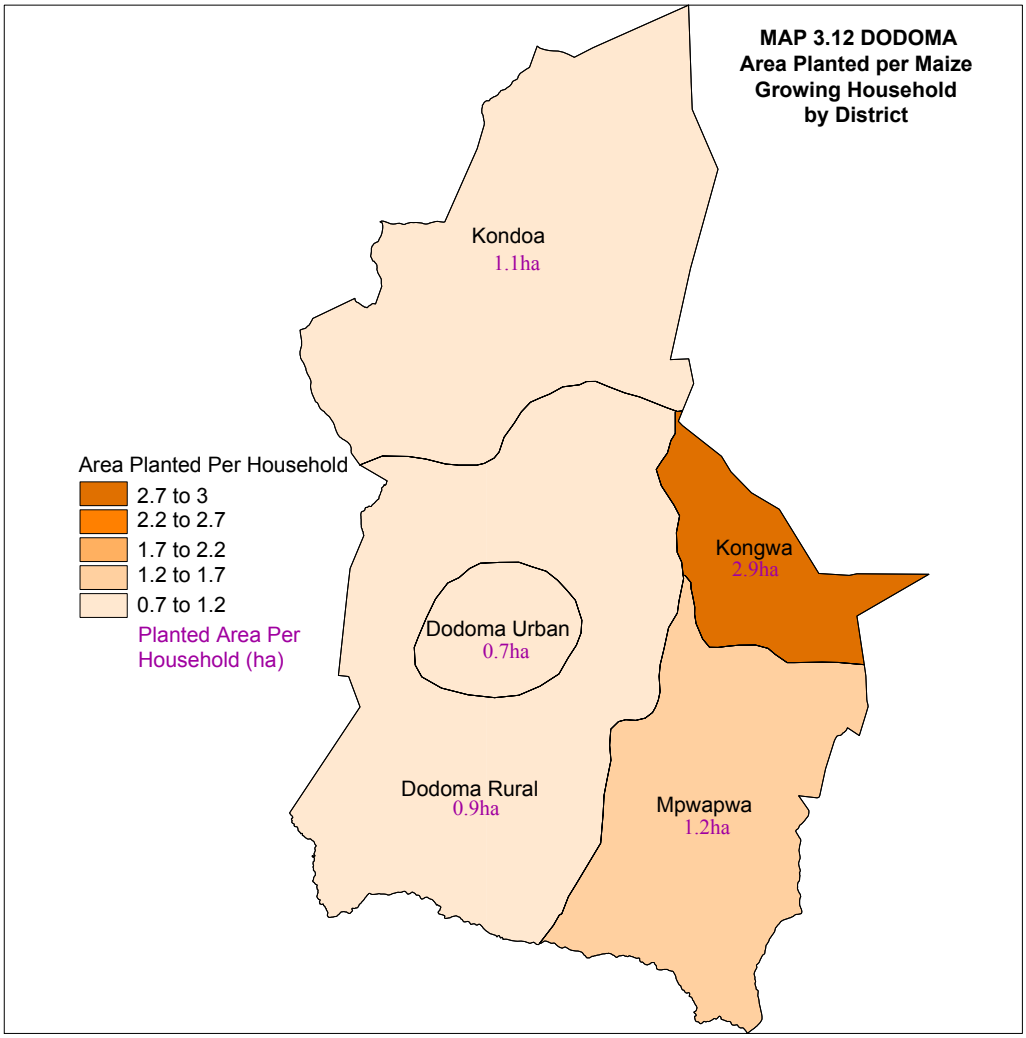


Chart 3.20 presents the maize production trend (in thousand metric tonnes). There was a sharp increase in maize production over the period 1995 to 1996 (106%), after which the production dropped by 58 percent over the period 1996 to 97. Production gradually increased over the period 1997 to 1999 and thereafter declined over the period 2000 to 2003 (Chart 3.20).

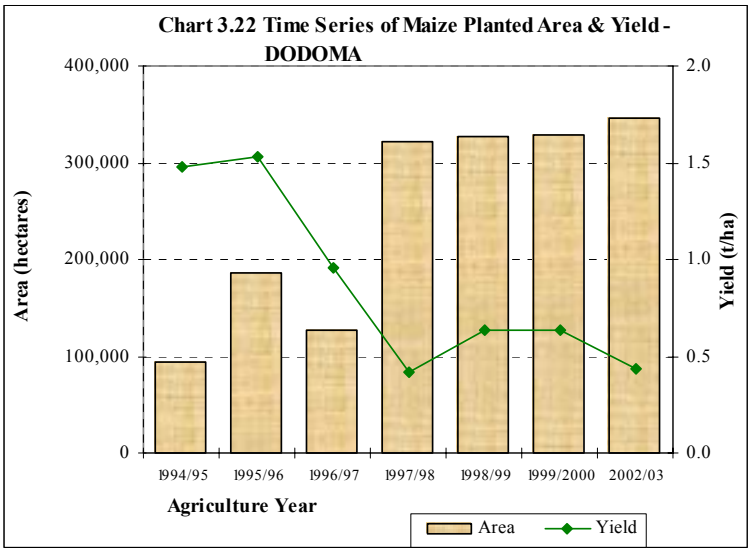


The average area planted with maize per household was 1.3 hectares, however it ranged from 0.7 hectares in Dodoma Urban district to 2.9 hectares in Kongwa district (Map 3.11). Kongwa had the largest planted area of maize (131,930 ha) followed by Kondoa (79,653 ha), Dodoma Rural (62,118 ha), Mpwapwa (51,352 ha) and Dodoma Urban (20,834 ha) (Chart 3.21 and Map 3.12).


MAP 3.11 DODOMA
Planted Area and Yield of Maize by District
Kondoa
79,653ha
0.6t/ha
Kongwa
131,930ha
0.4t/ha
Dodoma Urban
20,834
0.3
Dodoma Rural
62,118ha
0.4t/ha
Mpwapwa
51,352ha
0.5t/ha
Maize Planted Area (ha)
109,600 to 132,000
87,400 to 109,600
65,200 to 87,400
43,000 to 65,200
20,800 to 43,000
Planted Area (ha)
Yield (t/ha)


MAP 3.12 DODOMA
Area Planted per Maize Growing Household by District
Kondoa
1.1ha
Kongwa
2.9ha
Dodoma Urban
0.7ha
Dodoma Rural
0.9ha
Mpwapwa
1.2ha
Area Planted Per Household
2.7 to 3
2.2 to 2.7
1.7 to 2.2
1.2 to 1.7
0.7 to 1.2
Planted Area Per Household (ha)

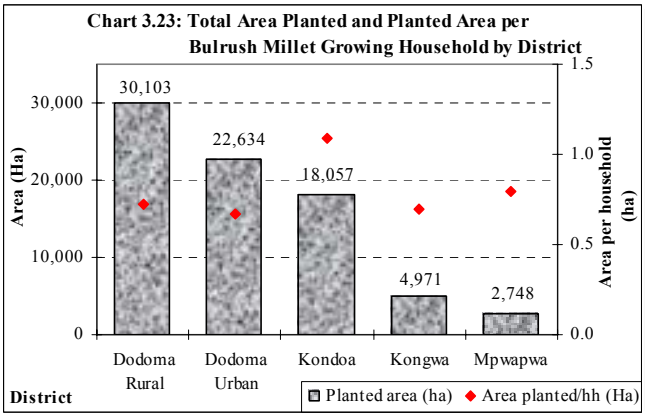
The planted area of maize increased sharply between 1997 and 1998 and has remained almost constant since then. Conversely, the yield declined sharply between 1996 and 1998 and has remained at this low level since then.

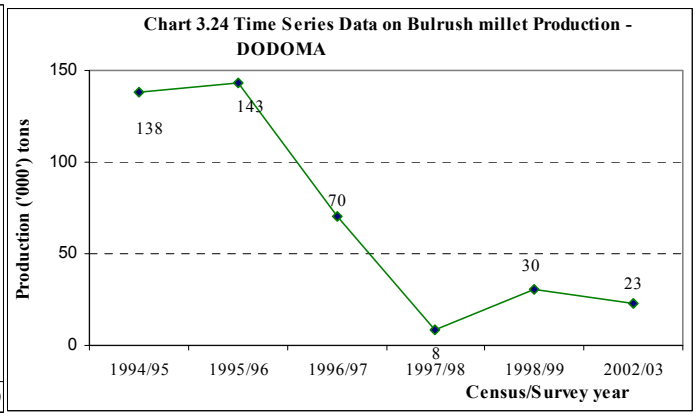


Whilst Chart 3.20 shows that, there has been a slight increase in the production of maize over the last 10 years, this has been due to the large increase in the planted area and not due to increased productivity (Chart 3.22).

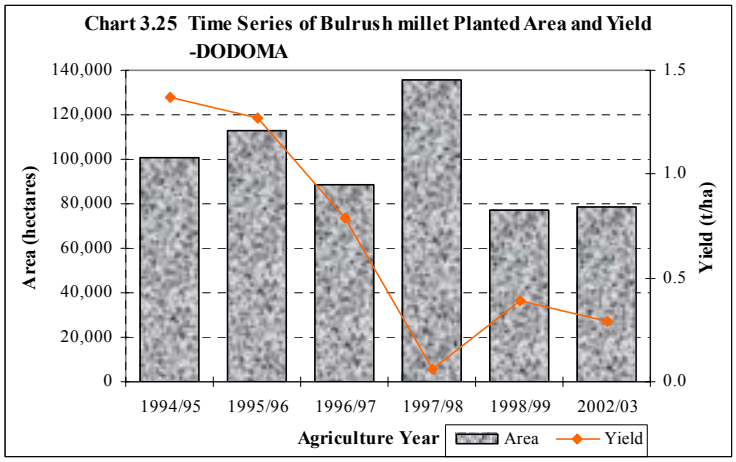
3.3.4.2 Bulrush Millet

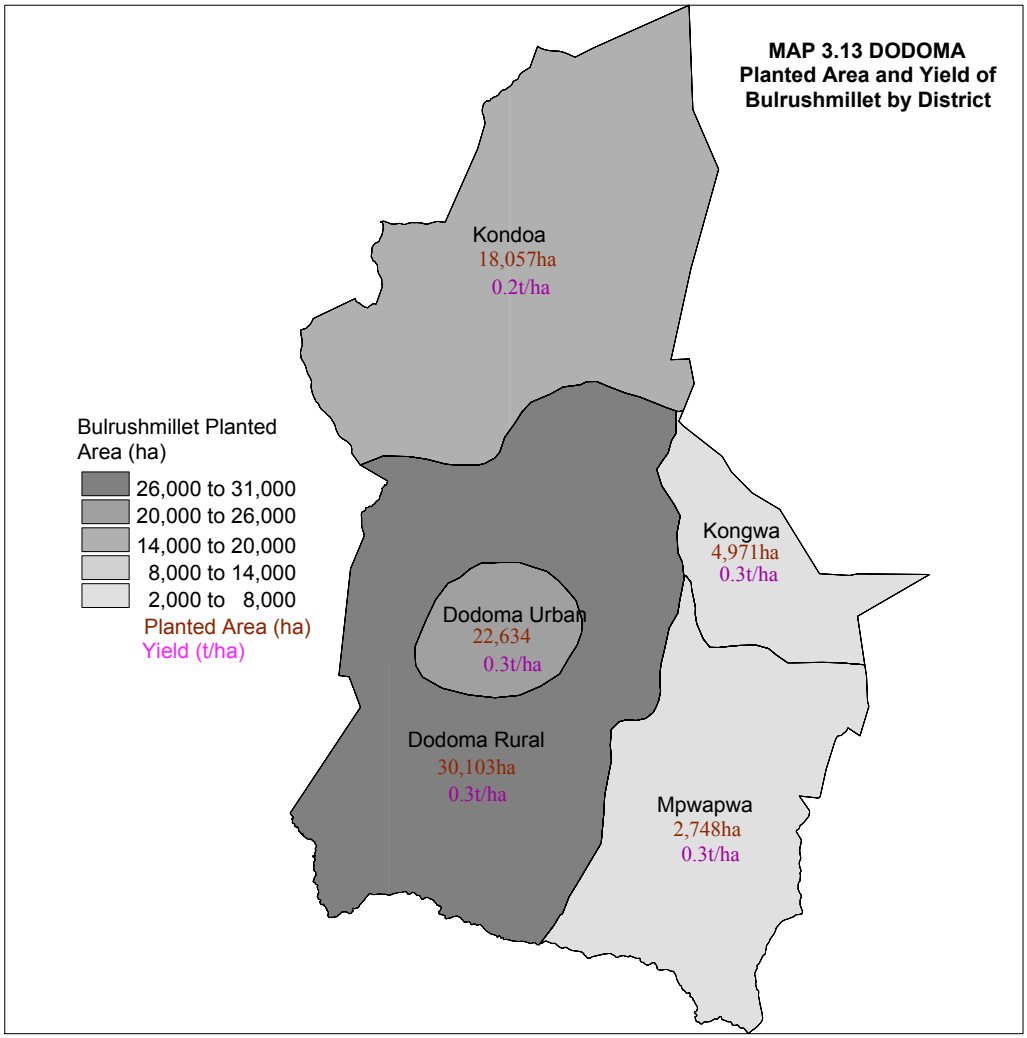
Bulrush millet is the second most important cereal crop in the region in terms of planted area. The number of households that grew bulrush millet in Dodoma region during the wet season was 105,464, representing 33 percent of the total crop growing households. The total production of bulrush millet was 22,711 tonnes from a planted area of 78,496 hectares resulting in a yield of 0.29 t/ha. The district with the largest planted area with bulrush millet was Dodoma Rural (30,103 ha) followed by Dodoma Urban (22,634 ha), Kondoa (18,057 ha), Kongwa (4,971 ha) and Mpwapwa (2,748 ha) (Map 3.13). There are variations in the average area planted per crop growing household among the districts ranging from 0.67 ha in Dodoma Urban to 1.09 ha in Kondoa (Chart 3.23 and Map 3.14).

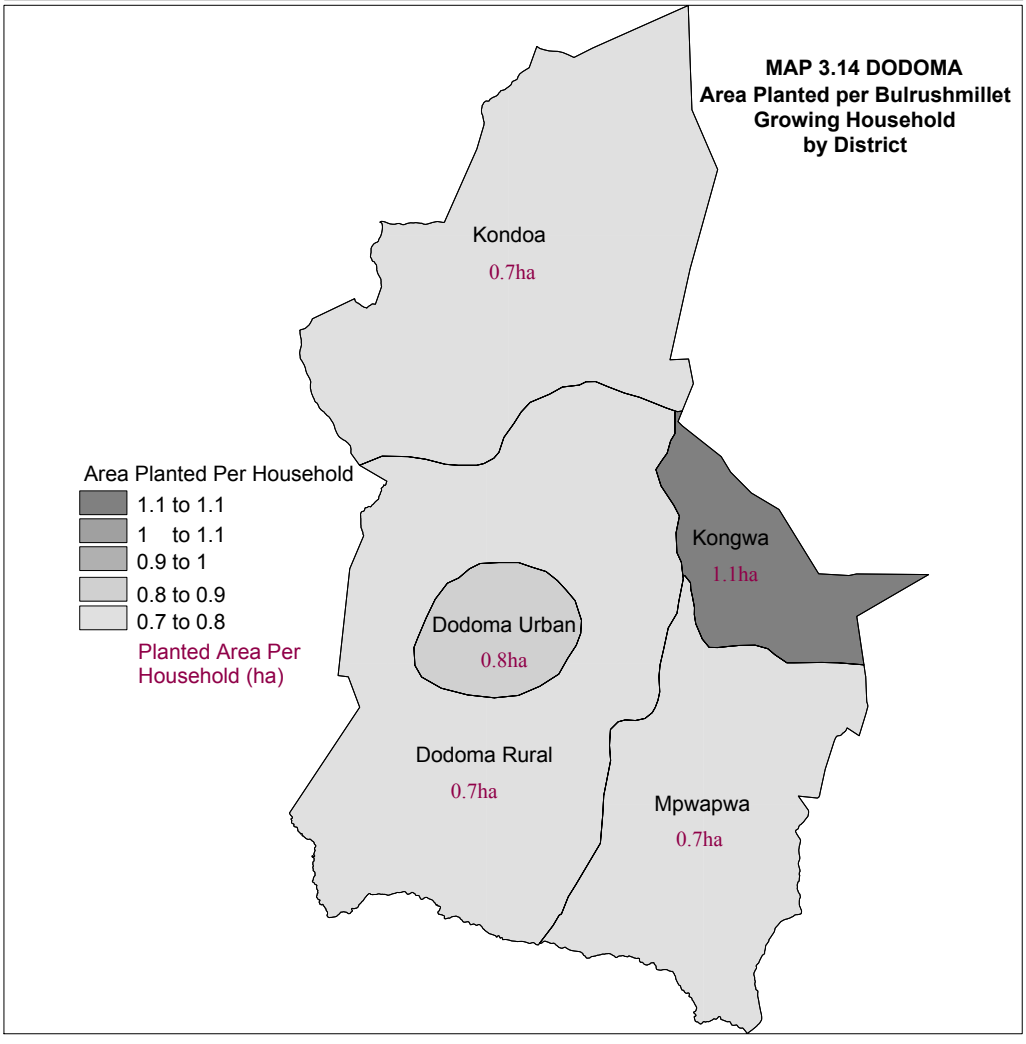




There was a dramatic drop in the production of bulrush millet from 143,000 tonnes in 1995/96 to 8,000 in 1997/98 after which the production rose from 8,000 tons in 1997/98 to 30,000 tonnes in 1998/99. The production dropped from 30,000 tonnes in 1998/99 to 23,000 in 2002/03. Charts 3.23 show that the area planted with bulrush millet has declined at a small rate over the ten years period from 1994/95 to 2002/03. The dramatic reduction in the quantity of bulrush millet production over this period has been primarily due to a reduction in productivity and not due to a reduction in the planted area (Charts 3.24 and 3.25).

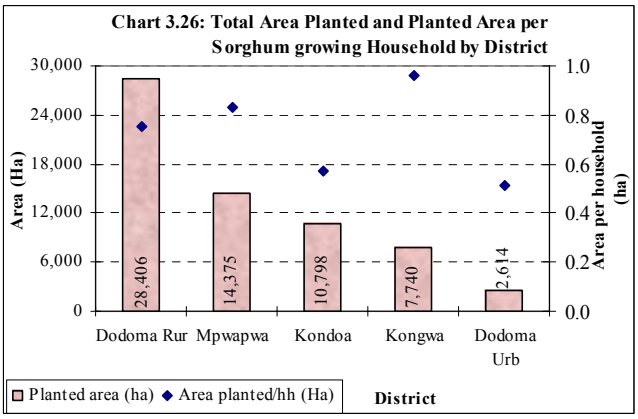


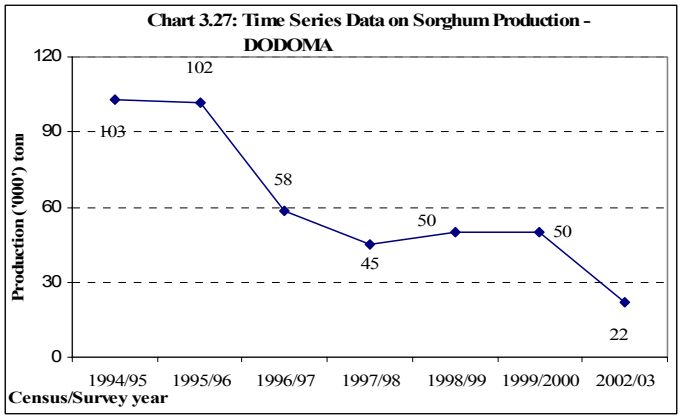

MAP 3.13 DODOMA
Planted Area and Yield of
Bulrushmillet by District
Kondoa
18,057ha
0.2t/ha
Kongwa
4,971ha
0.3t/ha
Dodoma Urban
22,634
0.3t/ha
Dodoma Rural
30,103ha
0.3t/ha
Mpwapwa
2,748ha
0.3t/ha
Bulrushmillet Planted
Area (ha)
26,000 to 31,000
20,000 to 26,000
14,000 to 20,000
8,000 to 14,000
2,000 to 8,000
Planted Area (ha)
Yield (t/ha)

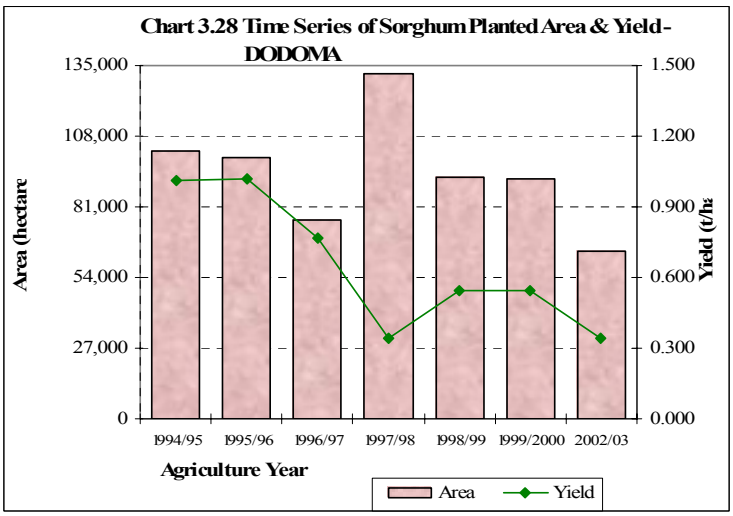

MAP 3.14 DODOMA
Area Planted per Bulrushmillet
Growing Household
by District
Kondoa
0.7ha
Kongwa
1.1ha
Dodoma Urban
0.8ha
Dodoma Rural
0.7ha
Mpwapwa
0.7ha
Area Planted Per Household
1.1 to 1.1
1 to 1.1
0.9 to 1
0.8 to 0.9
0.7 to 0.8
Planted Area Per
Household (ha)

3.3.4.3 Sorghum

Sorghum is the third most important cereal crop in the region in terms of planted area. The number of households that grew sorghum in Dodoma region during the wet season was 87,136. This represents 23 percent of the total crop growing households in Dodoma region in the wet season. The total production of sorghum was 22,032 tonnes from a planted area of 63,932 hectares resulting in a yield of 0.34 t/ha. The district with the largest planted area of sorghum was Dodoma Rural (28,406 ha) followed by Mpwapwa (14,375 ha), Kondoa (10,798 ha), Kongwa (7,740 ha) and Dodoma Urban (2,614 ha) (Map 3.15). Agricultural households in Kongwa district had the largest average area planted per household (0.96 ha) followed by Mpwapwa (0.83 ha), Dodoma Rural (0.75 ha), Kondoa (0.57 ha) and Dodoma Urban (0.52 ha) (Chart 3.26 and Map 3.16).



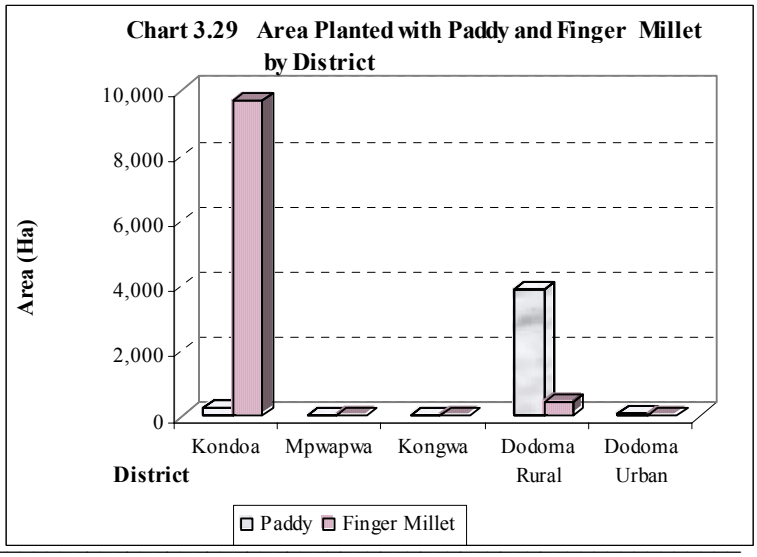


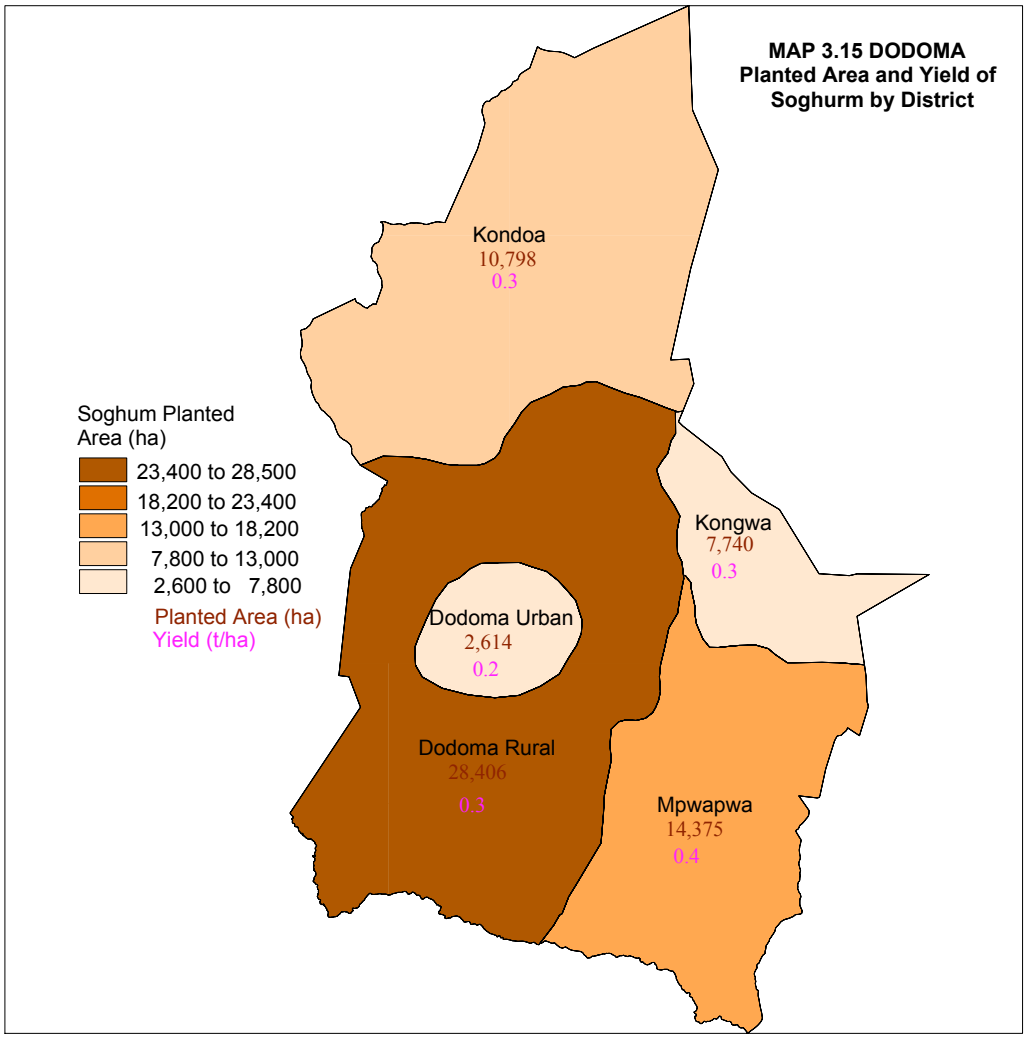


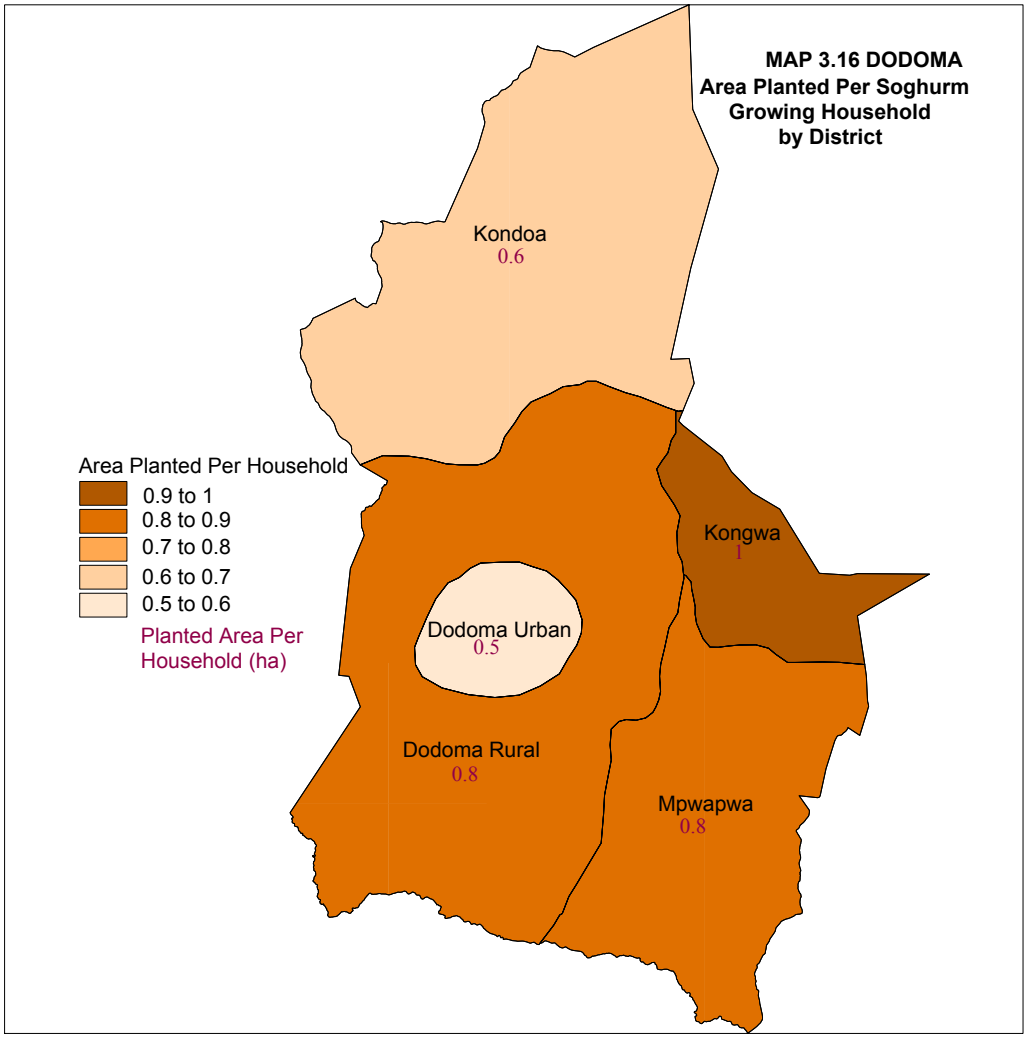
There was a large reduction in the production of sorghum from 102,000 tonnes in 1995/96 to 45,000 tonnes in 1997/98 (Chart 3.27). During the period 1998 to 2000, the production remained constant at around 50,000 tonnes. Chart 3.28 shows that there has been a gradual reduction in the area planted with sorghum, however it is mainly the reduction in productivity that has caused the reduction in production. This implies that the dramatic reduction in the quantity of sorghum production over the reported period was a factor of both a reduction in area planted as well as declining yields.

3.3.4.4 Other Cereals

Other cereals that are produced in small quantities are paddy and finger millet. The district with the largest area planted with paddy is Dodoma Rural (3,906 ha) with other districts having small planted areas. The largest area planted with finger millet was in Kondoa district (9,661 ha). Other districts had insignificant planted areas of finger millet (Chart 3.29).



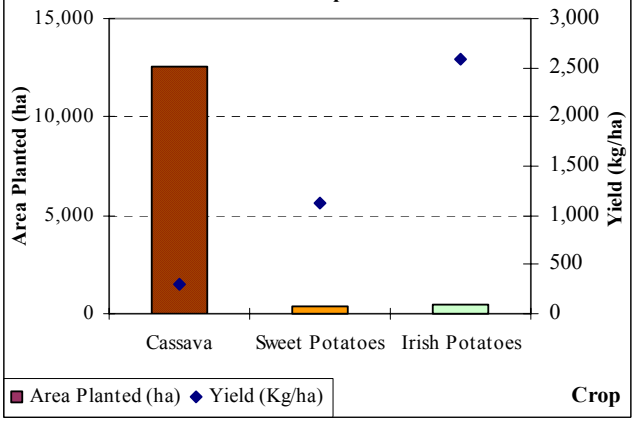

MAP 3.15 DODOMA
Planted Area and Yield of Soghurm by District
Kondoa
10,798
0.3
Kongwa
7,740
0.3
Dodoma Urban
2,614
0.2
Dodoma Rural
28,406
0.3
Mpwapwa
14,375
0.4
Soghum Planted Area (ha)
23,400 to 28,500
18,200 to 23,400
13,000 to 18,200
7,800 to 13,000
2,600 to 7,800
Planted Area (ha)
Yield (t/ha)


MAP 3.16 DODOMA
Area Planted Per Soghurm Growing Household by District
Kondoa
0.6
Kongwa
1
Dodoma Urban
0.5
Dodoma Rural
0.8
Mpwapwa
0.8
Area Planted Per Household
0.9 to 1
0.8 to 0.9
0.7 to 0.8
0.6 to 0.7
0.5 to 0.6
Planted Area Per Household (ha)

3.3.5 Roots and Tuber Crops Production

The total production of roots and tubers was 5,544 tonnes. Cassava production was higher than any other root and tuber crop in the region with a total production of 3,896 tonnes representing 70.3 percent of the total root and tuber crop production. This was followed by Irish potatoes with 1,268 tonnes (22.9%) and sweet potatoes (380 tonnes, 6.8%) (Chart 3.30 and Table 3.3).

Chart 3.30 Area Planted and Yield of Major Roots and Tuber Crops



The area planted with cassava was larger than any other root and tuber crop and it was the seventh most important crop in Dodoma in terms of planted area (1.9% of the total area planted with annual crops and vegetables) and it accounted for 93.8 percent of the area planted with roots and tubers, followed by Irish potatoes (3.7%) and sweet potatoes (2.5%).

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

Crop	Dry Season			Wet 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	0	0	0	12,593	3,896	309	12,593	3,896	309
Sweet Potatoes	0	0	0	336	380	1,133	336	380	1,133
Irish Potatoes	0	0	0	491	1,268	2,584	491	1,268	2,584
Total	**0**	**0**		**13,419**	**5,544**		**13,419**	**5,544**	

Note: Cassava is produced in both the long and Dry 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 Wet Season only.

The yield Irish potatoes was (2.6 t/ha), sweet potatoes (1.1 t/ha) and cassava (0.3 t/ha).

3.3.5.1 Cassava

The number of households growing cassava in the region was 21,630. This represents 6.7 percent of the total crop growing households in the region. The total production of cassava during the census year was 3,896 tonnes from a planted area of 12,953 hectares resulting in a yield of 0.3t/ha.

Chart 3.31 Area Planted with Cassava during the Census/Survey Years

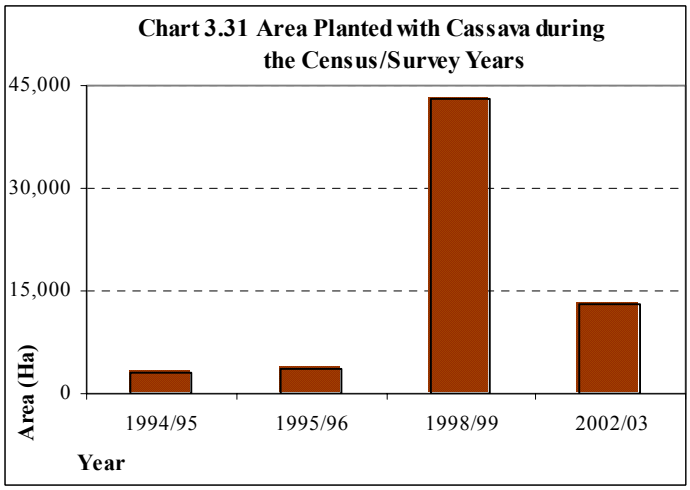
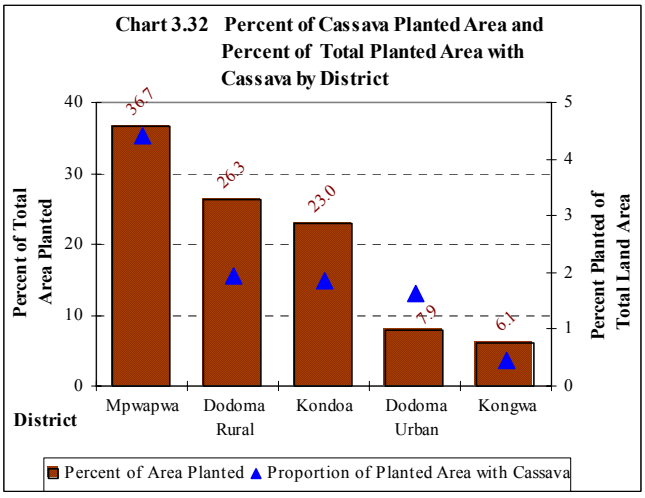


Chart 3.32 Percent of Cassava Planted Area and Percent of Total Planted Area with Cassava by District

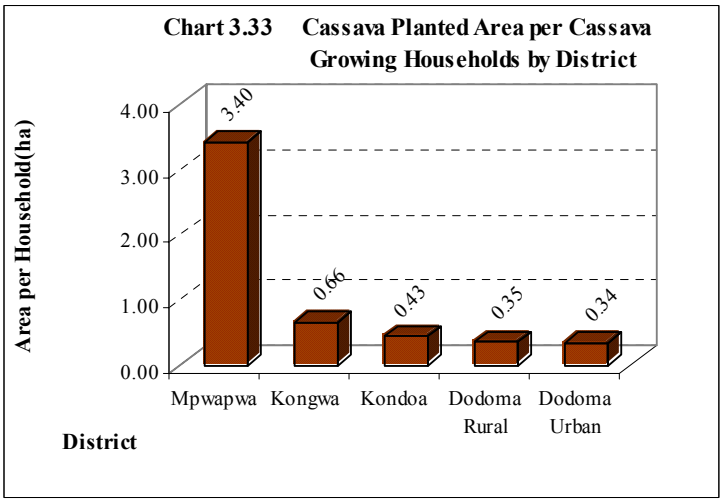


Previous censuses and surveys indicate that the area planted with cassava increased gradually over the period 1995/96 to 1998/99 (Chart 3.31). The area planted with cassava accounted for 1.9 percent of the total area planted with annual crops and vegetables in the census year.

Mpwapwa district had the largest planted area of cassava (4,618 ha, 37% of the cassava planted area in the region), followed by Dodoma Rural (3,316 ha, 26%), Kondoa (2,893 ha, 23.0%) , Dodoma Urban (999 ha, 8%) and Kongwa (767 ha, 6%) (Map 3.17). However, the highest proportion of land planted with cassava, expressed as a percent of the total planted area was in Mpwapwa district (4.4%). This was followed by Dodoma Rural (1.9%), Kondoa (1.9%) Dodoma Urban (1.6%) and Kongwa (0.5%) (Chart 3.32).

The average cassava planted area per cassava growing households was 0.58 hectares. However, with the exception of Mpwapwa, there were small district variations in average area planted with cassava per household among the rest of the districts. The area planted per cassava growing household was greatest in Mpwapwa (3.40 ha), followed by Kongwa (0.66 ha), Kondoa (0.43 ha), Dodoma Rural (0.35 ha) and Dodoma Urban (0.34 ha) (Chart 3.33 and Map 3.18).

Chart 3.33 Cassava Planted Area per Cassava Growing Households by District

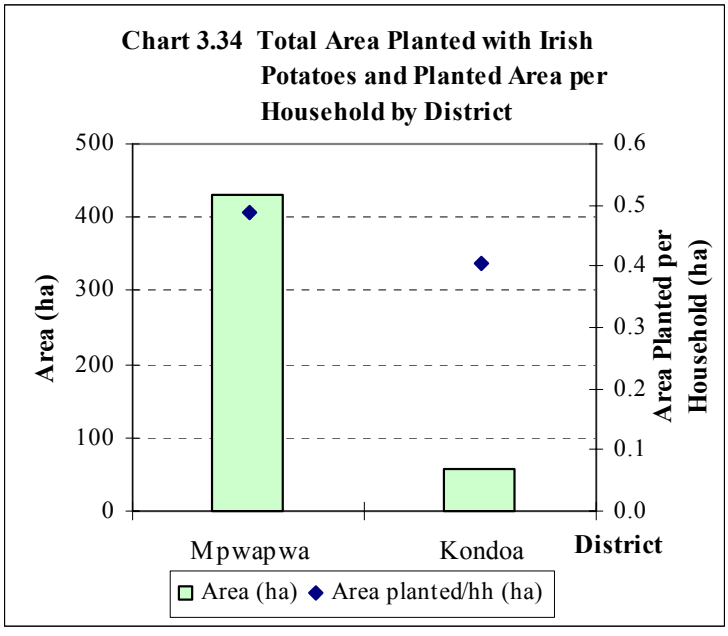


3.3.4.5 Irish Potatoes

The number of households growing Irish potatoes in Dodoma region was 1,031. This was 4.3 percent of the total root and tuber crop growing households during the wet season. The total production of Irish potatoes during the census year was 1,268 tonnes from a planted area of 491 hectares resulting in a yield of 2.6t/ha.

Irish potato production was found in Mpwapwa and Kondoa districts only in which the largest planted area was in Mpwapwa (432 ha, 88.1%), followed by Kondoa (43 ha, 11.9%) (Chart 3.34). Sweet potatoes were produced in very small amounts.

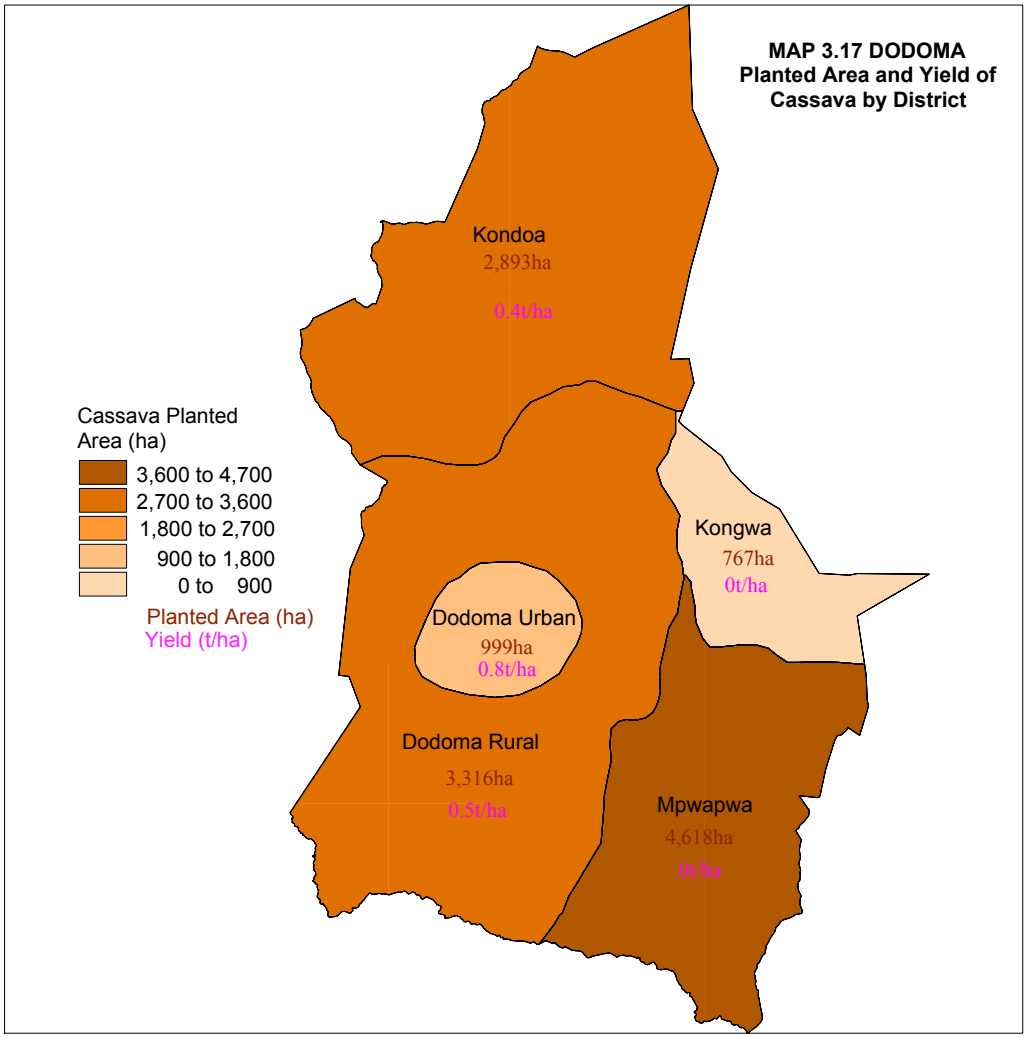
Chart 3.34 Total Area Planted with Irish Potatoes and Planted Area per Household by District



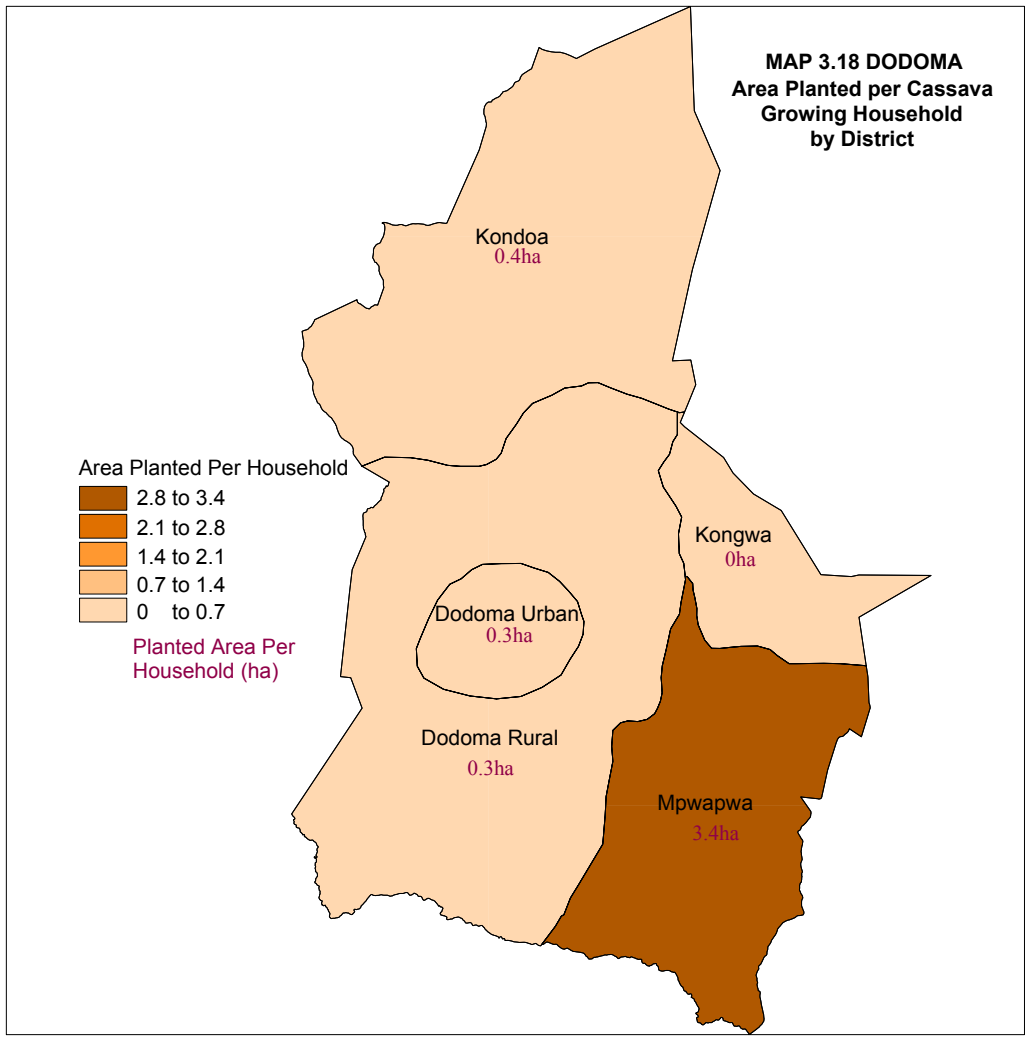
3.3.5 Pulse Crops Production

The total area planted with pulses was 20,554 hectares, of which 9,620 ha were planted with beans (46.8% of the total area planted with pulses), followed by cow peas (5,737 ha, 27.9%), Bambaranuts (4,956 ha, 24.1%), green gram (96 ha, 0.5%), chick peas (88 ha, 0.4%) and mung beans (57 ha, 0.3%). The only pulse crop planted during the dry season was green grams with a planted area of 17 ha, representing 0.1 percent of total area planted with pulses during the year.

MAP 3.17 DODOMA
Planted Area and Yield of Cassava by District



MAP 3.18 DODOMA
Area Planted per Cassava Growing Household by District

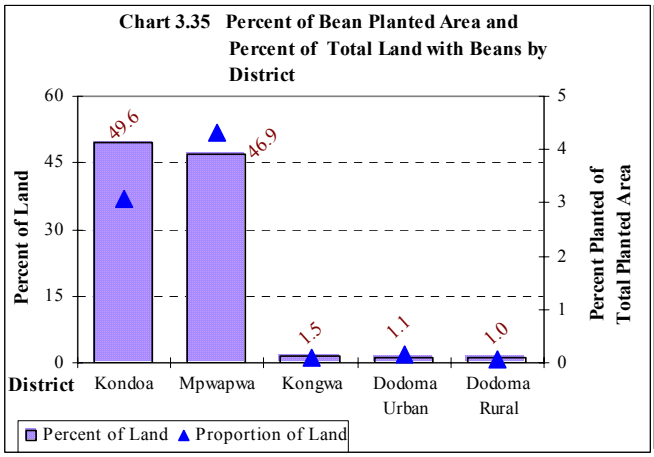


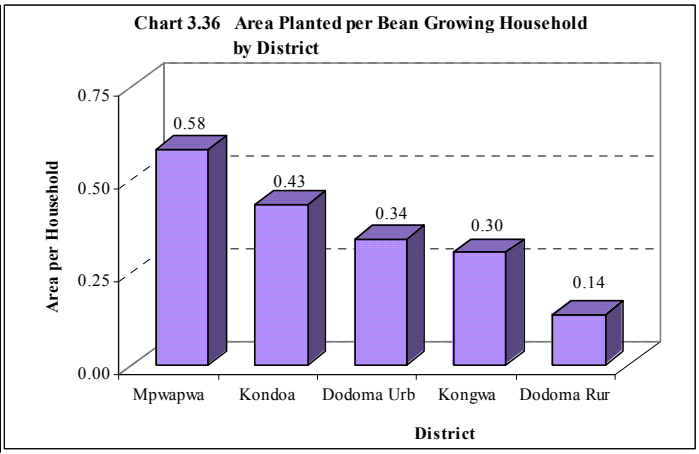
The total production of pulses was 5,350 tonnes. Beans had the highest producing pulse crop (2,665 tonnes) and accounted for 49.8 percent of the total pulse production. This was followed by cow peas (1,362t, 25.5%), bambara nuts (1,303t, 24.4%) and green gram (19t, 0.4%). Although Mung beans and chick peas were planted, there were no harvests for these crops due to lack of rainfall. Beans had the highest yield of 277 kgs/ha followed by Bambara nuts (263 kgs/ha), cowpeas (237 kgs/ha) and Green gram (197 kgs/ha) (Table 3.4).

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

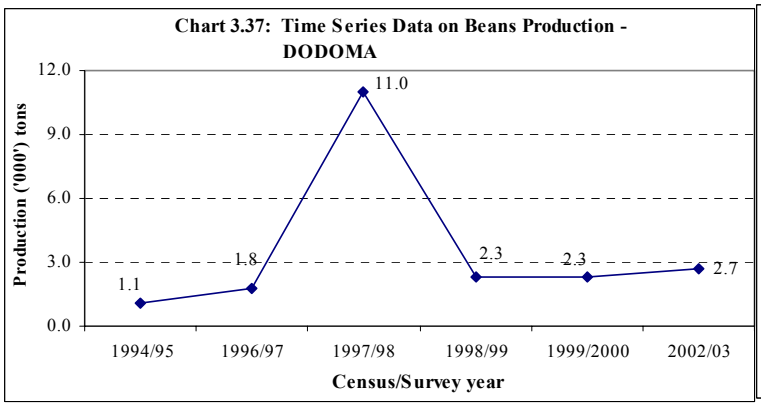
Crop	Dry Season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Mung Beans	0	0	0	57	0	0	57	0	0
Beans	0	0	0	9,620	2,665	277	9,620	2,665	277
Cowpeas	0	0	0	5,737	1,362	237	5,737	1,362	237
Green Gram	17	3	165	79	16	204	96	19	197
Chich Peas	0	0	0	88	0	0	88	0	0
Bambaranuts	0	0	0	4,956	1,303	263	4,956	1,303	263
Total	**17**	**3**		**20,537**	**5,347**		**20,554**	**5,350**	

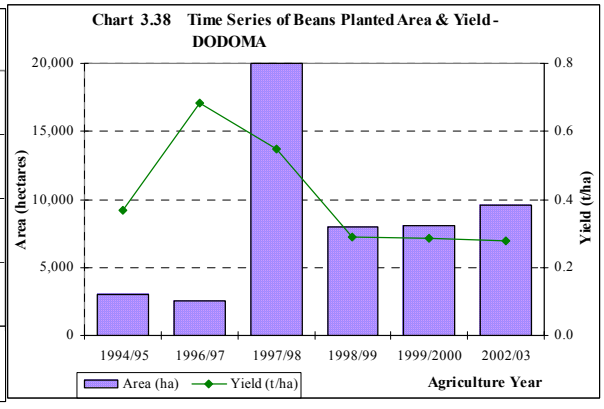
3.3.5.1 Beans





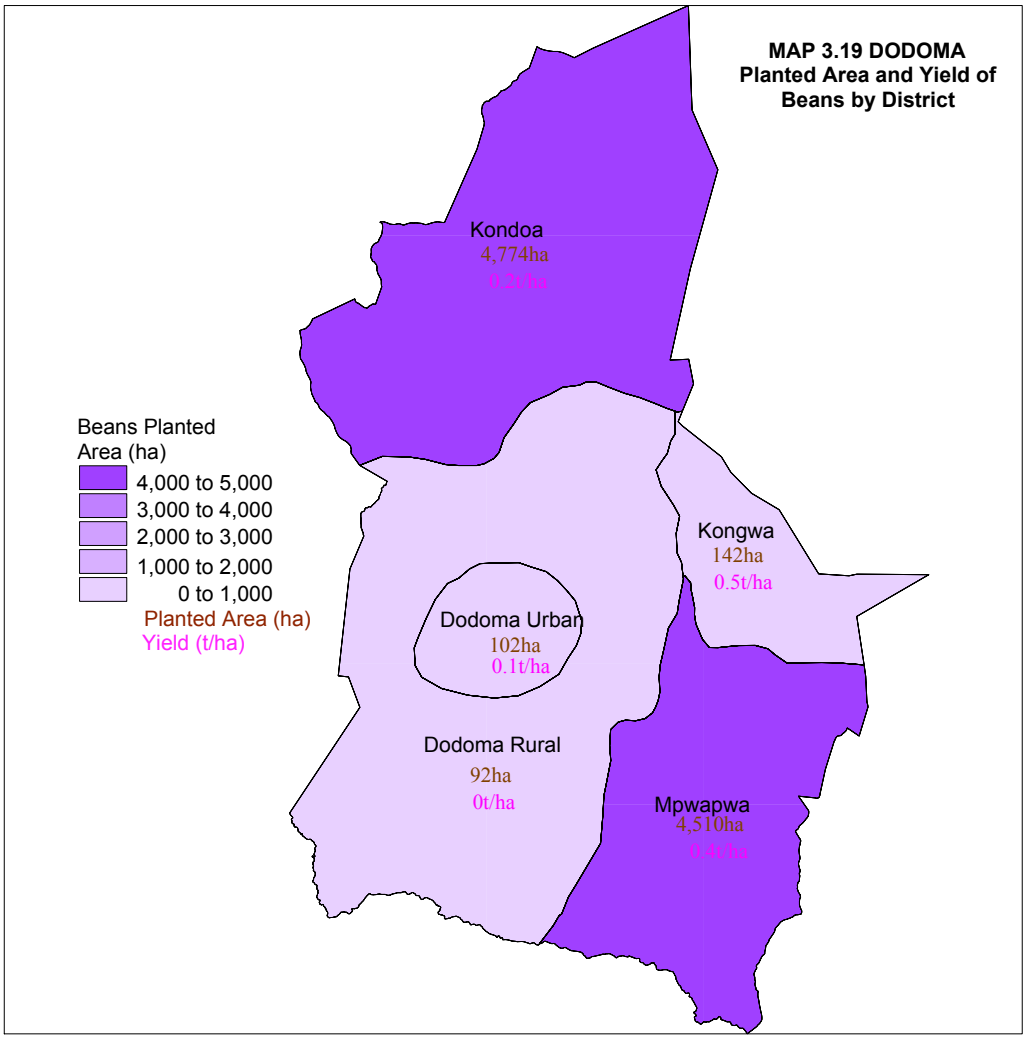
Beans dominate the production of pulse crops in the region. The number of households growing beans in Dodoma region was 20,250. The total production of beans in the region was 2,665 tonnes from a planted area of 9,620 hectares resulting in yield of 0.3 t/ha. The largest area planted with beans in the region was in Kondoa district with 4,774 ha (49.6% of the total area planted with beans in the region) (Chart 3.35 and Map 3.19). The average area planted per household in the region was 0.5 ha, however there are great variations on area planted with beans per household among the districts ranging from 0.58 ha in Mpwapwa district to 0.14 ha in Dodoma Rural district (Chart 3.36 and Map 3.20).



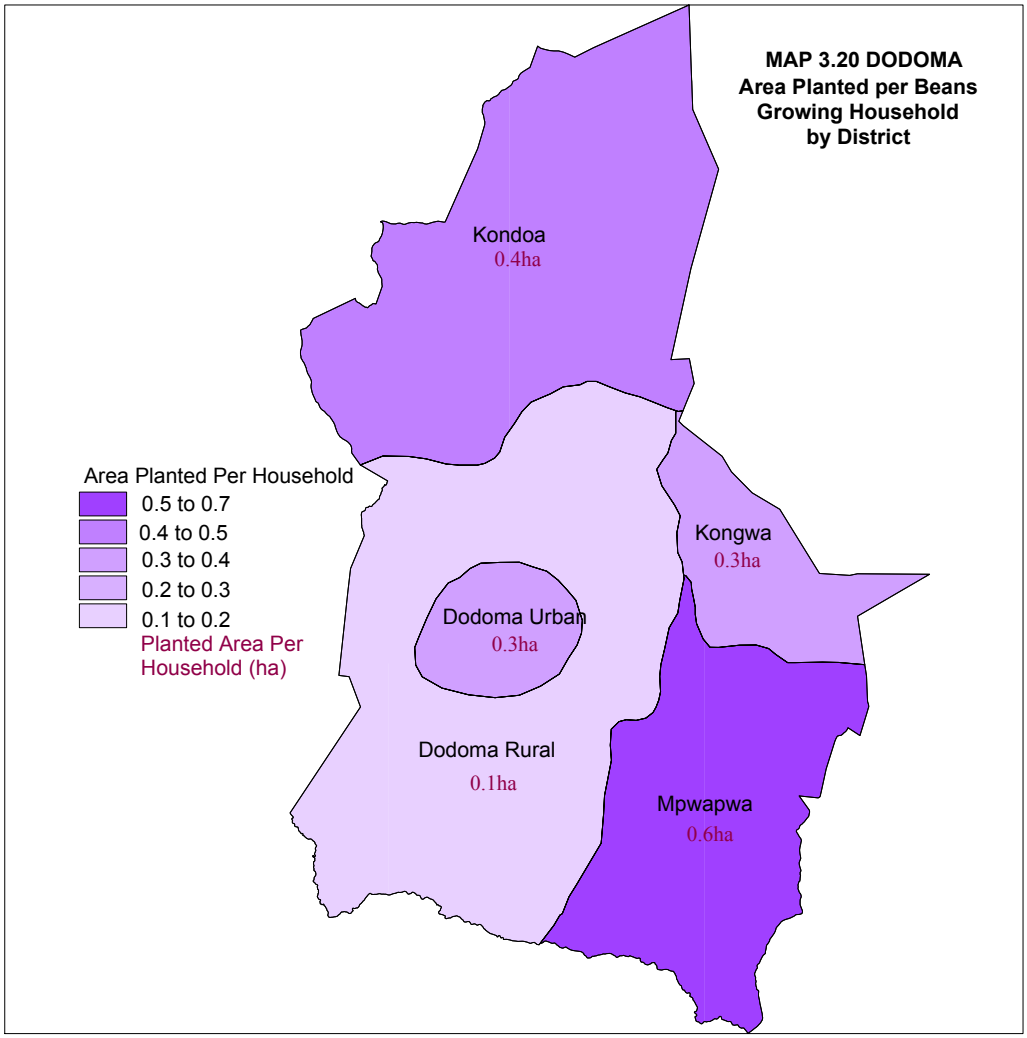


Dodoma region experienced bumper harvest of beans during 1998 in which the production increased by 1000 percent compared to that of 1997. The production dropped from 11,000 tonnes in 1998 to 2300 tonnes in 1999. Since then, beans production has remained more or less constant (Chart 3.37).

MAP 3.19 DODOMA
Planted Area and Yield of Beans by District



MAP 3.20 DODOMA
Area Planted per Beans Growing Household by District



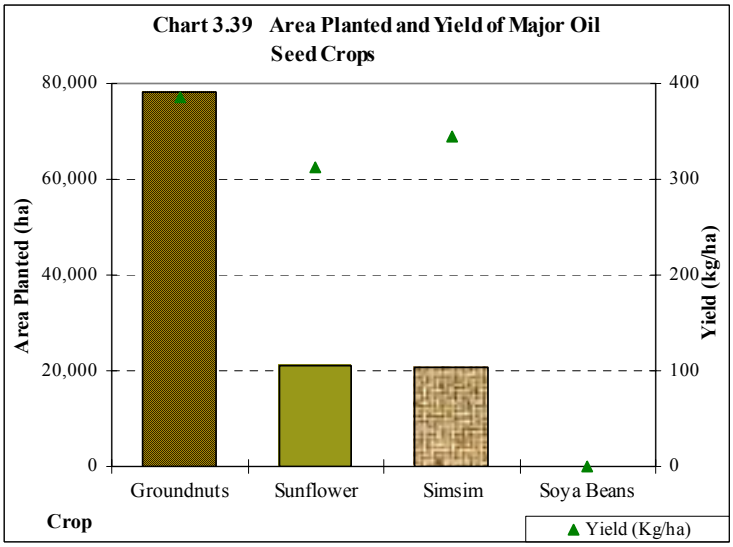
The area planted with beans increased sharply over the period from 1997 to 1998 and dropped for the period 1998 to 1999. The area remained fairly constant over the period from 1999 to 2003. Charts 3.37 and 3.38 show that the annual levels of production closely follow the annual planted area and are thus the main factor causing changes in the annual production. However, the reduction in productivity between 1997 and 1999 has also had an impact on the production levels over the period 1999 to 2003.

3.3.6 Oil Seed Production

The total production of oilseed crops was 43,948 tonnes, planted on an area of 120,211 hectares. The total planted area of oilseeds in the wet season was 120,143 ha representing 99.9 percent of the total area planted with oil seeds (Table 3.5).

Groundnuts were the most important oilseed crop with 78,311 ha (65.1% of the total area planted with oil seeds), followed by sunflower (17.5%), simsim (17.2%) and soya beans (0.1%). The yield of groundnuts was the highest of all oil seed crops (386 kg/ha) followed by sim sim (344 kg/ha) and sunflower (312 kg/ha). The total production of groundnuts was 30,245 tonnes, accounting for 68.8 percent of the total production of oil seeds, followed by simsim (16.2%) and sunflower (15.0%) (Chart 3.39).

Chart 3.39 Area Planted and Yield of Major Oil Seed Crops



3.3.6.1 Groundnuts

The number of households growing groundnuts in Dodoma region was only 144,458. The total production of groundnuts in the region was 30,245 tonnes from a planted area of 78,311 hectares resulting in a yield of 0.4 t/ha.

There has been a large increase in production of groundnuts from 17,087 tonnes in 1995 to 70,556 tonnes in 1997, however the production dropped to 30,245 tonnes in 2003 (Chart 3.40).

Chart 3. 40 Time Series Data on Groundnut Production - DODOMA

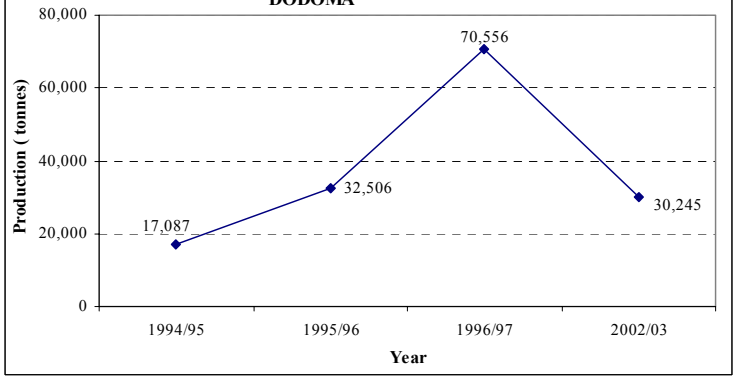
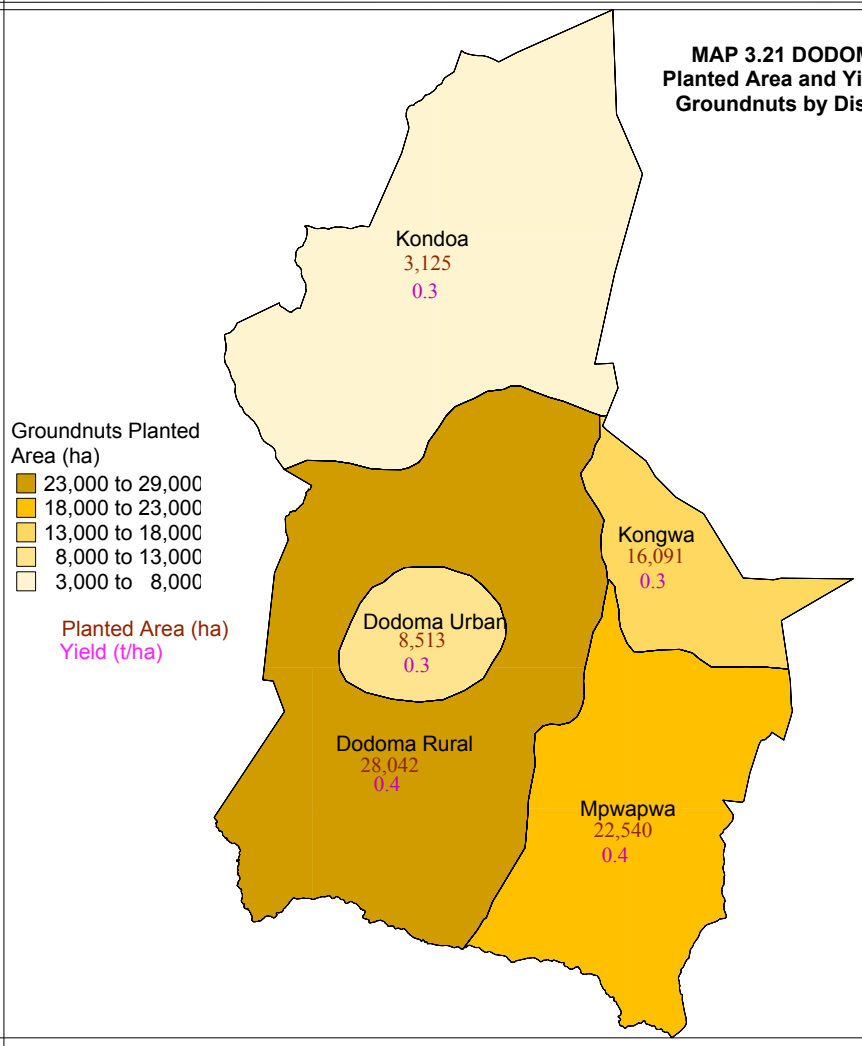


Table 3.5: Area, Quantity Harvested and Yield of Oil Seed Crops by Season

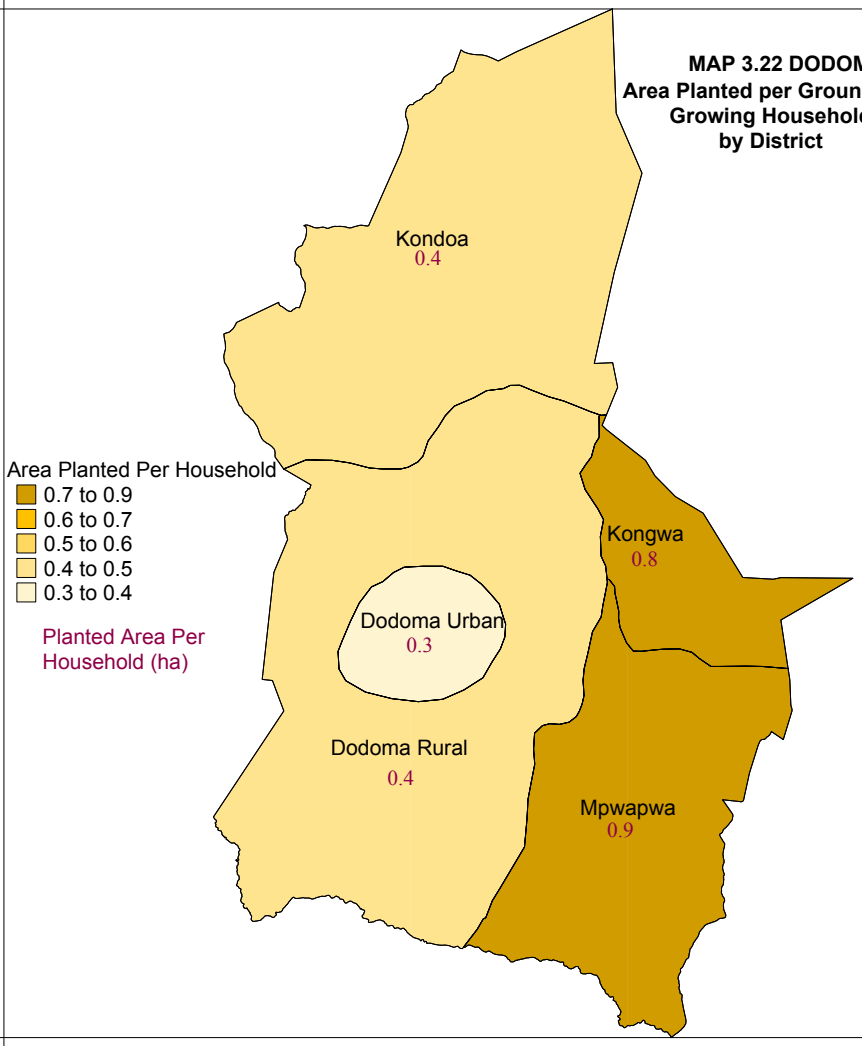
Crop	Dry Season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area in Hectare	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Sunflower	34	17	494	21,040	6,565	312	21,074	6,582	312
Simsim	0	0	0	20,709	7,121	344	20,709	7,121	344
Groundnuts	34	18	535	78,277	30,227	386	78,311	30,245	386
Soya Beans	0	0	0	116	0	0	116	0	0
Total	**68**	**35**		**120,143**	**43,913**		**120,211**	**43,948**	

Dodoma rural district had the highest percent of area planted with groundnuts in the region (28,042 ha, 41% of the total planted area in the region), followed by Mpwapwa (22,540 ha, 29.4%), Kongwa (16,091 ha, 16.8%), Dodoma Urban (8,513 ha, 9.6%) and Kondoa (3,125 ha, 3.0%) (Map 3.21). However, the highest proportion of land with groundnuts was found in Mpwapwa followed by Dodoma Rural, Dodoma Urban, Kongwa and Kondoa districts (Chart 3.41 and Map 3.22).

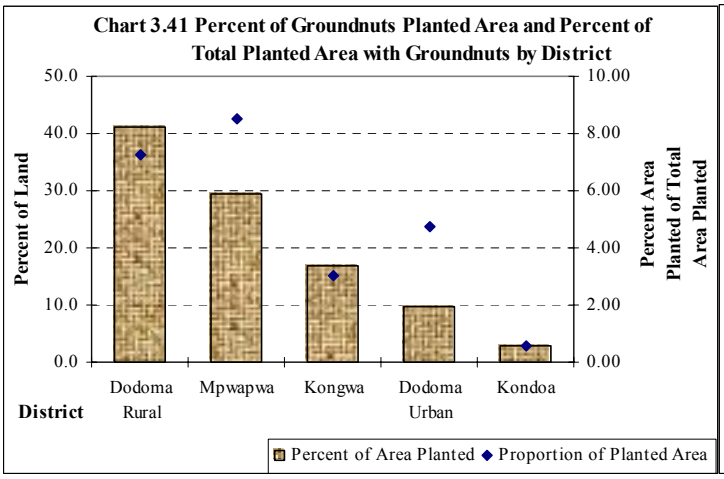
MAP 3.21 DODOMA
Planted Area and Yield of Groundnuts by District

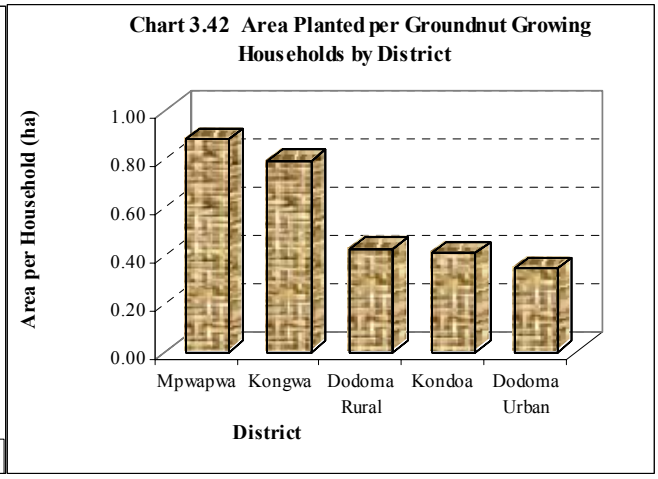


MAP 3.22 DODOMA
Area Planted per Groundnuts Growing Household by District



The largest area planted per groundnut growing household was found in Mpwapwa district (0.88 ha) and the lowest was in Dodoma Urban (0.34). Other district and their respective area planted per groundnuts growing households are Kongwa (0.79 ha), Dodoma Rural (0.43 ha) and Kondoa (0.41 ha) Chart 3.42).





3.3.7 Fruit and Vegetables

The collection of fruit and vegetable 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 for household consumption. Most fruit production is from permanent crops. The dry season is not important for fruit and vegetables production since only 0.5 percent of the total area planted with fruit and vegetables was produced during the dry season. However, over 60 percent of the planted area of tomatoes, water melon, ginger, spinach and radish was planted during the dry season. With the exception of cabbages, which was produced in both seasons, the rest of the vegetables were produced in the wet season. Reliable historical data for time series analysis of fruit and vegetables was not available.

The total production of fruit and vegetables was 3,419 tonnes. The most cultivated fruit and vegetable crop was tomatoes with a production of 1,982 tonnes (58% of the total fruit and vegetables produced) followed by onions (511t, 15%) and amaranths (352t, 10%). The production of the other fruit and vegetables crops was relatively small (Table 3.6).

Table 3.6: Area, Production and Yield of Fruit and vegetables by Season

Crop	Dry Season			Wet 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	0	0	0	173	83	479	173	83	479
Radish	0	0	0	29	9	296	29	9	296
Turmeric	0	0	0	19	8	395	19	8	395
Onions	0	0	0	304	511	1679	304	511	1679
Cabbage	15	9	642	10	8	790	25	17	703
Tomatoes	0	0	0	1,143	1,982	1735	1,143	1,982	1735
Spinnach	0	0	0	80	129	1610	80	129	1610
Carrot	0	0	0	10	38	3754	10	38	3754
Chillies	0	0	0	64	290	4530	64	290	4530
Amaranths	0	0	0	193	352	1823	193	352	1823
Total	**15**	**9**		**2,027**	**3,410**		**2,041**	**3,419**	

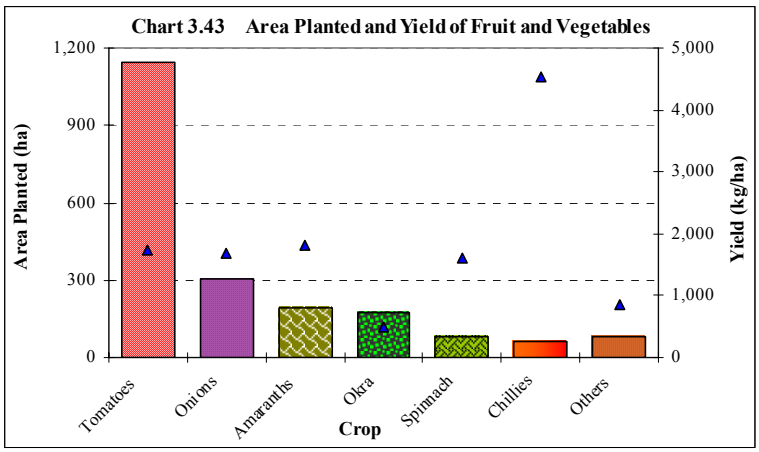
Chillies had the highest yield (4,530 kg/ha) followed by carrots (3,754 kg/ha), amaranths 1,823kg/ha, and tomatoes (1,735 kg/ha). Tumeric and radish had the lowest yields of 395 and 296 kg/ha respectively (Table 3.6).

3.3.7.1 Tomatoes

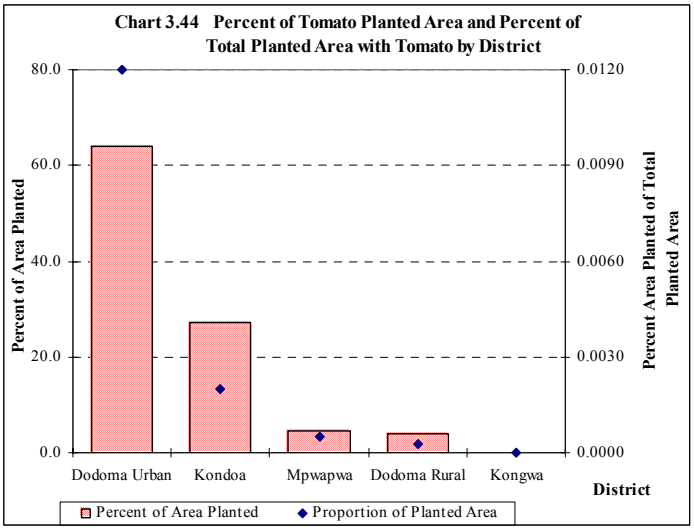
The number of households growing tomatoes in the region was 4,458 which represent 0.6 percent of the total crop growing households in the region during the wet season. Tomatoes were grown during the wet season only.

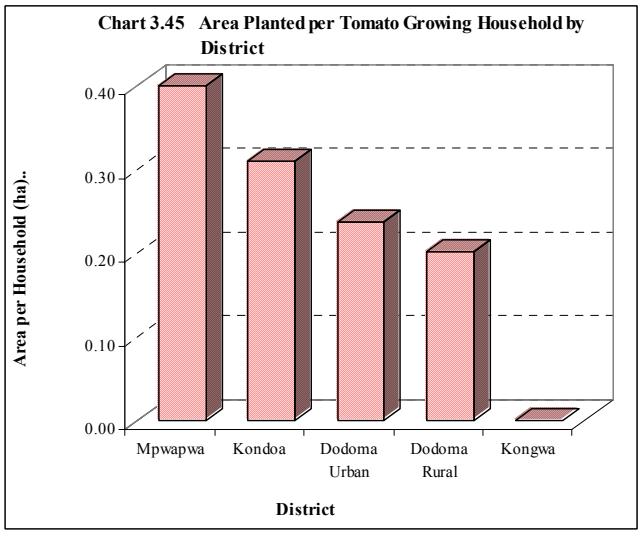
Dodoma Urban district had the largest planted area of tomatoes (64.1% of the total area planted with tomatoes in the region), followed by Kondoa (27.3%), Mpwapwa (4.6%) and Dodoma Rural (4.0%) (Chart 3.43 and Map 3.23).

With the exception of Kongwa district which did not grow tomatoes, the rest of the districts have relatively low percentage of land used for tomato production (Chart 3.43)



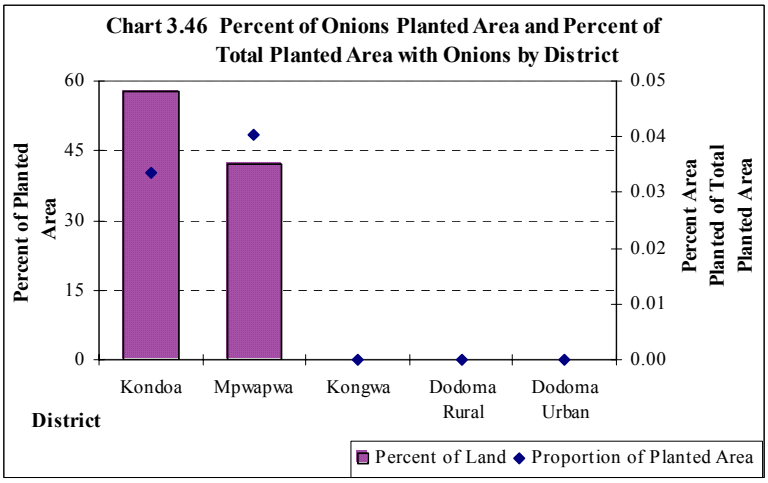
The largest area planted per tomato growing household was found in Mpwapwa district (0.4 ha) followed by Kondoa (0.31 ha), Dodoma Urban (0.24 ha) and Dodoma Rural (0.20 ha) (Chart 3.45 and Map 3.24). The total area planted with tomatoes accounted for 0.2 percent of the total area planted with annual crops and vegetables.



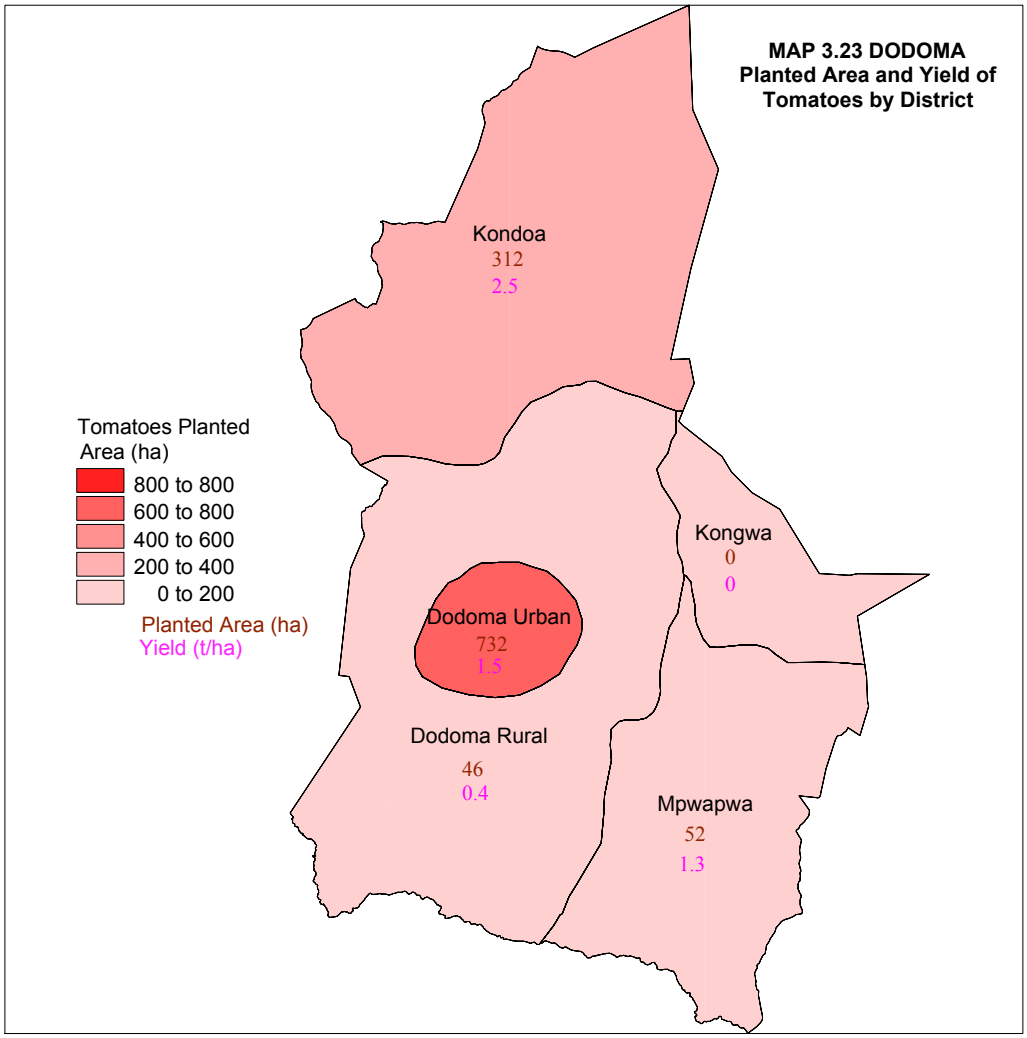


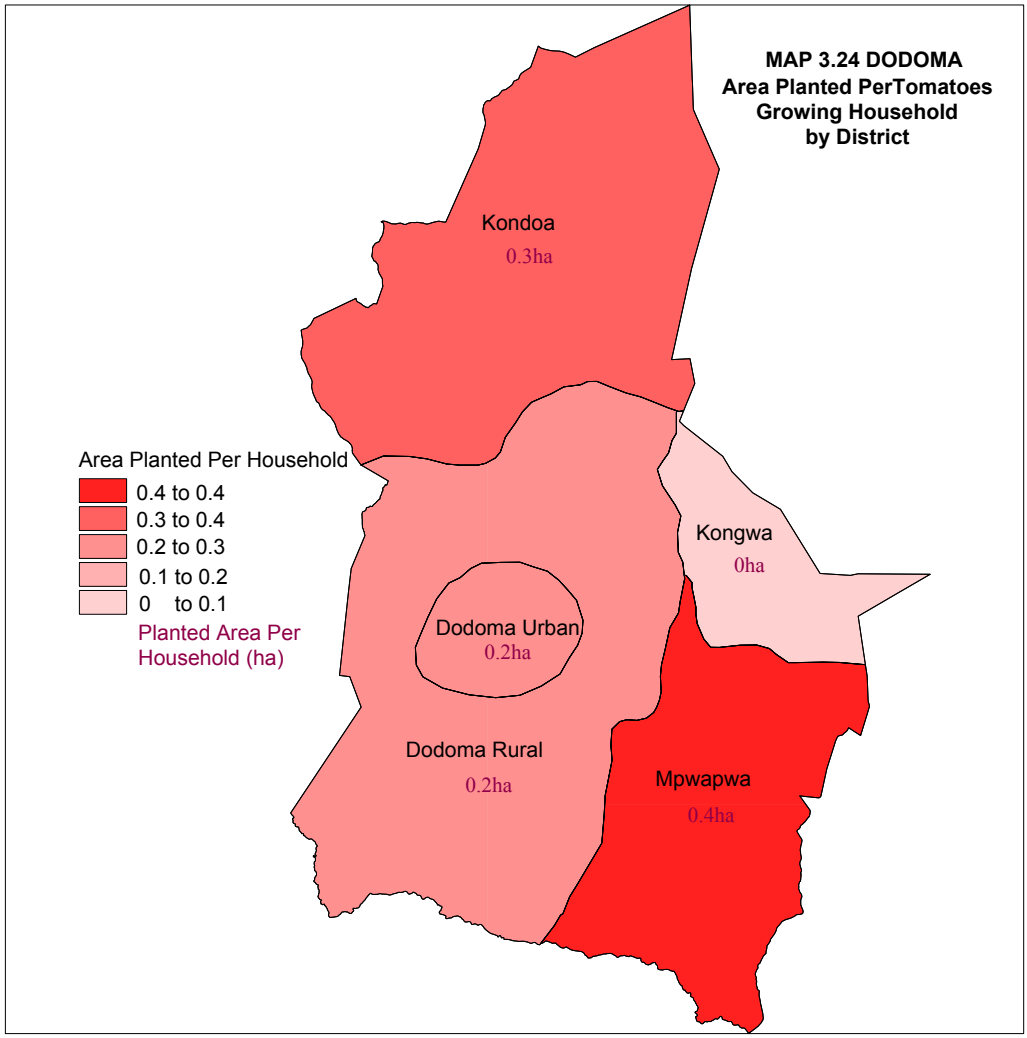
3.3.8.2 Onions

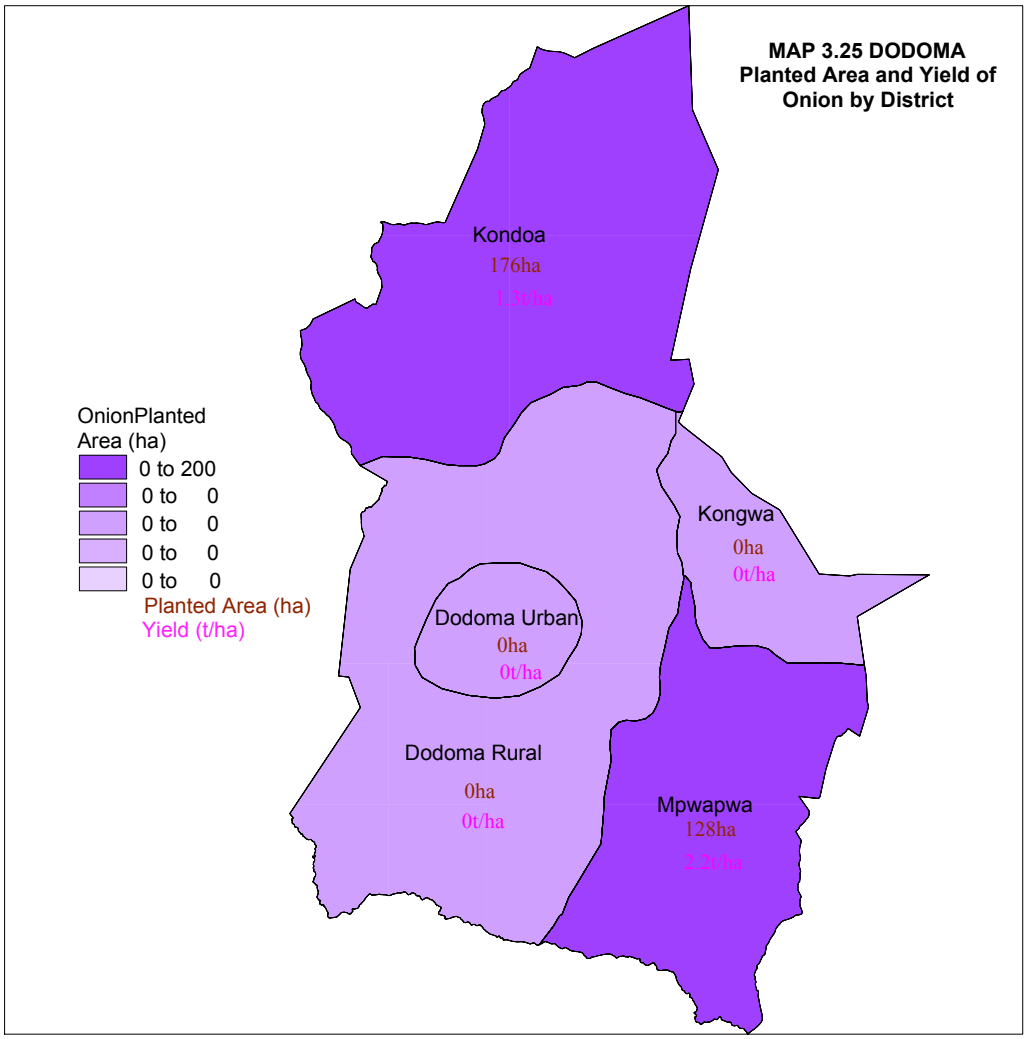
The number of households growing onions in the region was 2,277. This represents 0.1 percent of the total crop growing households in the region during the wet season. The crop was grown during the wet season only.

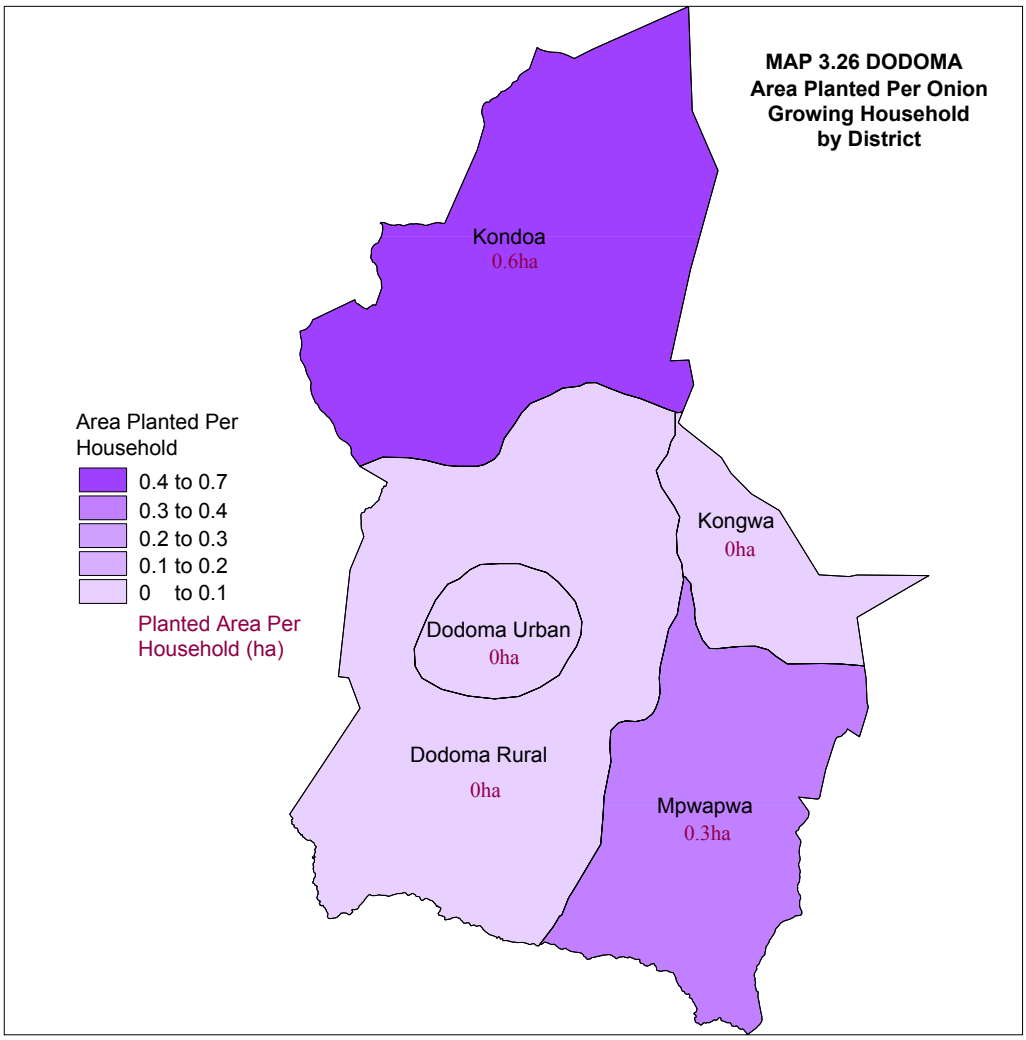


Kondoa district had the largest planted area of onion (176 ha, 57.8% of the total area planted with onion in the region), followed by Mpwapwa (Map 3.25). The crop was grown in these two districts only (Chart 3.46). The total area planted with onions accounted for 0.05 percent of the total area planted with annual crops and vegetables during the wet seasons.


MAP 3.23 DODOMA
Planted Area and Yield of
Tomatoes by District
Kondoa
312
2.5
Kongwa
0
0
Dodoma Urban
732
1.5
Dodoma Rural
46
0.4
Mpwapwa
52
1.3
Tomatoes Planted
Area (ha)
800 to 800
600 to 800
400 to 600
200 to 400
0 to 200
Planted Area (ha)
Yield (t/ha)

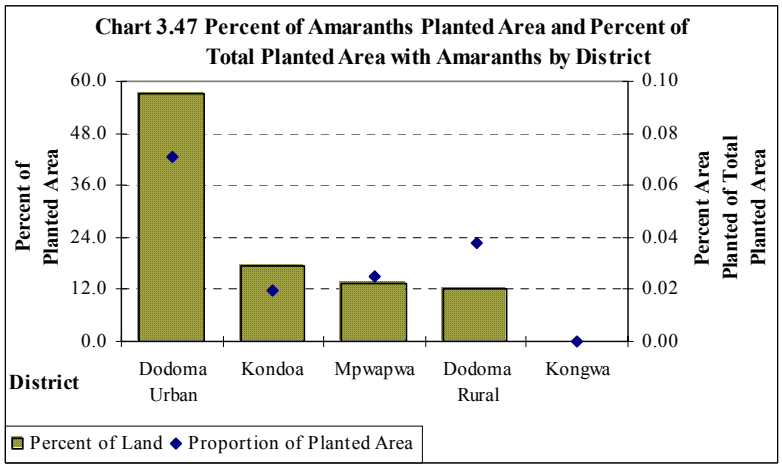

MAP 3.24 DODOMA
Area Planted PerTomatoes
Growing Household
by District
Kondoa
0.3ha
Kongwa
0ha
Dodoma Urban
0.2ha
Dodoma Rural
0.2ha
Mpwapwa
0.4ha
Area Planted Per Household
0.4 to 0.4
0.3 to 0.4
0.2 to 0.3
0.1 to 0.2
0 to 0.1
Planted Area Per
Household (ha)


MAP 3.25 DODOMA
Planted Area and Yield of Onion by District
Kondoa
176ha
1.3t/ha
Kongwa
0ha
0t/ha
Dodoma Urban
0ha
0t/ha
Dodoma Rural
0ha
0t/ha
Mpwapwa
128ha
2.2t/ha
OnionPlanted Area (ha)
0 to 200
0 to 0
0 to 0
0 to 0
0 to 0
Planted Area (ha)
Yield (t/ha)


MAP 3.26 DODOMA
Area Planted Per Onion Growing Household by District
Kondoa
0.6ha
Kongwa
0ha
Dodoma Urban
0ha
Dodoma Rural
0ha
Mpwapwa
0.3ha
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
Planted Area Per Household (ha)

3.3.8.3 Amaranths

The number of households growing amaranths in the region was 1,294 households. This represents 0.17 percent of the total crop growing households in the region in the wet season. The crop was grown during the wet season only. Dodoma Urban district had the largest planted area of amaranths (110 ha, 57.1% of the total area planted with amaranths in the region), followed by Kondoa (33 ha, 17.3%), Mpwapwa (26 ha, 13.6%) and Dodoma Rural (23ha, 12%). Amaranths are not produced in Kongwa district (Map 3.27 and 3.28).



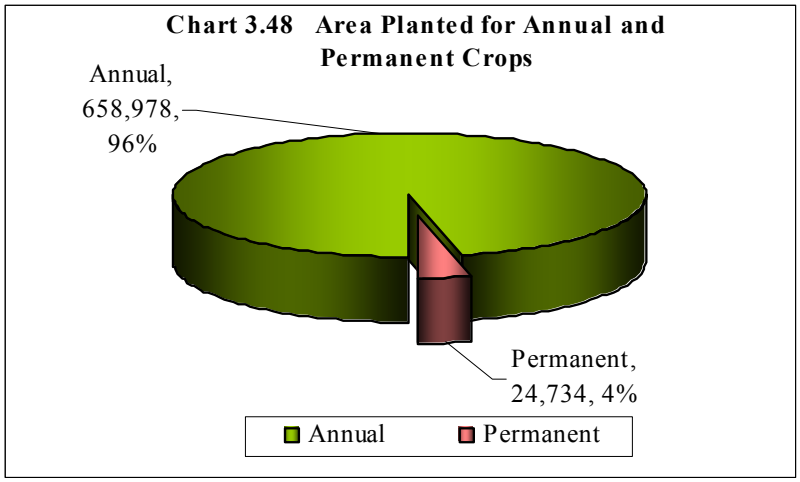
The largest proportion of the area planted with amaranths was found in Dodoma Urban district (0.07%), followed by Dodoma Rural (0.04%), Mpwapwa (0.03%) and Kondoa (0.02) (Chart 3.47).

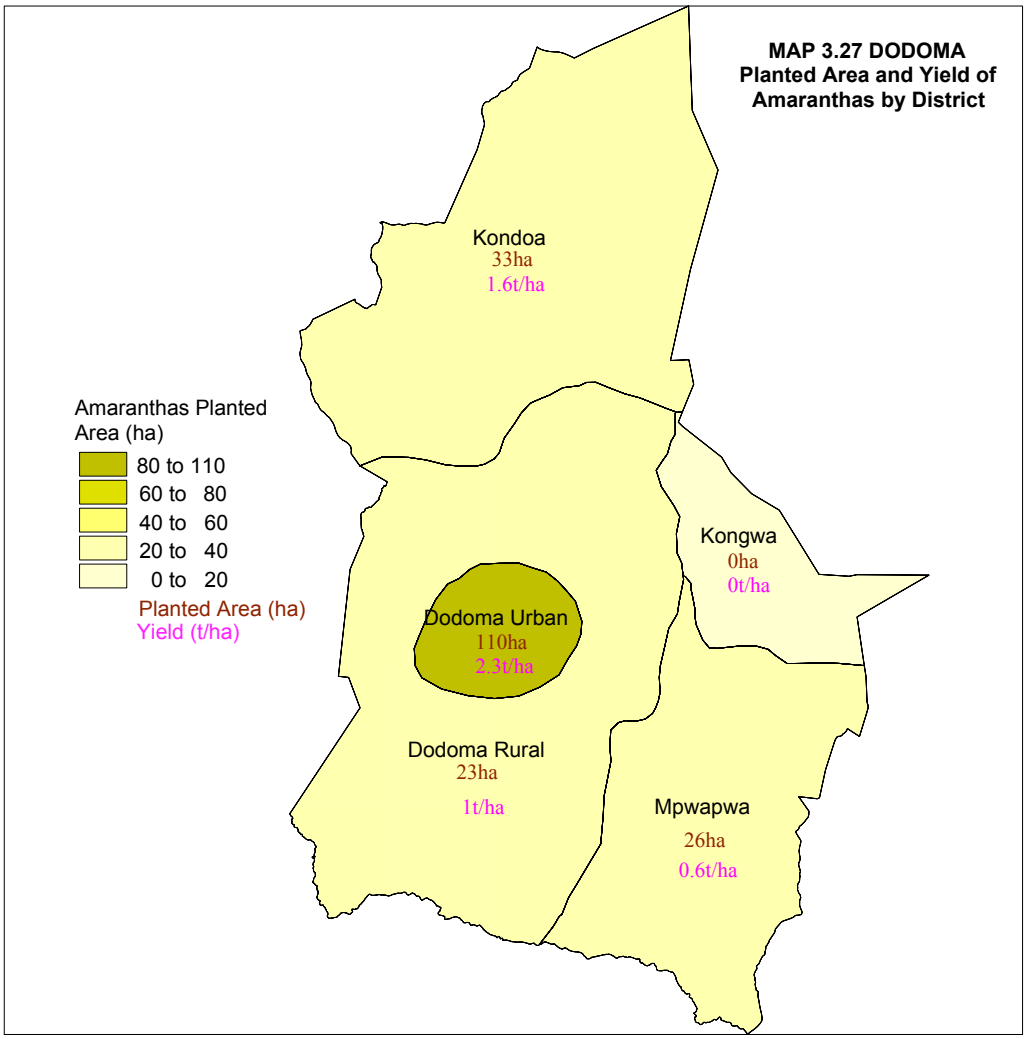
The total area planted with amaranths accounted for 0.03 percent of the total area planted with annual crops and vegetables during the wet season.

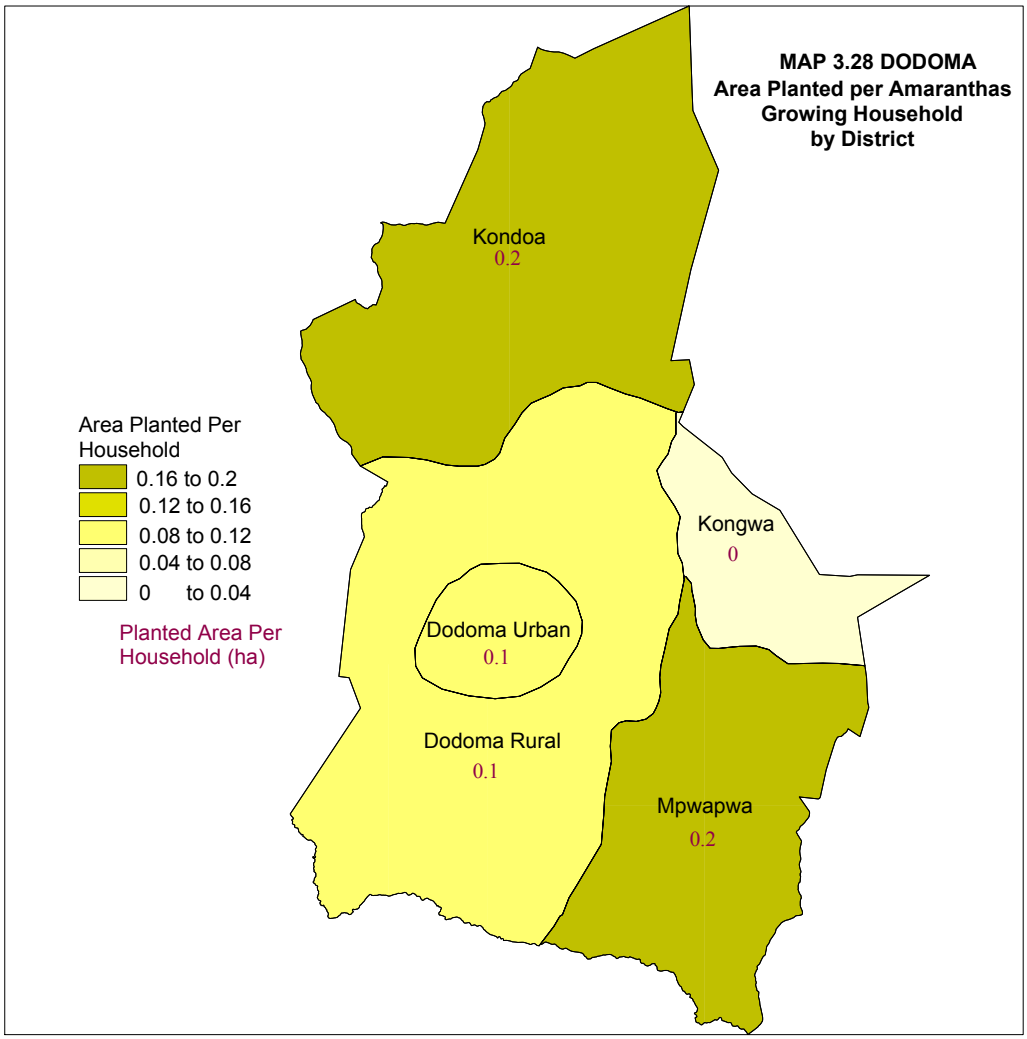
3.4 Permanent Crops

Permanent crops (sometimes referred as perennial crops) are crops that normally take over a year to mature and once mature can be harvested 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 time series analysis cannot be made in this section.

The planted area of smallholders with permanent crops was 24,734 hectares (4% of the area planted with annual and permanent 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 the physical planted land area. So the percentage physical area planted with permanent crops would be higher than indicated in Chart 3.48.

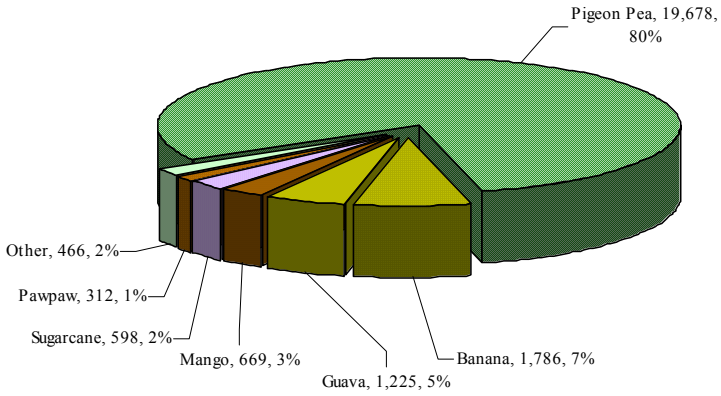



MAP 3.27 DODOMA
Planted Area and Yield of Amaranthas by District
Kondoa
33ha
1.6t/ha
Kongwa
0ha
0t/ha
Dodoma Urban
110ha
2.3t/ha
Dodoma Rural
23ha
1t/ha
Mpwapwa
26ha
0.6t/ha
Amaranthas Planted Area (ha)
80 to 110
60 to 80
40 to 60
20 to 40
0 to 20
Planted Area (ha)
Yield (t/ha)


MAP 3.28 DODOMA
Area Planted per Amaranthas Growing Household by District
Kondoa
0.2
Kongwa
0
Dodoma Urban
0.1
Dodoma Rural
0.1
Mpwapwa
0.2
Area Planted Per Household
0.16 to 0.2
0.12 to 0.16
0.08 to 0.12
0.04 to 0.08
0 to 0.04
Planted Area Per Household (ha)

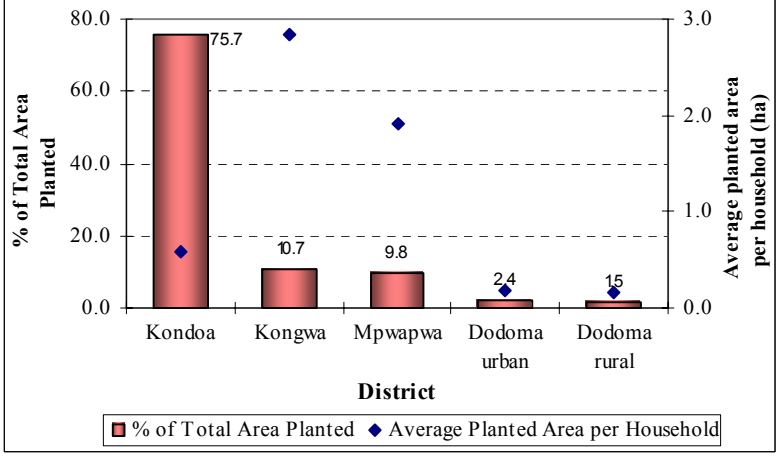
The most important permanent crop in Dodoma region is pigeon peas which accounts for a planted area of 19,678 ha, (80% of the planted area of all permanent crops) followed by banana (1,786 ha, 7%), guava (1,225 ha, 5%), mango (669 ha, 3%), sugarcane (598 ha, 2%), pawpaw (312 ha, 1%) and grape (278 ha, 1%). Each of the remaining permanent crops had an area of less than 1 percent of the total area planted with permanent crops (Chart 3.49).

Chart 3.49 Area Planted with Main Perennial Crops



Kondoa district had the largest area under smallholder permanent crops (18,719 ha, 75.7%). This is followed by Kongwa (2,615 ha, 10.7%), Mpwapwa (2,415 ha, 9.8%), Dodoma Urban (584 ha, 2.4%) and Dodoma Rural (368 ha, 1.5%). However, Kongwa had the largest area per permanent crop growing household (2.85 ha) followed by Mpwapwa (1.90 ha), Kondoa (0.58 ha), Dodoma Urban (0.17 ha) and Dodoma Rural (0.16 ha) (Chart 3.50).

Chart 3.50 Percent of Area Planted and Average Planted Area with Permanent Crops by District

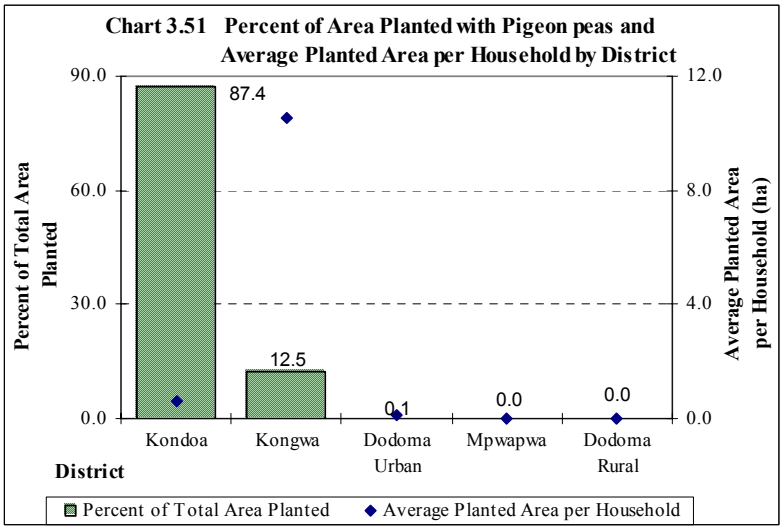


In terms of area of permanent crops planted expressed as a percentage of the total area planted with crops per district, Kondoa had the highest (10.8%) followed by Mpwapwa (2.3%), Kongwa (1.6%), Dodoma Urban (0.9%) and Dodoma Rural (0.2%).

3.4.1 Pigeon Peas

The total production of pigeon peas by smallholders was 5,140 tonnes. In terms of area planted pigeon pea, with a planted area of 19,678 ha, was the most important permanent crop grown by smallholders in the region. They were grown by 26,588 households (8.2% of the total crop growing households). The average area planted with pigeon peas per household was relatively small at around 0.7 ha per pigeon pea growing household and the average yield obtained by smallholders was 343 kg/ha from a harvest area of 14,799 hectares.

Chart 3.51 Percent of Area Planted with Pigeon peas and Average Planted Area per Household by District

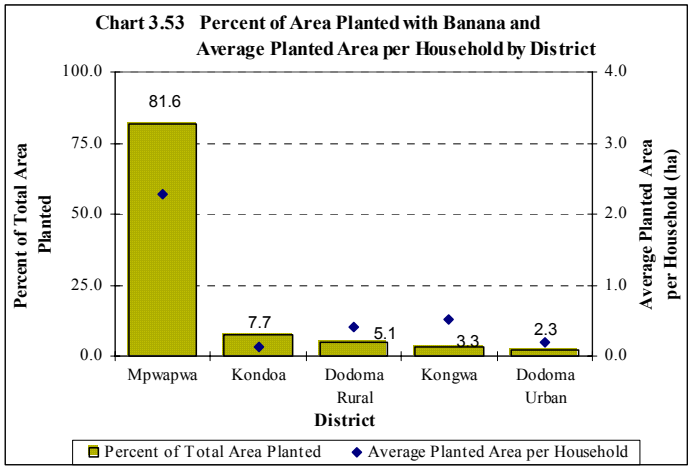


Kondoa had the largest area of pigeon peas in the region (17,199 ha, 87.4%) followed by Kongwa (2,468 ha, 12.5%), and Dodoma Urban (10 ha, 0.1%). However, the average area planted with pigeon peas per pigeon pea growing household was highest in Kongwa (10.5 ha) followed by Kondoa (0.6 ha) and Dodoma Urban (0.1 ha). There was no pigeon pea production in Mpwapwa and Dodoma Rural districts (Chart 3.51 and Maps 3.29 and 3.30).

3.4.2 Banana

The total production of banana by smallholders was 1,087 tonnes. In terms of area planted, banana with a planted area of 1,786 ha was the second most important permanent crop grown by smallholders in the region. It was grown by 2,189 households (0.7% of the total crop growing households). The average area planted with banana per household was relatively small at around 0.8 ha per banana growing household and the average yield obtained by smallholders was 5,160 kg/ha from a harvested area of 211 hectares.

Chart 3.53 Percent of Area Planted with Banana and Average Planted Area per Household by District

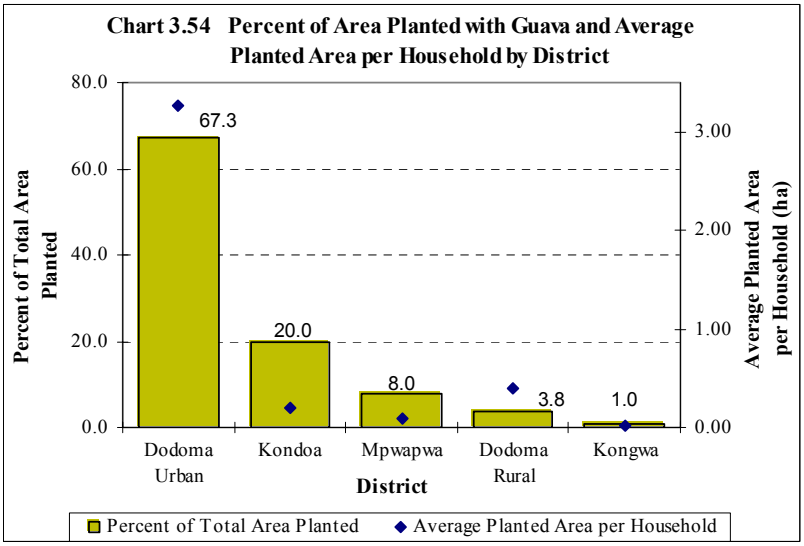


Mpwapwa had the largest planted area of banana in the region (1,458 ha, 81.6%) followed by Kondoa (138 ha, 7.7%) (Map 3.31). The area planted with banana per banana growing household was highest in Mpwapwa (2.3 ha) followed by Kongwa (0.5 ha). Kondoa had the least area planted with banana per household (Chart 3.52 and Map 3.32).

3.4.3 Guava

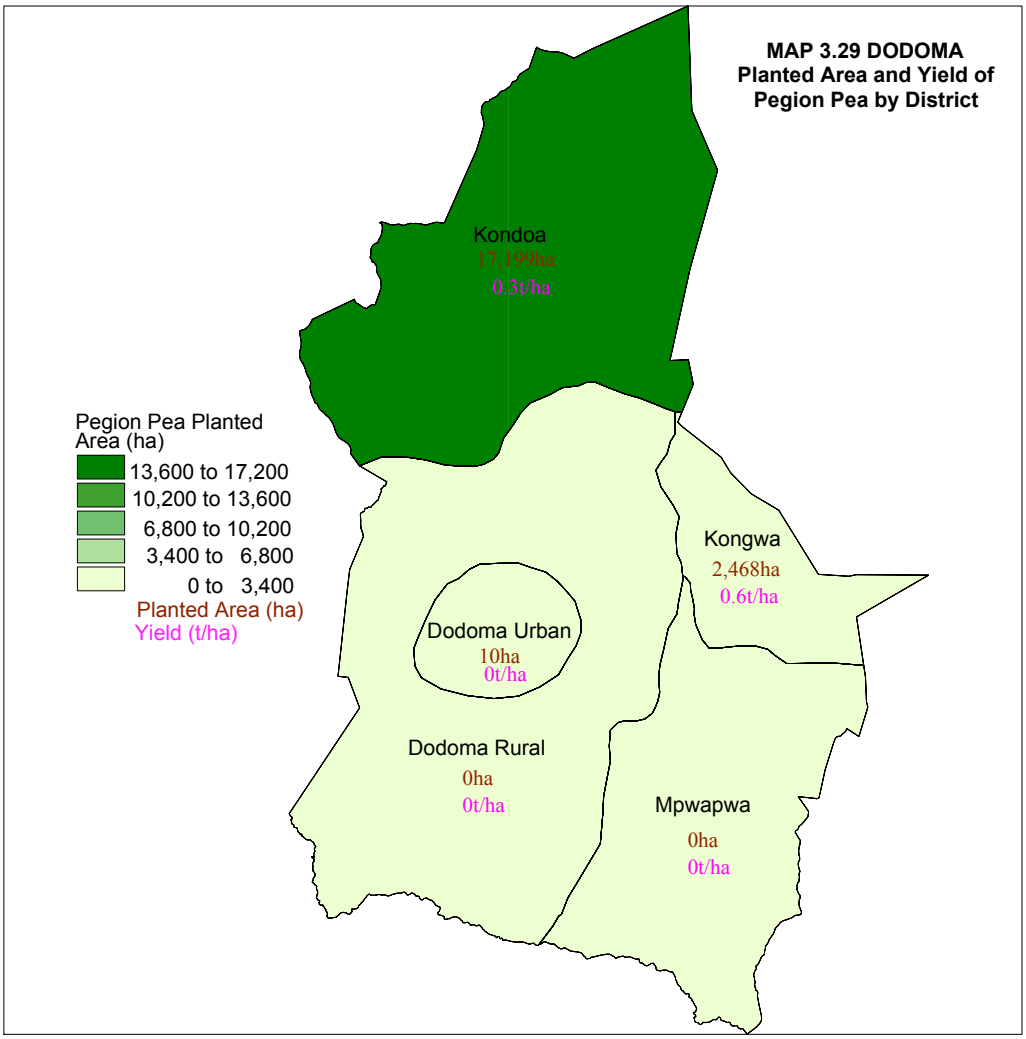
The total production of guava by smallholders was 939 tonnes. In terms of area planted, guava, with a planted area of 1,225 ha was the third most important permanent crop grown by smallholders in the region. It was grown by 2,761 households (0.85% of the total crop growing households). The average area planted with guava per household was relatively small at around 0.44 ha per guava growing household and the average yield obtained by smallholders was 3,221 kg /ha from a harvest area of 291 hectares.

Chart 3.54 Percent of Area Planted with Guava and Average Planted Area per Household by District

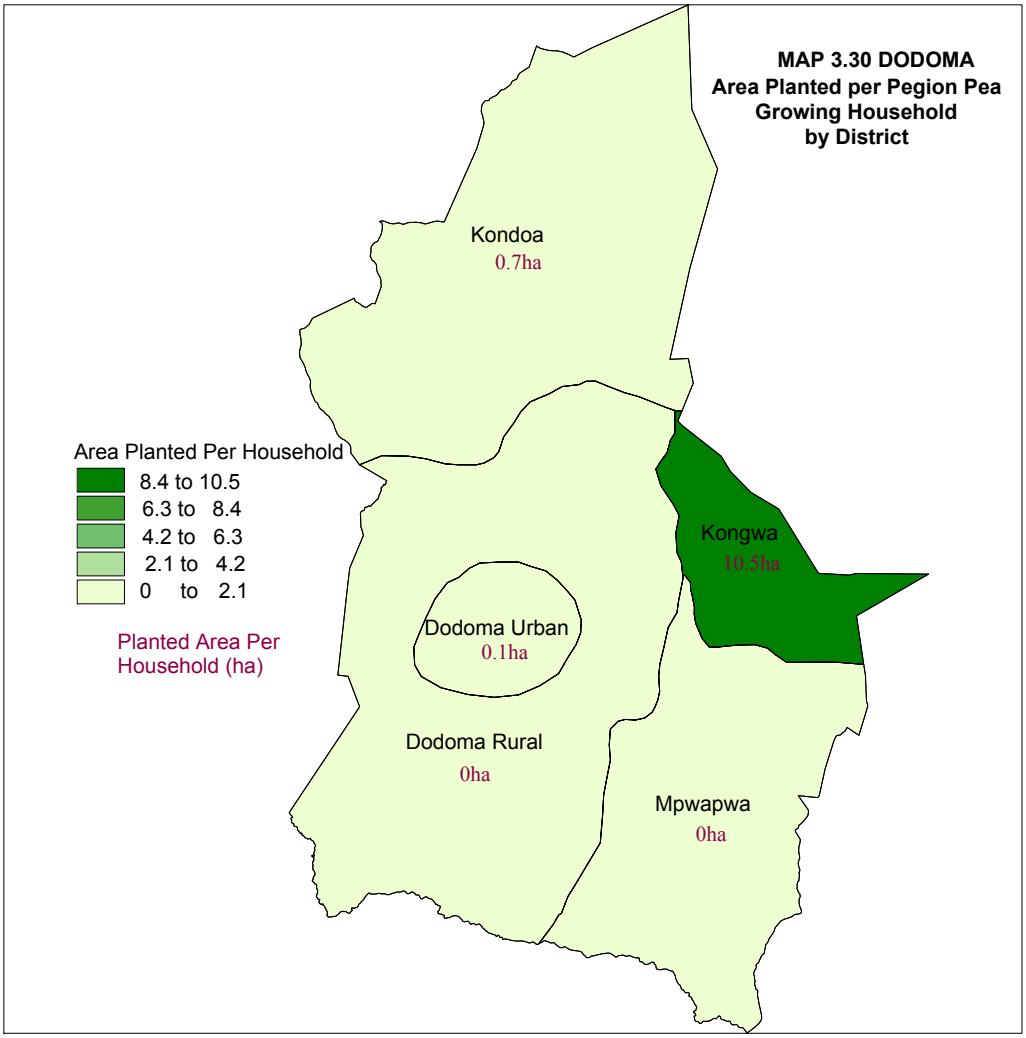


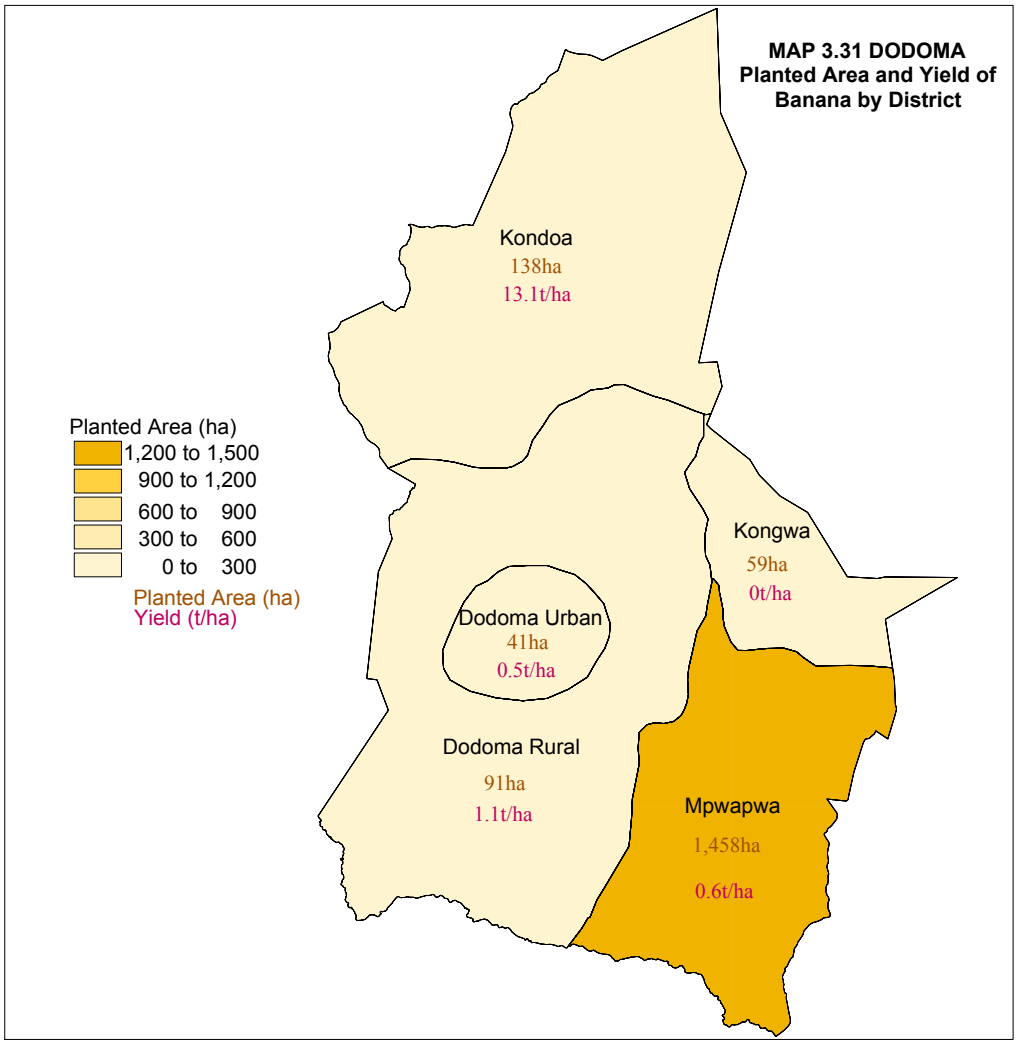
Dodoma Urban has the largest planted area of guava in the region (824 ha, 67.3%) followed by Kondoa (244 ha, 20%), Mpwapwa (98 ha, 8.0%), Dodoma Rural (47 ha, 3.8%) and Kongwa (12 ha, 1.0%) (Map 3.33). The average area planted per guava growing household was highest in Dodoma Urban (3.26 ha), followed by Dodoma Rural (0.40 ha), Kondoa (0.19 ha), Mpwapwa (0.09 ha) and Kongwa (0.03 ha) (Chart 3.53 and Map 3.34).

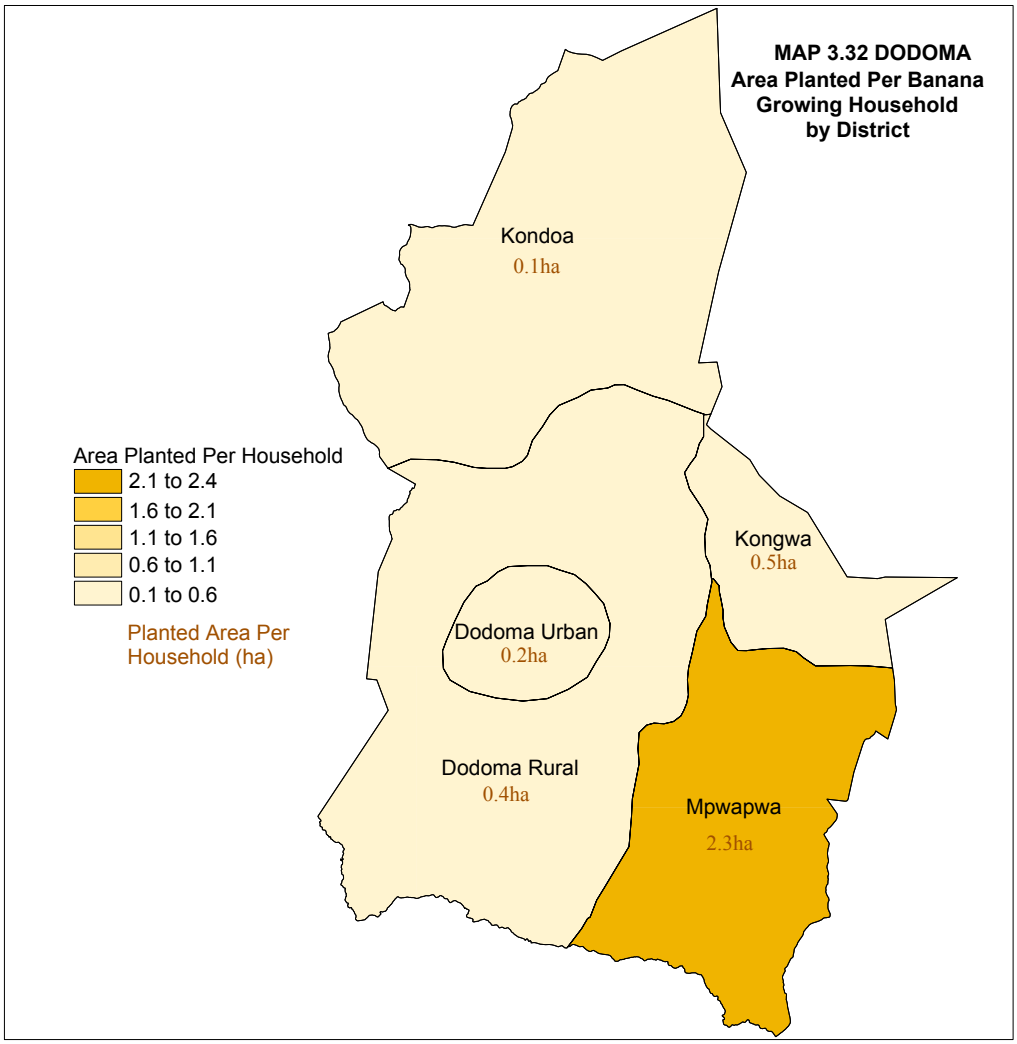
MAP 3.29 DODOMA
Planted Area and Yield of Pegion Pea by District



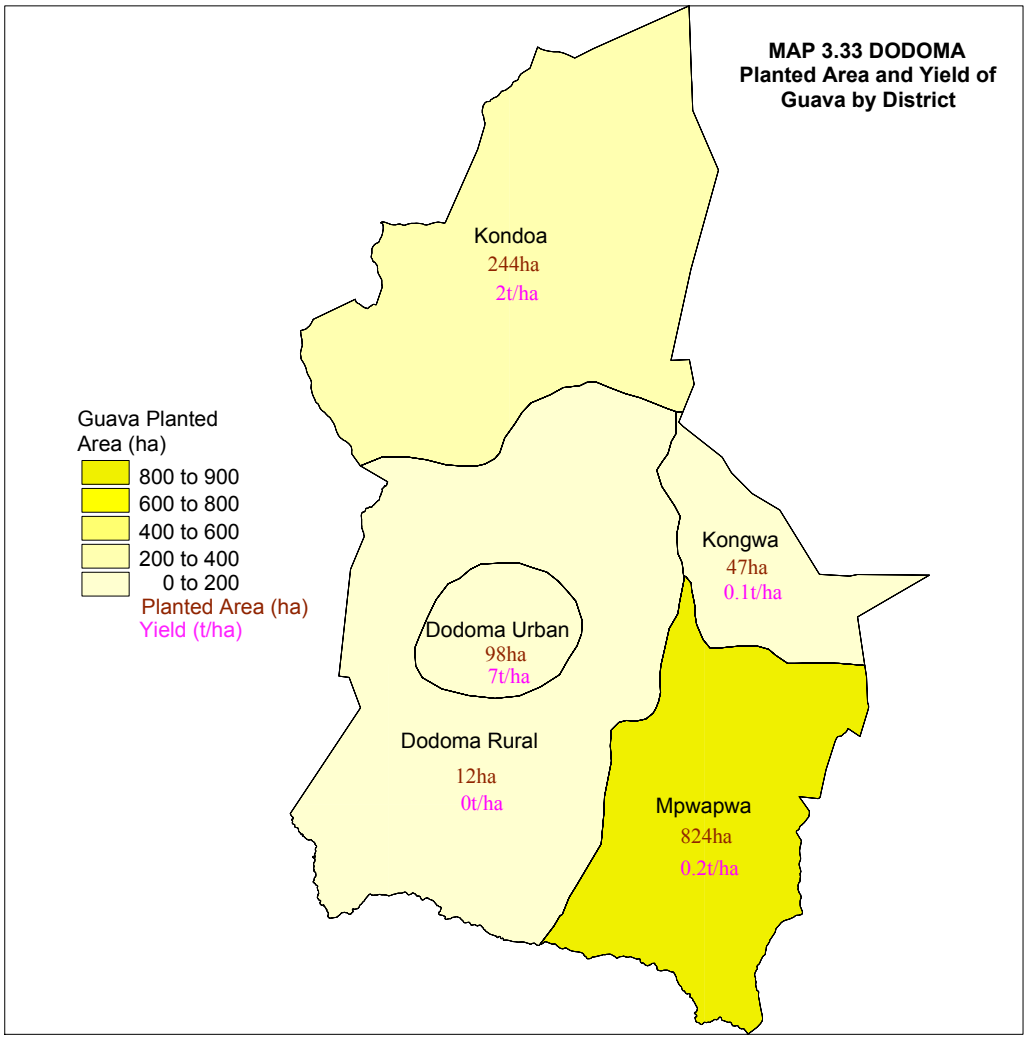
MAP 3.30 DODOMA
Area Planted per Pegion Pea Growing Household by District



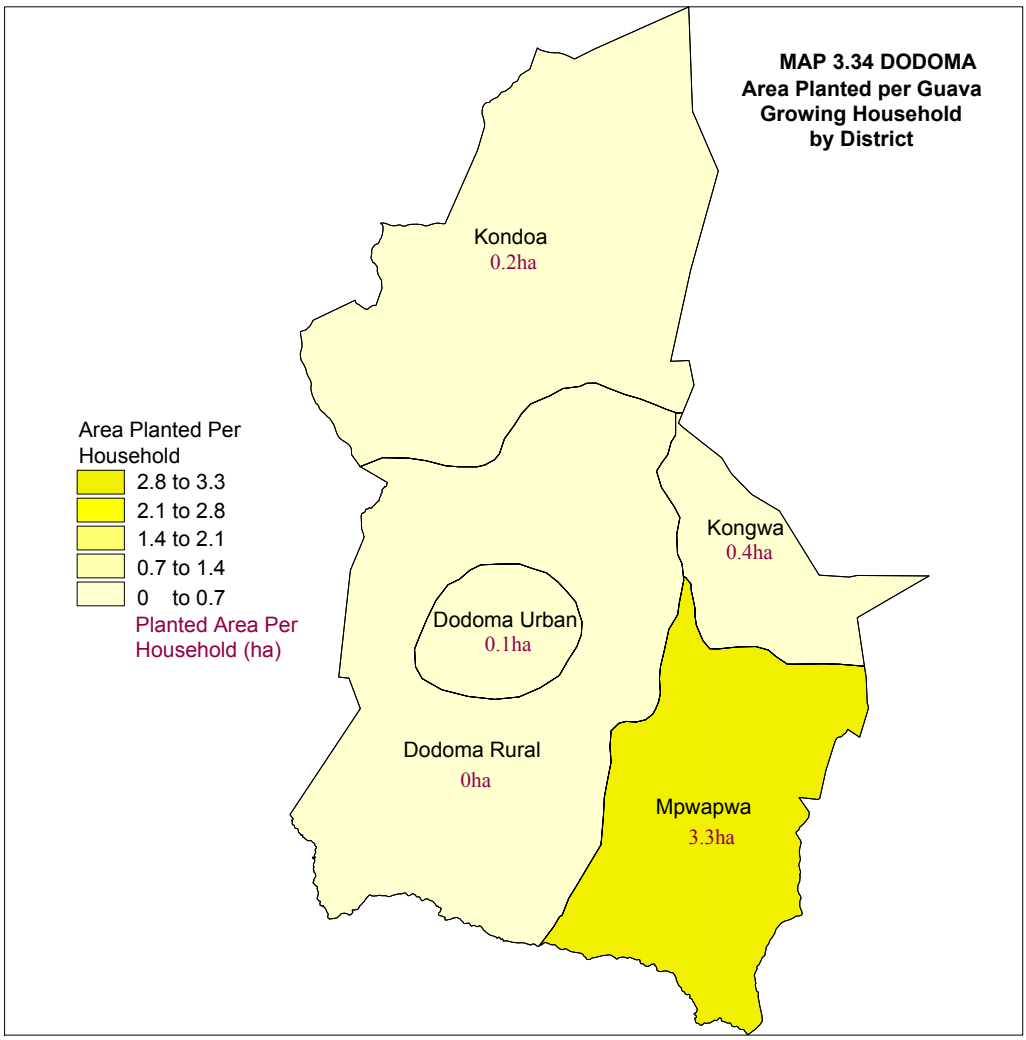

MAP 3.31 DODOMA
Planted Area and Yield of Banana by District
Kondoa
138ha
13.1t/ha
Kongwa
59ha
0t/ha
Dodoma Urban
41ha
0.5t/ha
Dodoma Rural
91ha
1.1t/ha
Mpwapwa
1,458ha
0.6t/ha
Planted Area (ha)
1,200 to 1,500
900 to 1,200
600 to 900
300 to 600
0 to 300
Planted Area (ha)
Yield (t/ha)


MAP 3.32 DODOMA
Area Planted Per Banana Growing Household by District
Kondoa
0.1ha
Kongwa
0.5ha
Dodoma Urban
0.2ha
Dodoma Rural
0.4ha
Mpwapwa
2.3ha
Area Planted Per Household
2.1 to 2.4
1.6 to 2.1
1.1 to 1.6
0.6 to 1.1
0.1 to 0.6
Planted Area Per Household (ha)

MAP 3.33 DODOMA
Planted Area and Yield of Guava by District



MAP 3.34 DODOMA
Area Planted per Guava Growing Household by District

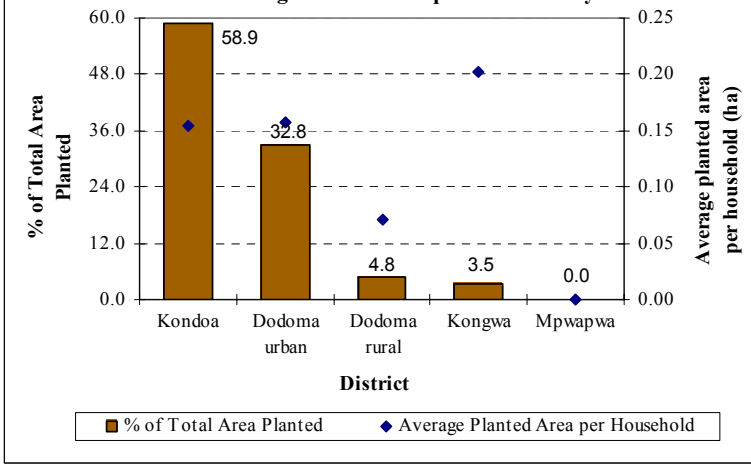


3.4.4 Mango

The total production of mango by smallholders was 1,569 tonnes. In terms of area planted, mango was the fourth most important permanent crop grown by smallholders in the region. It was grown by 3,187 households (1.0% of the total crop growing households). The average area planted with mango trees per household was relatively small at around 0.21 ha per mango growing household and the average yield obtained by smallholders was 2,482 kg/ha from a harvest area of 632 hectares.

Kondoa had the largest area of mango in the region (394 ha, 58.9%) followed by Dodoma Urban (220 ha, 32.8%), Dodoma Rural (32 ha, 4.8%) and Kongwa (23ha, 3.5%) (Map 3.35). However, the average area planted with mangoes per mango planting household was highest in Kongwa (0.20ha) followed by Dodoma Urban (0.16 ha), Kondoa (0.15 ha) and Dodoma Rural (0.07 ha) (Chart 3.53). There was no mango production in Mpwapwa district (Chart 3.54 and Map 36).

Chart 3.54 Percent of Area Planted with Mango and Average Planted Area per Household by District

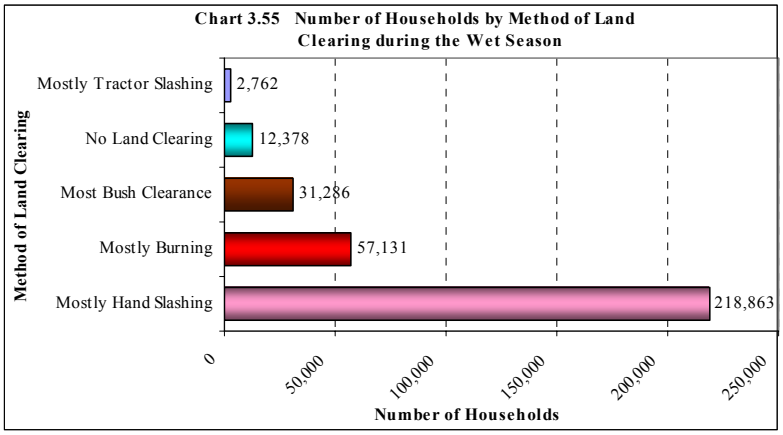


3.5 Inputs/Implements Use

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.

Chart 3.55 Number of Households by Method of Land Clearing during the Wet Season

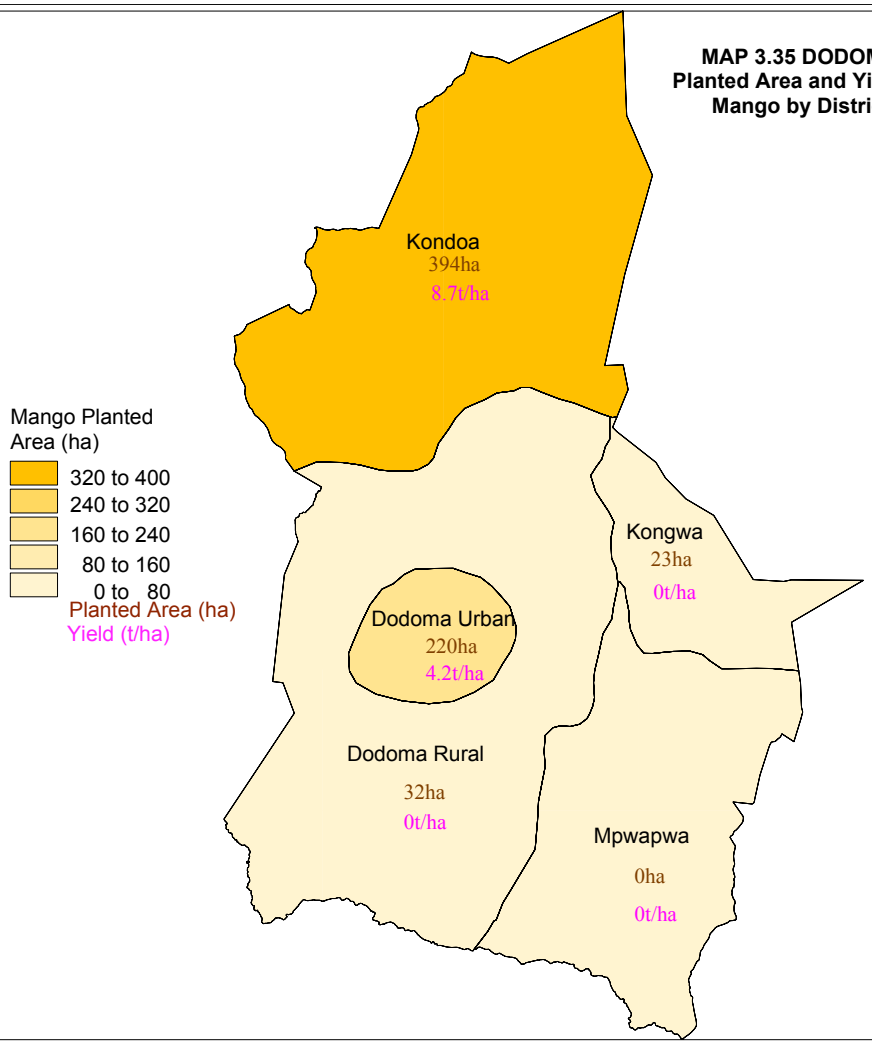


Hand slashing is the most widespread method used for land clearing. The area cleared by hand slashing in the region during the wet season was 419,528 ha which represents 64.5 percent of the total planted area. Burning, bush clearance and tractor slashing are less important methods of land clearing and they represent 16.9, 10.3 and 1.8 percents respectively (Table3.7)

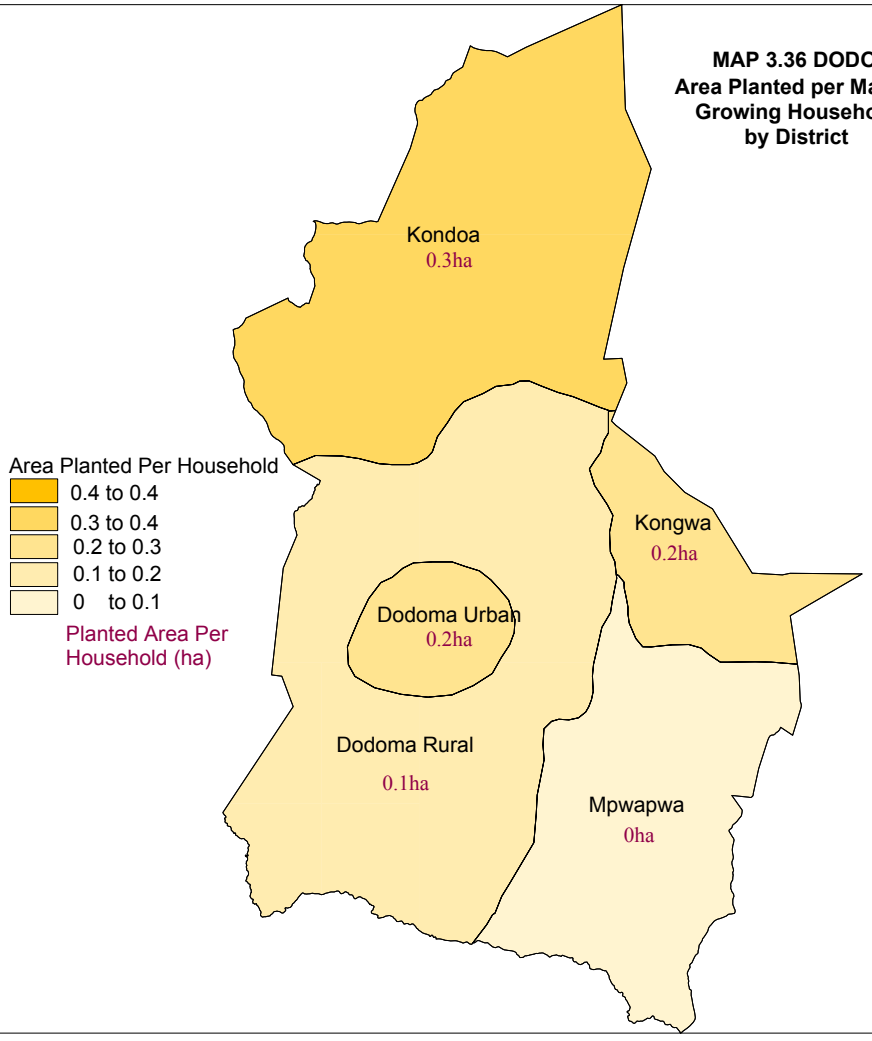
Table 3.7: Land Clearing Methods

Method of Land Clearing	Wet Season			Dry Season			Total		
	Number of Households	Area Planted	%	Number of Households	Area Planted	%	Number of Households	Area Planted	%
Mostly Hand Slashing	218,863	419,528	64.5	851	980	100.0	219,714	420,507	64.6
Mostly Burning	57,131	109,713	16.9	0	0	0.0	57,131	109,713	16.9
Most Bush Clearance	31,286	67,004	10.3	0	0	0.0	31,286	67,004	10.3
No Land Clearing	12,378	42,507	6.5	0	0	0.0	12,378	42,507	6.5
Mostly Tractor Slashing	2,762	11,522	1.8	0	0	0.0	2,762	11,522	1.8
Total	**322,420**	**650,274**	**100.0**	**851**	**980**	**100.0**	**323,271**	**651,254**	**100.0**

MAP 3.35 DODOMA
Planted Area and Yield of Mango by District



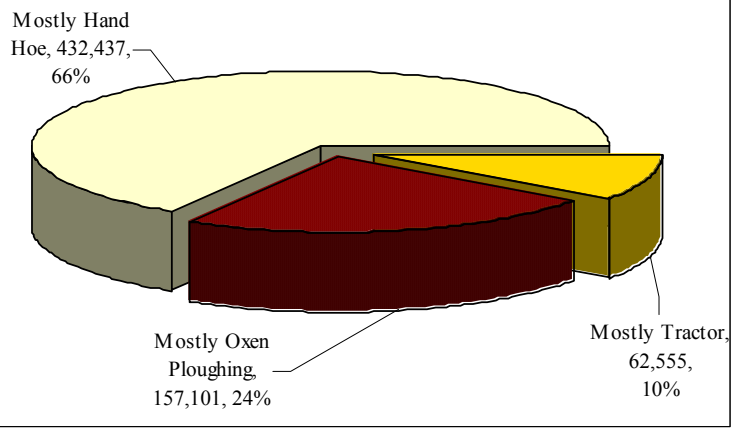
MAP 3.36 DODOMA
Area Planted per Mango Growing Household by District



3.5.2 Methods of Soil Preparation

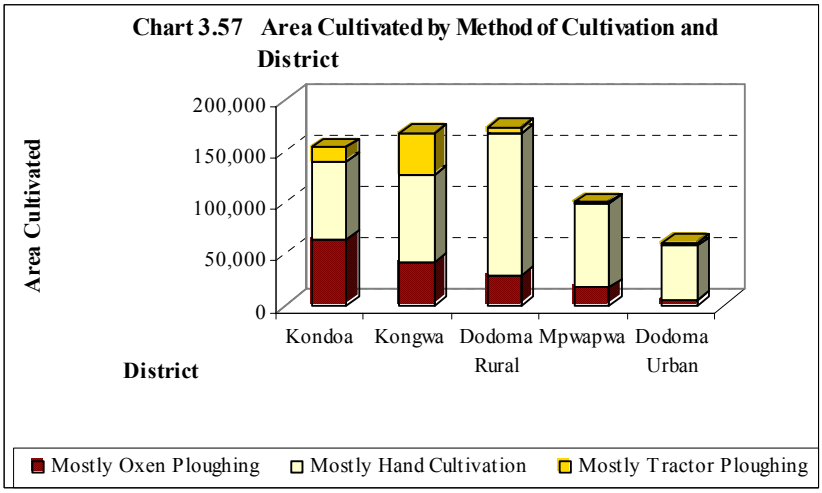
Hand cultivation is mostly used for soil preparation as it has been used in an area of 432,437 ha which represents 66 percent of the total planted area, followed by ox-ploughing (157,101 ha, 24%) and tractor ploughing (62,555 ha, 10%) (Chart 3.56). More hand cultivation was used during wet season with 66 percent of total planted area in the wet season against 10 percent of the total planted area in the dry season. Oxen ploughing was more common in the dry season with 90 percent of the total planted area in the dry season against 24 percent of the planted area in the wet season. Tractor ploughing was done on 10 percent of the total planted area in the wet season, however there was no tractor ploughing during the dry season.

Chart 3.56 Area Cultivated by Cultivation Method



In Dodoma region, Kondoa district has the largest planted area cultivated using oxen (63,742 hectares, 40.6%) followed by Kongwa (42,084 ha, 26.8%), Dodoma Rural (28,894 ha, 18.4%), Mpwapwa (17,341 ha, 11.0%) and Dodoma Urban (5,040 ha, 3.2%) (Chart 3.57). Tractor ploughing was more prominent in Kongwa district with 64 percent of the area cultivated using tractors in the region.

Chart 3.57 Area Cultivated by Method of Cultivation and District

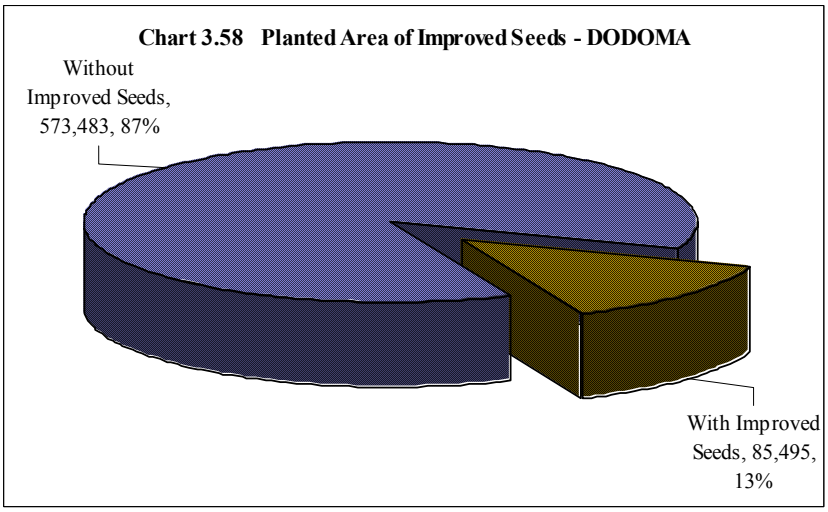


During the wet season, 73.7 percent of the total area cultivated using oxen was planted with cereals, followed by oil seeds (23.0%), pulses (2.3%), root and tubers (0.9%) and fruits & vegetables (0.1%).

3.5.3 Improved Seeds Use

The planted area with improved seeds was 85,495 ha which represents 13 percent of the total area planted with the annual crops and vegetables. The percentage use of improved seed in the wet season was 13 percent, much higher than the corresponding percentage use for the dry season (1.3%).

Chart 3.58 Planted Area of Improved Seeds - DODOMA



Cereals had the largest planted area with improved seeds (69,525 ha, 81% of the

planted area with improved seeds) followed by oil seeds (12,285 ha, 14.4%), roots and tubers (1,771 ha, 2.1%), fruit and vegetables (1,098 ha, 1.3%) and pulses (815 ha, 1.0%) (Chart 3.58). However, the use of improved seeds on fruit and vegetables is much greater than in other crop types (53.8%). Only 4 percent of the planted area for pulses used improved seed (Chart 3.59).

Chart 3.58 Planted Area with Improved Seed by Crop Type

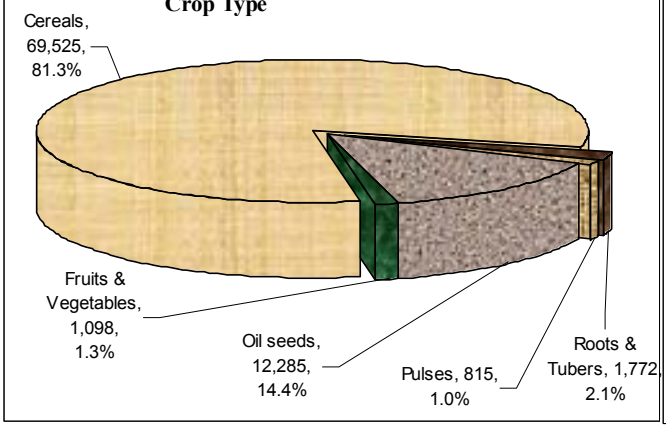
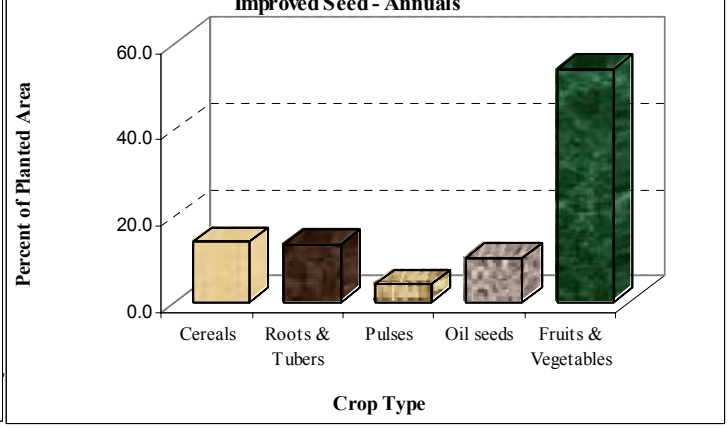


Chart 3.59 Percentage of Crop Type Planted Area with Improved Seed - Annuals



3.5.4 Fertiliser Use

The use of fertilisers on annual crops was very small with a planted area of only 166,015 ha (25.2% of the total planted area in the region). The planted area without fertiliser for annual crops was 492,398 hectares representing 74.8 percent of the total planted area with annual crops. Of the planted area with fertiliser application, farm yard manure was applied to 155,984 ha which represents 23.7 percent of the total planted area (94% of the area planted with fertiliser application in the region). This was followed by compost (7,916 ha, 4.8% of the planted area with fertiliser and 1.2% of the total planted area in the region).

Table3.8 Planted Area by Type of Fertiliser Use and District - Wet and Dry Seasons

District	Fertiliser Use				No Fertiliser Applied
	Mostly Farm Yard Manure	Mostly Compost	Mostly Inorganic Fertiliser	Total	
Kondoa	41,146	1,641	1,336	44,123	110,954
Mpwapwa	18,229	2,171	385	20,785	83,610
Kongwa	31,645	2,535	47	34,227	132,020
Dodoma Rural	45,436	735	371	46,542	125,714
Dodoma Urban	19,528	834	540	20,902	40,100
Total	**155,984**	**7,916**	**2,679**	**166,015**	**492,398**

Chart 3.61 Area of Fertiliser Application by Type of Fertiliser and District

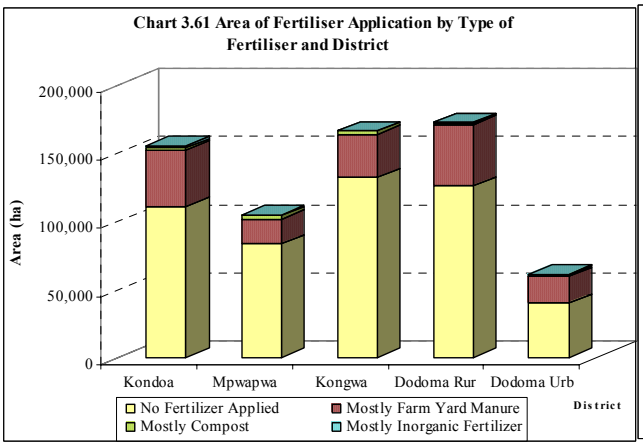
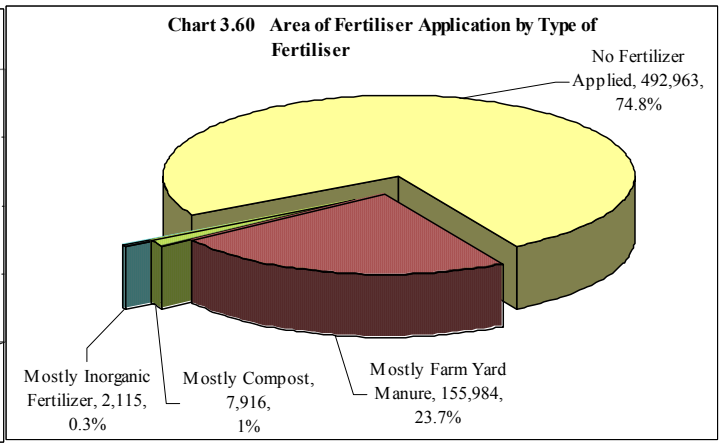


Chart 3.60 Area of Fertiliser Application by Type of Fertiliser



Inorganic fertilisers were used on a very small area representing only 1.6 percent of the area planted with fertilisers (0.4 of the total planted area). The largest planted area with fertiliser (all types) was in Dodoma Rural district (46,542 ha, 28.0% of the total planted area with fertilizer in the region, followed by Kondoa (26.6%), Kongwa (20.6%), Dodoma Urban (12.6%) and Mpwapwa (12.5%) Table 3.8 and (Charts 3.60 and 3.61).

Most annual crop growing households in Dodoma do not use any fertiliser (253,215 households, 78.5%) (Map 3.37). The percentage of the planted area with applied fertiliser was highest for fruit and vegetables (86.0% of the area planted with these fruit and vegetables during the wet season. This was followed by cereals (28.6%), pulses (19.4%), oil seeds (13.7%) and roots & tubers (6%).

Table 3.9 Number of Crop Growing Households and Planted Area by Type of Fertiliser Use and District – Wet 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
Kondoa	21,107	41,048	434	1,641	289	1,336	62,408	110,741	84,238	154,767
Mpwapwa	9,431	18,229	846	2,171	586	385	39,987	83,610	50,850	104,395
Kongwa	5,112	31,645	578	2,535	117	47	41,313	132,020	47,121	166,247
Dodoma Rural	19,480	45,436	689	735	229	371	79,854	125,065	100,253	171,608
Dodoma Urban	10,235	19,528	302	834	502	540	29,652	40,080	40,189	60,982
Total	**65,365**	**155,886**	**2,849**	**7,916**	**1,724**	**2,680**	**253,215**	**491,516**	**322,651**	**657,998**

3.5.4.1 Farm Yard Manure Use

The number of households that applied farm yard manure in their annual crops during the Wet Season was 65,365 and it was applied to 155,886 ha representing 23.7 percent of the total area planted during that season (Table 3.9). Cereals had the highest percent of the planted area applied with farm yard manure (86.5%), followed by oil seeds (9.7%), pulses (2.3%), fruits & vegetables (0.9%) and roots and tubers (0.5%) (Chart 3.62).

However, fruit and vegetables had the highest proportion of the planted area applied with farm yard manure (52.0% of the total area of fruit and vegetables in Dodoma Region). This was followed by cereals (26.9%), pulses (17.8%), oil seeds (12.6%) and roots & tubers (5.9%) (Chart 3.63).

Chart 3.62 Planted Area with Farm Yard Manure by Crop Type - DODOMA

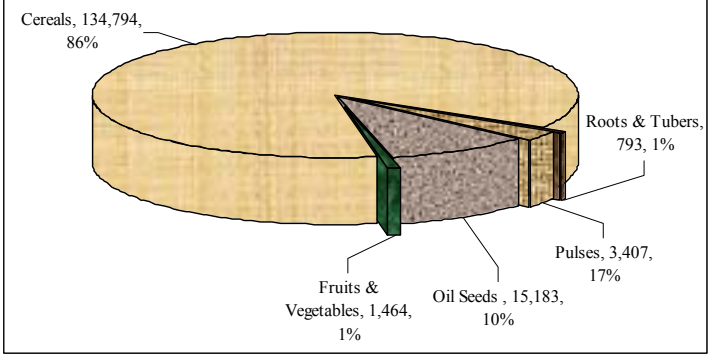
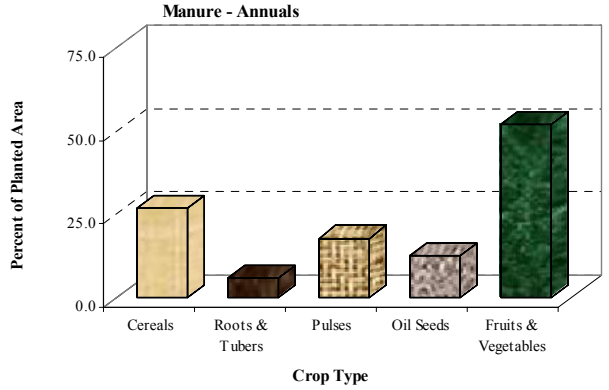


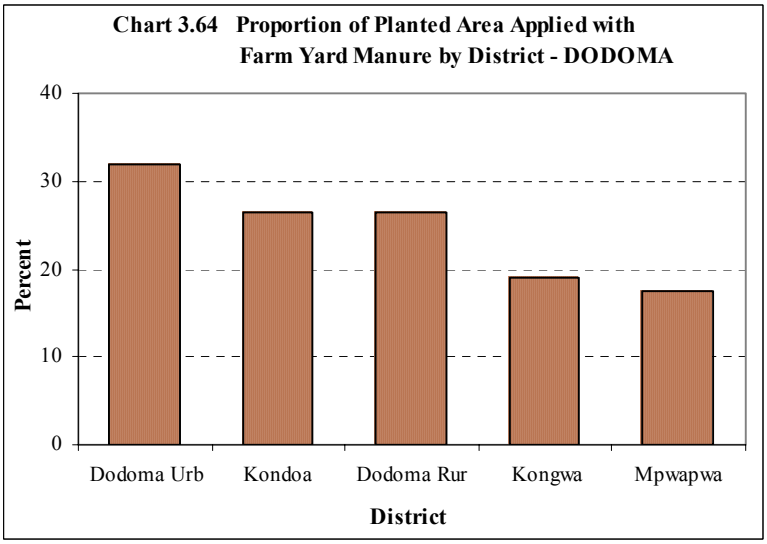
Chart 3.63 Percentage of Crop Type Planted Area with Farm Yard Manure - Annuals

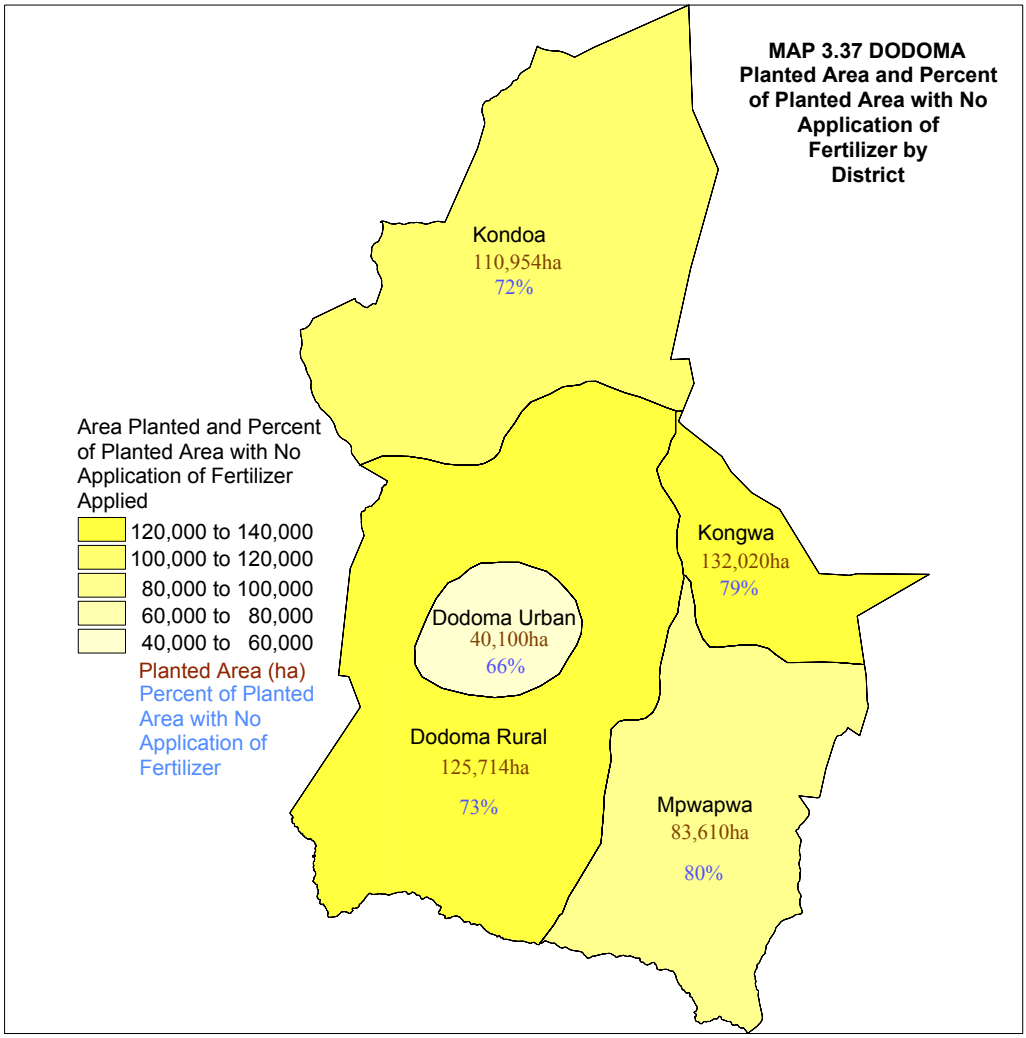


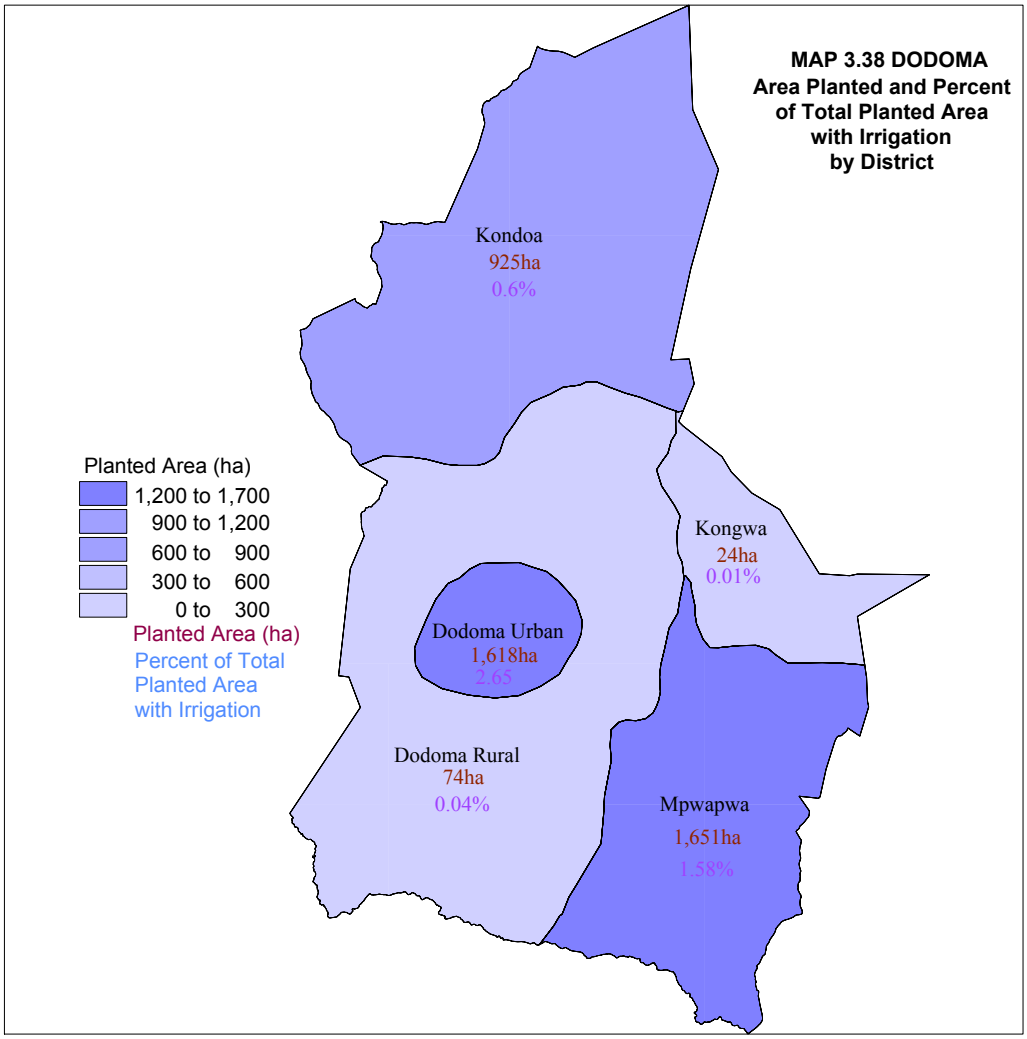
Farm yard manure is mostly used in Dodoma Urban (32.0% of the total planted area in the district), followed by Kondoa (26.5%), Dodoma Rural (26.4%), Kongwa (19.0%) and Mpwapwa (17.5%) (Chart 3.64).

For permanent crops, most farm yard manure is used for the production of orange (98.6%), followed by bananas (62.7%) and pawpaw (55.1%).

Chart 3.64 Proportion of Planted Area Applied with Farm Yard Manure by District - DODOMA




MAP 3.37 DODOMA
Planted Area and Percent of Planted Area with No Application of Fertilizer by District
Kondoa
110,954ha
72%
Kongwa
132,020ha
79%
Dodoma Urban
40,100ha
66%
Dodoma Rural
125,714ha
73%
Mpwapwa
83,610ha
80%
Area Planted and Percent of Planted Area with No Application of Fertilizer Applied
120,000 to 140,000
100,000 to 120,000
80,000 to 100,000
60,000 to 80,000
40,000 to 60,000
Planted Area (ha)
Percent of Planted Area with No Application of Fertilizer


MAP 3.38 DODOMA
Area Planted and Percent of Total Planted Area with Irrigation by District
Kondoa
925ha
0.6%
Kongwa
24ha
0.01%
Dodoma Urban
1,618ha
2.65
Dodoma Rural
74ha
0.04%
Mpwapwa
1,651ha
1.58%
Planted Area (ha)
1,200 to 1,700
900 to 1,200
600 to 900
300 to 600
0 to 300
Planted Area (ha)
Percent of Total Planted Area with Irrigation

3.5.4.2 Inorganic Fertiliser Use

The total planted area applied with inorganic fertilisers in Dodoma region was 2,680 ha which represents 0.4 percent of the total planted area with annuals in the region and 1.6 percent of the total planted area with fertiliser. The number of households that applied inorganic fertiliser on their annual crops during the wet season was 1,724. There was no inorganic fertiliser application during the dry season. The largest area applied with inorganic fertilisers was on cereals (61% of the total area applied with inorganic fertilisers), followed by oil seeds (21%), fruit and vegetables (10%), pulses (5%) and roots and tubers (3%) (Chart 3.65). However, the proportion of fruit and vegetables with inorganic fertilisers was higher than other crop types (9.3%), followed by roots and tubers (0.7%), Pulses (0.6%) oil seeds (0.6%) and cereals (0.3%) (Chart 3.66).

Inorganic fertiliser is mostly used in Dodoma Urban (0.89% of the total planted area in the district), and Kondoa (0.86%), followed by Mpwapwa (0.37%), Dodoma Rural (0.22%) and Kongwa (0.03%) (Chart 3.67).

In permanent crops inorganic fertilisers were used on pigeon peas only (2.3%).

3.5.4.3 Compost Use

The total planted area applied with compost was 7,916 ha which represents only 1.2 percent of the total planted area with annual crops in the region and 4.7 percent of the total planted area with fertiliser in the region. The number of households that applied compost manure on their annual crops during the wet season was 2,849 (Table 3.9). There was no compost manure application during the dry season. The proportion of the area applied with compost was very low for each type of crop (0 to 1.4%); however the distribution of the total area

Chart 3.65 Planted Area with Inorganic Fertilizers by Crop Type - Annuals

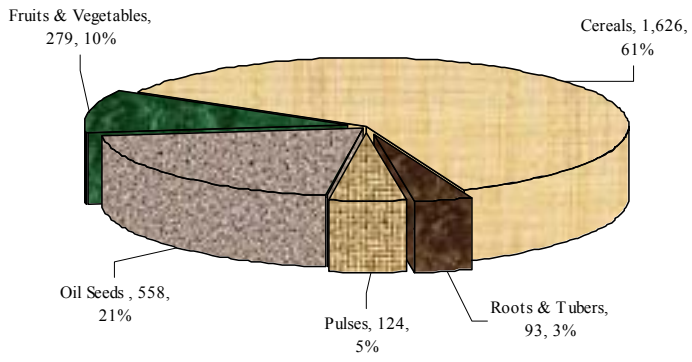


Chart 3.66 Percentage of Crop Type Planted Area with Inorganic Fertilizers - Annuals

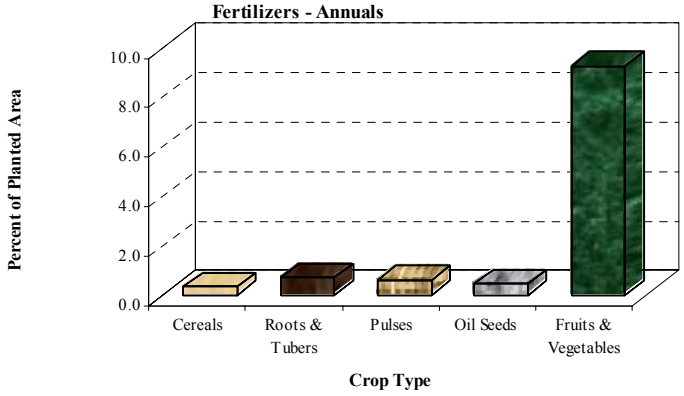


Chart 3.67 Proportion of Planted Area Applied with Inorganic Fertiliser by District - DODOMA

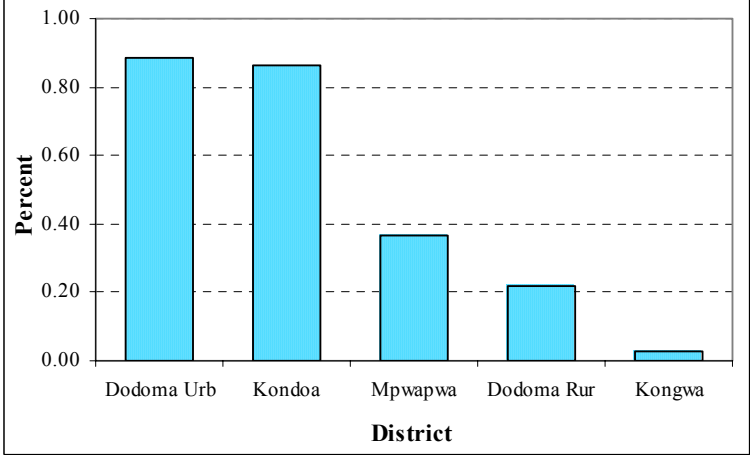
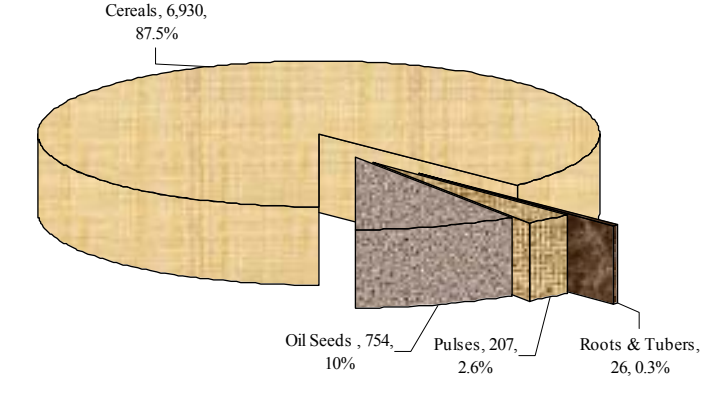


Chart 3.68a Planted Area with Compost by Crop Type - DODOMA



using compost manure shows that 87.5 percent of this area was cultivated with cereals, followed by oil seeds (9.5%), pulses (2.6%) and roots & tubers (0.3%)(Chart 3.68a).

Compost is mostly used in Mpwapwa (2.1% of the total planted area in the district), followed by Kongwa (1.5%), Dodoma Urban (1.4%), Kondoa (1.1%) and Dodoma Rural (0.4%) (Chart 3.68c).

In permanent crops, the only crops that compost was mostly used on was durian (100.0%) and rubber vine fruit (100.0%) followed by pigeon peas (3.8%), guava (3.6%), mango (3.5%) and banana (2.5%).

3.5.5 Pesticides Use

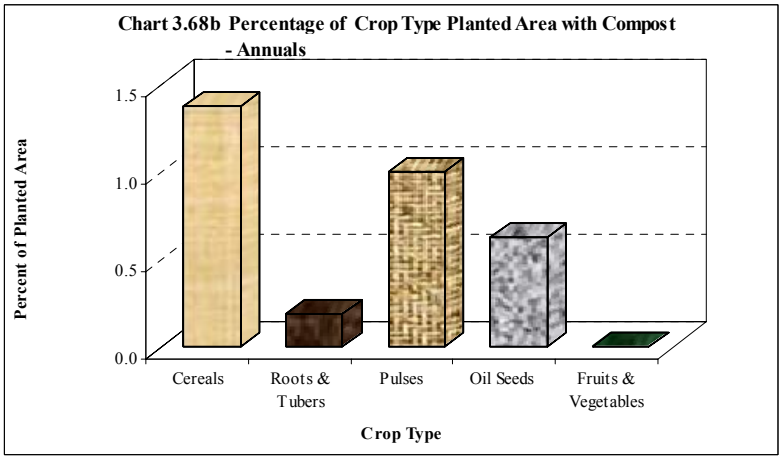
Pesticides are chemicals used for controlling insects, diseases and weeds. This section analyses the use of these chemicals by smallholders on both annual and permanent crops in Dodoma region. Pesticides were applied to a planted area of 40,678 ha of annual crops and vegetables.

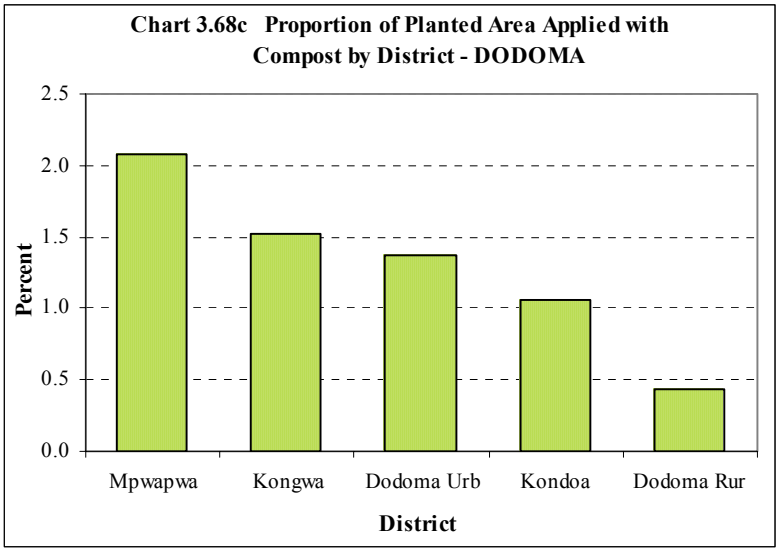
Insecticides are the most common pesticide used in the region (60% of the total area applied with pesticides). This was followed by fungicides (23%) and herbicides (17%) (Chart 3.69).

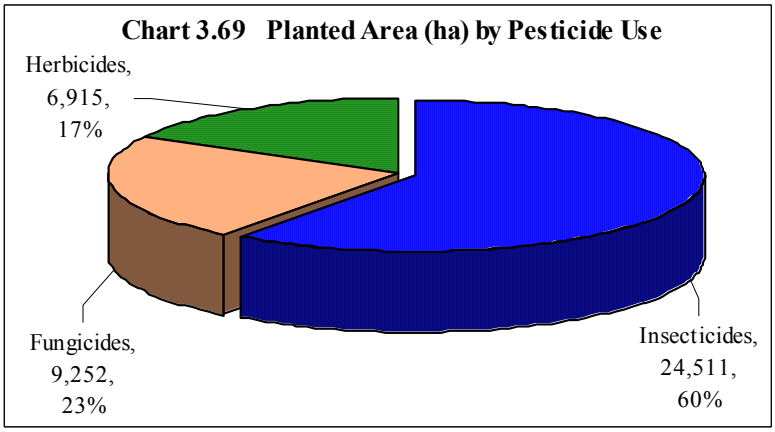
3.5.5.1 Insecticide Use

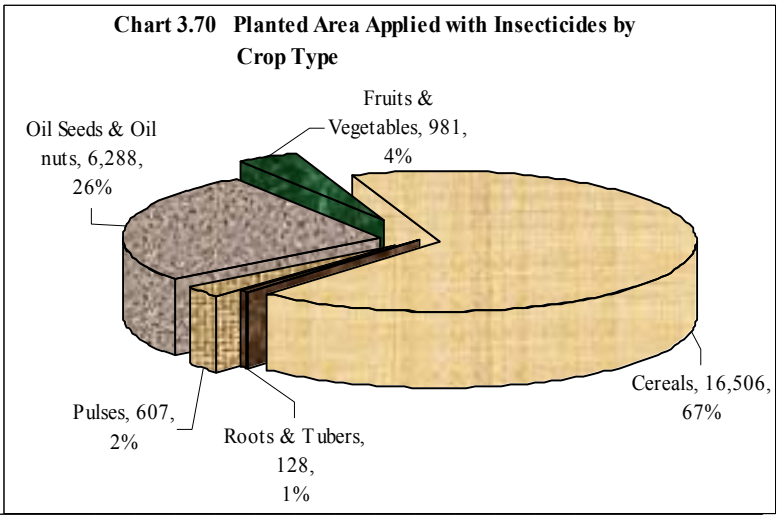
The planted area applied with insecticides was 24,511 ha which represents 3.7 percent of the total planted area for annual crops and vegetables.

Cereals had the largest planted area applied with insecticides (16,506ha, 67% of the total planted area with insecticides) followed by oil seeds (6,288 ha, 26%), fruit and vegetables (981 ha, 4%), pulses (607 ha, 2%) and roots & tubers









(128 ha, 1%) (Chart 3.70). of the total area planted with fruit and vegetables 48.4 percent received insecticides whilst other crop types received very small amounts (oil seeds (5.2%), cereals (3.3%), pulses (3.0%) and roots & tubers (1.0%) (Chart 3.71).

Annual Crops with more than 50 percent insecticide use were cabbage (100%), spinach (100%), carrot (100%), onions (72.4%) and amaranths (54.8%).

Dodoma Rural had the highest percent of planted area with insecticides (6.6% of the total planted area with annual crops in the district), followed by Kongwa (3.6%), Dodoma Urban (3.3%) and Mpwapwa (2.9%). The smallest percentage use was recorded in Kondoa district (1.4%) (Chart 3.72).

3.5.5.2 Herbicides Use

The planted area applied with herbicides in Dodoma region was 6,915 ha, representing 1.1 percent of the total planted area for annual crops and vegetables. Cereals had the largest planted area applied with herbicides (6,068 ha, 87.7%) followed by oil seeds (662 ha, 9.0%), pulses (114 ha, 1.6%), fruit and vegetables (60 ha, 0.9%) and roots and tubers (52 ha, 0.7%) (Chart 3.73).

The percent of herbicide use on cereals was much greater than on other crop types (1.2% of cereals had an application of herbicides) while only 0.01 percent of fruit and vegetables was applied with herbicides (Chart 3.74).

In terms of planted area were tomatoes (5.24%), sorghum (1.66%), maize (1.28%), bambaranuts (0.99%), bulrush millet (0.75%) and groundnuts (0.73%).

Chart 3.71 Percentage of Crop Type Planted Area Applied with Insecticides

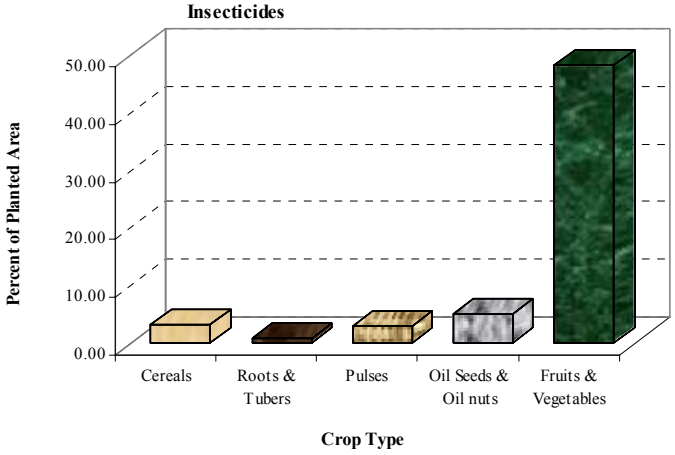


Chart 3.72 Percent of Planted Area Applied with Insecticides by District - DODOMA

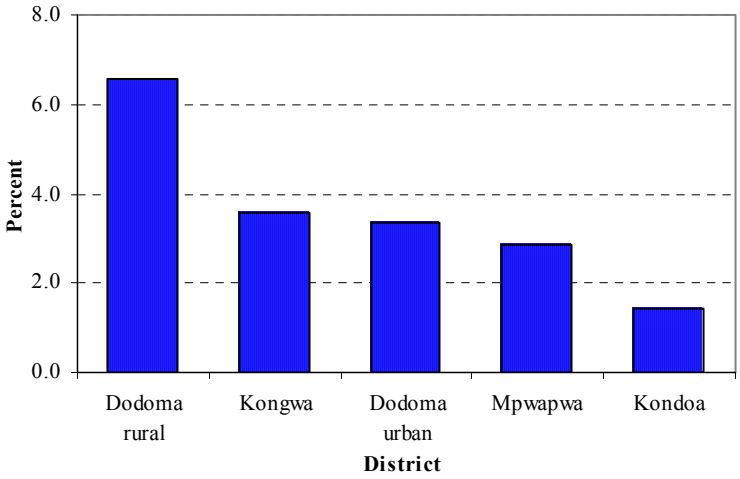


Chart 3.73 Planted Area Applied with Herbicides by Crop Type

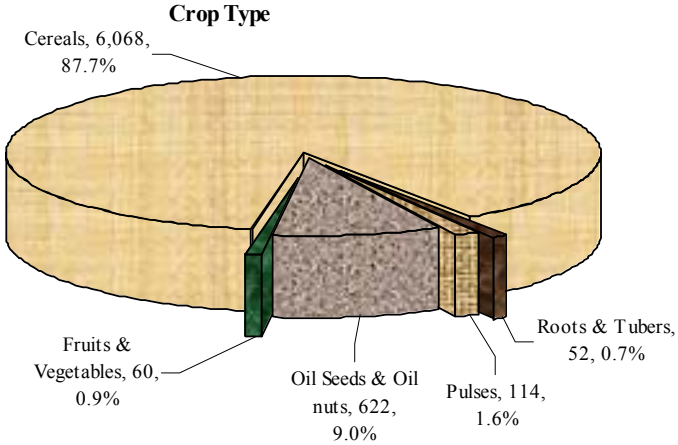
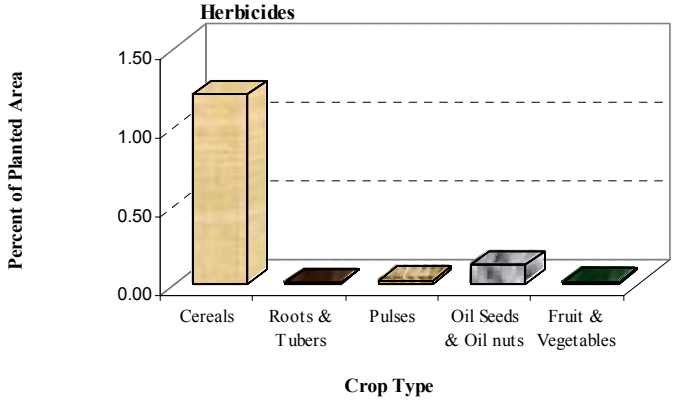
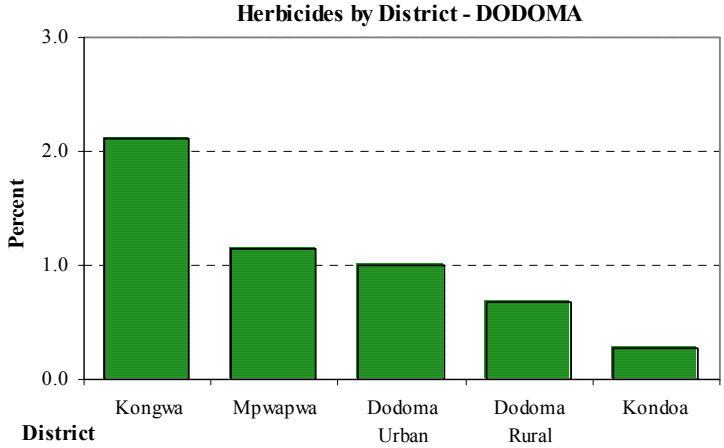


Chart 3.74 Percentage of Crop Type Planted Area Applied with Herbicides



Kongwa had the highest percent of planted area with herbicides (2.1% of the total planted area with annual crops in the district), followed by Mpwapwa (1.1%), Dodoma Urban (1.0%), and Dodoma Rural (0.6%). The smallest percentage use was recorded in Kondoa district (0.33%) (Chart 3.75).

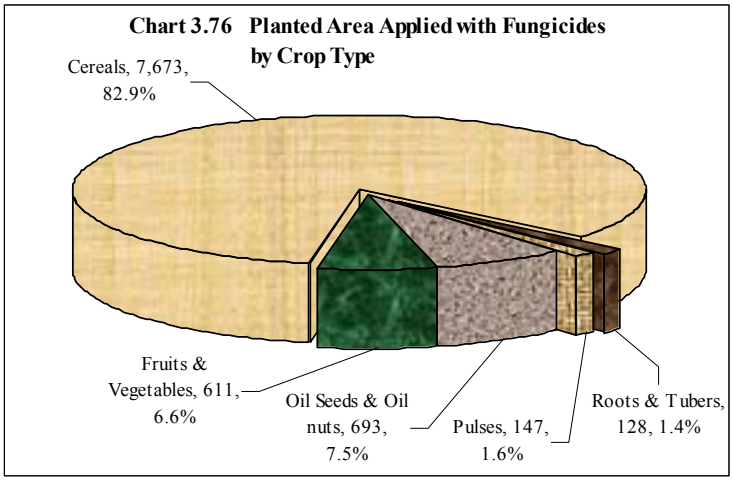
Chart 3.75 Proportion of Planted Area Applied with Herbicides by District - DODOMA



3.5.5.3 Fungicide Use

The total planted area applied with fungicides was 9,252 ha, representing 1.4 percent of the total planted area for annual crops and vegetables. The fungicides were applied on crops planted during the wet season only. Cereals had the largest planted area applied with fungicides (7,673ha, 82.9%) followed by oils seeds (693 ha, 7.5%), fruit and vegetables (611 ha, 6.6%), pulses (147 ha, 1.6%) and roots and tubers (128 ha, 1.4%) (Chart 3.76).

Chart 3.76 Planted Area Applied with Fungicides by Crop Type



However, the percentage use of fungicide on fruit and vegetables was much greater than in other crop types (30.1%), whilst only 0.6 percent of oil seeds and oil nuts had an application of fungicides (Chart 3.77).

Chart 3.77 Percentage of Crop Type Planted Area Applied with Fungicides

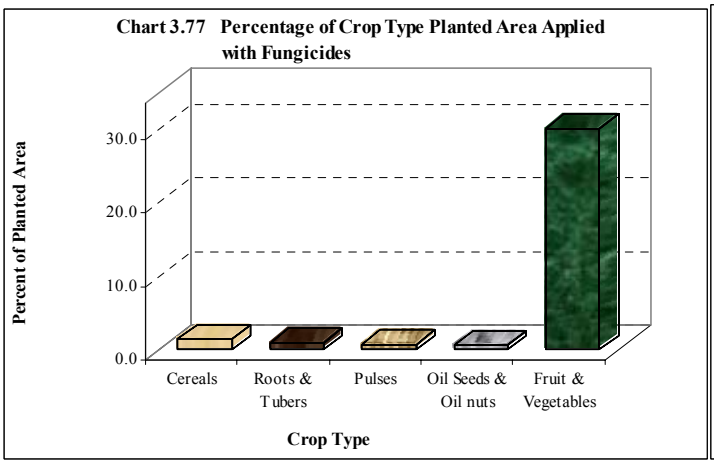
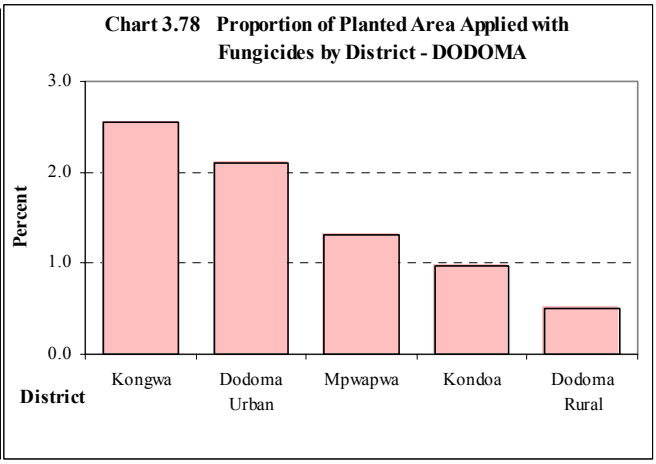


Chart 3.78 Proportion of Planted Area Applied with Fungicides by District - DODOMA



Annual crops that had more than 15 percent of their planted area with fungicide applied were cabbages (100%), spinach (54.7%), onions (38.5%), tomatoes (37.6%) and chillies (15.8%). Each of the remaining annual crops had less than 3 percent fungicide use.

Kongwa had the highest percent of planted area with fungicide (2.5% of the total planted area with annual crops in the district). This was closely followed by Dodoma Urban (2.1%). The smallest percentage use was recorded in Dodoma Rural district (0.5%) (Chart 3.78).

3.5.6 Harvesting Methods

The main harvesting method for cereals was by hand. Very small amounts of maize were harvested by machine (0.4%). All other cereals and annual crops were mainly harvested by hand.

3.5.7 Threshing Methods

Hand threshing was the most common method used, with 80 percent of the total area planted with cereals during the long rainy being threshed by hand. Draft animals, human powered tools and engine driven machines were only used on crops harvested from 0.5, 5.6 and 7.8 percent of the total planted area respectively.

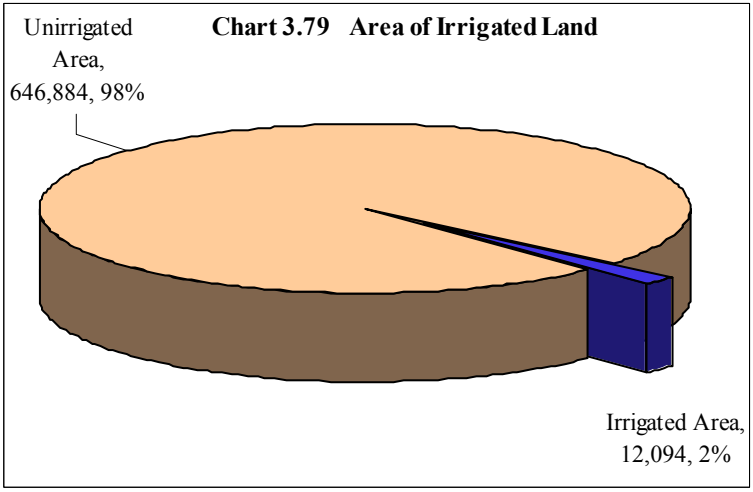
3.6 Irrigation

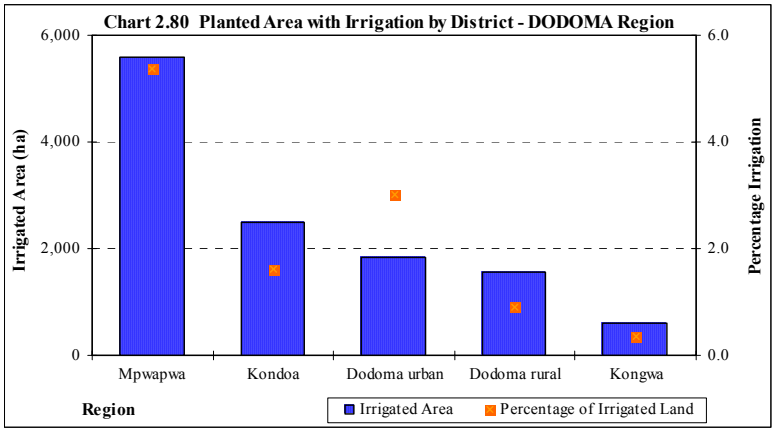
Water is the limiting factor to crop production in the majority of areas in Tanzania and without water most other agricultural practices applied to crops do not result in significant increases in yields. This section deals with the area under irrigation for different crops and the means by which water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

3.6.1 Area Planted with Annual Crops and Under Irrigation

In Dodoma region, the area of annual crops under irrigation was 12,094 ha representing 2 percent of the total area planted (Chart 3.79). The area under irrigation during the dry season was 15 ha accounting for 0.12 percent of the total area under irrigation. Cabbage is the only crop that was irrigated during the dry season covering 100 percent of the area planted with irrigation during the dry season, whilst 73 percent of the vegetables were irrigated in the wet season.

Chart 3.79 Area of Irrigated Land



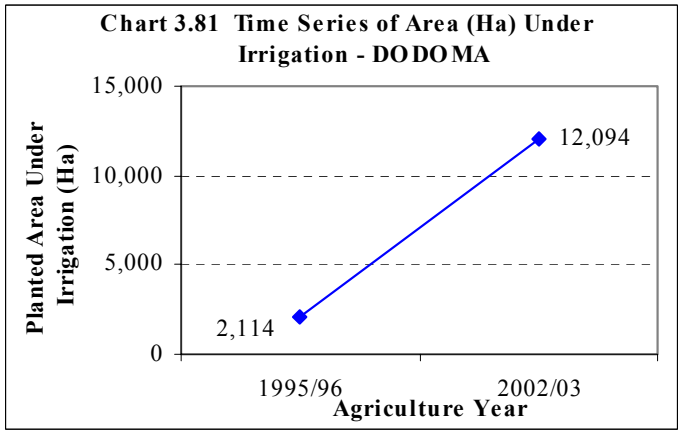


The district with the largest planted area under irrigation with annual crops was Mpwapwa (5,595 ha, 46% of the total irrigated planted area with annual crops in the region). This is followed by Kondoa with (2,497 ha, 21%) and then Dodoma Urban (1,836 ha, 15%). When expressed as a percentage of the total area planted in each district, Mpwapwa had the highest with 5.4 percent of the planted area in the district under irrigation. This is followed by Dodoma Urban (3.0%), Kondoa (1.6%), Dodoma Rural (0.9%) and Kongwa (0.4%) (Chart 3.80 and Map 3.38).

Of all the different crops and in terms of proportion of the irrigated planted area, spinach, chillies, cabbage and carrots were the most irrigated crops with 100 percent irrigation followed by tomatoes (86%), amaranths (83%) and onions (53%). In terms of crop type, the area under irrigation with roots and tubers was 6,688 ha (55.4% of the total area under irrigation), followed by cereals (2,458 ha, 20.3%), fruit and vegetables (1,471 ha, 12.2%), oil seeds and nuts (945 ha, 7.8%) and pulses (517 ha, 4.3%). Finger millet was the only cereal crop with no irrigation

The area of fruit and vegetables under irrigation was 1,471 ha representing 72.6 percent of the total planted area with fruit and vegetables. Cabbage, carrots, spinach and chillies were the most irrigated crops.

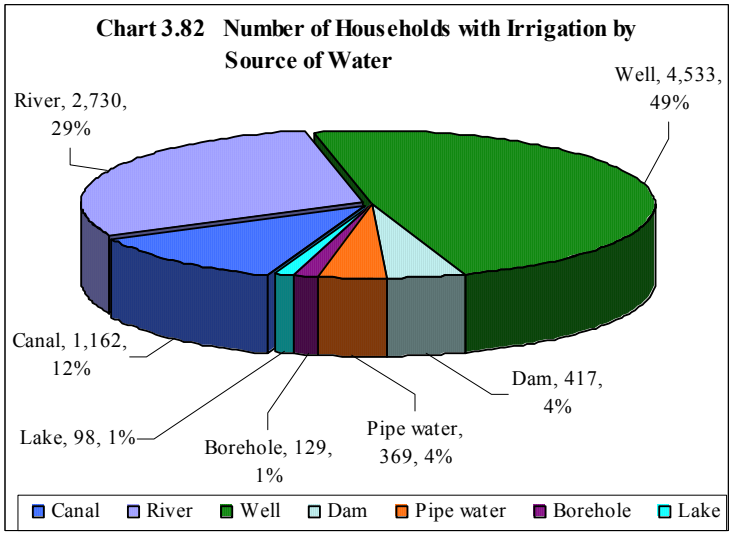
The area under irrigation in Dodoma region appears to have increased over the 10 year period from 2,114 hectares in 1995/96 to 12,094 hectares in 2002/03 (Chart 3.81). This may not be statically significant due to the small number of households sampled with irrigation.



3.6.2 Sources of Water Used for Irrigation

The main source of water used for irrigation was from wells (49.0% of households with irrigation). This was followed by river (28.9%) and canals (12.3%). Only 1.0 percent of the households used water from lakes and the proportion of households that used dams, pipe water and bore holes as a source of water for irrigation were very few (4.4%, 3.9% and 1.4% respectively) (Chart 3.82).

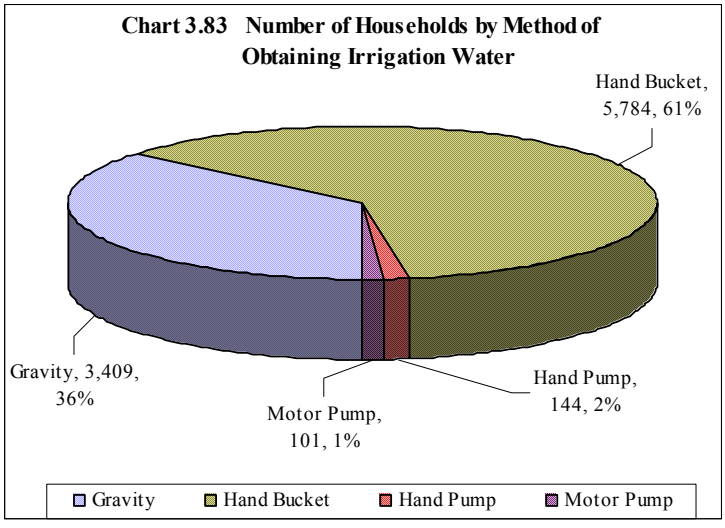
All households using irrigation in Kongwa and Dodoma Rural obtain irrigation water from rivers and wells respectively.



3.6.3 Methods of Obtaining Water for Irrigation

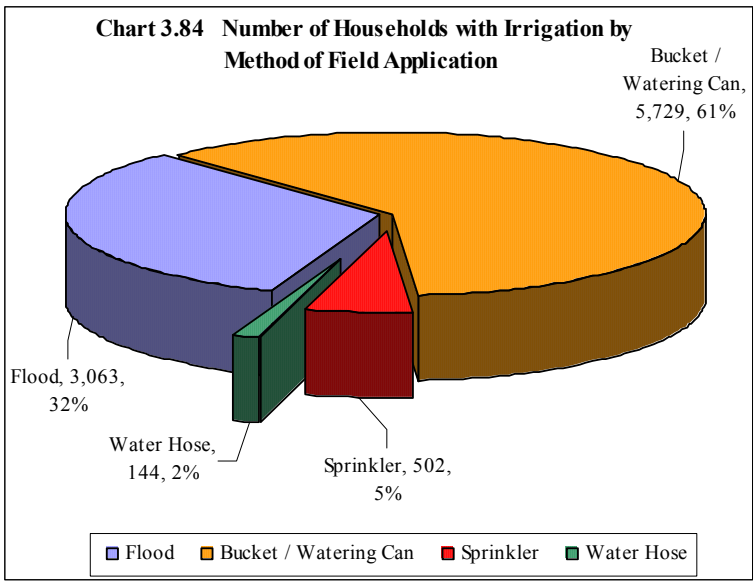
Hand bucket was the most common means of getting water for irrigation with 61.3 percent of households using this method, followed by gravity (36.1% of households with irrigation). The remaining methods (hand pump and motor pump) were of minor importance (Chart 3.83).

Hand bucket was used by most households with irrigation in Dodoma Urban district (56.9%), followed by Mpwapwa (17.8%), Kondoa (17.4%) and Dodoma Rural (7.9%). There was no hand bucket irrigation in Kongwa. Gravity method was more common in Mpwapwa with 82.3 percent of households using the method to get water for irrigation, followed by



Kondoa (8.5), Dodoma Urban (5.8%) and Kongwa (3.4%). No households reported using gravity method in Dodoma Rural district.

Although the method of obtaining irrigation water by hand bucket and gravity were the most common method in all districts, Kondoa and Dodoma Urban districts used some hand and motor pumps for obtaining water.



3.6.4 Methods of Water Application

Most households used buckets/watering cans (61% of households using irrigation) as a method of field application. This was followed by flood irrigation (32%). Sprinklers and water hose were not widely used (5% and 2% respectively).

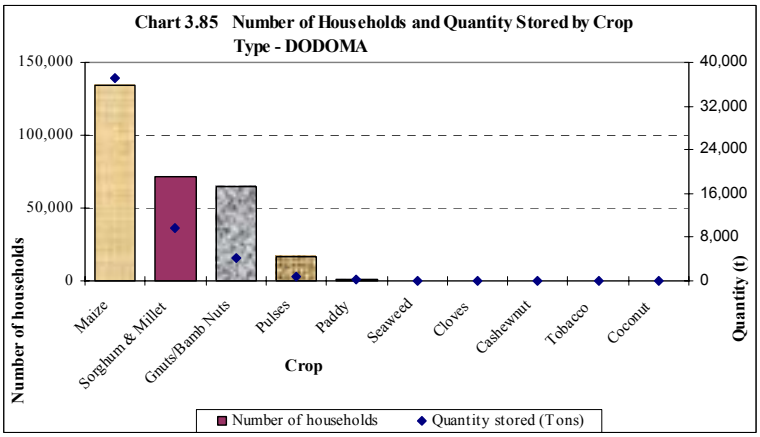
3.7 Crop Storage, Processing and Marketing

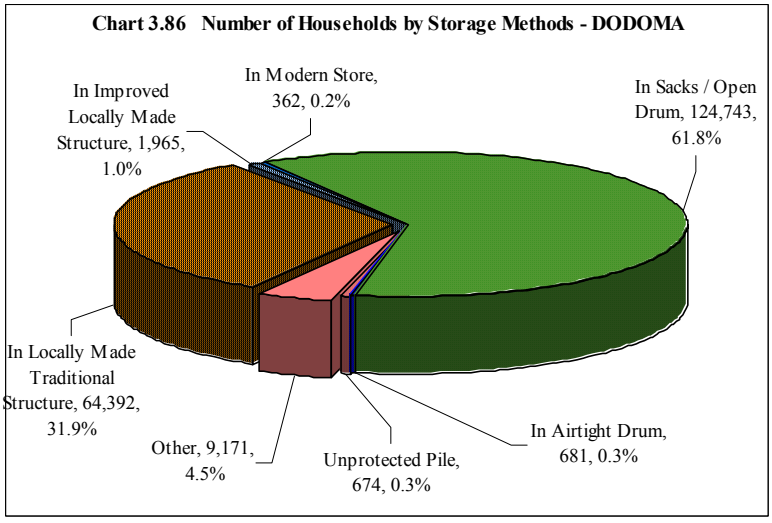
3.7.1 Crop Storage

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

The results for Dodoma region show that there were 288,389 crop growing households (89% of the total crop growing households) that stored various agricultural products in the region.

The most important stored crop was maize with 133,858 households storing 37,052 tonnes as of 1st January 2004. This was followed by Sorghum and millet (71,917 households, 9,743t), groundnuts and bambaranuts (64,253 households, 4,084t), pulses (16,974 households, 793t) and paddy (1,388 households, 276t). Other crops were stored in very small amounts.





3.7.1.1 Methods of Storage

The region had 124,743 crop growing households storing their produce in sacks and/or open drums (61.8% of households that stored crops in the region). The number of households that stored their produce in locally made traditional structures was 64,392 (31.9%). This was followed by improved locally made structure (1,965 households, 1.0%), airtight drum (681 households, 0.3%), unprotected piles (674 households, 0.3%) and modern stores (362 households, 0.2%) (Chart 3.86).

Storage in sacks and/or open drum was the dominant storage method in most districts, with the highest percent of households in Kongwa using this method (79% of the total number of households storing crop products). This is followed by Kondoa (73%), Mpwapwa (58%), Dodoma Urban (54%) and Dodoma Rural (46%).

The highest percent of households using improved locally made structures was in Dodoma Rural and Mpwapwa districts (53% and 39% of the total number of households storing crops respectively), followed by Dodoma Urban (34%), Kongwa (17%) and Kondoa (16%) (Chart 3.87).

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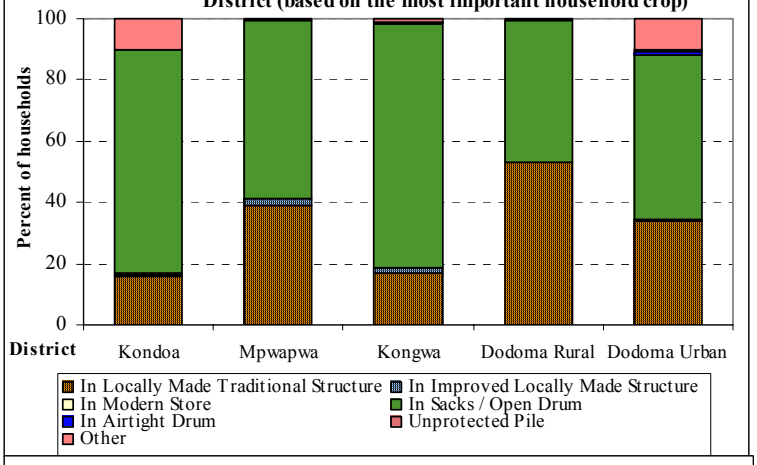
Chart 3.87 Number of Households by Method of Storage and District (based on the most important household crop)

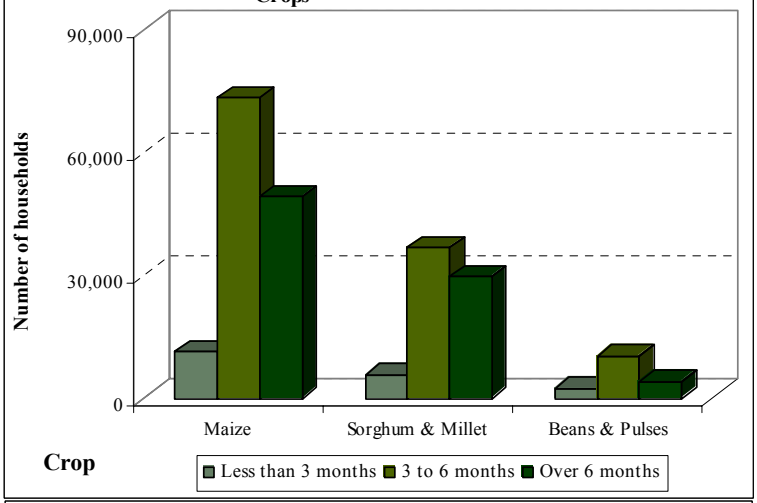


3.7.1.2 Duration of Storage

Most households stored their produce for a period of 3 to 6 months (52.9% of the households storing crops) followed by those who stored for a period of over six months. The minority of households stored their crop for a period of less than 3 months (7.6%).

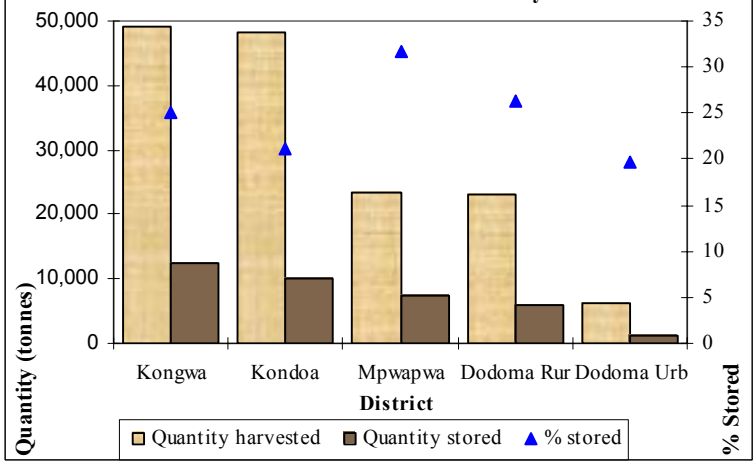
Most households that stored maize stored for a period of 3 to 6 months followed by those storing for over 6 months. A small number of households stored maize for the period of less than 3 months (Chart 3.88).

Chart 3.88 Normal Length of Storage for Selected Crops

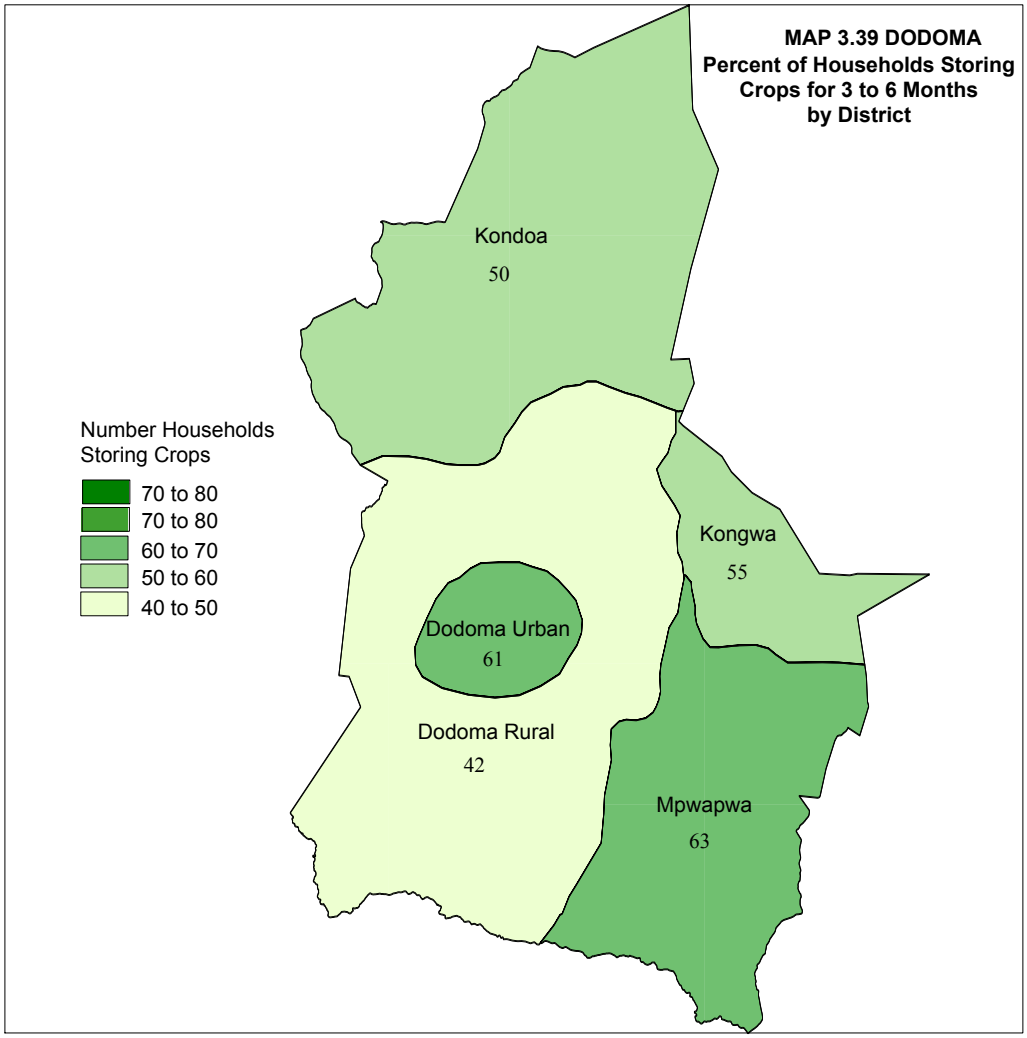


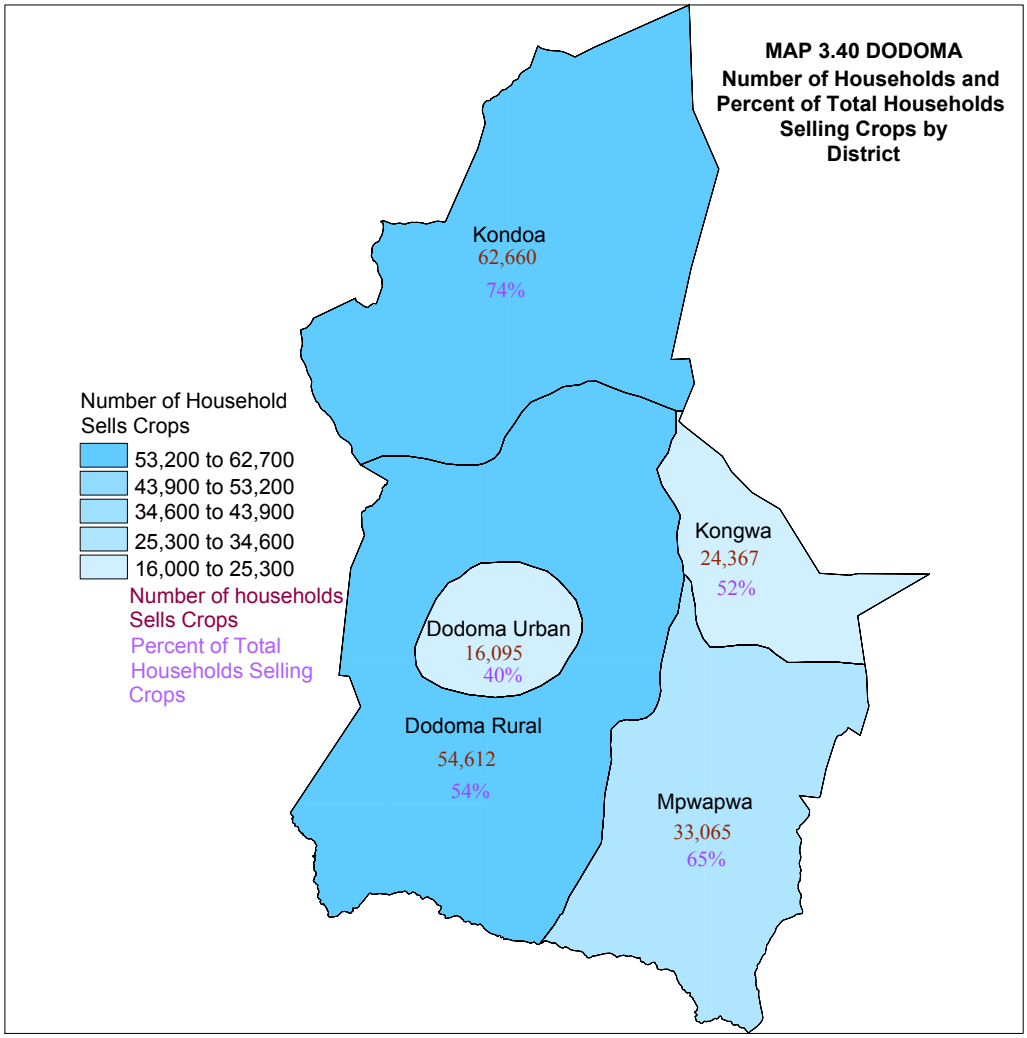
The proportion of households that stored their produce for the duration of 3 to 6 months was highest in Mpwapwa district (63%) followed by Dodoma Urban (61%), Kongwa (55%), Kondoa (50%) and Dodoma Rural (42%) (Map 3.39).

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



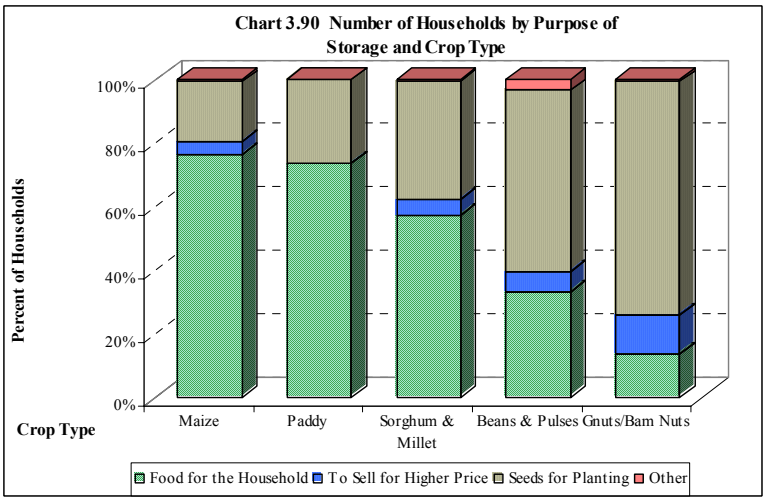
District comparison of duration of storage cannot be done for all crops combined. However, the analysis has been done for maize only as it is the most commonly stored crop. In general, quantity stored was related to the quantity produced. Districts with greater production had a higher percent of their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


MAP 3.39 DODOMA
Percent of Households Storing Crops for 3 to 6 Months by District
Kondoa
50
Kongwa
55
Dodoma Urban
61
Dodoma Rural
42
Mpwapwa
63
Number Households Storing Crops
70 to 80
70 to 80
60 to 70
50 to 60
40 to 50


MAP 3.40 DODOMA
Number of Households and Percent of Total Households Selling Crops by District
Kondoa
62,660
74%
Kongwa
24,367
52%
Dodoma Urban
16,095
40%
Dodoma Rural
54,612
54%
Mpwapwa
33,065
65%
Number of Household Sells Crops
53,200 to 62,700
43,900 to 53,200
34,600 to 43,900
25,300 to 34,600
16,000 to 25,300
Number of households Sells Crops
Percent of Total Households Selling Crops

3.7.1.3 Purposes of Storage

Subsistence food crops (maize, paddy, sorghum and millet,) are mainly stored for household consumption. The percent of households that stored maize for household consumption as the main purpose of storage was 76.6 percent, followed by seed for planting (19%) and selling at higher price (4.1%). A high percent of the households that stored pulses and groundnuts was for planting purpose (seeds) (57.3% and 73.7% respectively).



3.7.1.4 The Magnitude of Storage Loss

About 83 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 stored for seeds such as groundnut and bambara nuts.

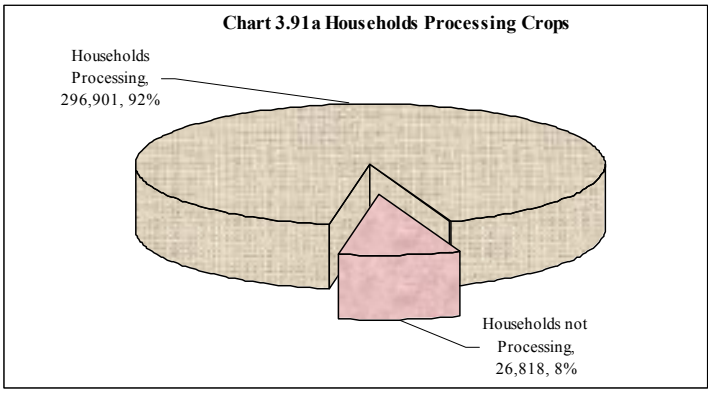
Table 3.10: Number of Households Storing Crops by Estimated Storage Loss and Crop

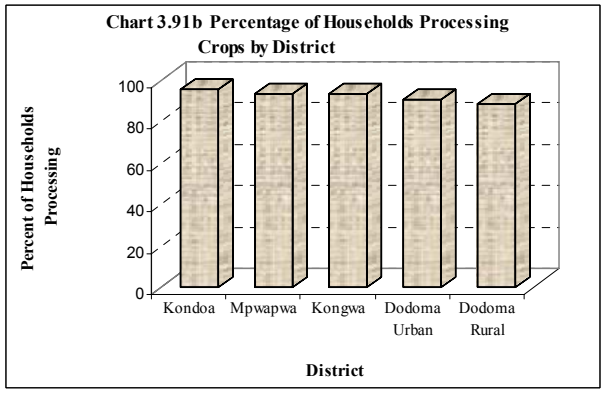
Crop	Estimated Storage Loss								Total
	Little or no Loss		Up to 1/4 Loss		Between 1/4 and 1/2 Loss		Over 1/2 Loss		
	Number of House holds	%	Number of House holds	%	Number of House holds	%	Number of House holds	%	
Maize	99,932	74.7	25,454	19.0	5,016	3.7	3,455	2.6	133,858
Paddy	1,125	81.0	263	19.0	0	0.0	0	0.0	1,388
Sorghum & Millet	61,452	85.2	6,067	8.4	3,367	4.7	1,232	1.7	72,118
Beans & Pulses	14,235	83.9	2,324	13.7	415	2.4	0	0.0	16,974
Groundnuts/Bambara Nuts	62,301	97.0	1,266	2.0	568	0.9	117	0.2	64,253
Total	239,045	82.8	35,375	12.3	9,367	3.2	4,804	1.7	288,590

The proportion of households that reported a storage loss of more than a quarter was greatest for sorghum and millets (6.4% of the total number of households that stored crops). This was followed by maize (6.3%), beans and pulses (2.4%) and groundnuts and bambara nuts (1.1%). Households that stored paddy had a loss of less or equal to 245 percent (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 Dodoma region (296,901 households, 92% of the total crop growing households) (Chart 3.91a).





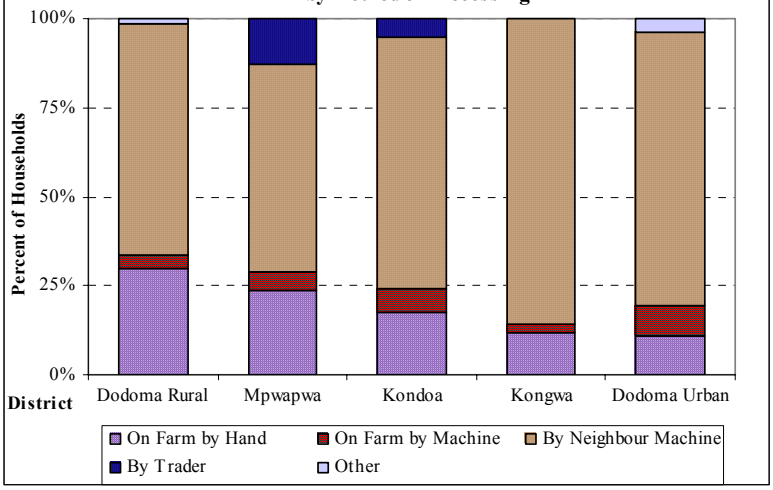
The percent of households processing crops was very high in all districts (above 80%) (Chart 3.91b).

3.7.2.1 Processing Methods

Most crop processing households processed their crops using neighbour's machines (208,367 households, 70% of households processing crops). This was followed by those processing on-farm by hand (61,046 households, 21%), on farm by machine (14,924 households, 5%) and by trader (10,146 households, 3%).

Although processing by neighbours machine was the most common processing method in all districts in Dodoma region, district differences exists. Dodoma Rural has a higher percent of hand processing on farm than other districts (30%), followed by Mpwapwa (24%) and Kondoa (18%). Processing by trader was practised in Mpwapwa and Kondoa districts only (13% and 5% respectively), whilst processing on farm by machine though small, was more prevalent in Dodoma Urban, Kondoa and Mpwapwa (Chart 3.92).

Chart 3.92 Percent of Crop Processing Households by Method of Processing

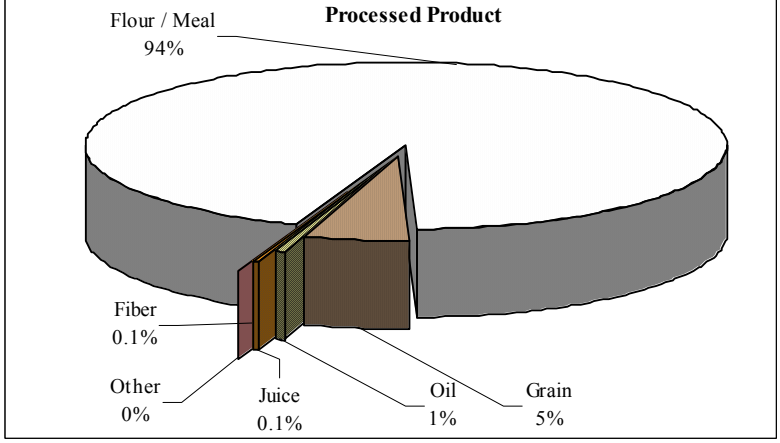


3.7.2.2 Main Agro-processing Products

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 product after processing. For example the main product after processing maize is normally flour whilst the by-product is the bran.

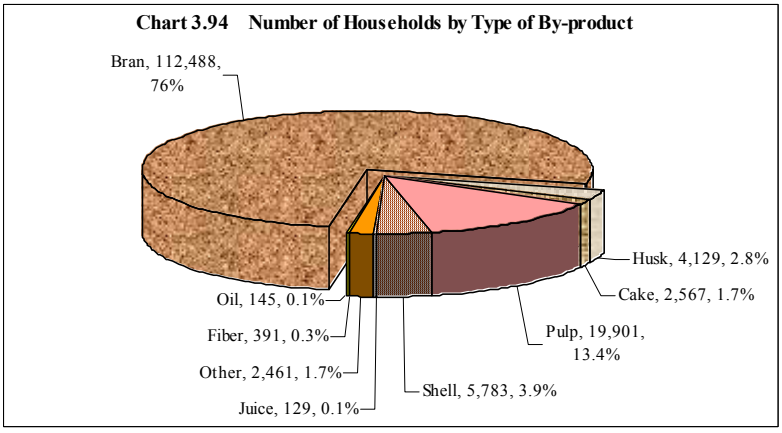
The main processed product was flour/meal with 279,153 households processing crops into flour (94%) followed by grain with 15,155 households (5.1%). The remaining products were produced by a small number of households (Chart 3.93).

Chart 3.93 Percent of Households by Type of Main Processed Product



The number of households producing by-products accounted for 49.8 percent of the households processing crops. The most common by-product produced by crop processing households was bran (112,488 households 76%), followed by pulp (19,901 households, 13%), shell (5,783 households, 4%) and husk (4,129 households, 3%). The remaining by-products were produced by a small number of households (Chart 3.94).

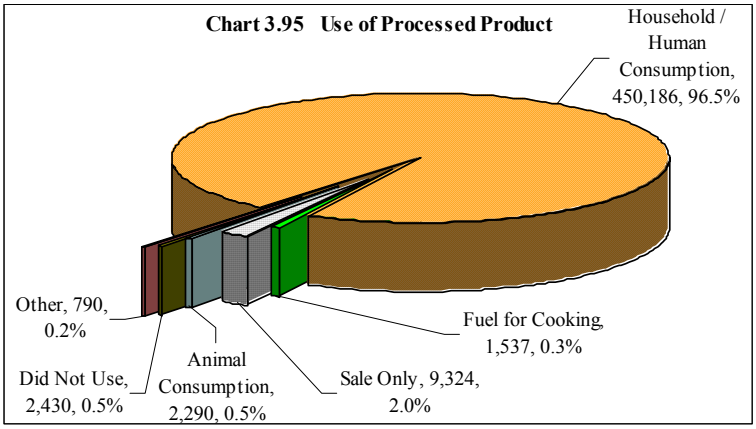
Chart 3.94 Number of Households by Type of By-product



3.7.2.3 Main Use of Primary Processed Products

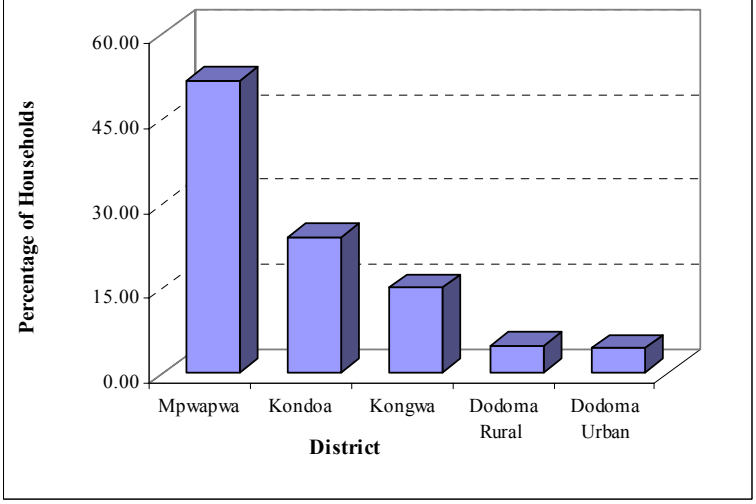
Primary processed products were mainly used for household/human consumption, fuel for cooking, for selling and for animal consumption. The most important use was for household/human consumption which was reported by 96.5 percent of the total households that used primary processed product Districts that used primary products as fuel for cooking were Dodoma Rural, Kondoa and Dodoma Urban (Chart 3.95).

Chart 3.95 Use of Processed Product



Out of 9,324 households that sold processed products, 4,817 (51.7% of the total number of households selling processed products in the region) were from Mpwapwa followed by Kondoa (2,242 households, 24.0%), Kongwa (1,405 households, 15.1%), Dodoma Rural (457 households, 4.9%) and Dodoma Urban (403 households, 4.3%) (Chart 3.96).

Chart 3.96 Percentage of Households Selling Processed Crops by District

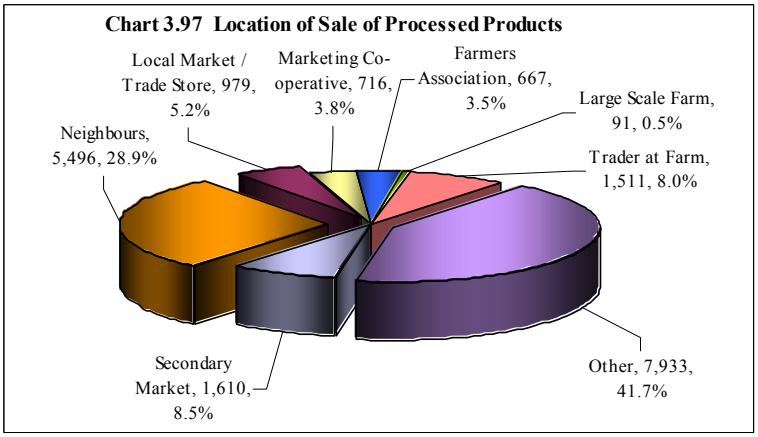


Compared to other districts in Dodoma region, Mpwapwa had the highest proportion of households that sold processed products (6.7%). This is followed by Kongwa (2.2%), Kondoa (2.0%), Dodoma Urban (0.6%) and Dodoma Rural (0.3%).

3.7.2.4 Outlets for Sale of Processed Products

Most households that sold processed products sold to other unspecified places (7,933 households, 42% of households that sold processed crops). This was followed by selling to neighbours (5,496 households, 29%), trader at farm (1,511 households, 8%), secondary market (1,610 households, 8%), local market and/or trade store (979 households, 5%), marketing cooperatives (716 households, 4%), farmers associatins (667 households, 4%) and large scale farms (91 households, 0.5%) (Chart 3.97).

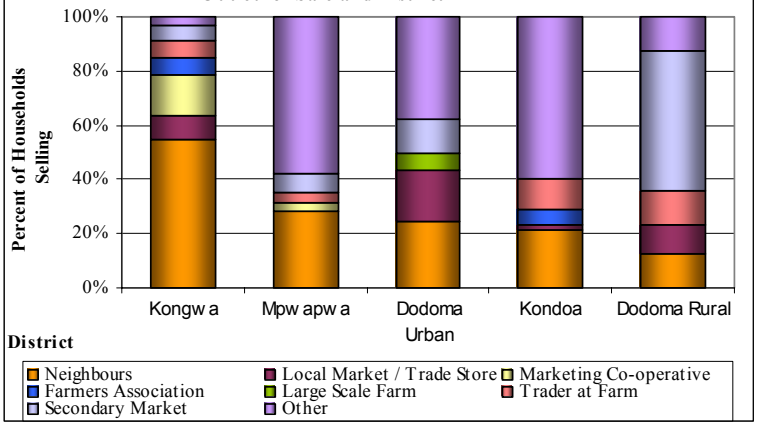
Chart 3.97 Location of Sale of Processed Products



There are large differences between districts in the proportion of households selling processed products with Kongwa district having the largest percent of households in the region selling to neighbours (54.5%), whereas Dodoma Rural had only 12.8 percent. Dodoma Rural had a higher percent of households relying on secondary market than other outlets.

Compared to other districts, Dodoma Urban had the highest percent of households selling processed products to local markets/trade stores at farm. The district with the highest proportion of households selling processed products to marketing cooperatives was Kongwa whilst the sale of processed produce to farmer associations was found in Kongwa and Kondoa districts only (Chart 3.98).

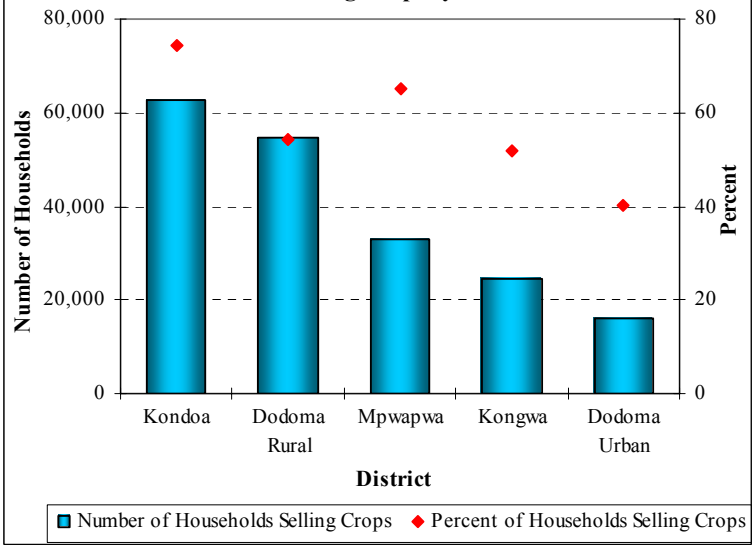
Chart 3.98 Percent of Households Selling Processed Products by Outlet for Sale and District



3.7.3 Crop Marketing

The number of households that reported selling crops was 190,800 which represents 59.1 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Kondoa (74.2%) followed by Mpwapwa (65.0%), Dodoma Rural (54.4%), Kongwa (51.7%) and Dodoma Urban (40%) (Chart 3.99 and Map 3.40).

Chart 3.99 Number of Crop Growing Households Selling Crops by District

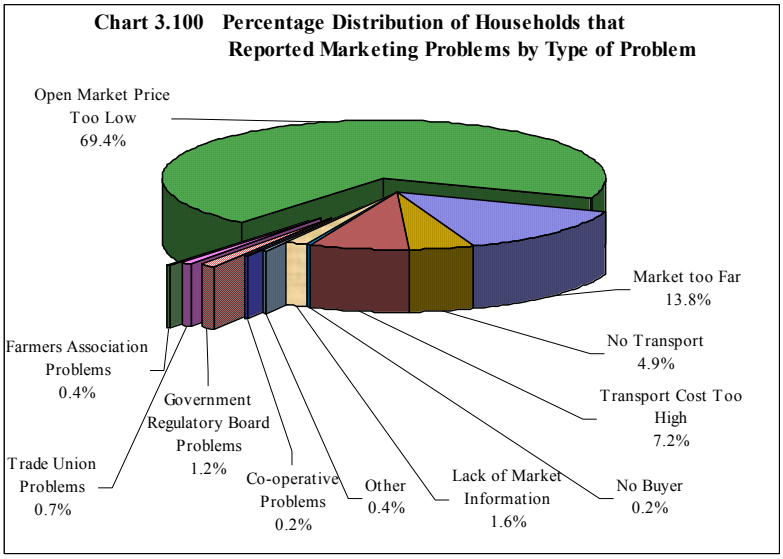


3.7.3.1 Main Marketing Problems

Low price for agricultural produce was the main marketing problem reported by households (69.4% of crop growing households that reported main marketing problems).

Apart from low market prices, other problems were long distances to the markets (13.8%), high transport costs (7.2%), lack of transport (4.9%), lack of market information (1.6%) and the government regulatory Boards problems (1.2%). Other marketing problems are minor, representing less than 1 percent of the total reported problems (Chart 3.100).

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 93.2 percent of the smallholders. The proportion of households reporting other reasons for not selling were extremely low (Table 3.11).

Table 3.11 Reasons for Not Selling Crop Produce

Main Reason	Household Number	%
Production Insufficient to Sell	138,819	93.2
Other	5,967	4.0
Price Too Low	2,168	1.5
Trade Union Problems	351	0.2
Co-operative Problems	365	0.2
Market Too Far	1,105	0.7
Government Regulatory Board Problems	230	0.2
Total	**149,005**	**100.0**

3.8 Access to Crop Production Services

3.8.1 Access to Agricultural Credits

The census results shows that very few agricultural households (1,759, 0.5%) in Dodoma region accessed credit, of which 1,493 (85%) were male-headed households and 266 (15%) were female headed households. In Kongwa, Dodoma Rural and Dodoma Urban districts only male headed households got agricultural credit whereas in Kondoa and Mpwapwa both male and female headed households accessed agricultural credits (Table 3.12).

Table 3.12 Number of Agricultural Households that Received Credit by Sex of Household Head and District

District	Male		Female		Total
	Number	%	Number	%	
Kondoa	285	67	142	33	428
Mpwapwa	124	50	123	50	247
Kongwa	702	100	0	0	702
Dodoma Rural	181	100	0	0	181
Dodoma Urban	201	100	0	0	201
Total	**1,493**	**85**	**266**	**15**	**1,759**

3.8.1.1 Source of Agricultural Credit

The major agricultural credit provider in Dodoma region were Religious Organizations/Non Govermental Organizations/projects which collectively provided credit to 650 agricultural households (36% of the total number of households that accessed credit), followed by Family, Friends and relatives (30%), commercial banks (27%) and saving and credit societies (7%) (Chart 3.101). Religious Organizations/Non Govermental Organizations/ projects were the sole source of credit in Dodoma Rural and Dodoma Urban districts whilst Family, Friends and Relatives were major credit provider in Kondoa district. Commercial Banks and Saving and Credit Societies were involved in providing credit to households in Kongwa district only (Chart 3.102).

Chart 3.101 Percentage Distribution of Households Receiving Credit by Main Source

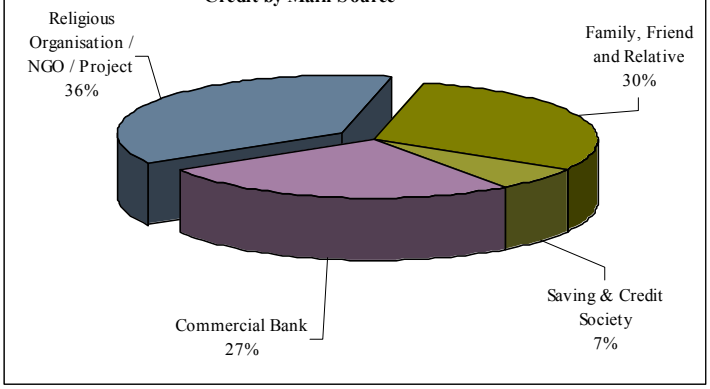
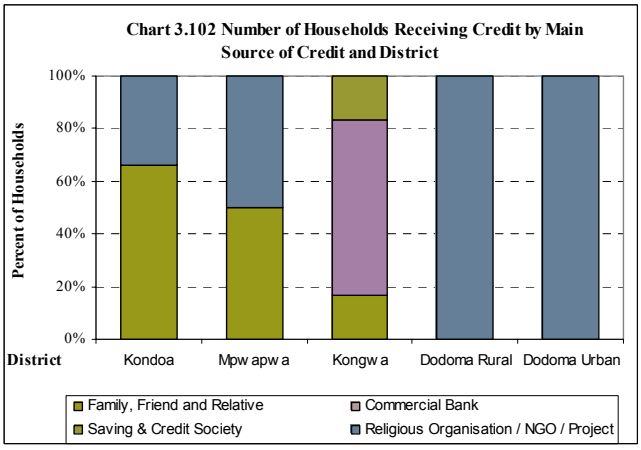


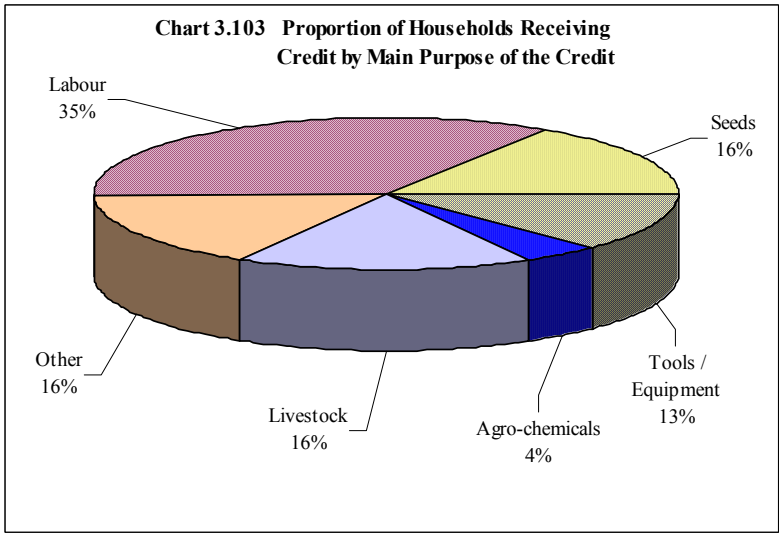
Chart 3.102 Number of Households Receiving Credit by Main Source of Credit and District



3.8.1.2 Use of Agricultural Credits

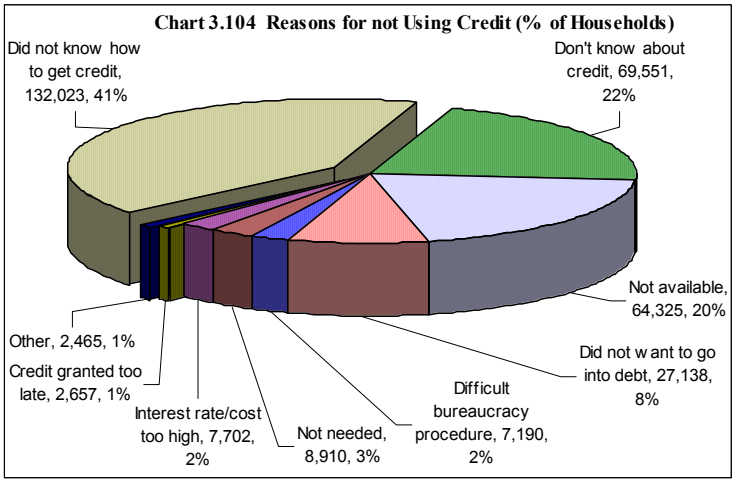
A large proportion of the agricultural credit provided to agricultural households in the region was used on hiring labour (35%), followed by livestock rearing (16%), purchasing of seeds (16%), other unspecified activities (16%), tools and equipments (13%) and agro-chemicals (4%) (Chart 3.103).

Chart 3.103 Proportion of Households Receiving Credit by Main Purpose of the Credit



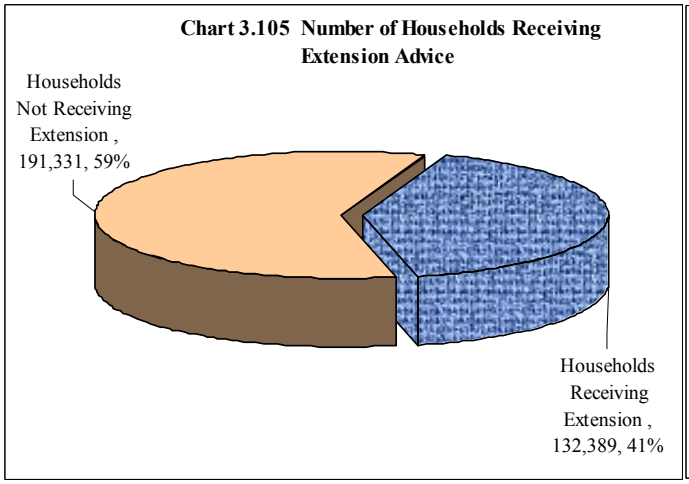
3.8.1.3 Reasons for Not Using Agricultural Credits

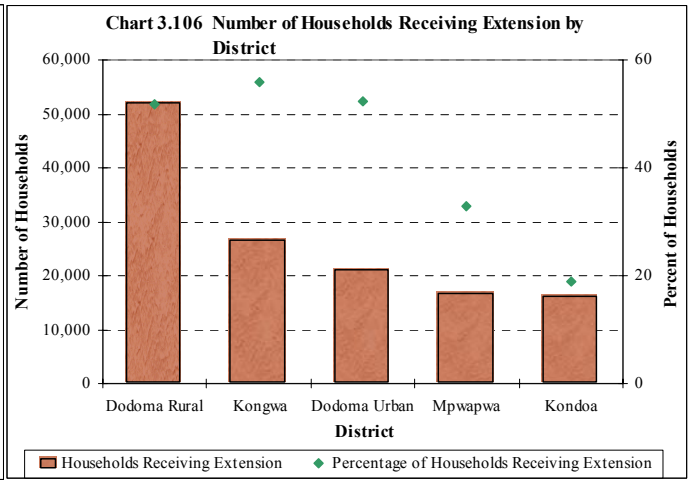
The main reason for not using agricultural credit as a source of finance was little credit awareness accounting for 63 percent of the agricultural households ("did not know how to get credit" and "don't know about credit"). This was followed by "non-availability of credit" reported by 20 percent of households and "not wanting to go into debt" (8%). The rest of the reasons collectively accounted for less than 10 percent of the agricultural households.



3.8.2 Crop Extension

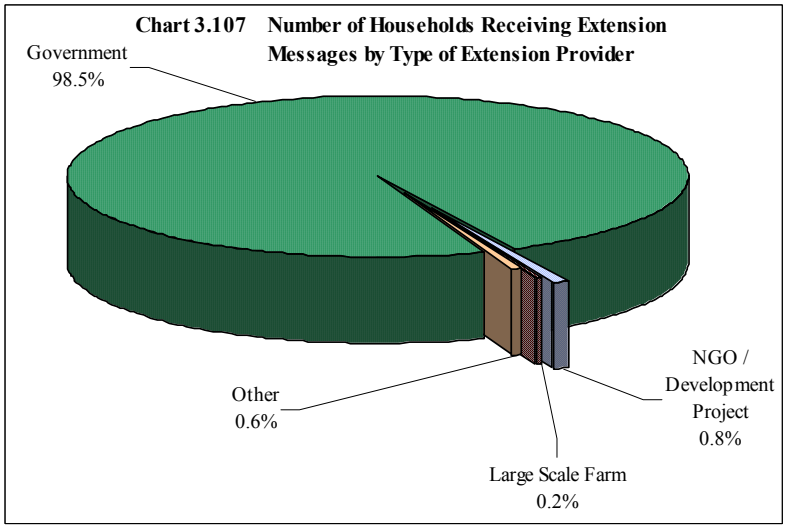
The number of agricultural households that received crop extension was 132,389 (41% of total crop growing households in the region) (Chart 3.105). Some districts have more access to extension services than others, with Kongwa having a relatively high proportion of households that received crop extension messages (56.0%) followed by Dodoma Urban (52.3%), Dodoma Rural (51.8%), Mpwapwa (32.9 and Kondoa (19.0%) (Chart 3.106 and Map 3.41).

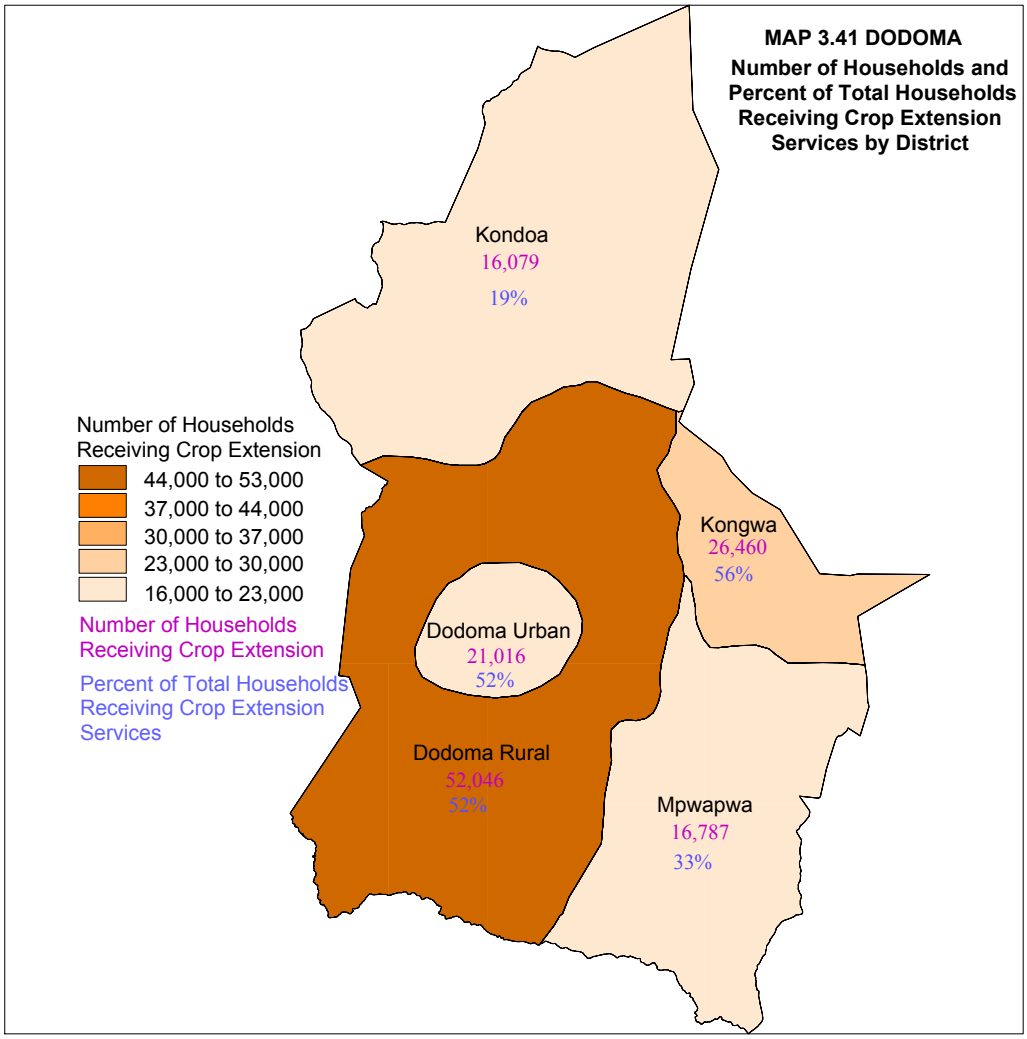


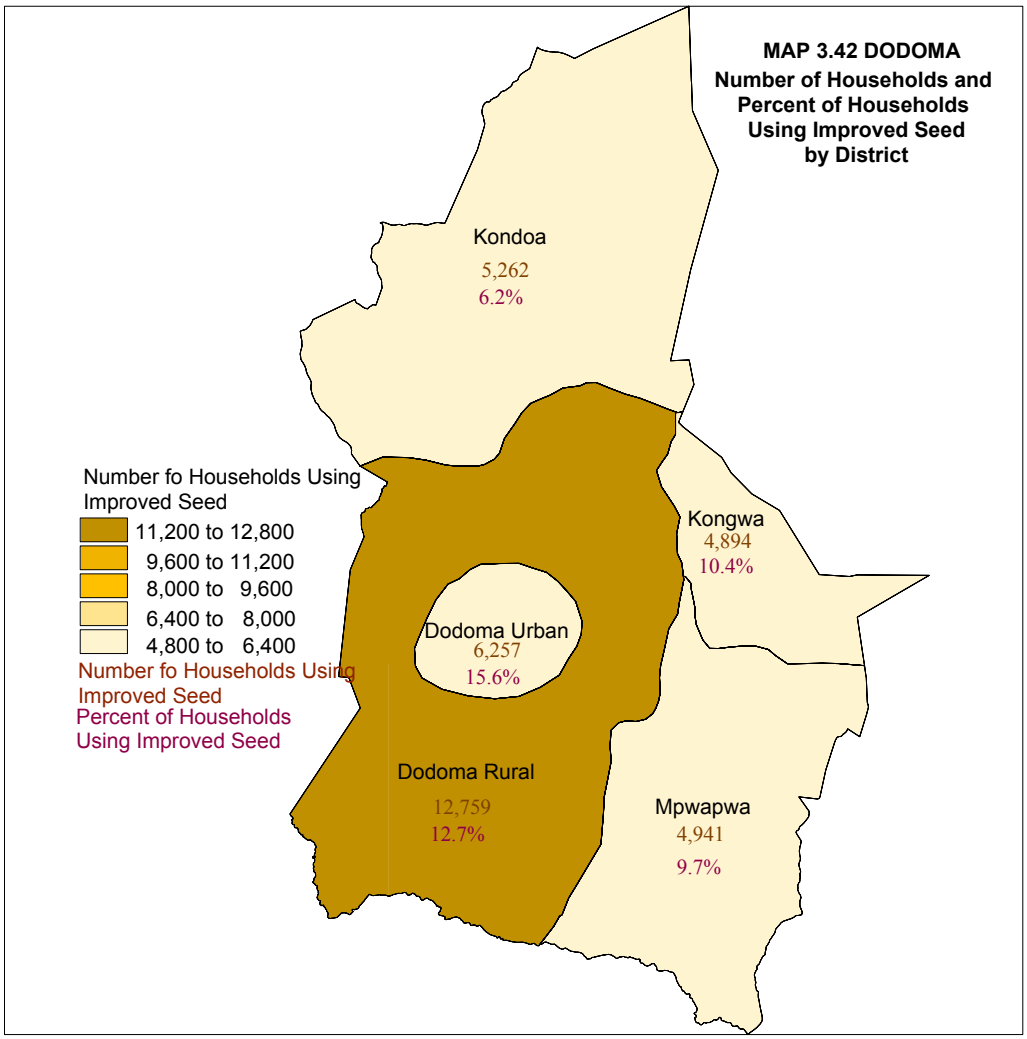


3.8.2.1 Sources of Crop Extension Messages

Of the households receiving extension advice the Government provided the greatest proportion (98.5%, 124,380 households). NGOs provided 0.8 percent, large scale farms 0.2 percent and the remaining providers less than 0.6 percent (Chart 3.107), however district differences exist with the proportion of the households receiving advice from government services ranging from 92.4 percent in Dodoma Urban district to 98.2 percent in Kondoa district.



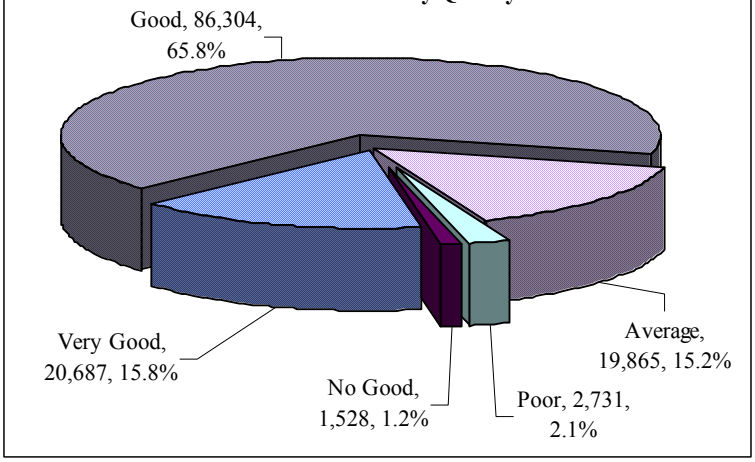

MAP 3.41 DODOMA
Number of Households and Percent of Total Households Receiving Crop Extension Services by District
Kondoa
16,079
19%
Kongwa
26,460
56%
Dodoma Urban
21,016
52%
Dodoma Rural
52,046
52%
Mpwapwa
16,787
33%
Number of Households Receiving Crop Extension
44,000 to 53,000
37,000 to 44,000
30,000 to 37,000
23,000 to 30,000
16,000 to 23,000
Number of Households Receiving Crop Extension
Percent of Total Households Receiving Crop Extension Services


MAP 3.42 DODOMA
Number of Households and Percent of Households Using Improved Seed by District
Kondoa
5,262
6.2%
Kongwa
4,894
10.4%
Dodoma Urban
6,257
15.6%
Dodoma Rural
12,759
12.7%
Mpwapwa
4,941
9.7%
Number fo Households Using Improved Seed
11,200 to 12,800
9,600 to 11,200
8,000 to 9,600
6,400 to 8,000
4,800 to 6,400
Number fo Households Using Improved Seed
Percent of Households Using Improved Seed

3.8.2.2 Quality of Extension29/01/2007

An assessment of the quality of extension indicates that 65.8 percent of the households receiving extension ranked the service as being "good" followed by "very good" (15.8 %) and "average" (15.2%). Very few households reported the services to be "poor" (2.1%) and "no good" (1.2%) (Chart 3.108).

Chart 3.108 Number of Households Receiving Extension by Quality of Services



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

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 Dodoma region, farm yard manure is used by 96,837 households which represents 30.0 percent of the total number of crop growing households. This is followed by households using improved seeds (10.6%), pesticide/fungicide (2.8%), compost (1.4%), inorganic fertiliser (0.7%), and herbicide (0.1%) (Table 3.13).

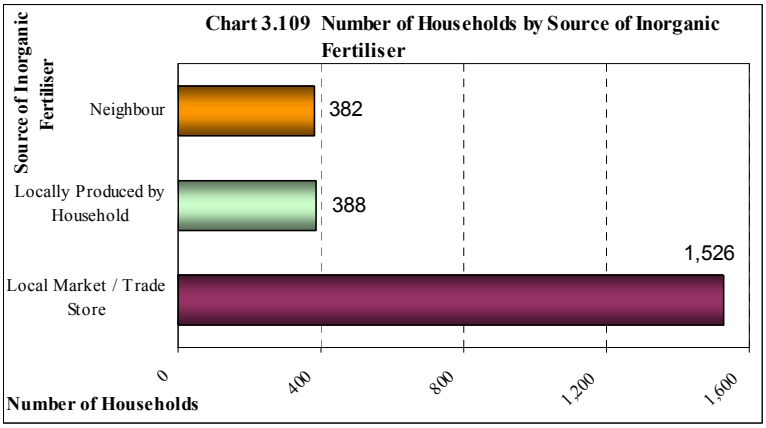
Table 3.13 Access to Inputs

Type of Input	Households With Access to Input		Households Without Access to Inputs	
	Number	%	Number	%
Farm Yard Manure	96,837	30.0	227,755	70.5
Improved Seeds	34,114	10.6	289,414	89.6
Pestcides/Fungicide	8,951	2.8	314,771	97.4
Compost	4,523	1.4	319,239	98.8
Inorganic Fertiliser	2,295	0.7	321,292	99.4
Herbicide	415	0.1	323,138	100.0

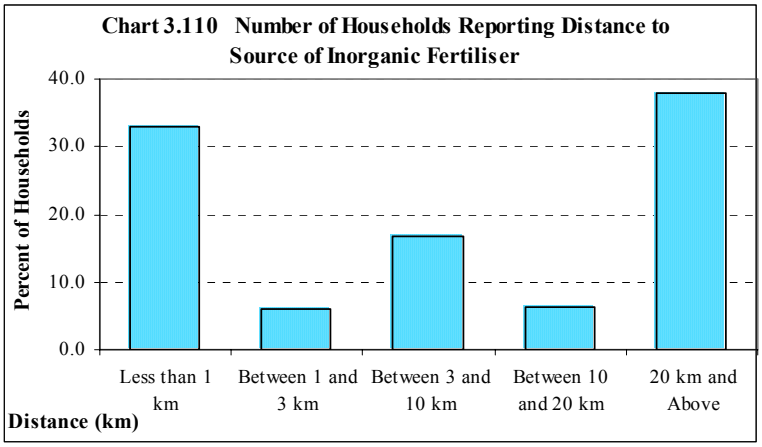
3.9.2 Inorganic Fertilisers

Smallholders that use inorganic fertiliser in Dodoma region mostly purchase it from the local markets/trade stores (66.5% of the total number of households using inorganic fertiliser). The remaining sources of inorganic fertilisers are minor (Chart 3.109).

Chart 3.109 Number of Households by Source of Inorganic Fertiliser

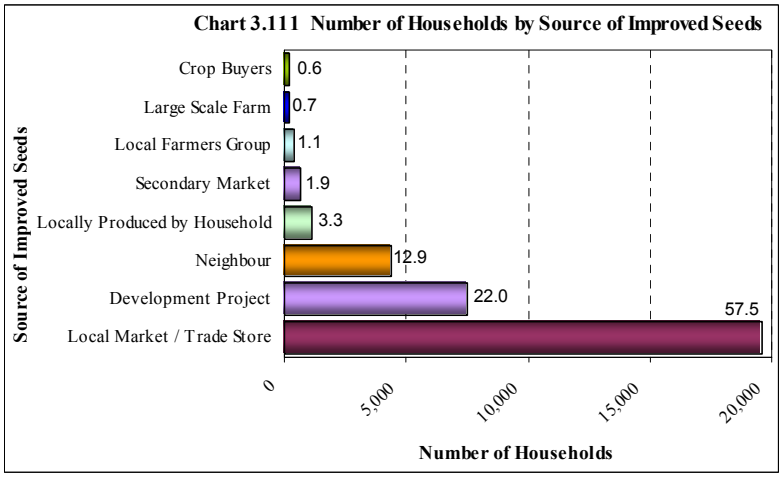


Most households resides 20 kilometers and above from the source of inorganic fertilisers (38%), followed by less than 1 km (33%) and between 3 and 10 km (16.6%) (Chart 3.110). Due to the very small number of households using inorganic fertilisers coupled with the small number of households responding to "non available" (20%) as the reason for not using, it may be assumed that access to inorganic fertiliser is not the main reason for not using. Other reasons such as costs are more important with 58 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 higherand fertiliser would become more accessable. More smallholders use inorganic fertilisers in Kondoa than in other districts in Dodoma region (55.9% of households using inorganic fertilisers), followed by Dodoma Urban (17.5%), Mpwapwa (16.6%) and Dodoma Rural (10.0%). There was no inorganic fertiliser use in Kongwa district. 101

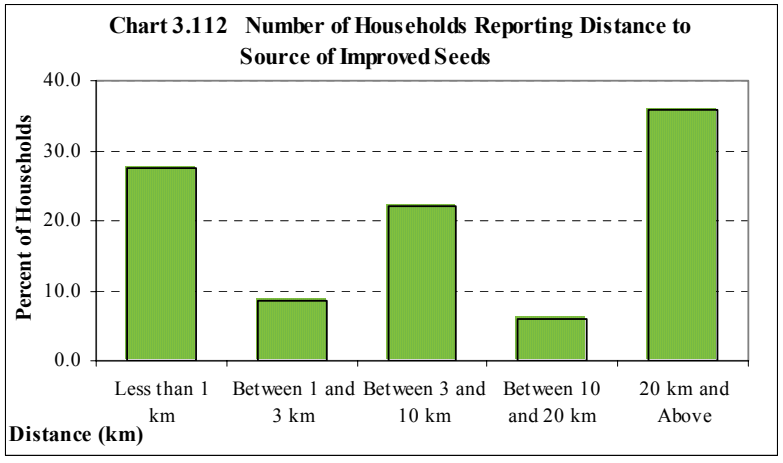


3.9.3 Improved Seeds

The percent of households that used improved seeds was 10.6 percent of the total number of crop growing households. Most of the improved seeds are from the local market/trade store (57.5%). Other less important sources of improved seed are development projects (22.0%), neighbours (12.9%) and locally produced by household (3.3%). Only 0.7 percent of households using improved seeds obtain them from large scale farms (Chart 3.111).



Access to improved seeds is no better than access to chemical inputs with 27.4 percent of households obtaining the input within 1 km of the homestead (Chart 3.112) compared to 30 percent for chemical inputs. The higher use of improved seeds compared to other inputs is an indication that the availability is not the main prohibiting factor for the use of inputs but rather other factors such as cost.



The district that mostly uses improved seeds is Dodoma Rural with 37.4 percent of the total number of households using improved seeds in Dodoma region, followed by Dodoma Urban (18.3%) and Kondoa (15.4%). Percents of the crop growing households in Mpwapwa and Kongwa districts that used improved seeds were 14.5 and 14.3 respectively (Map 3.42).

3.9.4 Insecticides and Fungicides

Most smallholder households using insecticides and fungicides mainly purchase them from local markets/trade stores (58.5% of the total number of households using insecticides/fungicides), followed by development project (34.0%), neighbours (6.0) and secondary market (1.4%) (Chart 3.113).

Chart 3.113 Number of Households by Source of Insecticide/fungicide

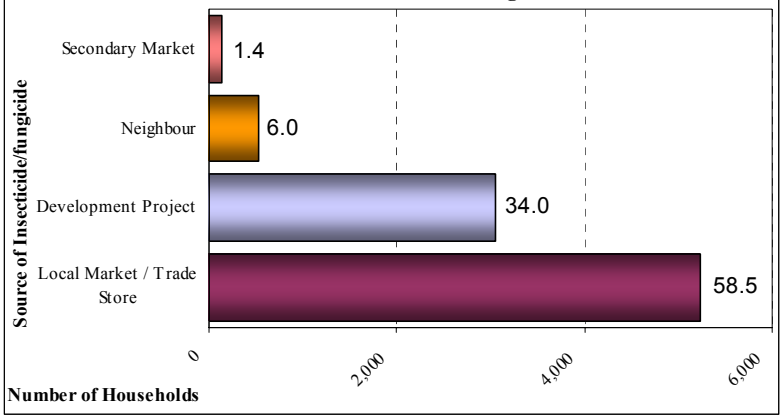
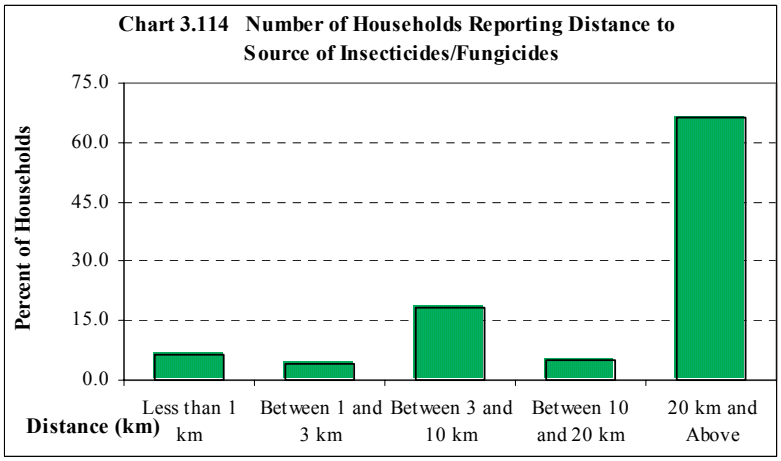


Chart 3.114 shows that most agricultural households (66.4% of the crop growing households which used insecticides and fungicides) obtained the inputs from the distance of 20 or more kilometres.

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



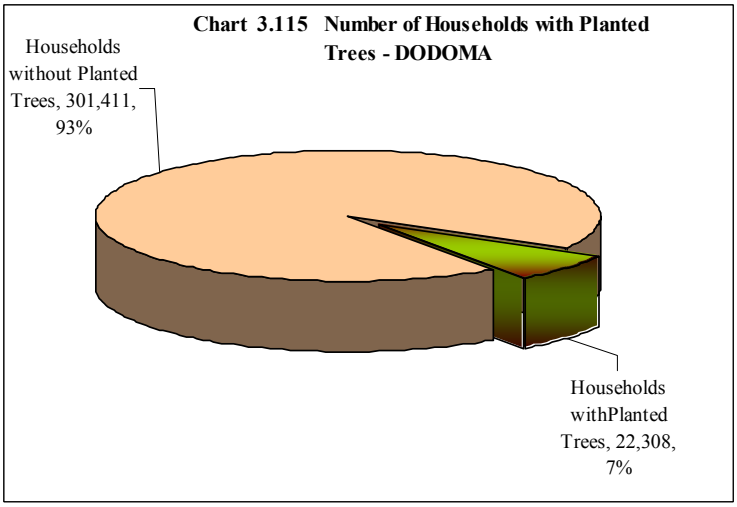
The small number of households using insecticides/fungicides coupled with the 15 percent of households responding to "non availability" as the reason for not using fungicides, may lead to the assumption that access is not the main reason for not using. Other reasons such as costs are more important with 64 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 improved. Fungicide is mostly used in Dodoma Rural district with 38.6 percent of the total number of households using fungicide, followed by Dodoma Urban (26.8%), Kongwa (14.4%), Mpwapwa (12.2%) and Kondoa (8.0%).

3.10 Tree Planting

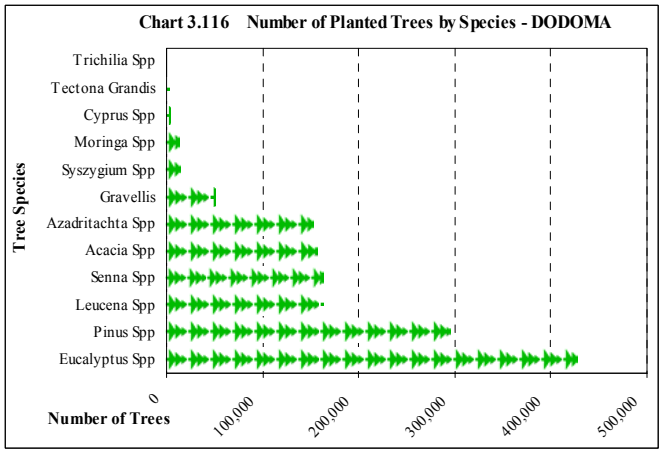
The number of households involved in tree farming in Dodoma region was 22,308 representing 7 percent of the total number of agriculture households (Chart 3.115).

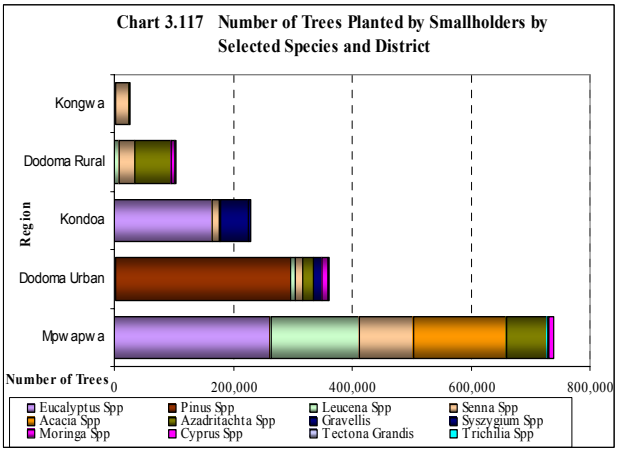
The number of trees planted by smallholders on their allotted land was 1,459,972 trees. The average number of trees planted per household that plants trees on their land was 65 trees.

Chart 3.115 Number of Households with Planted Trees - DODOMA

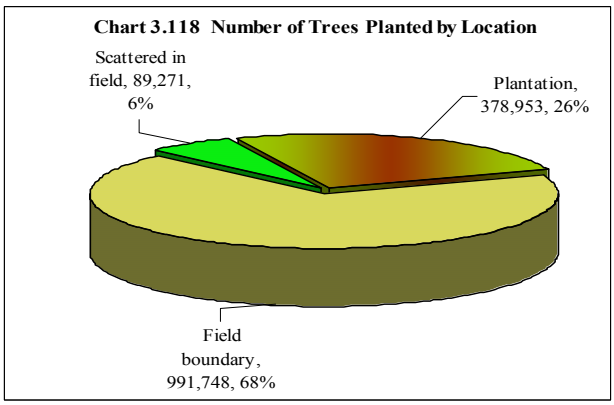


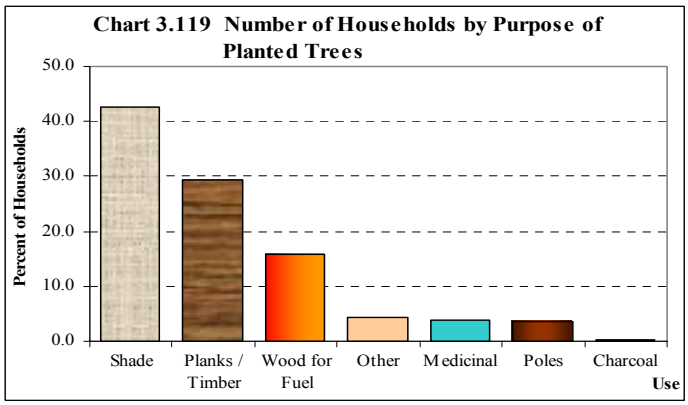
The main species planted by smallholders is Eucalyptus (430,229 trees, 29.5%), followed by Pinus (295,545, 20.2%), Leucena spp (164,642, 11.2%), Senna spp (163,994, 11.2%), Acacia spp (156,231, 10.7%) and Azadrachta (154,435, 10.6%). The remaining trees species are planted in comparatively small numbers (Chart116.). Mpwapwa has the largest number of trees planted by smallholders than any other district (50.6%) and it has more Eucalyptus than other species. This is followed by Dodoma Urban (24.8%) which is dominated by Pinus, Kondoa (15.8%) dominated by Eucalyptus, Dodoma



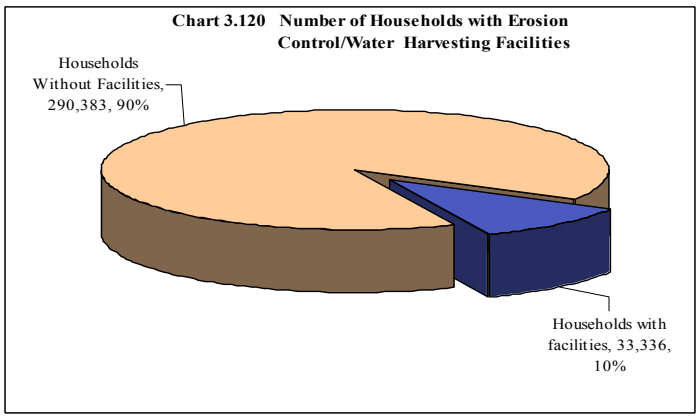


Rural (7.0) dominated by Azadrachta spp and Kongwa (1.8%) which is mainly planted with Senna spp (Chart 3.117 and Map 3.43).



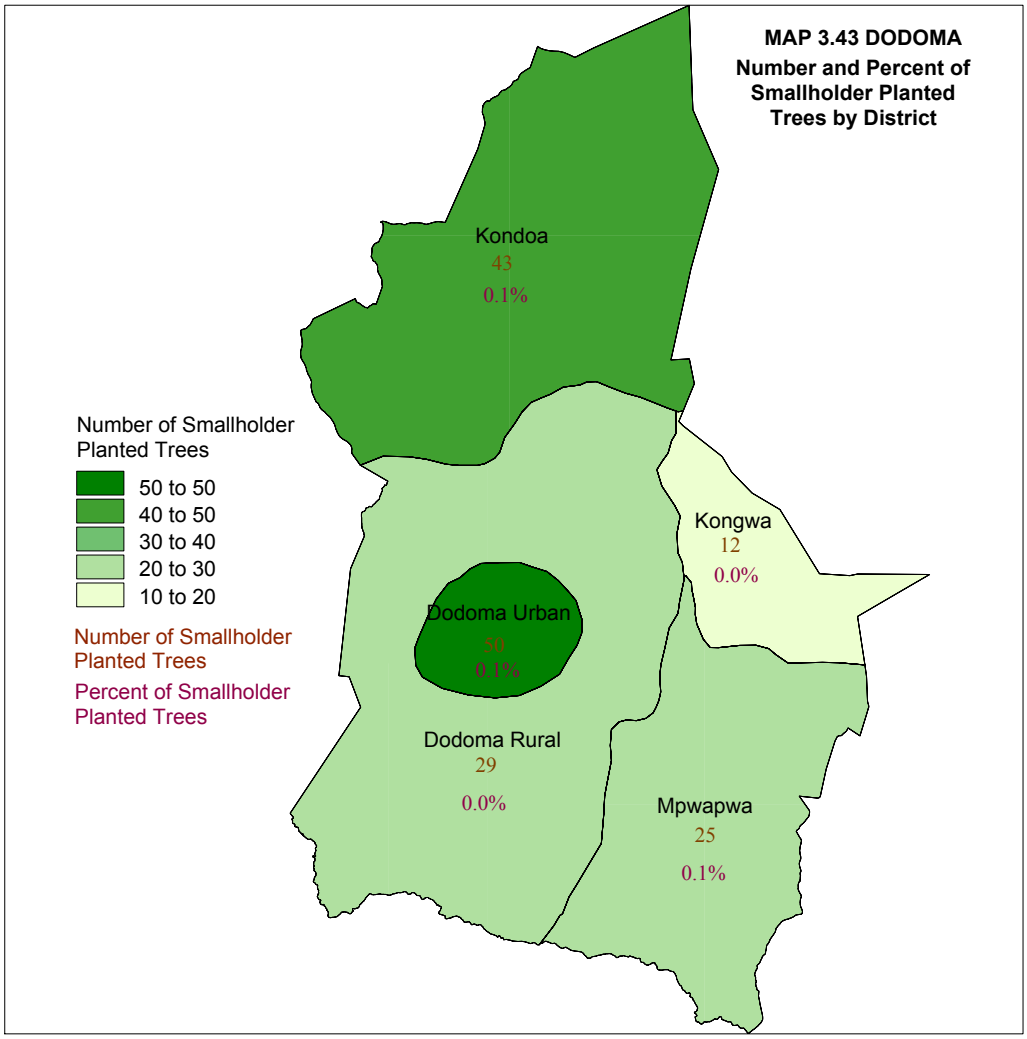


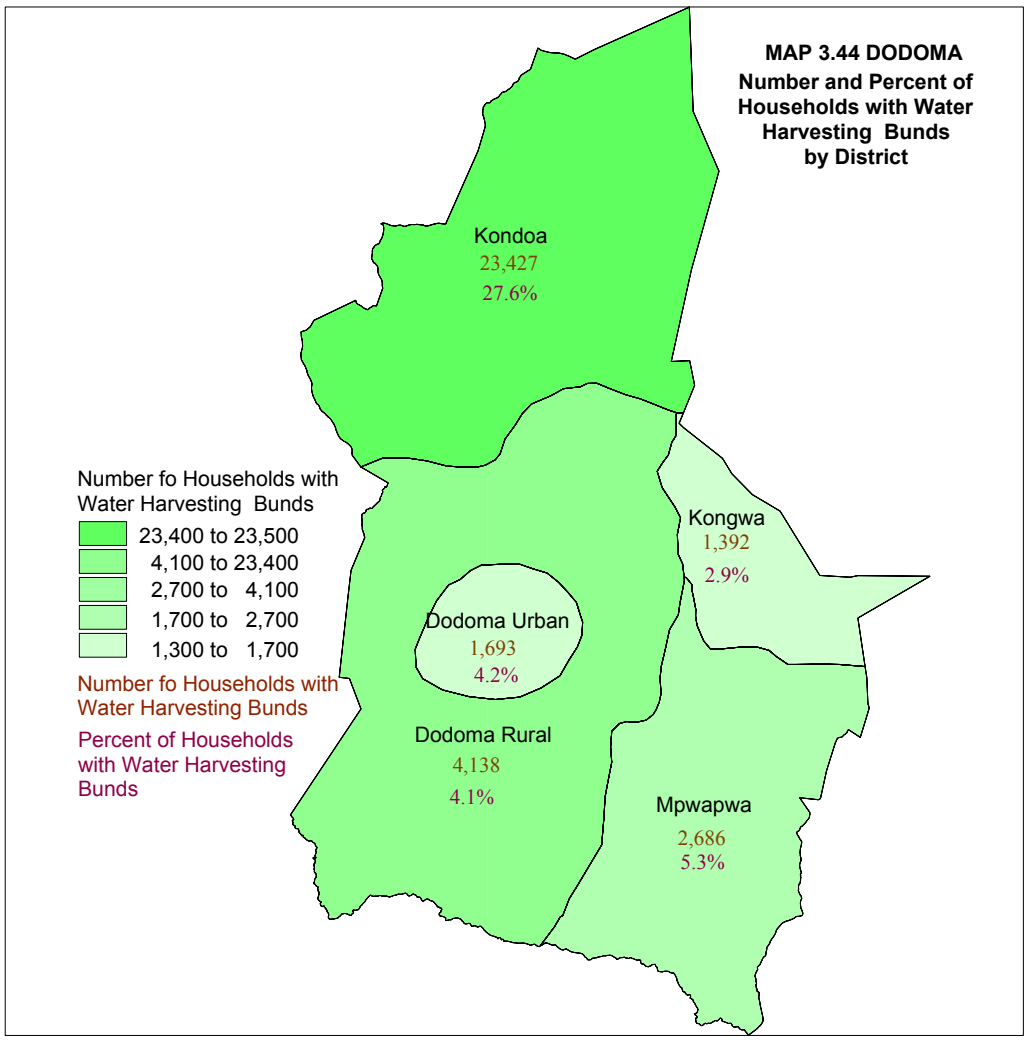
Smallholders mostly plant trees on the boundary of fields. The proportion of trees that are planted on field boundaries is 68 percent, followed by trees planted in a plantation or coppice 26 percent and then trees scattered in fields 6 percent (Chart 3.118).The main purpose of planting trees is for shade (42.5%). This is followed by planks/timber (29.5%), wood for fuel (15.8%), medicinal (3.8%), poles (3.7%) and charcoal (0.3%) (Chart 3.119).



3.11 Irrigation and Erosion Control Facilities

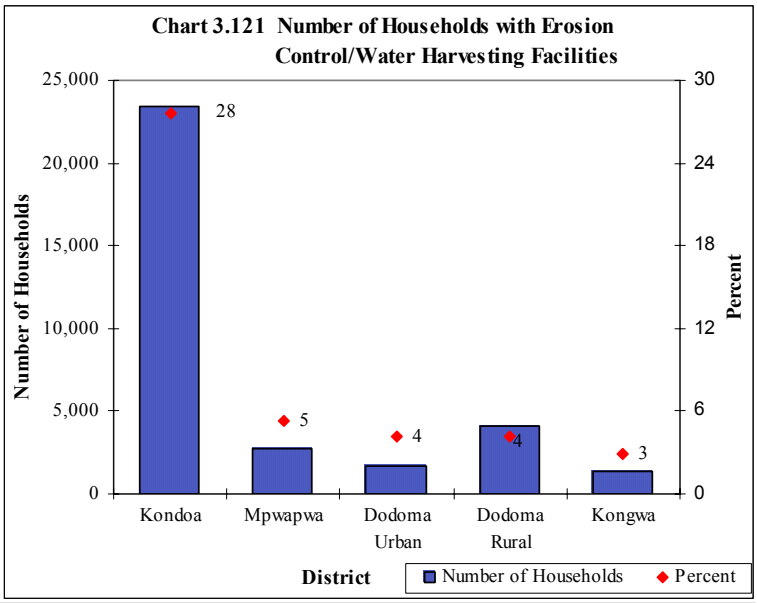
Erosion control and water harvesting facilities are grouped together as they normally have dual purposes of reducing erosion and increasing the amount of water available for crop production. The number of agricultural households that had soil erosion and water harvesting facilities on their farms in Dodoma region was 33,336 which represent 10 percent of the total number of agricultural households in the region (Chart 3.120).


MAP 3.43 DODOMA
Number and Percent of Smallholder Planted Trees by District
Kondoa
43
0.1%
Kongwa
12
0.0%
Dodoma Urban
50
0.1%
Dodoma Rural
29
0.0%
Mpwapwa
25
0.1%
Number of Smallholder Planted Trees
50 to 50
40 to 50
30 to 40
20 to 30
10 to 20
Number of Smallholder Planted Trees
Percent of Smallholder Planted Trees


MAP 3.44 DODOMA
Number and Percent of Households with Water Harvesting Bunds by District
Kondoa
23,427
27.6%
Kongwa
1,392
2.9%
Dodoma Urban
1,693
4.2%
Dodoma Rural
4,138
4.1%
Mpwapwa
2,686
5.3%
Number fo Households with Water Harvesting Bunds
23,400 to 23,500
4,100 to 23,400
2,700 to 4,100
1,700 to 2,700
1,300 to 1,700
Number fo Households with Water Harvesting Bunds
Percent of Households with Water Harvesting Bunds

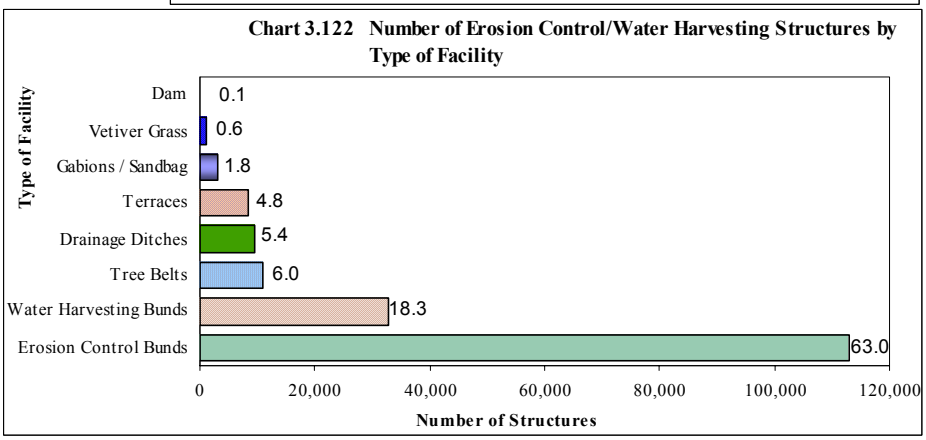
The proportion of households with soil erosion control and water harvesting facilities was highest in Kondoa district (28%) followed by Mpwapwa (5%), Dodoma Urban (4%), Dodoma Rural (4%) and Kongwa (3%), (Chart 3.121 and Map 3.44). Erosion Control Bunds accounted for 63.0 percent of the total number of structures in Dodoma region, followed by water harvesting bunds (18.3%), tree belts (6.0%), drainage ditches (5.4%), terraces (4.8%), gabions/sandbags (1.8%), vetiver grass (0.6%) and dams (0.1%) (Chart 3.122).

Chart 3.121 Number of Households with Erosion Control/Water Harvesting Facilities



Erosion control by bunds and tree belts, together had 156,646 structures. This represented 87.3 percent of the total structures in the region. The remaining 12.7 percentages were shared among the rest of the erosion control methods mentioned above.

Chart 3.122 Number of Erosion Control/Water Harvesting Structures by Type of Facility



Kondoa district had the largest number of erosion control structures in Dodoma region with 96,819 structures (54 percent of the total erosion structures in the region).

3.12 Livestock Results

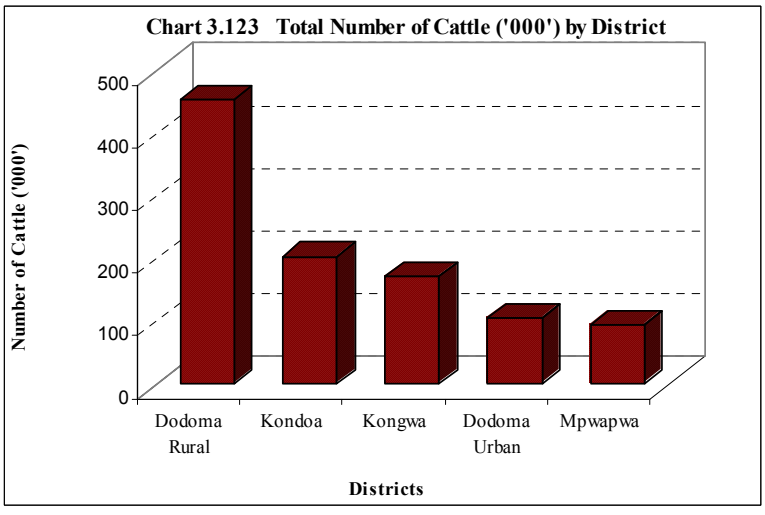
3.12.1 Cattle Production

The total number of cattle in the region was 1,031,889. Cattle are the dominant livestock type in the region followed by goats, sheep and pigs. The region had 6.1 percent of the total cattle population on Tanzania Mainland.

3.12.1.1 Cattle Population

The number of indigenous cattle in Dodoma region was 1,025,388 (99.4 % of the total number of cattle in the region), 4,645 cattle (0.5%) were dairy breeds and 1,856 cattle (0.2%) were beef breeds.

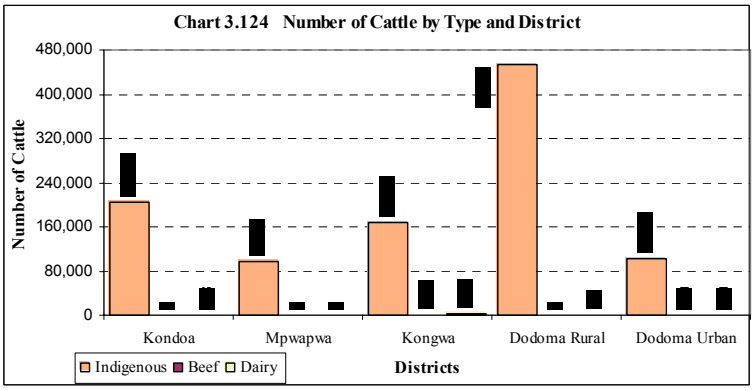
Chart 3.123 Total Number of Cattle ('000') by District



The census results show that 63,037 agricultural households in the region (19.5% of total agricultural households) kept about 1 million cattle. This was equivalent to an average of 16 heads of cattle per cattle-keeping-household. The district with the largest number of cattle was Dodoma Rural with 454,826

cattle (44 % of the total cattle in the region). This was followed by Kondoa (204,317 cattle, 20%), Kongwa (171,669 cattle, 17%) and Dodoma Urban (104,918 cattle, 10%). Mpwapwa district had the smallest number of cattle in the region (96,168 cattle, 9%) (Chart 3.123 and Map 3 45). However, Kongwa district had the highest density (135 head per km) (Map 3.46).

Although Dodoma Rural district had the largest number of cattle in the region, most of it was indigenous. The number of dairy cattle was very small and there were no beef cattle in the district. Kongwa district had the largest numbers of diary and beef cattle in the region. In general, the number of beef and dairy cattle in the region was insignificant (Chart 3.124).

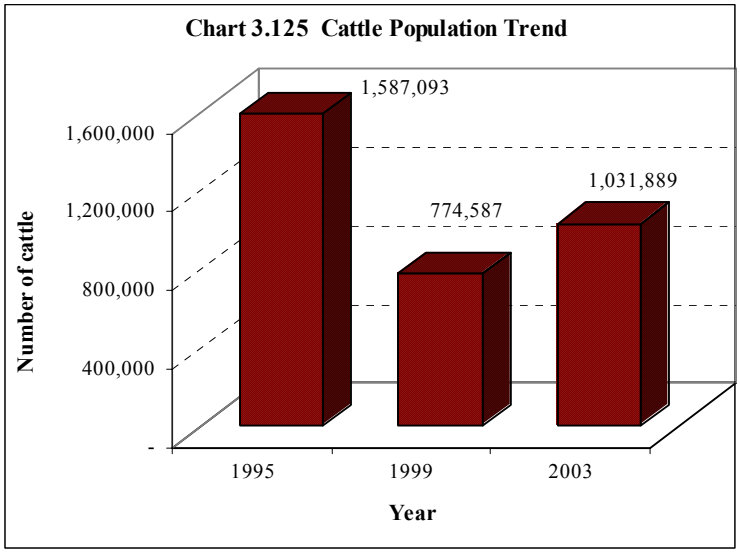


3.12.1.2 Herd Size

Thirty two percent of the cattle-rearing households in Dodoma region had herds of size 1-5 cattle with an average of three cattle per household. Herd sizes of 6-15 accounted for about 42 percent of all cattle-rearing households and 25 percent of all cattle in the region. Only 7 percent of the cattle rearing households had herd sizes of 31- 100 cattle. About 91 percent of total cattle rearing households had herds of size 1-30 cattle and owned 52 percent of total cattle in the region, resulting in an average of 10 cattle per cattle rearing household. There were about 461 households with a herd size of more than 151 cattle each (138,212 cattle in total) resulting in an average of 300 cattle per household.

3.12.1.3 Cattle Population Trend

Cattle population in Dodoma decreased during the period of eight years from 1,587,093 in 1995 to 1,031,889 cattle in 2003. This trend depicts an overall annual negative growth rate of -5.2 percent (Chart 3.125).

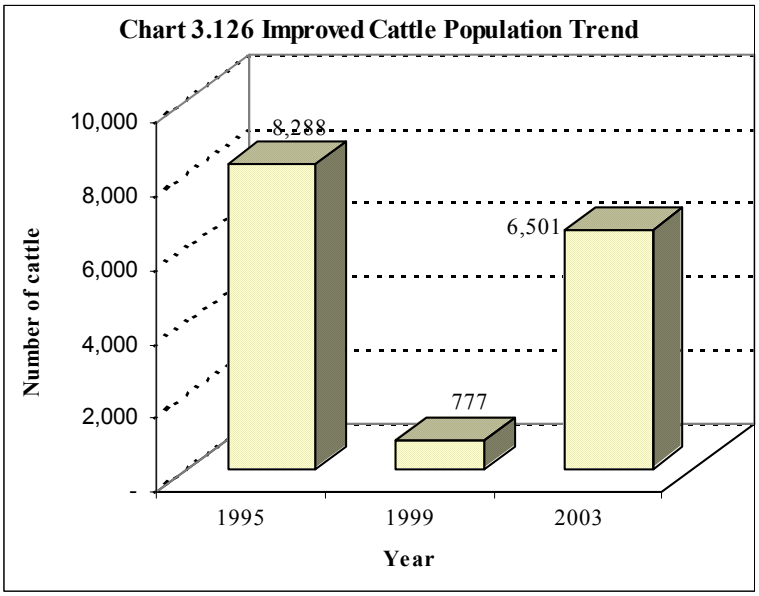


The greatest decrease occurred over a four years from 1995 to 1999 at the rate of –16.4 percent whereby the number dropped from 1,587,093 to 774,587. However, the number of cattle increased slightly between 1999 and 2003 to 1,031,889 at an annual rate of 7.4 percent.

3.12.1.4 Improved Cattle Breeds

The total number of improved cattle in Dodoma region was 6,501 (4,645 improved diary and 1,856 improved beef). The diary cattle constituted 0.3 percent of the total cattle and 35.5 percent of improved cattle in the region. The number of beef cattle in the region constituted 65.5 percent of the total number of the improved cattle and 0.5 percent of the total cattle. The total number of improved cattle in Dodoma region was 8,288 in 1995 (2,944 dairy and 5,344 improved beef). The number decreased from 8,288 in 1995 to 6,501 in 2003 at an annual rate of -3 percent. From the year 1995 to 1999 the number of

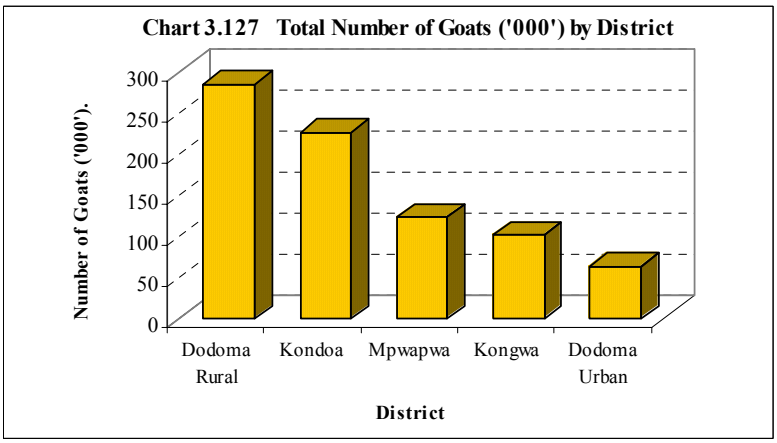
improved cattle decreased from 8,288 to 777 (an annual decrease rate of -44.7). The improved cattle population increased sharply from 777 in 1999 to 6,501 at an annual rate of 70.1. (Chart.126).



3.12.2. Goat Production

Goat rearing was the second most important livestock keeping activity in the region. In terms of total number of goats on the Mainland, Dodoma region ranked fifth out of the 21 regions with 6.8 percent of the total goats on the Mainland.

3.12.2.1 Goat Population



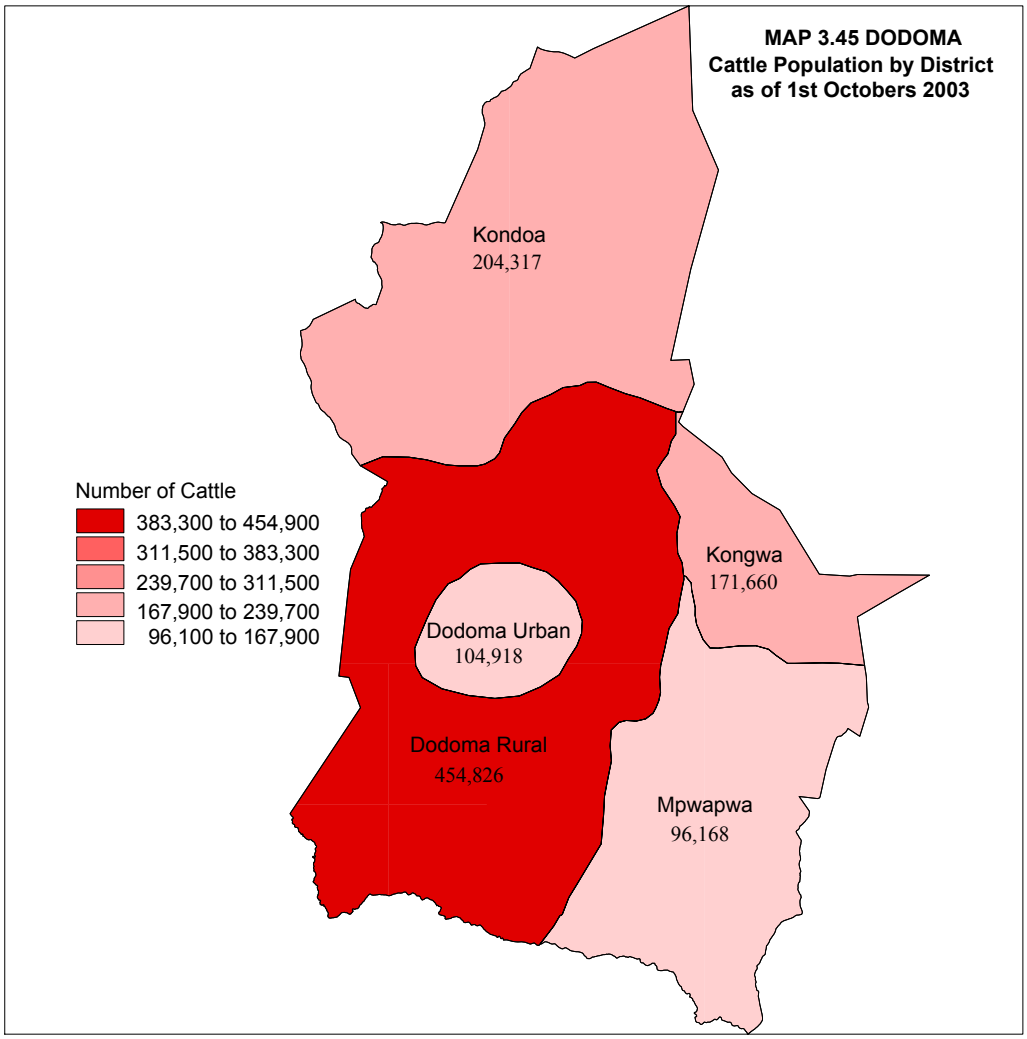
The number of goat-rearing households in Dodoma region was 63,964 (19.7% of all agricultural households in the region) with a total of 791,481 goats giving an average of 13 head of goats per goat-rearing household. Dodoma Rural disrict had the largest number of goats (284,299 goats, 35.6% of all goats in the region), followed by Kondoa (226,010 goats, 28.3%), Mpwapwa (123,282 goats, 15.5%), Kongwa (100,648 goats, 12.6%) and Dodoma Urban (63,243 goats, 7.9%).(Chart 3.127 and Map 3.47). However, Dodoma Urban district had the highest density (80 head per km^2) (Map 3.48).

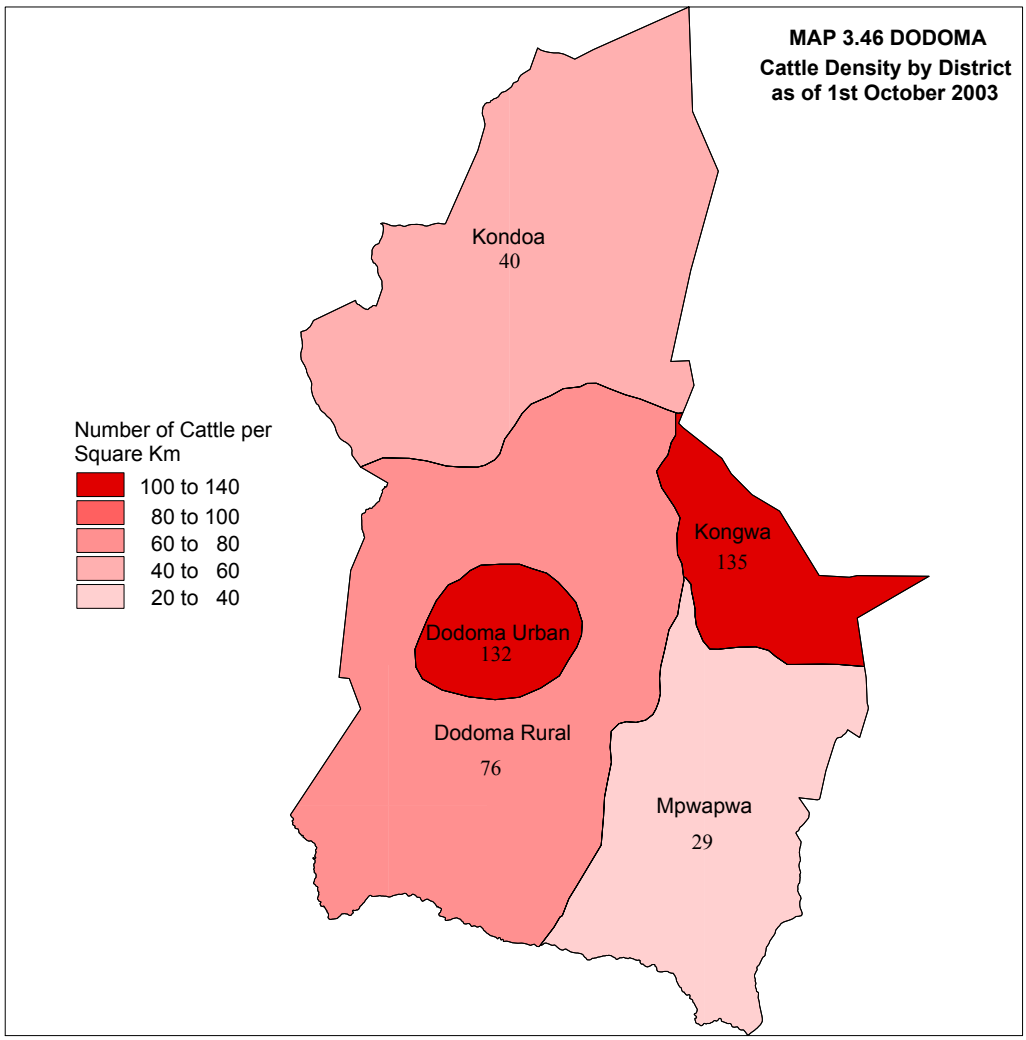
3.12.2.2 Goat Herd Size

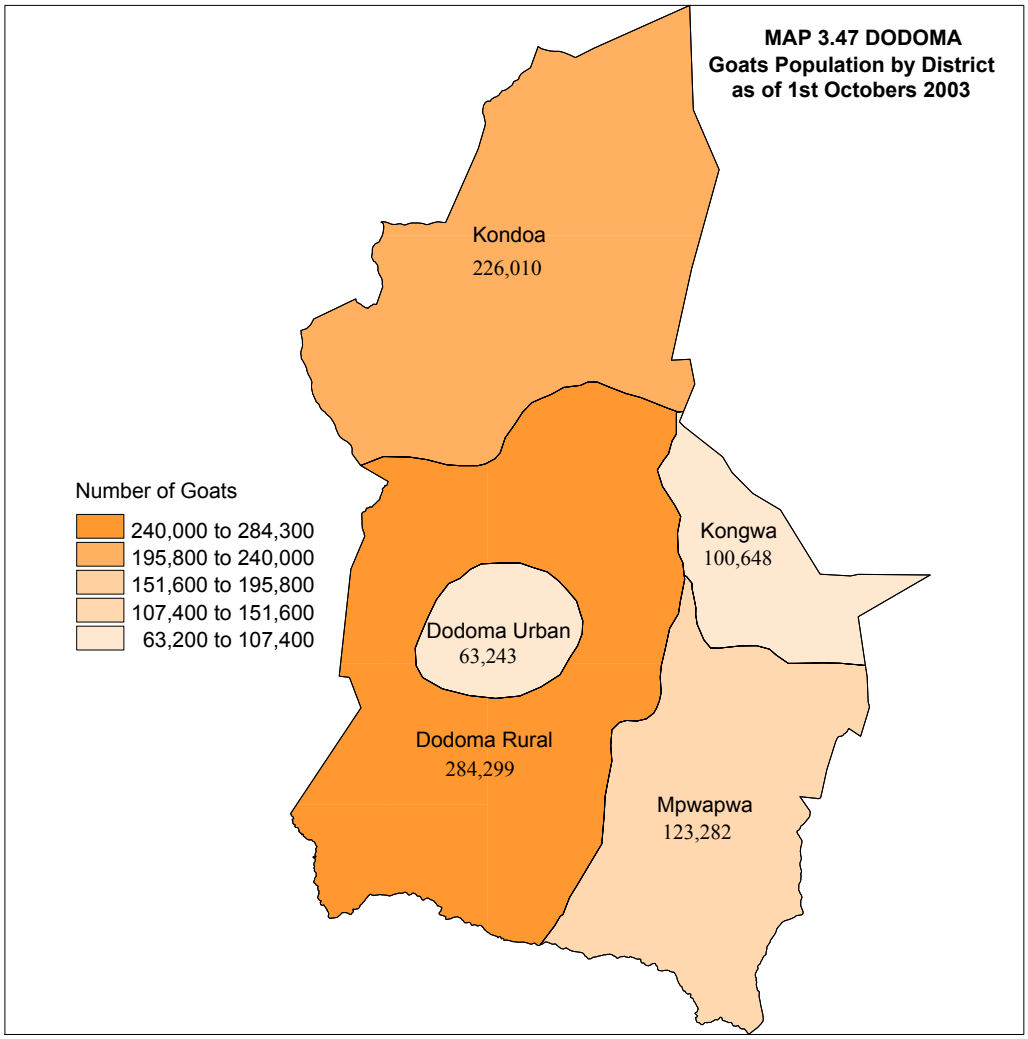
Twenty five percent of the goat-rearing households had herd size of 1-4 goats with an average of 3 goats per goat rearing household. Seventy three percent of total goat-rearing households had herd size of 1-14 goats and owned 39 percent of the total goats in the region resulting in an average of 7 goats per goat-rearing households. The region had 2,196 households (3.0%) with herd sizes of 40 or more goats each (156,462 goats in total), resulting in an average of 70 goats per household.

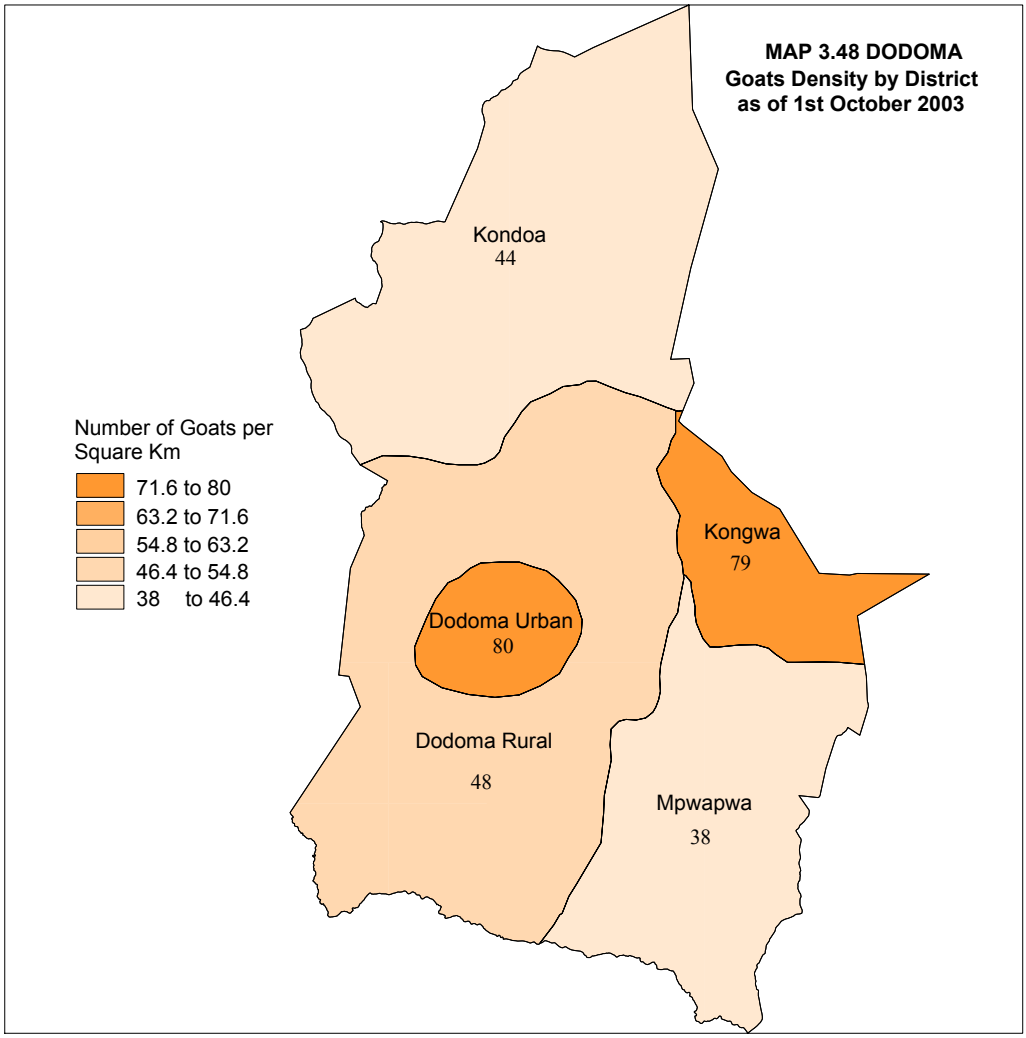
3.12.2.3 Goat Breeds

In Dodoma region, goat husbandry in the region was dominated by the indigenous breeds that constituted 99 percent of the total goats in the region. Improved goats for meat and diary goats accounted for 0.2 and 0.8 percent of total goats respectively.


MAP 3.45 DODOMA
Cattle Population by District
as of 1st Octobers 2003
Kondoa
204,317
Kongwa
171,660
Dodoma Urban
104,918
Dodoma Rural
454,826
Mpwapwa
96,168
Number of Cattle
383,300 to 454,900
311,500 to 383,300
239,700 to 311,500
167,900 to 239,700
96,100 to 167,900

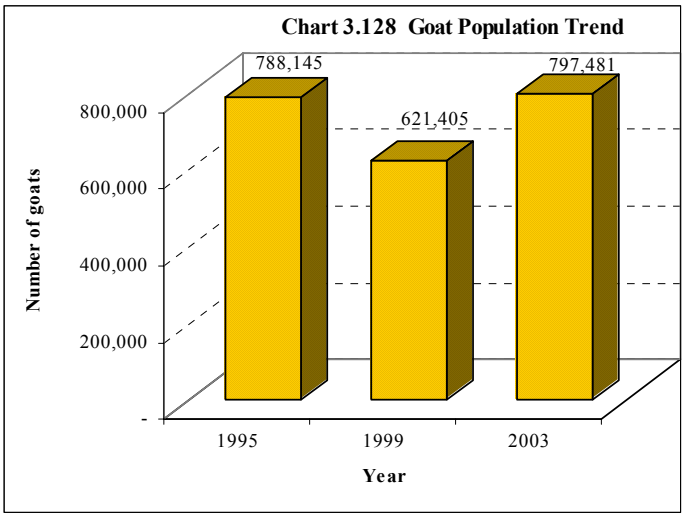

MAP 3.46 DODOMA
Cattle Density by District
as of 1st October 2003
Kondoa
40
Kongwa
135
Dodoma Urban
132
Dodoma Rural
76
Mpwapwa
29
Number of Cattle per
Square Km
100 to 140
80 to 100
60 to 80
40 to 60
20 to 40


MAP 3.47 DODOMA
Goats Population by District
as of 1st Octobers 2003
Kondoa
226,010
Kongwa
100,648
Dodoma Urban
63,243
Dodoma Rural
284,299
Mpwapwa
123,282
Number of Goats
240,000 to 284,300
195,800 to 240,000
151,600 to 195,800
107,400 to 151,600
63,200 to 107,400


MAP 3.48 DODOMA
Goats Density by District
as of 1st October 2003
Kondoa
44
Kongwa
79
Dodoma Urban
80
Dodoma Rural
48
Mpwapwa
38
Number of Goats per
Square Km
71.6 to 80
63.2 to 71.6
54.8 to 63.2
46.4 to 54.8
38 to 46.4

3.12.2.4 Goat Population Trend

The overall annual growth rate of goat population from 1995 to 2003 was 0.15 percent. This positive trend implies eight years of population increase from 788,145 in 1995 to 797,481 in 2003. The number of goats decreased from 788,145 in 1995 to 621,405 in 1999 at an estimated annual rate of -5.8 percent. From 1999 to 2003, the goat population increased at an annual rate of 6.4 percent (Chart 128).

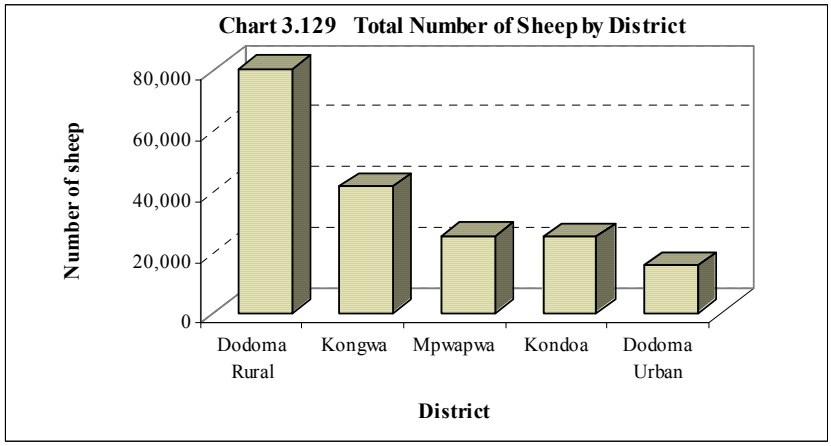


3.12.3. Sheep Production

Sheep rearing was the third most important livestock keeping activity in Dodoma region after cattle and goats. The region ranked ninth out of 21 Mainland regions and had 5 percent of all sheep on Tanzania Mainland.

3.12.3.1 Sheep Population

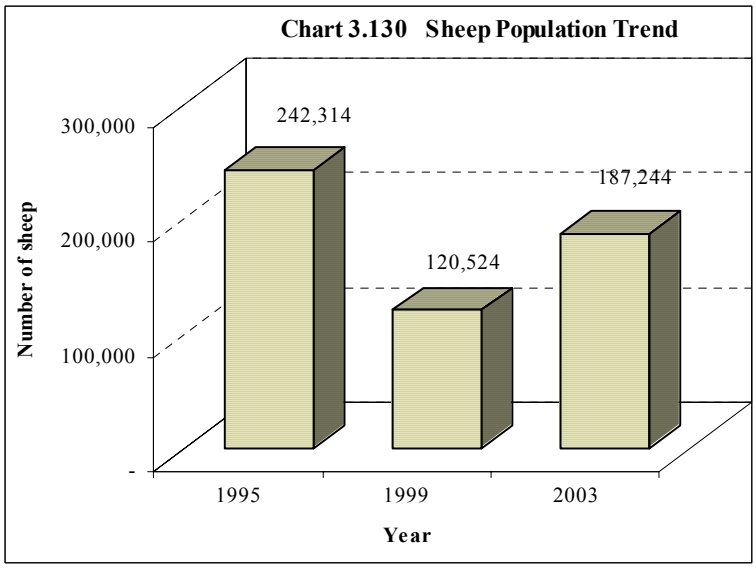
The number of sheep-rearing households was 23,680 (7.3% of all agricultural households in Dodoma region) rearing 187,244 sheep, giving an average of 8 heads of sheep per sheep-rearing household. The district with the largest number of sheep was Dodoma Rural with 79,877 sheep (43% of total sheep in Dodoma region), followed by Kongwa (41,478 sheep, 22%), Mpwapwa (25,358 sheep, 14%) and Kondoa (24,970 sheep, 13%). Dodoma Urban District had the smallest number of sheep in the region (15,560 sheep, 8%) (Chart 3.129 and Map 3.49). However, Kongwa district had the highest density (33 head per km^2) (Map 3.50)

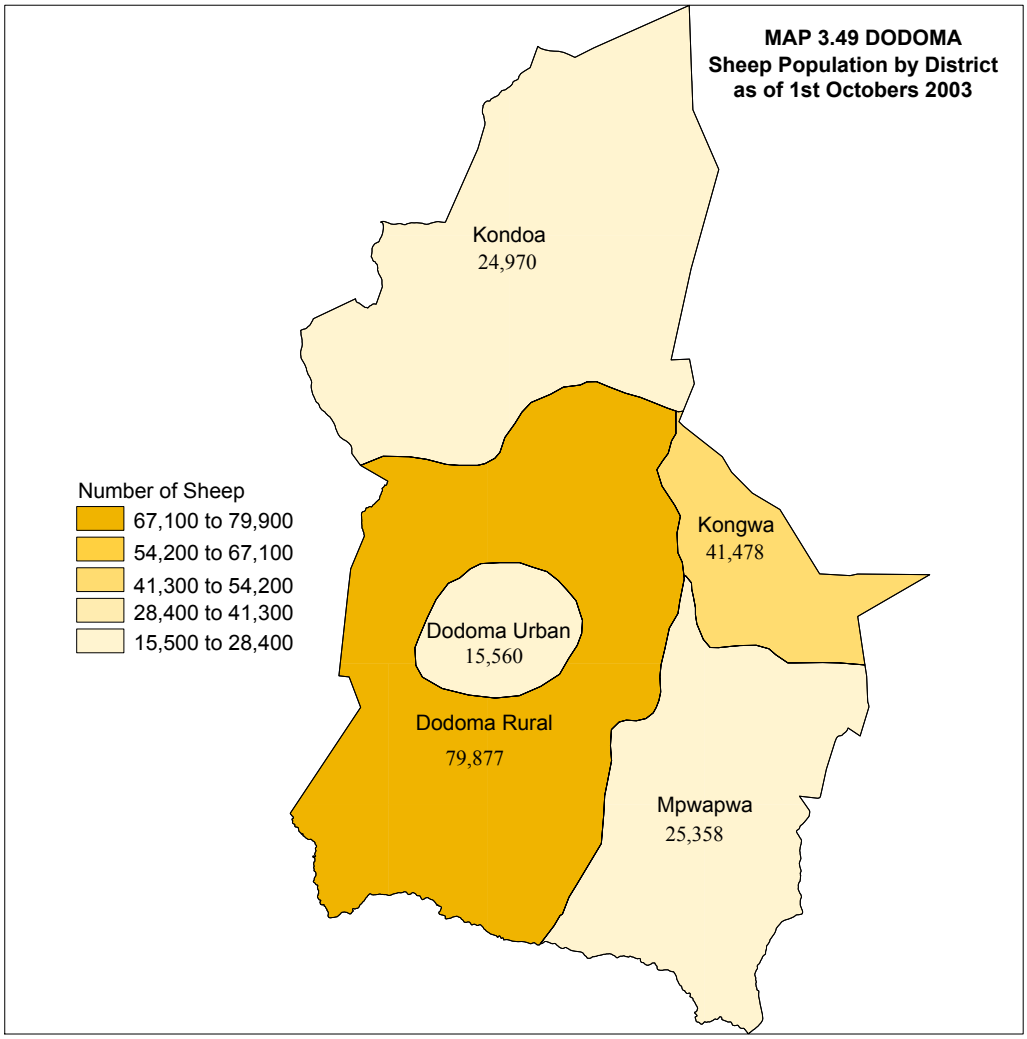


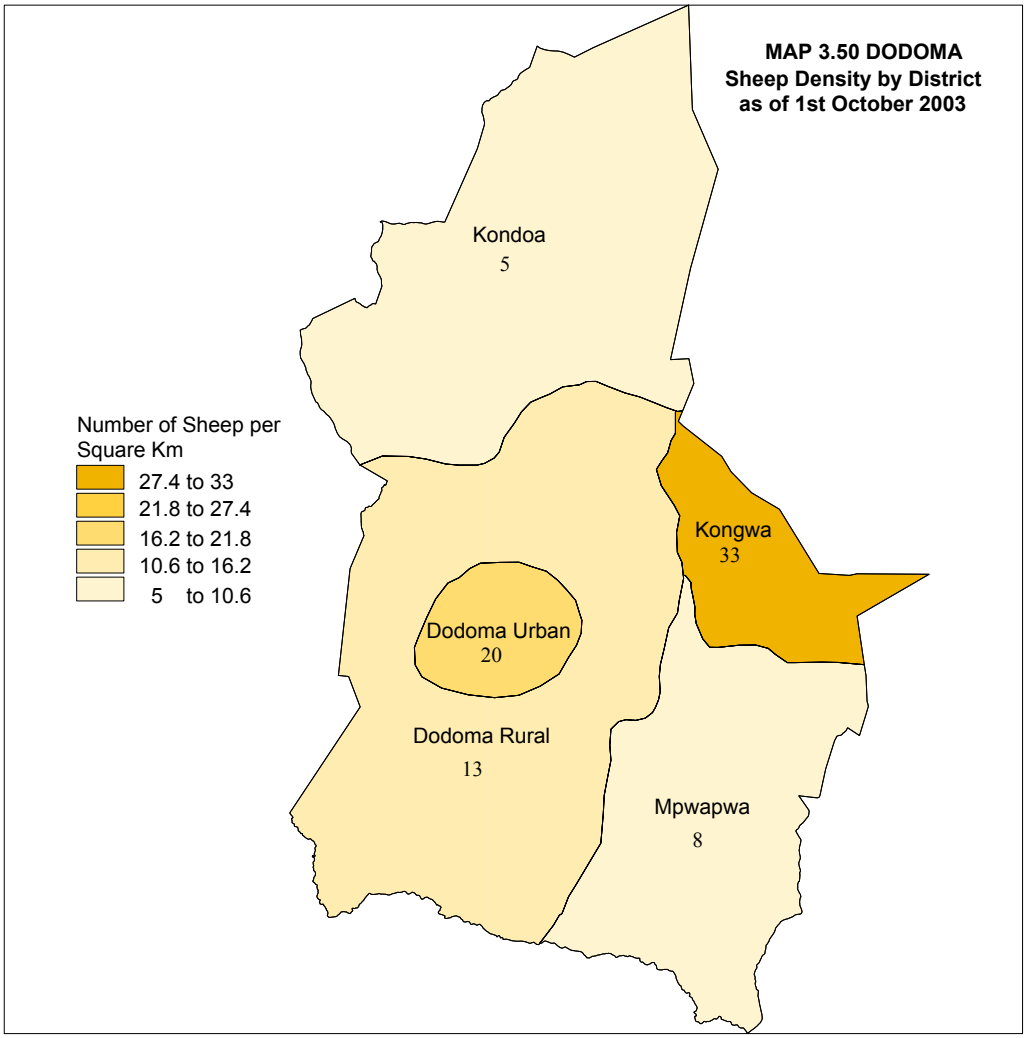
Sheep rearing was dominated by indigenous breeds that constituted 99.5 percent of all sheep kept in the region. Only 0.5 percent of the total sheep in the region were improved breeds.

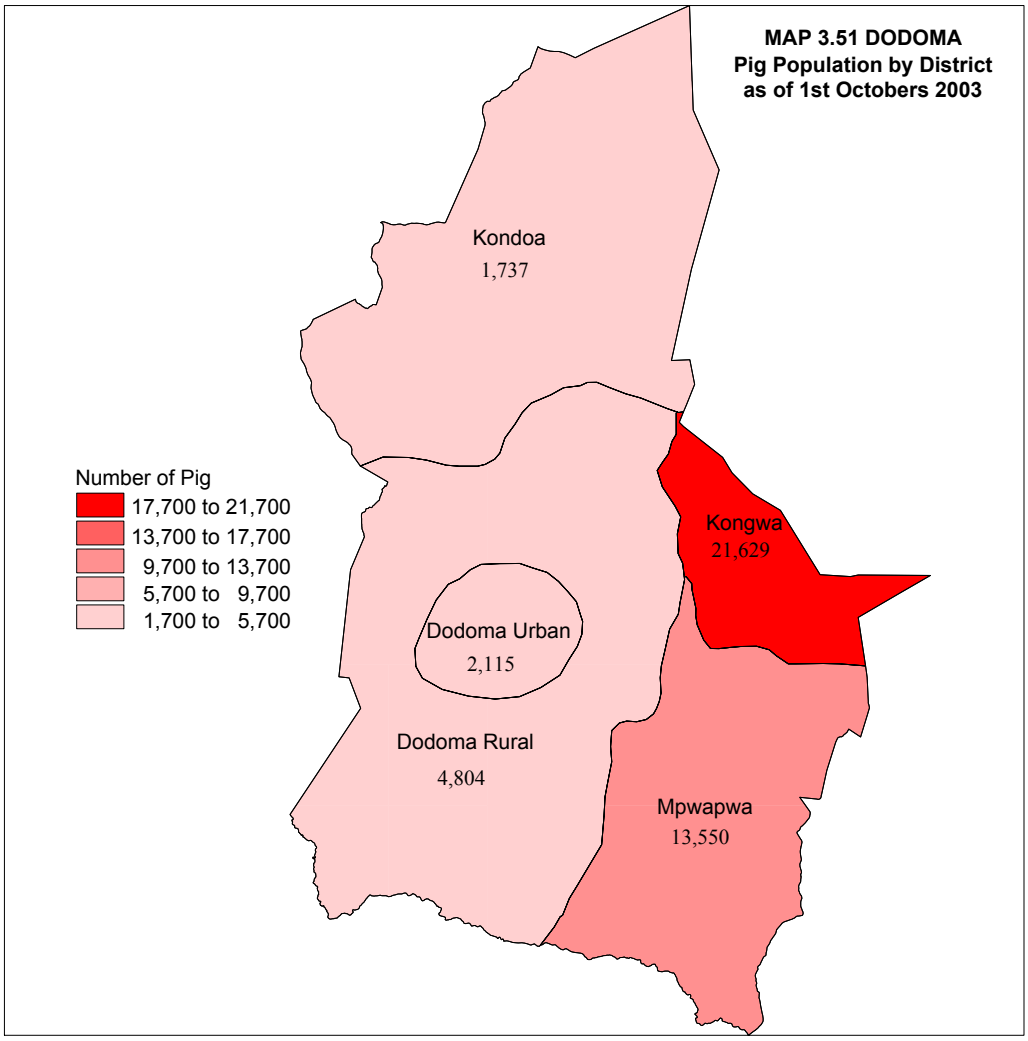
3.12.3.2 Sheep Population Trend

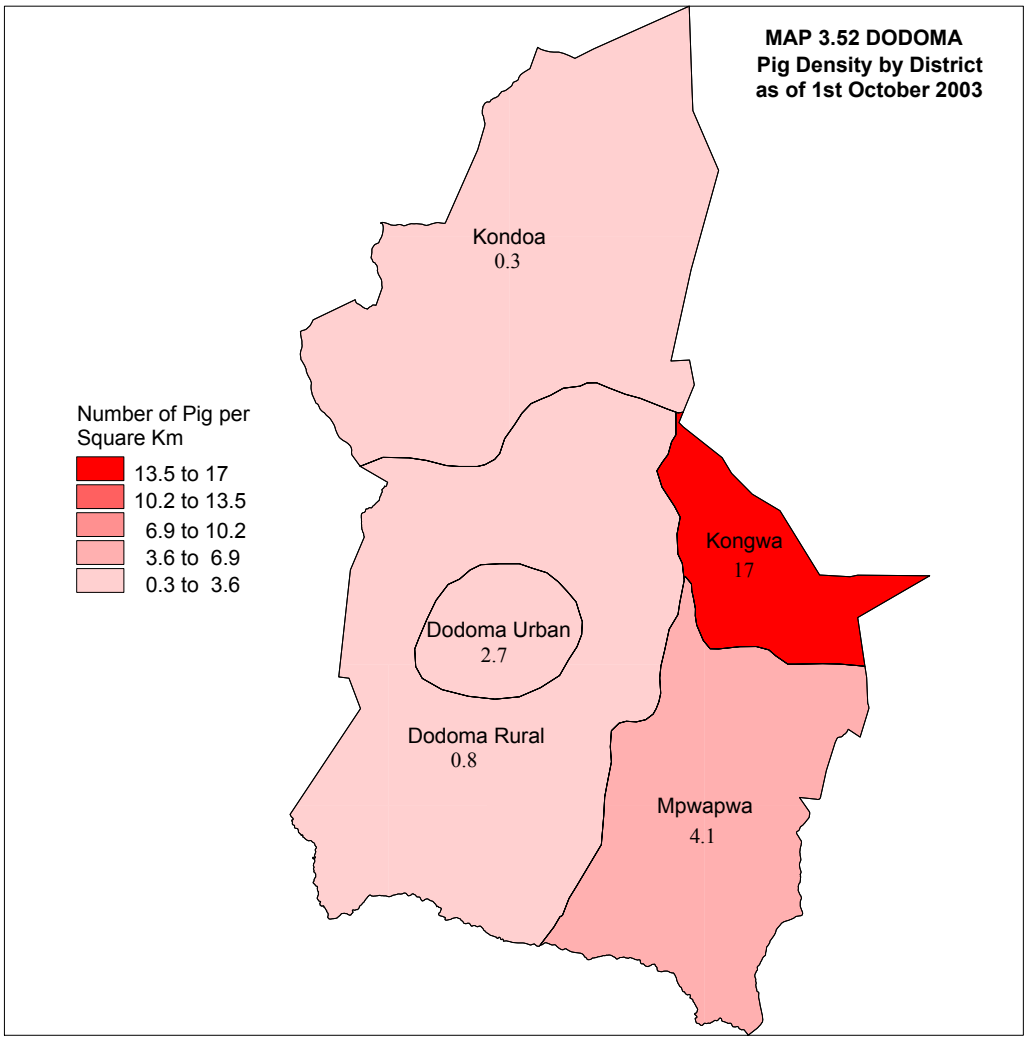
The overall annual growth rate of the sheep population for the eight year period from 1995 to 2003 is estimated at -4.9 percent. The population decreased at an annual rate of -23.2 percent from 246,314 in 1995 to 120,524 in 1999. From 1999 to 2003, sheep population increased at an annual rate of 17.7 percent (Chart 3.130).




MAP 3.49 DODOMA
Sheep Population by District
as of 1st Octobers 2003
Kondoa
24,970
Kongwa
41,478
Dodoma Urban
15,560
Dodoma Rural
79,877
Mpwapwa
25,358
Number of Sheep
67,100 to 79,900
54,200 to 67,100
41,300 to 54,200
28,400 to 41,300
15,500 to 28,400


MAP 3.50 DODOMA
Sheep Density by District
as of 1st October 2003
Kondoa
5
Kongwa
33
Dodoma Urban
20
Dodoma Rural
13
Mpwapwa
8
Number of Sheep per
Square Km
27.4 to 33
21.8 to 27.4
16.2 to 21.8
10.6 to 16.2
5 to 10.6

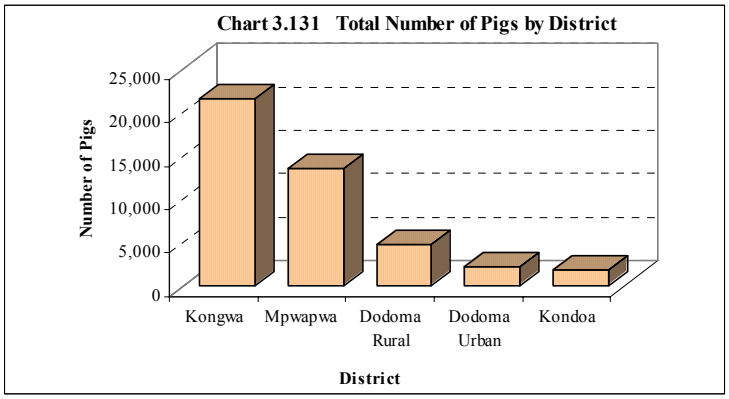

MAP 3.51 DODOMA
Pig Population by District
as of 1st Octobers 2003
Number of Pig
17,700 to 21,700
13,700 to 17,700
9,700 to 13,700
5,700 to 9,700
1,700 to 5,700
Kondoa
1,737
Kongwa
21,629
Dodoma Urban
2,115
Dodoma Rural
4,804
Mpwapwa
13,550


MAP 3.52 DODOMA
Pig Density by District
as of 1st October 2003
Number of Pig per
Square Km
13.5 to 17
10.2 to 13.5
6.9 to 10.2
3.6 to 6.9
0.3 to 3.6
Kondoa
0.3
Kongwa
17
Dodoma Urban
2.7
Dodoma Rural
0.8
Mpwapwa
4.1

3.12.4. Pig Production

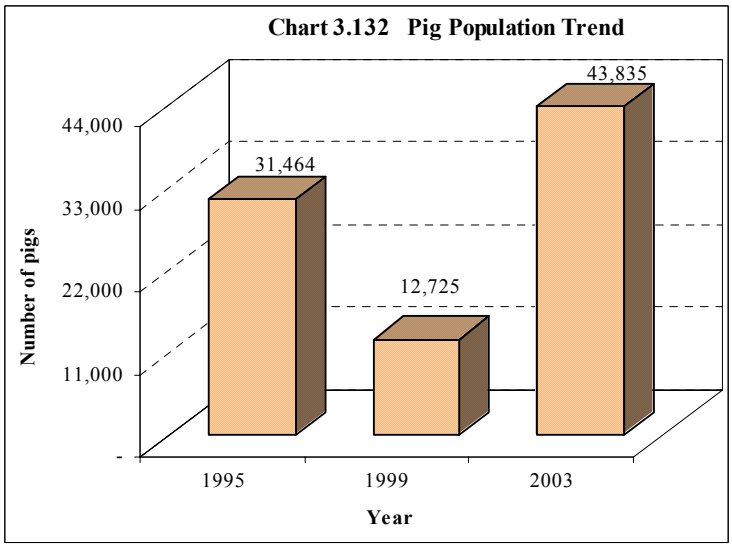
Pigs are the least important livestock in the region after cattle, goats and sheep. The region ranks 9th out of 21 Mainland regions and has 4 percent of the Mainland total pigs.

The number of pig-rearing agricultural households in Dodoma region was 14,859 (4% of the total agricultural households in the region) rearing 43,835 pigs. This gives an average of 3 pigs per pig-rearing household. The district with the largest number of pigs was Kongwa with 21,629 pigs (49.3% of the total pig population in the region), followed by Mpwapwa (13,550 pigs, 30.9%), Dodoma Rural (2,115 pigs, 4.8%) and Kondoa (1,737 pigs, 4.0 %) (Chart 3.131 and Map 3.51). However, Kongwa district had the highest density (17 head per km^2) (Map 3.52).



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 4.2 percent. During this period the population grew from 31,464 to 43,835. The pig population decreased from 31,464 in 1995 to 12,725, in 1999 at a rate of -20.25 percent after which it increased to 43,835 in 2003 at an annual rate of increase of 36.2 (Chart 3.132).

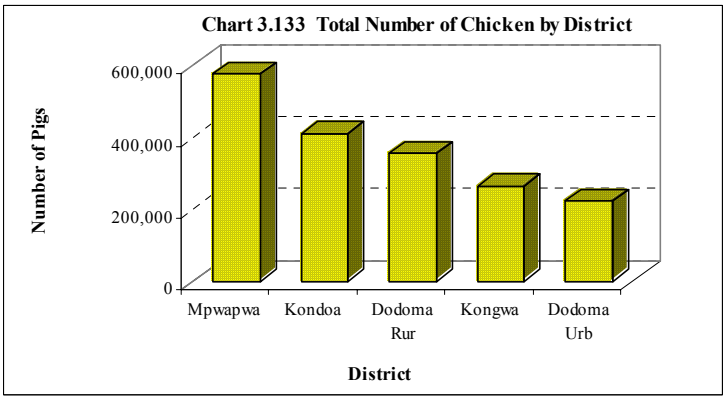


3.12.5 Chicken Production

The poultry sector in Dodoma region was dominated by chicken production. The region contributed 5.5 percent to the total chicken population on Tanzania Mainland.

3.12.5.1 Chicken Population

The number of households keeping chickens was 139,992 raising about 1,825,867 chickens. This gives an average of 13 chickens per chicken-rearing household. In terms of total number of chickens in the country, Dodoma region was ranked 8 out of the 21 Mainland regions.



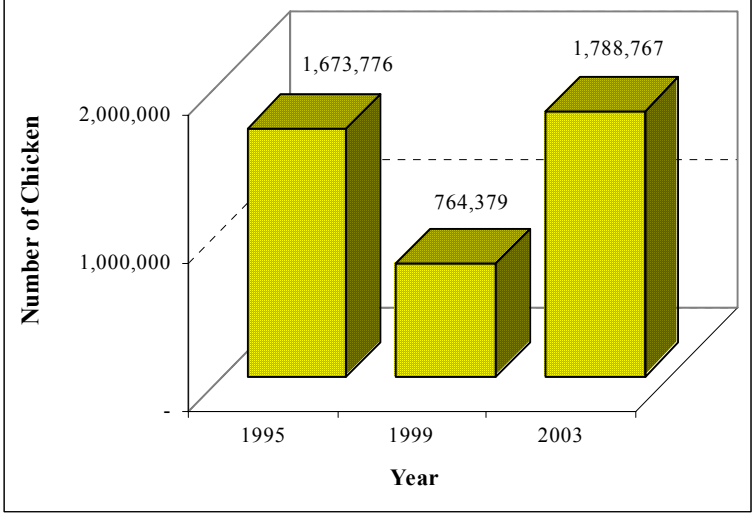
The District with largest number of chickens was Mpwapwa with 575,225 chickens (31.5% of the total chickens in the region) followed by Kondoa (409,515 chickens, 22.4%), Dodoma Rural (354,534 chickens, 19.4%) and Kongwa (264,470

chickens, 14.5%). Dodoma Urban district had the smallest number of chickens (222,123 chickens, 12.2%) (Chart 3.133 and Map 53). However, Dodoma Urban district had the highest density (280 chickens per km^2) (Map 3.54).

3.12.5.2 Chicken Population Trend

The overall annual chicken population growth rate during the eight-year period from 1995 to 2003 was 4.9 percent. The population decreased at a rate of -11.5 percent from 1995 to 1999 after which it increased at an annual rate of increase of 24.4 percent for the four year period from 1999 to 2003 (Chart 3.134).

Chart 3.134 Chicken Population Trend



Eighty nine percent of all chicken in Dodoma 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 87 percent of all chicken-rearing households were keeping 1-19 chickens with an average of 7 chickens per holder. About 13 percent of holders were reported to be keeping the flock size of 20 to 99 chickens with an average of 29 chickens per holder.

Table 3.14 Total Number of Households and Chickens Raised by Flock Size

	Number of Households	%	Number of Chicken	Average Chicken per Households
1-4	38,463	27	108,680	3
5-9	45,664	33	299,011	7
10-19	37,294	27	486,317	13
20-29	11,171	8	247,678	22
30-39	3,812	3	118,154	31
40-49	1,204	1	49,678	41
50-99	1,669	1	98,953	59
100+	714	1	417,394	584
Total	**139,992**	**100**	**1,825,867**	**13**

Only 1 percent of holders kept the flock sizes of 100 or more chickens at an average of 584 chickens per holder (Table 3.14).

3.12.5.4 Improved Chickens (layers and broilers)

Layers chicken population in Dodoma region increased at an overall annual rate of 44.7 percent for the period of eight years from 6,362 in 1995 to 122,136 in 2003. The largest number of improved chicken was found in Mpwapwa district followed by Dodoma Urban district (Chart 3.134).

Chart 3.135 Number of Improved Chicken by Type and District

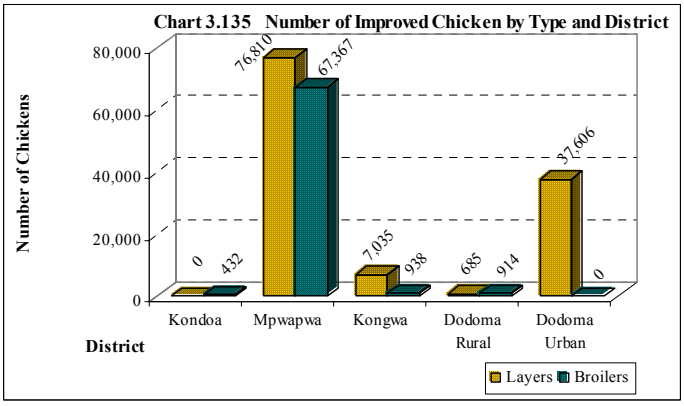
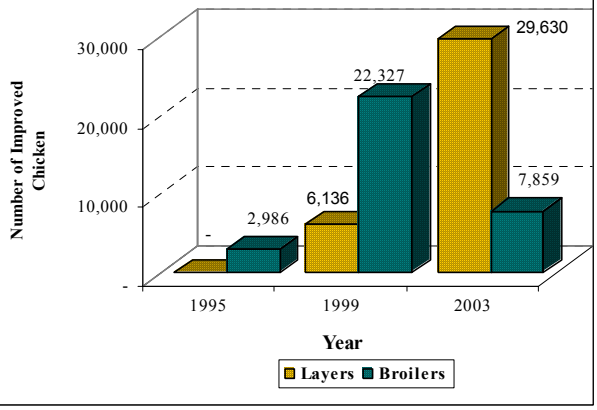
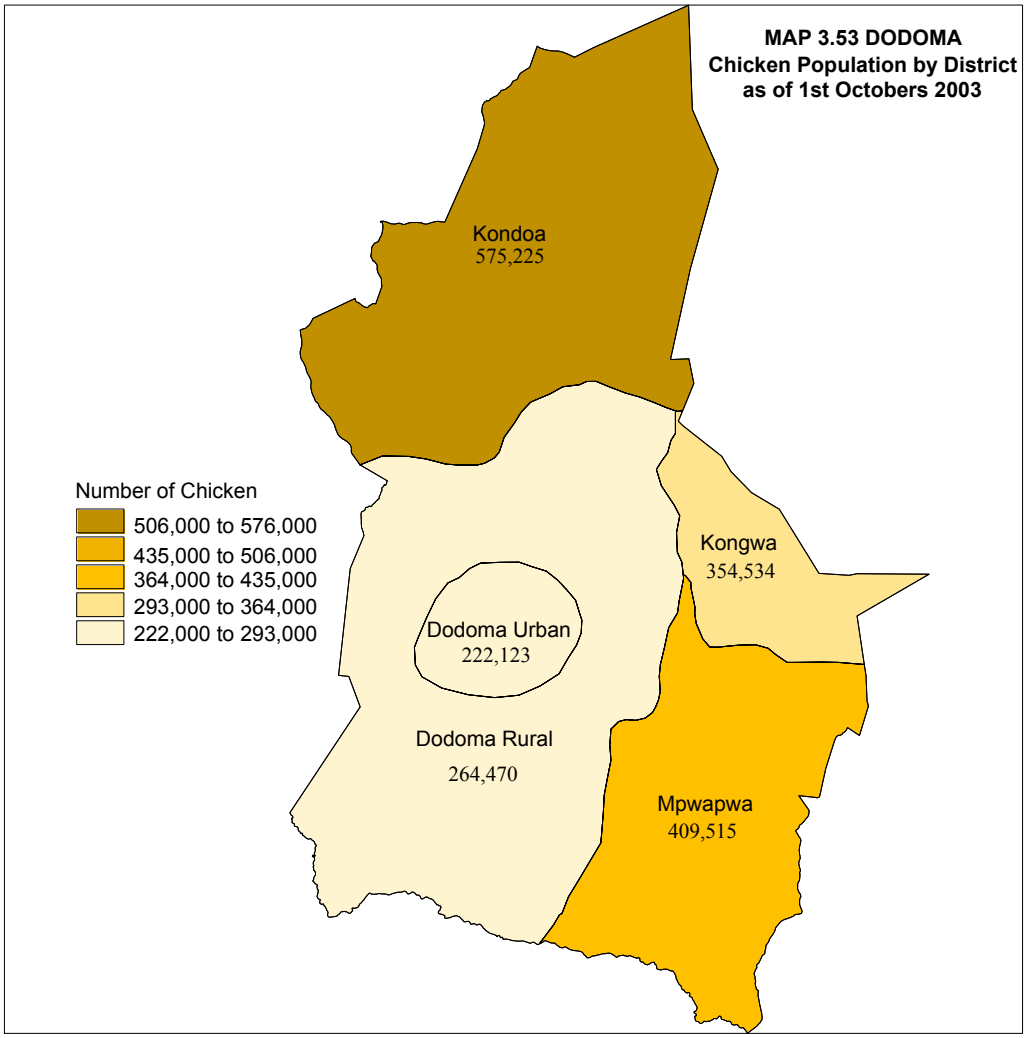
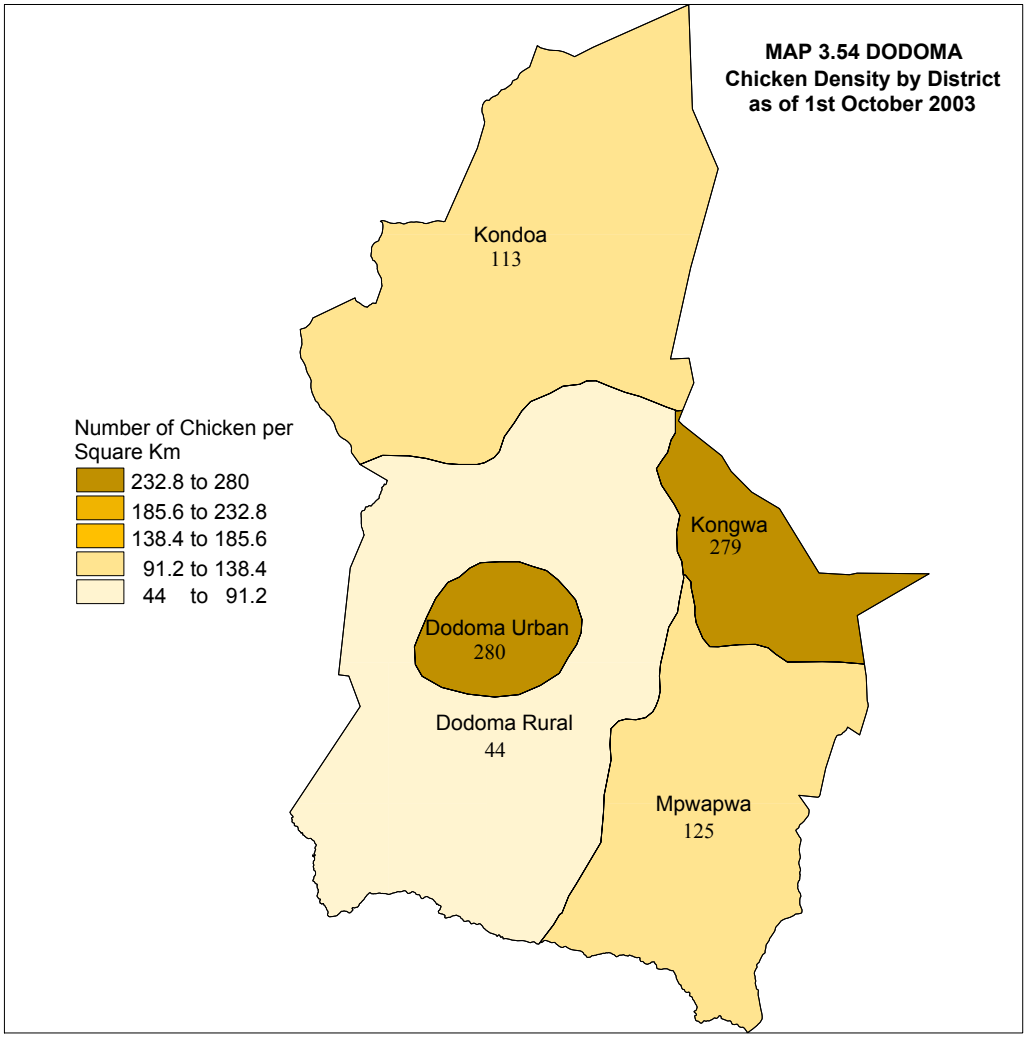


Chart 3.136 Improved Chicken Population Trend




MAP 3.53 DODOMA
Chicken Population by District
as of 1st Octobers 2003
Kondoa
575,225
Kongwa
354,534
Dodoma Urban
222,123
Dodoma Rural
264,470
Mpwapwa
409,515
Number of Chicken
506,000 to 576,000
435,000 to 506,000
364,000 to 435,000
293,000 to 364,000
222,000 to 293,000


MAP 3.54 DODOMA
Chicken Density by District
as of 1st October 2003
Kondoa
113
Kongwa
279
Dodoma Urban
280
Dodoma Rural
44
Mpwapwa
125
Number of Chicken per
Square Km
232.8 to 280
185.6 to 232.8
138.4 to 185.6
91.2 to 138.4
44 to 91.2

The overall annual growth rate for broilers during the eight-year period from 1995 to 2003 was 21.6 percent during which the improved chicken population grew from 14,556 to 69,652. The annual growth rate for the period of four years from 1999 to 2003 was 91 percent, resulting in an increase in the broiler population from 5,235 to 69,652. The broiler population exhibited a decreasing trend at the rate of -22.6 percent per annum for the period of four years from 14,556 in 1999 to 5,235 in 1999 (Chart 3.136).

3.12.6. Other Livestock

There were 106,227 ducks, 12,075 turkeys and 24,400 donkeys raised by rural agricultural households in Dodoma region. Table 3.15 indicates the number of livestock kept in each district. The largest number of ducks in the region was found in Mpwapwa district (75.6% of all ducks in the region), followed by Kondoa (15.7%), Kongwa (7.3%) and Dodoma Urban (1.4). There were no ducks in Dodoma Rural district. Turkeys were reported in Kongwa district only (Table 3.15).

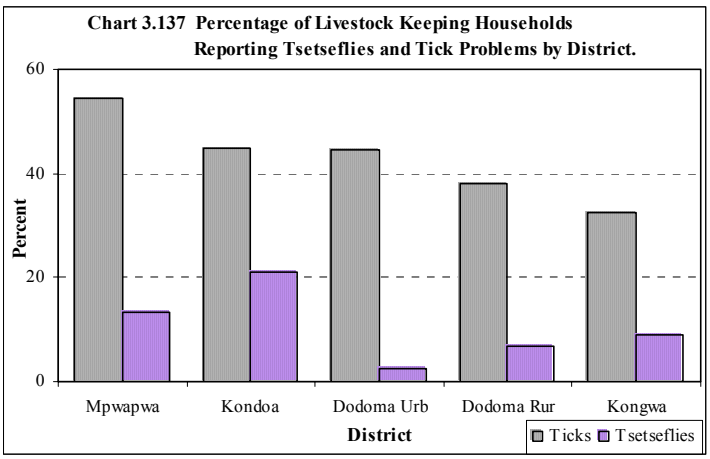
Table 3.15 Head Number of Other Livestock by Type of Livestock and District

District	Type of Livestock			
	Ducks	Turkeys	Donkeys	Other
Kondoa	16,646	0	4,024	0
Mpwapwa	80,296	0	7,459	380
Kongwa	7,790	12,075	1,927	463
Dodoma Rural	0	0	10,788	230
Dodoma Urban	1,495	0	202	302
Total	**106,227**	**12,075**	**24,400**	**1,375**

3.12.7 Pests and Parasites Incidences and Control

The census results indicate that 42 percent and 13 percent of the total livestock-keeping households reported to have encountered ticks and tsetsefly problems respectively. Chart 3.137 shows that there is a predominance of tick related diseases over tsetse related diseases. While incidences of tick problems were highest in Mpwapwa district and lowest in Kongwa district, tseflies incidences were highest in Kondoa but lowest in Dodoma Urban district (Chart 3.137 Map 3.55).

Chart 3.137 Percentage of Livestock Keeping Households Reporting Tsetseflies and Tick Problems by District.

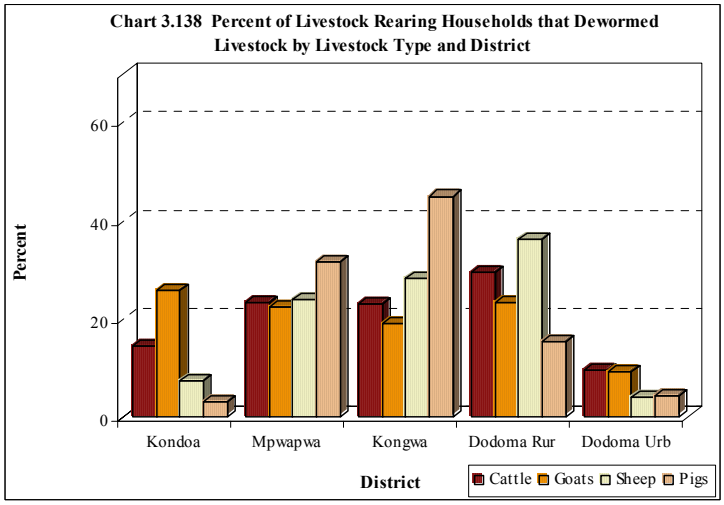


The most practiced method of tick control was spraying with 54 percent of all livestock-rearing households in the region using the method. Other methods used were dipping (12%), smearing (4%) and other traditional methods like hand picking (6%). However, 24 percent of livestock-keeping households did not use any method.

The most common method used to control tsetse flies was spraying which was practiced by 27 percent of livestock-rearing households. This was followed by dipping (13%) and trapping (1%). However, 59 percent of the livestock rearing households did not use any of the three aforementioned methods.

3.12.7.1 Deworming

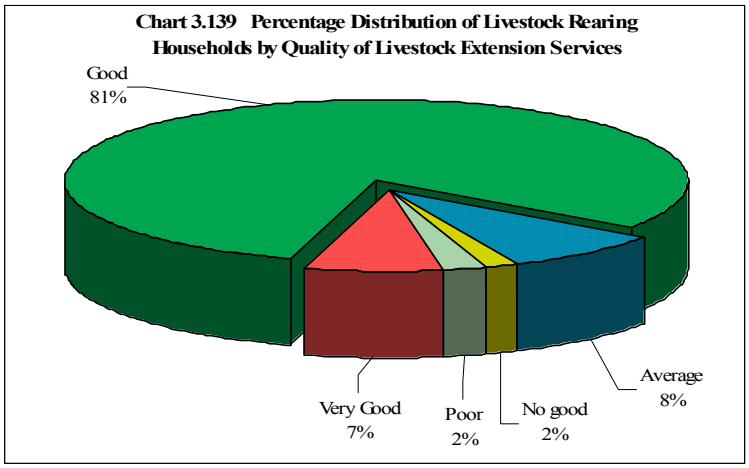
Livestock rearing households that dewormed their animals were 23,935 (27% of the total livestock rearing households in the region). The percentage of cattle keeping households that dewormed cattle was 26 percent, goats (13%), sheep (31%) and pigs (30%). The district with the largest number of households that dewormed cattle was Dodoma Rural (29% of total households that dewormed cattle), followed by Mpwapwa (23%), Kongwa (23%), Kondoa (14%) and Dodoma Urban (10%)(Chart 3.138).



3.12.8. Access to Livestock Services

3.12.8.1 Access to Livestock Extension Services

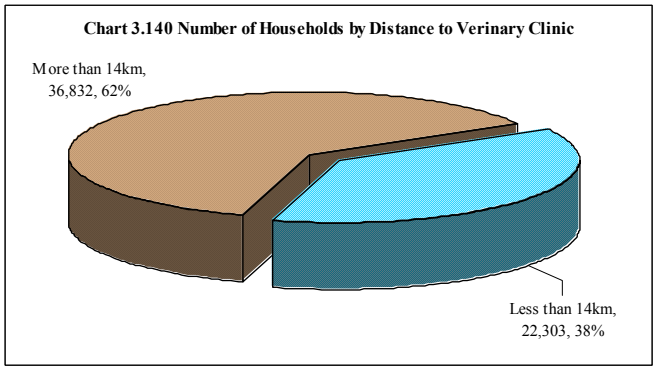
The total number of households that received livestock advice was 34,318, representing 38 percent of the total livestock-rearing households and 11 percent of the agricultural households in the region. The main livestock extension agent was the Government which provided service to about 22 percent of all households receiving livestock extension services. This was closely followed by NGOs/Development Projects (21%), Cooperatives (19%) and Large Scale Farmers (19%).

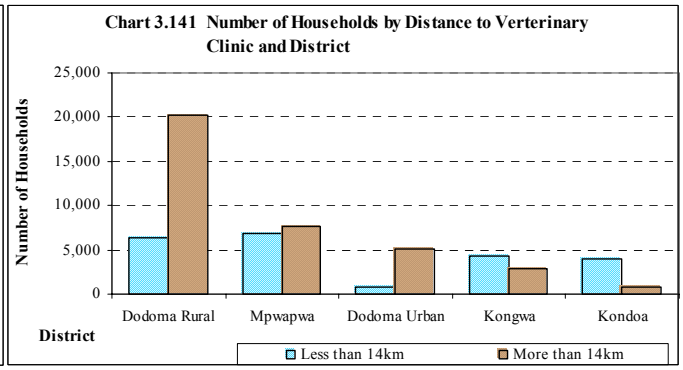


About 81 percent of livestock rearing households described the general quality of livestock extension services as being good, 8 percent said they were average and 7 percent said they were very good. However, 2 percent of the livestock rearing households said the quality was not good and 2 percent described them as poor (Chart 3.139).

3.12.8.2 Access to Veterinary Clinic

About 62 percent of the livestock rearing households accessed the services, at a distance of more than 14 kms. Only 38 percent of them accessed the services within 14 kms from their dwellings (Chart 3.140). The most affected district was Dodoma Rural





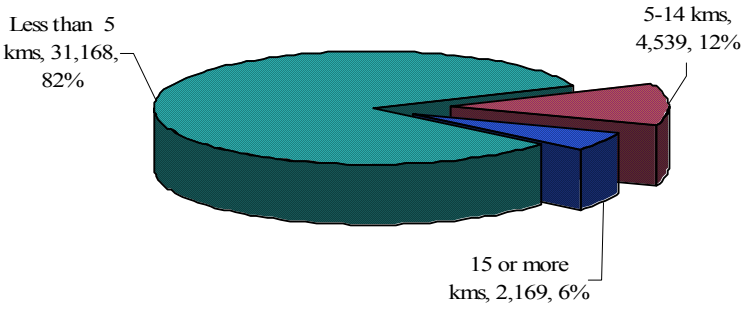
with 76 percent of livestock rearing households accessing the

services at a distance of more than 14 kms. Kondoa District was the least affected because about 82 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

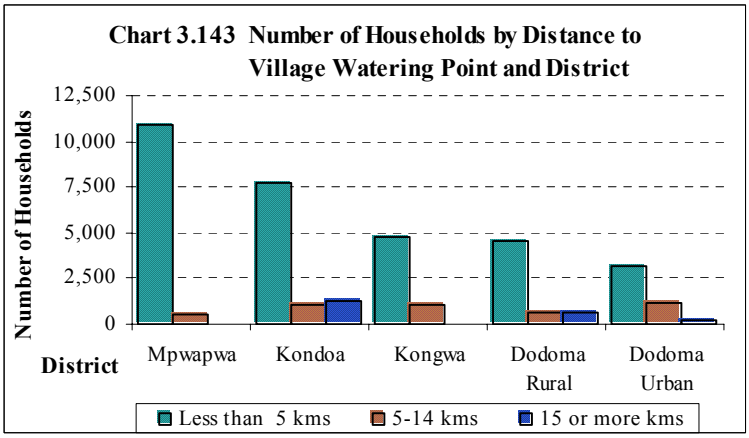
The number of livestock rearing households residing less than 5 kms from the nearest watering point was 31,168 (82% of livestock rearing households in Dodoma region) whilst 4,539 households (12%) resided between 5 and 14 kms. However, 2,169 households (6%) had to travel a distance of 15 kms or more to the nearest watering point (Chart 3.142).

Chart 3.142 Number of Households by Distance to Village Watering Points



Mpwapwa district had the best livestock water supply with the majority of livestock rearing households residing within 5 kilometres from the nearest watering point. This is followed by Kondoa, Kongwa and Dodoma Rural districts. In Dodoma Urban district, about 31 percent of the livestock rearing households had to travel a distance of 5 or more kilometers to the nearest watering point (Chart 3.143).

Chart 3.143 Number of Households by Distance to Village Watering Point and District



3.12.9. Animal Contribution to Crop Production

3.12.9.1 Use of Draft Power

Use of draft animals to cultivate land in Dodoma region is moderate with 53,937 households (17% of the total households in the region) using them (Chart 3.144). The region had 83,989 oxen that were used to cultivate 101,607 hectares of land. This represents only 3.7 percent of the total oxen found on the Mainland. The largest area cultivated using oxen was found in Kondoa district (48,222 ha, 47.5% of the total area cultivated using oxen) (Map 3.56).

3.144 Number of Households Using Draft Amimals

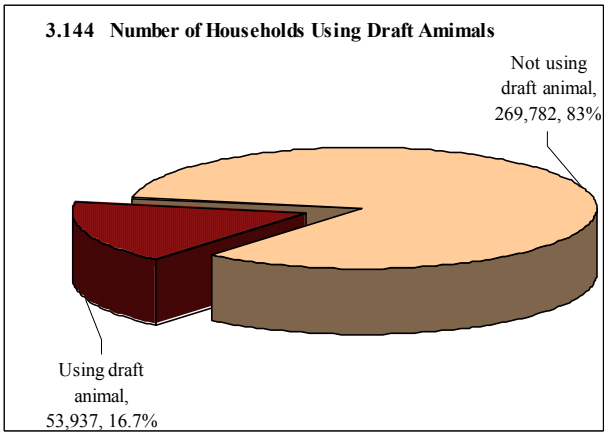
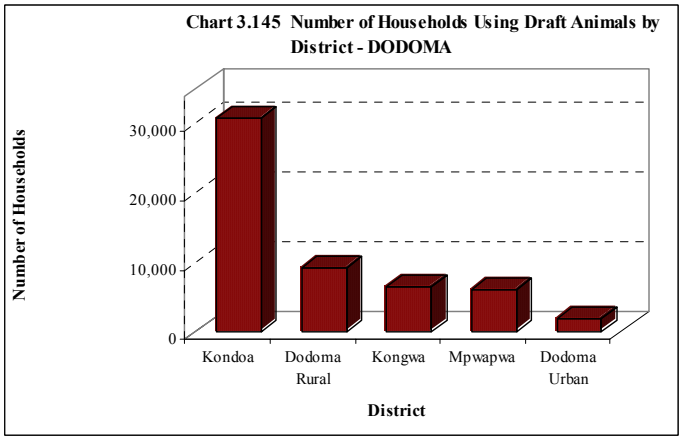
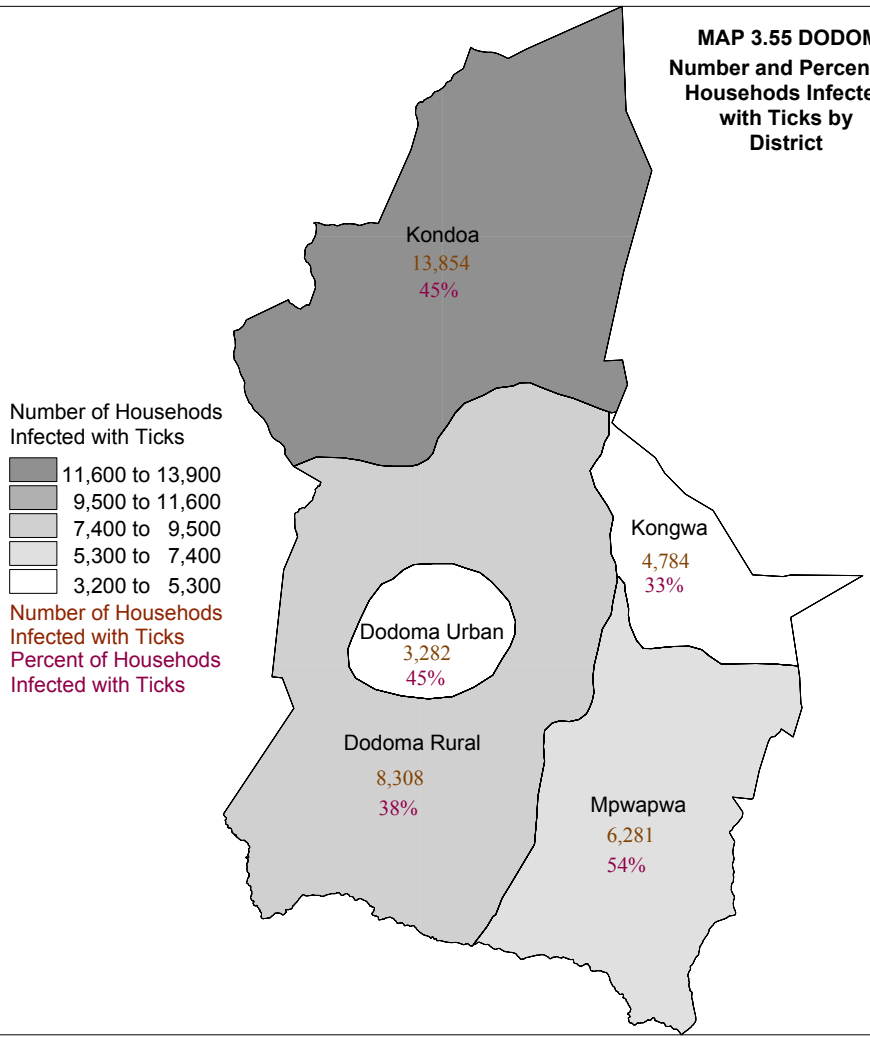


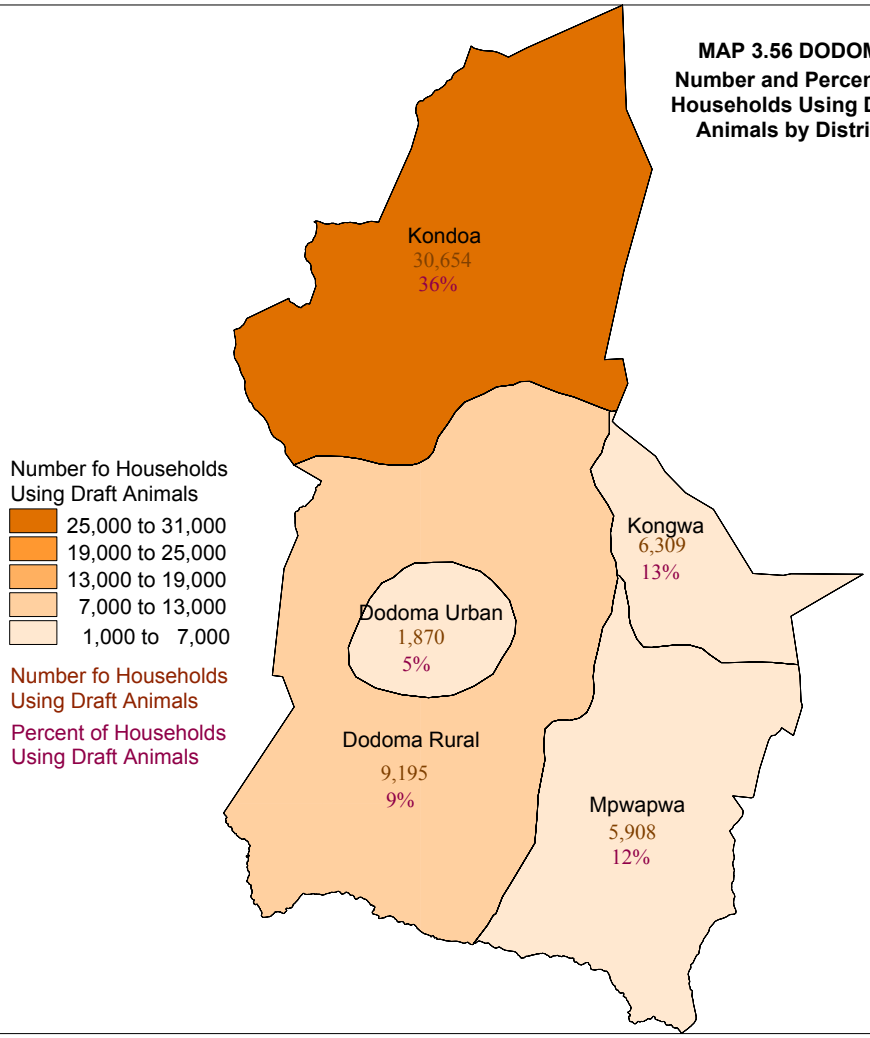
Chart 3.145 Number of Households Using Draft Animals by District - DODOMA



MAP 3.55 DODOMA
Number and Percent of Households Infected with Ticks by District



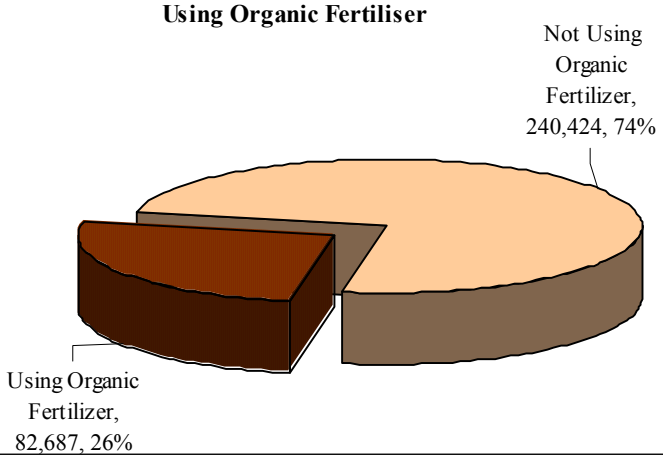
MAP 3.56 DODOMA
Number and Percent of Households Using Draft Animals by District



3.12.9.2 Use of Farm Yard Manure

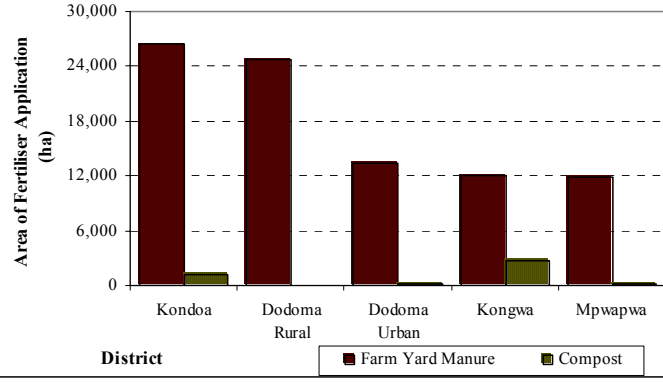
The number of households using organic fertiliser in Dodoma region was 82,687 (26% of total crop growing households in the region) (Chart 3.146). The total area applied with organic fertiliser was 92,594 ha of which 88,456 hectares (95.5% of the total area applied with inorganic fertilizer was applied with farm yard manure or 14 percent of the area planted with annual crops and vegetables in Dodoma region)

Chart 3.146 Number of Crop Growing Households Using Organic Fertiliser



The largest area applied with farm yard manure was found in Kondoa district with 26,378 hectares (29.8% of the total area applied with farm yard manure) followed by Dodoma Rural (24,707 ha, 27.9%), Dodoma Urban (13,446 ha, 15.2%), Kongwa (12,065 ha, 13.6%) and Mpwapwa (11,860 ha, 13.4%) (Chart 3.147 and Map 3.57).

Chart 3.147 Area of Application with Organic Fertiliser by District - DODOMA



3.12.9.4 Use of Compost

Only 4,138 ha (4.5% of the area of organic fertiliser application) was applied with compost. The largest area applied with compost was found in Kongwa district with 2,666 hectares (64.4% of the total area applied with compost in the region) followed by Kondoa (1,237 ha, 29.9%), Mpwapwa (105 ha, 2.5%), Dodoma Urban (85 ha, 2.1%) and Dodoma Rural (45 ha, 1.1%) (Chart 3.147 and Map 3.58).

3.12.10 Fish Farming

The number of households involved in fish farming in Dodoma region was only 129, representing 0.04 percent of the total agricultural households in the region (Chart 3.148).

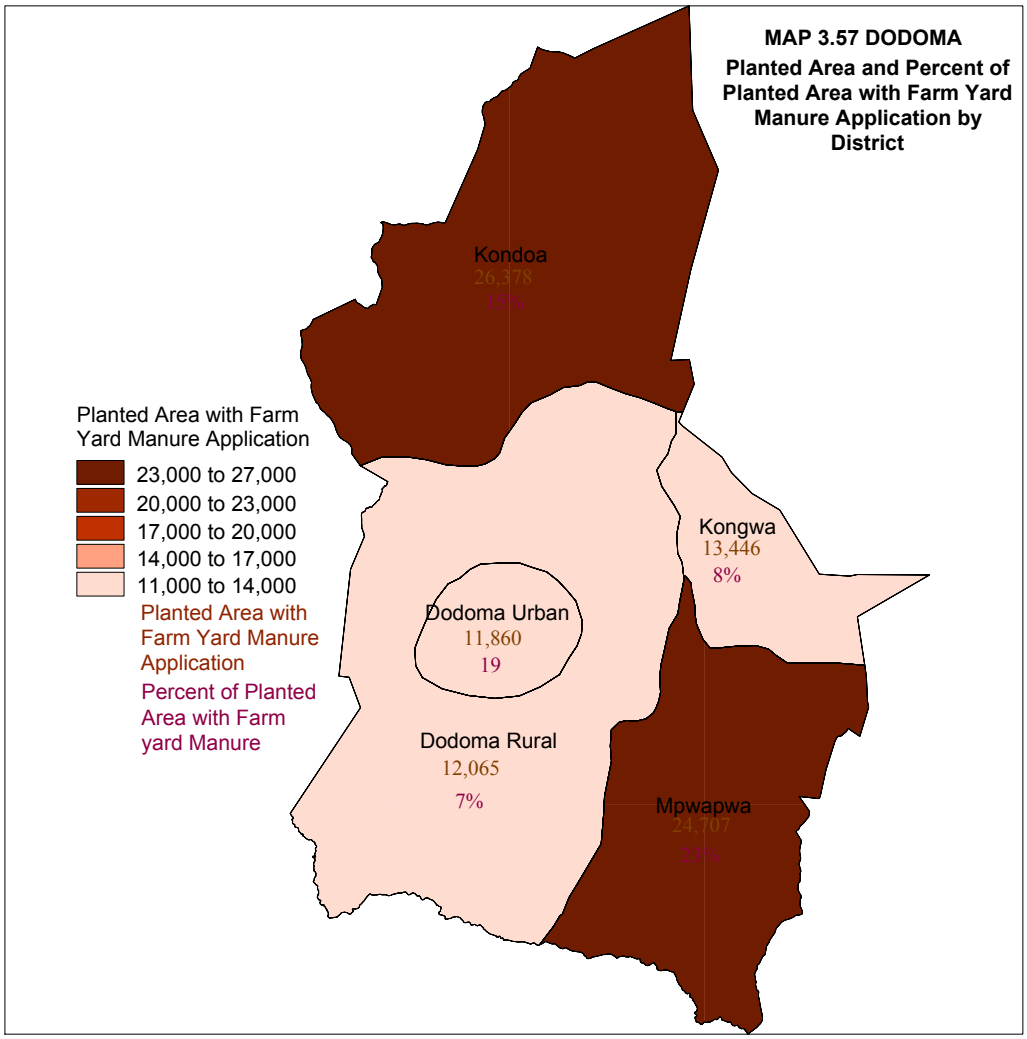
Mpwapwa was the only district in the region practicing fish farming. (Chart 3.149 and Map 3.59).

Non governmental organizations and/or projects were the only supplier of fingerings. All fish farming households in the region used the dug-out-pond system and the only fish specie planted was tilapia. The number of fish harvested in Dodoma region was 6,985, all of which were tilapia. All fish farming households did not sell their fish.

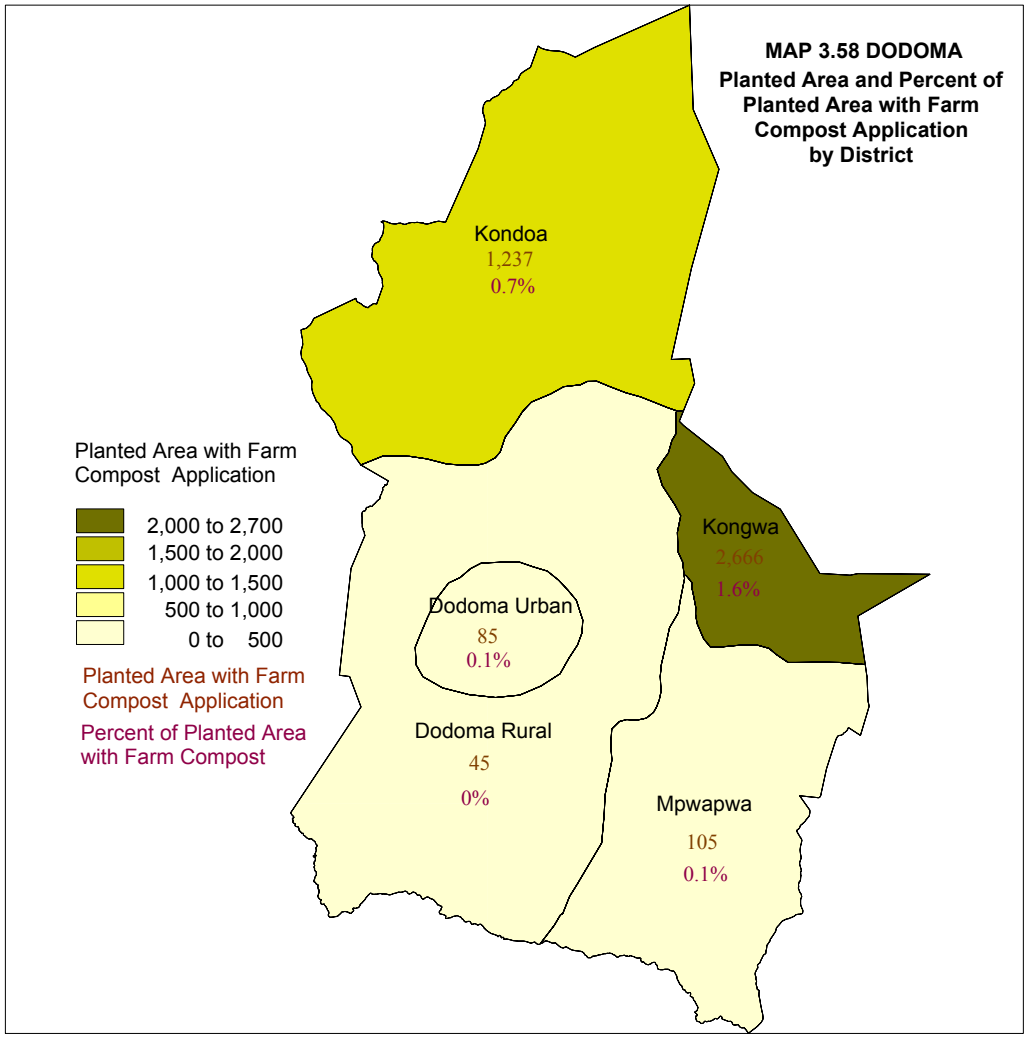
3.12.11 Access to Infrastructure and Other Services

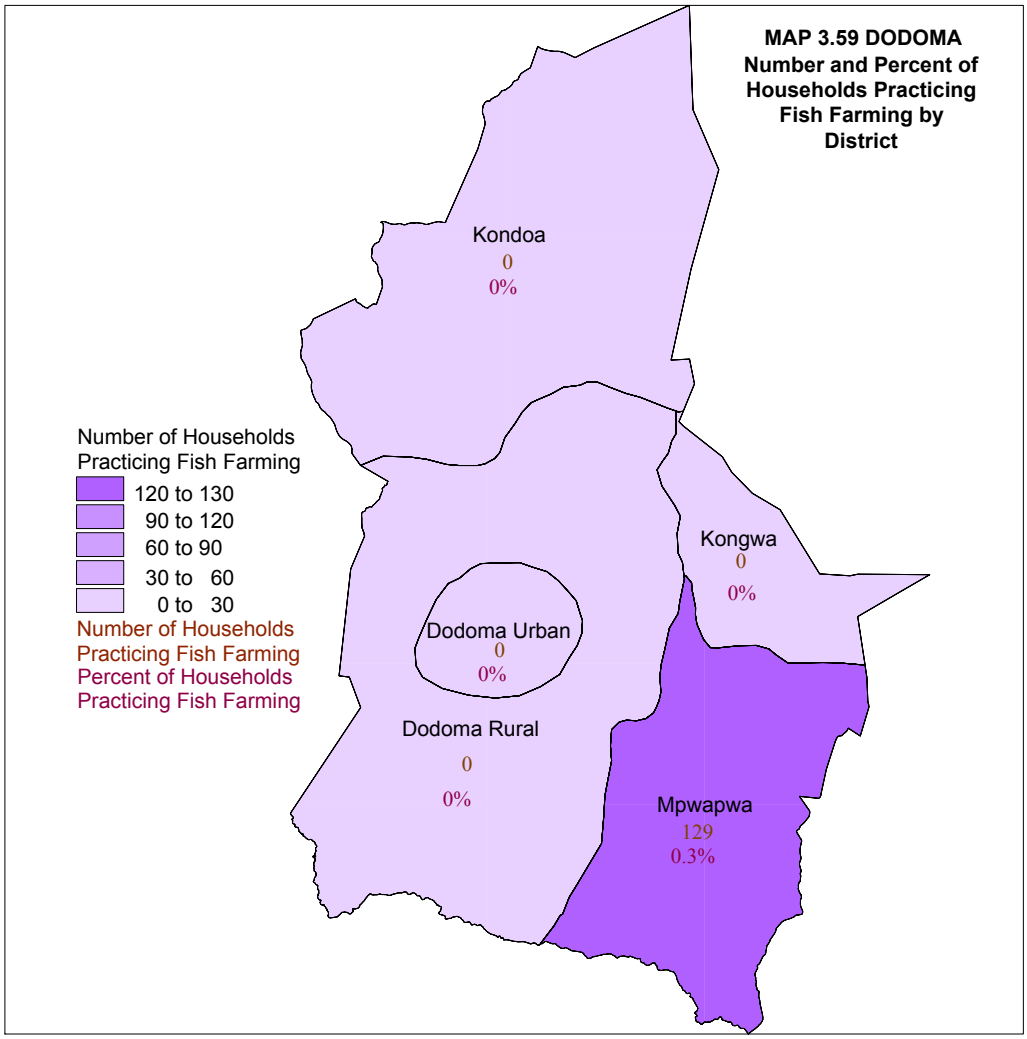
The census results indicate that among the evaluated services, regional capital was a service located very far from most of the household's dwellings than any other service. It was located at an average distance of 113 kilometers from the agricultural household's dwellings. Other services and their respective average distances from the dwellings were tarmac road (86 km), tertiary market (55 km), hospital (49 km), secondary school (20 km), secondary market (12 km), primary markets (10 km), health clinic (7 km), all weather road (7 km), primary school (3 km) and feeder road (3 km) (Table 3.15).

MAP 3.57 DODOMA
Planted Area and Percent of Planted Area with Farm Yard Manure Application by District



MAP 3.58 DODOMA
Planted Area and Percent of Planted Area with Farm Compost Application by District




MAP 3.59 DODOMA
Number and Percent of Households Practicing Fish Farming by District
Kondoa
0
0%
Kongwa
0
0%
Dodoma Urban
0
0%
Dodoma Rural
0
0%
Mpwapwa
129
0.3%
Number of Households Practicing Fish Farming
120 to 130
90 to 120
60 to 90
30 to 60
0 to 30
Number of Households Practicing Fish Farming
Percent of Households Practicing Fish Farming

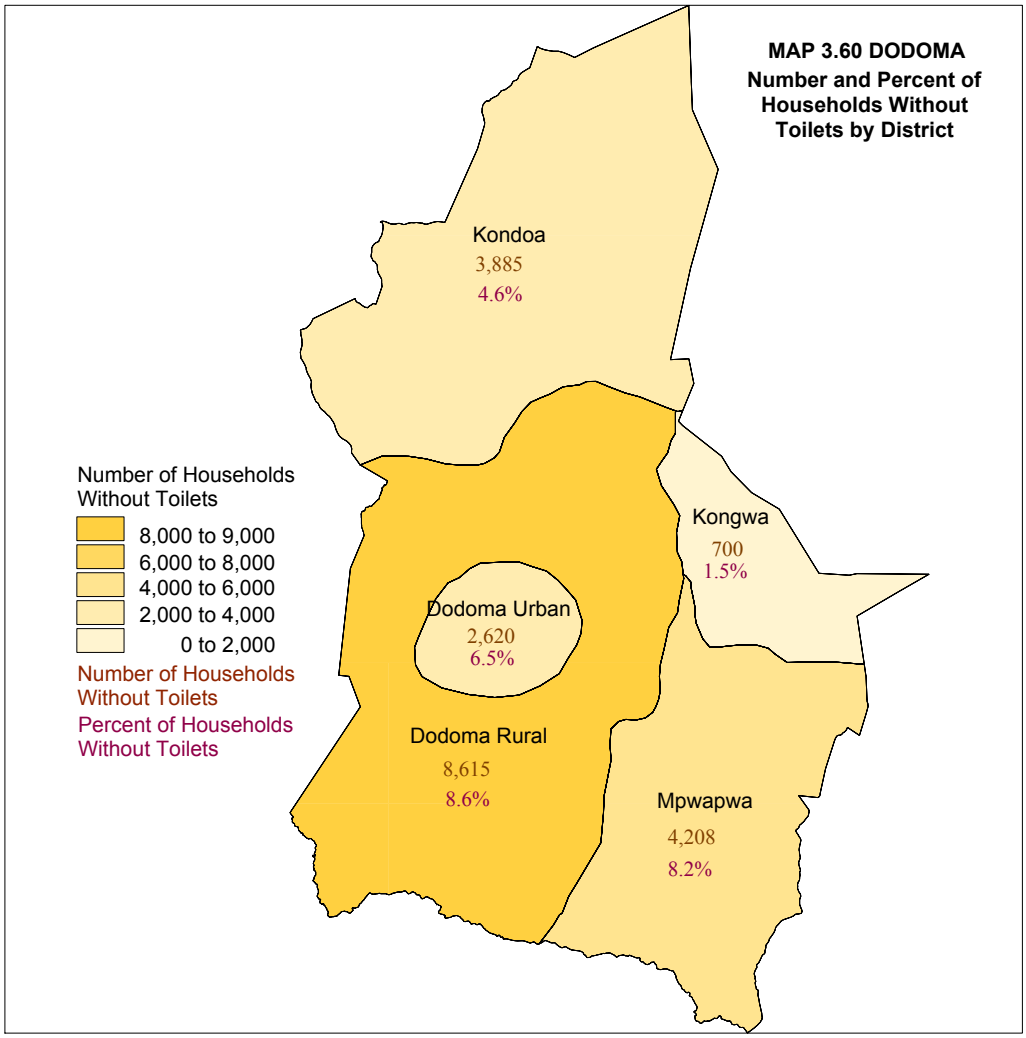

MAP 3.60 DODOMA
Number and Percent of Households Without Toilets by District
Kondoa
3,885
4.6%
Kongwa
700
1.5%
Dodoma Urban
2,620
6.5%
Dodoma Rural
8,615
8.6%
Mpwapwa
4,208
8.2%
Number of Households Without Toilets
8,000 to 9,000
6,000 to 8,000
4,000 to 6,000
2,000 to 4,000
0 to 2,000
Number of Households Without Toilets
Percent of Households Without Toilets

Table 3.16: Mean Distances from Agricultural Household Dwellings to Infrastructures and Services by District

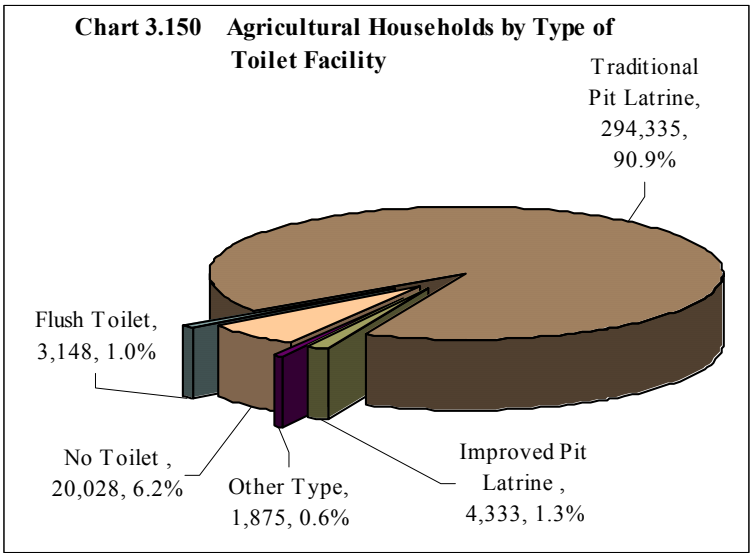
District	Mean Distance to										
	Secondary Schools	Primary Schools	All weather roads	Feeder Roads	Hospitals	Health Clinics	Regional Capital	Primary Markets	Secondary Market	Tertiary Market	Tarmac Roads
Kondoa	20.0	2.5	10.9	3.2	52.1	6.1	187.6	9.7	9.0	62.3	170.4
Mpwapwa	28.2	5.3	5.9	2.1	53.0	9.3	159.2	9.4	15.3	59.0	99.4
Kongwa	17.7	3.4	1.0	2.4	38.7	6.5	102.7	7.7	10.9	33.1	20.2
Dodoma Rural	21.0	3.0	10.1	2.5	58.9	7.8	66.4	9.5	12.5	65.6	64.2
Dodoma Urban	13.1	2.2	2.5	3.4	26.9	7.7	27.5	11.5	11.5	30.5	21.0
Total	**20.4**	**3.2**	**7.4**	**2.7**	**49.3**	**7.4**	**113.2**	**9.5**	**11.6**	**54.6**	**85.8**

Forty seven percent of the agricultural households reported the infrastructure and services to be "good", 20 percent reported them to be "poor" and 2 percent ranked the service as being 'no good'. Only 9 percent of the agricultural households reported the available infrastructures and services as 'very good' whilst 15 percent of the agricultural households reported them to be "average".

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.

Chart 3.150 Agricultural Households by Type of Toilet Facility

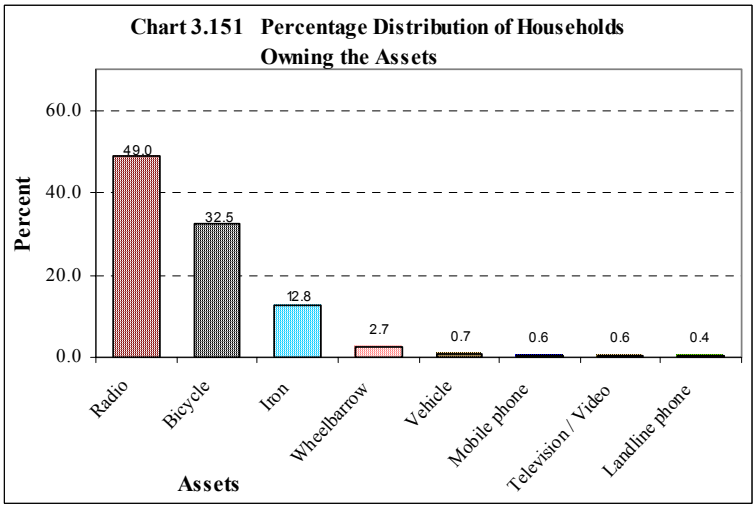


3.13.1 Type of Toilets

A large number of rural agricultural households in Dodoma region use traditional pit latrines (294,335 households, 90.9% of all rural agricultural households) 4,333 households (1.3%) use improved pit latrine and 3,148 households (1.0%) use flush toilets. The remaining 1,875 household (0.6%) use other toilets facilities. However, 20,028 households (6.2%) in the region had no toilet facilities (Chart 3.150).

The highest percent of households without toilet facilities in the region was found in Dodoma Rural (43% of the total agricultural households in the region), followed by Kongwa district (3.5%), Mpwapwa (21.0%), Kondoa (19.4%) and Dodoma Urban (13.1%) Map 3.60).

Chart 3.151 Percentage Distribution of Households Owning the Assets



3.13.2 Household's Assets

Radios are owned by most rural agricultural households in Dodoma region with 158,476 households (49.0% of the agriculture households in the region) owning the asset, followed by bicycle (105,196 households, 32.5%), iron (41,379 households, 12.8%), wheelbarrow (8,797 households, 2.7%), vehicle (2,418 households, 0.7%), mobile phone (1,849

households, 0.6%), television/video (1,835 households, 0.6%) and landline phone (1,340 households, 0.4%) (Chart 3.151).

3.13.3 Sources of Lighting Energy

Wick lamp is the most common source of lighting energy in the region with 72 percent of the total rural households using this source of energy, followed by hurricane lamp (16%), firewood (9%), pressure lamp (2%), main electricity (0.6%), candle (0.4%), gas (biogas) (0.2%) and solar (0.1%) (Chart 3.152).

3.13.4 Sources of Energy for Cooking

The most prevalent source of energy for cooking was firewood, which was used by 96.20 percent of all rural agricultural households in Dodoma region. This is followed by charcoal (2.15%) and crop residues (0.84%). The rest of energy sources accounted for 0.81 percent. (livestock dung (0.16%), solar (0.15%), paraffin/kerosene (0.15%), biogas (0.14%), main electricity (0.13%) and bottled gas (0.08%)) (Chart 3.153).

3.13.5 Roofing Materials

The most common material used for roofing of the main dwelling in Dodoma region was grass and mud and it was used by 51.9 percent of the rural agricultural households. This was followed by iron sheets (39.0%), grass/leaves (7.7%), tiles (0.6%), asbestos (0.5%), concrete (0.1%) and others (0.2%) (Chart 3.154).

Dodoma Rural district had the highest percentage of households with grass/mud roofing material (76.3%) and was followed by Mpwapwa district (58.1%), Dodoma Urban (57.0%), Kondoa (32.2%) and Kongwa (24.7%) (Chart 3.155 and Map 3.61).

Chart 3.152 Percentage Distribution of Households by Main Source of Energy for Lighting

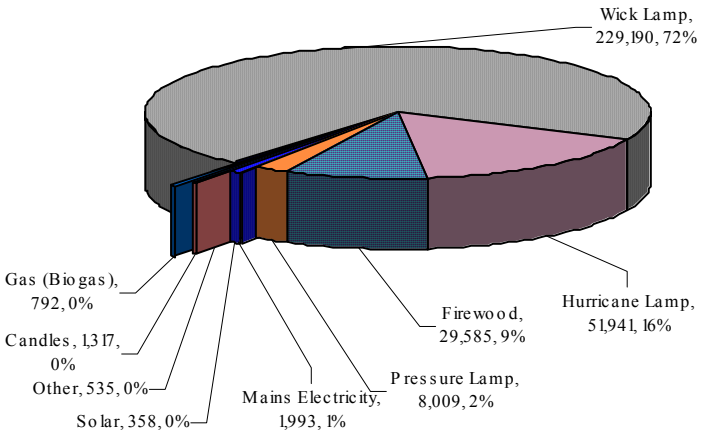


Chart 3.153 Percentage Distribution of Households by Main Source of Energy for Cooking

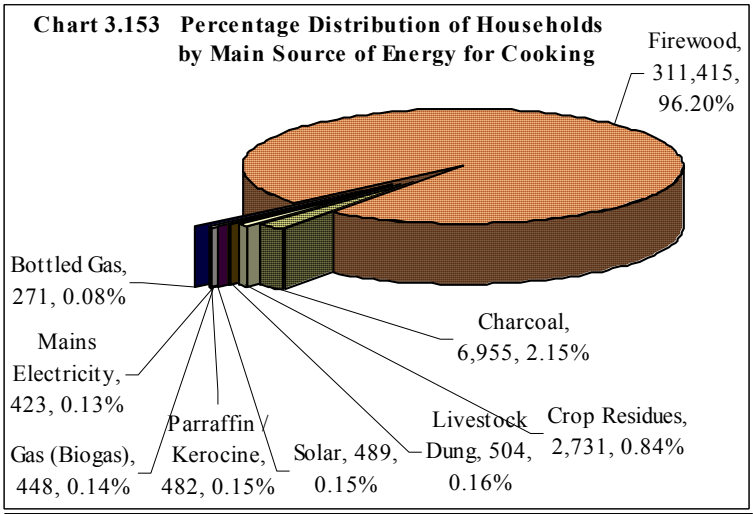


Chart 3.154 Percentage Distribution of Households by Type of Roofing Material

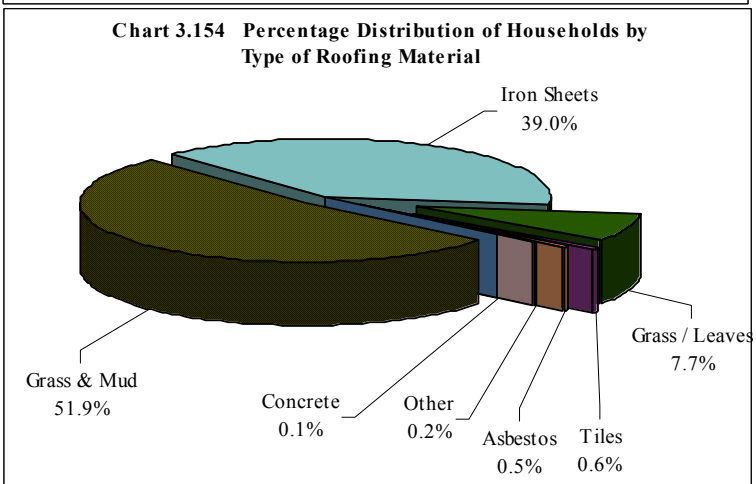
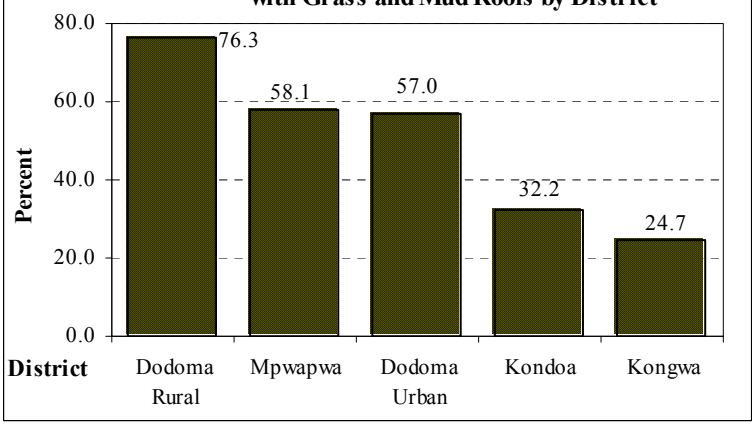


Chart 3.155 Percentage Distribution of Households with Grass and Mud Roofs by District

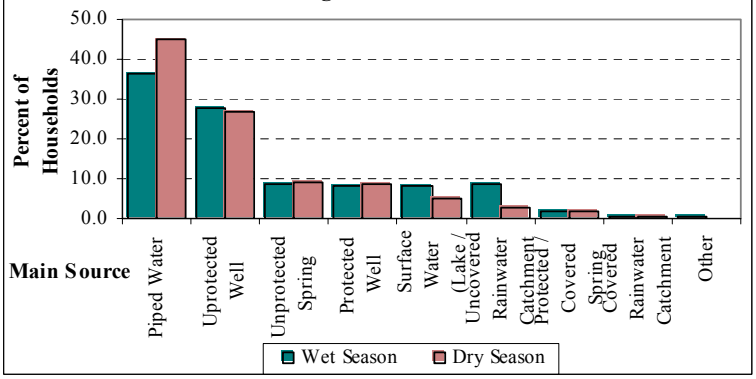


3.13.6 Access to Drinking Water

The main source of drinking water for rural agricultural households in Dodoma region was piped water (36% of households use piped water during the wet season and 50% of the households during the dry season). This is followed by unprotected wells (28% of households during the wet season and 28% in the dry season), unprotected spring (8.6% of households in the wet season and 9.1% during the dry season) and protected wells (8.2% of households using the source in the wet season and 8.8% in the dry season).

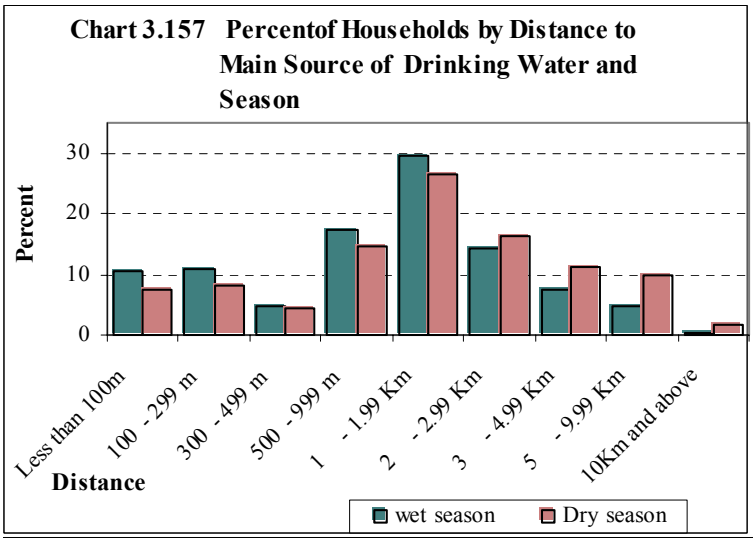
Other sources of drinking water and their respective percentages of households using the source for drinking water during wet and dry season are surface water (8.2% wet season, 4.8 dry season), uncovered rainwater catchment (8.4% wet season, 2.9% dry season), protected spring (1.9% wet season, 2.0% dry season), covered rainwater catchment (0.4% in both seasons) and other sources (0.4% wet season, 0.1 dry season) (Chart 3.156).

Chart 3.156 Percent of Households by Main Source of Drinking Water and Season



About 44 percent of the rural agricultural households in Dodoma region obtained drinking water within a distance of less than one kilometer during the wet season compared to 35 percent of the households during the dry season. However, 56 percent of the agricultural households obtained drinking water from a distance of one or more kilometers during wet season compared to 65 percent of households in the dry season. The most common distance from the source of drinking water was between 1 and 2 km (Chart 3.157).

Chart 3.157 Percentof Households by Distance to Main Source of Drinking Water and Season

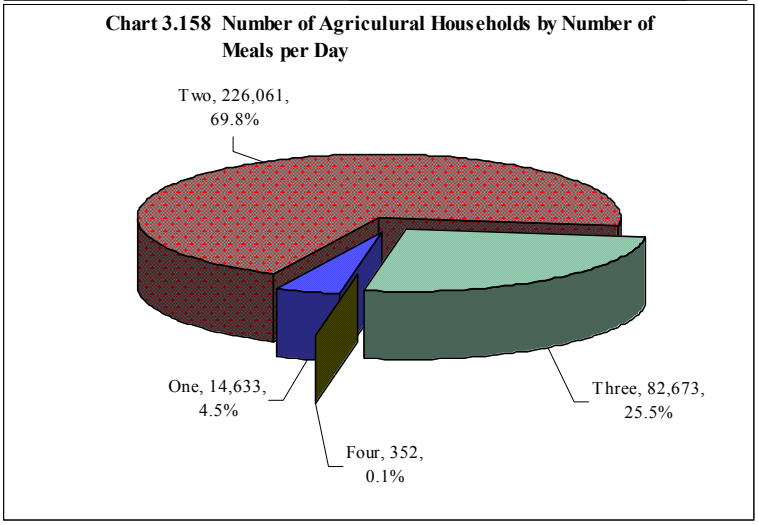


3.13.7 Food Consumption Pattern

3.13.7.1 Number of Meals per Day

The majority of households in Dodoma region normally have 2 meals per day (69.8 percent of the households in the region). This is followed by 3 meals per day (25.5 percent) and 1 meal per day (4.5 percent). Only 0.1 percent of the households have 4 meals per day (Chart 3.158).

Chart 3.158 Number of Agricultural Households by Number of Meals per Day



Dodoma Urban district had the highest percent of households having one meal per day whilst Kondoa had the highest percent of households taking 3 meals per day (Table 3.17 and Map 3.62).

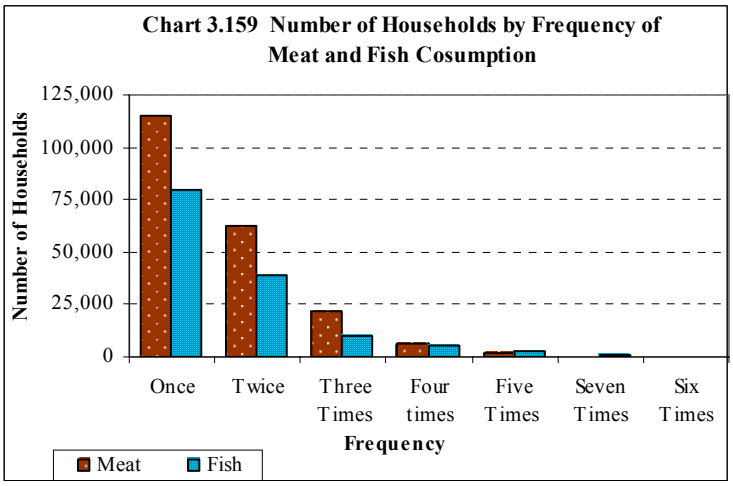
Chart 3.17: Number of Households by Number of Meals Taken per Day and District

District	Number of meals per day								
	One	%	Two	%	Three	%	Four	%	Total
Kondoa	724	0.9	37,133	43.8	46,899	55.3	0	0.0	84,756
Mpwapwa	1,532	3.0	41,841	82.0	7,423	14.5	259	0.5	51,055
Kongwa	352	0.7	34,341	72.7	12,545	26.6	0	0.0	47,238
Dodoma Rur	6,823	6.8	83,667	83.3	9,991	9.9	0	0.0	100,482
Dodoma Urb	5,203	12.9	29,078	72.4	5,815	14.5	94	0.2	40,189
Total	**14,633**	**4.5**	**226,061**	**69.8**	**82,673**	**25.5**	**352**	**0.1**	**323,719**

3.13.7.2 Meat Consumption Frequency

The number of agricultural households that consumed meat during the week preceding the census was 208,654 (64% of the agricultural households in Dodoma region). Of these households 115,314 consumed meat once during the week (55.3 % of those who consumed consuming meat). This was followed by those who had meat twice during the week (30.0%). Very few households had meat four times or more during the respective week. About 35.5 percent of the agricultural households in Dodoma region did not eat meat during the week preceding the census (Chart 3.159 and Map 3.63).

Chart 3.159 Number of Households by Frequency of Meat and Fish Cosumption



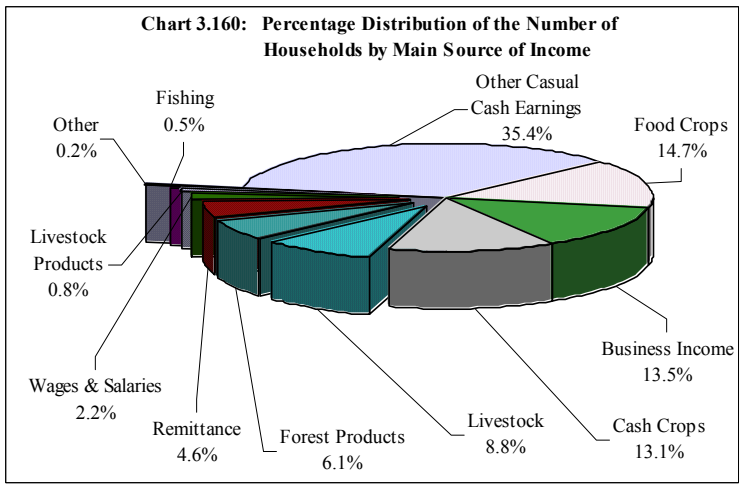
3.13.7.3 Fish Consumption Frequencies

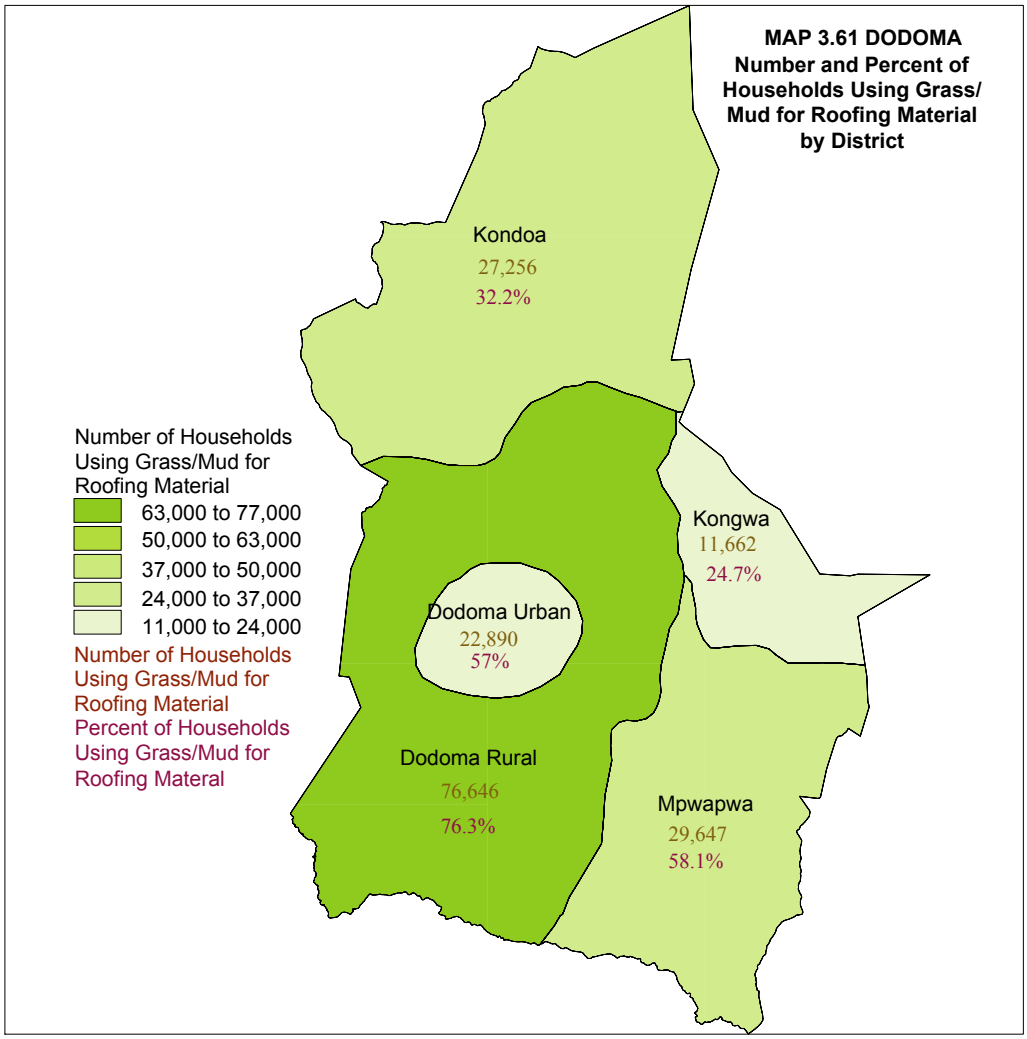
The number of agricultural households that consumed fish during the week preceding the census was 138,561(42.8% of the total agricultural households in Dodoma region). Of these households 38,764 households consumed fish twice during the week (28.0 % of those who consumed fish in the region). This was followed by those who had fish three times (7.4%). In general, the number of households that consumed fish twice or more during the week in Dodoma region was 58,497 (42.2% of the agricultural households that ate fish in the region during the respective period). About 57.2 percent of the agricultural households in Dodoma region did not eat fish during the week preceding the census (Chart 3.160 and Map 3.64).

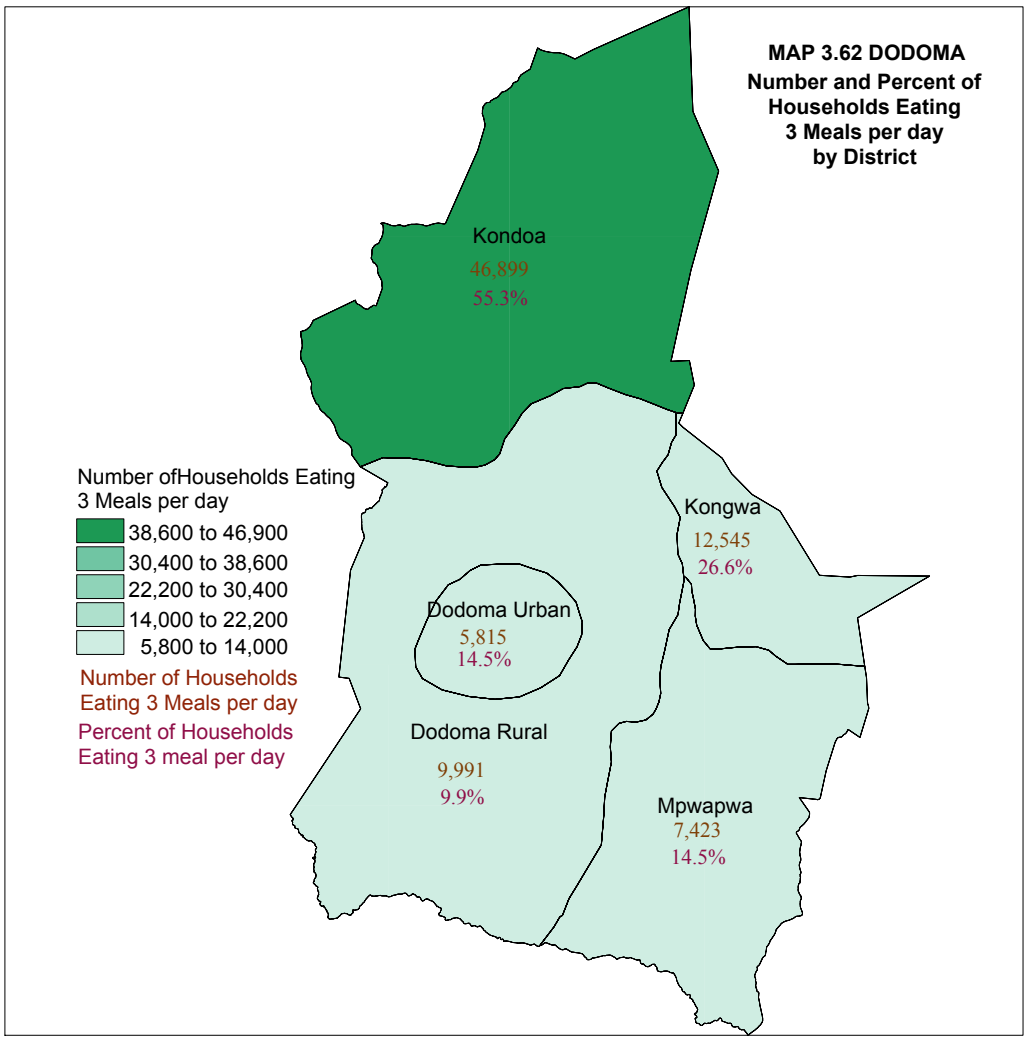
3.13.8 Food Security

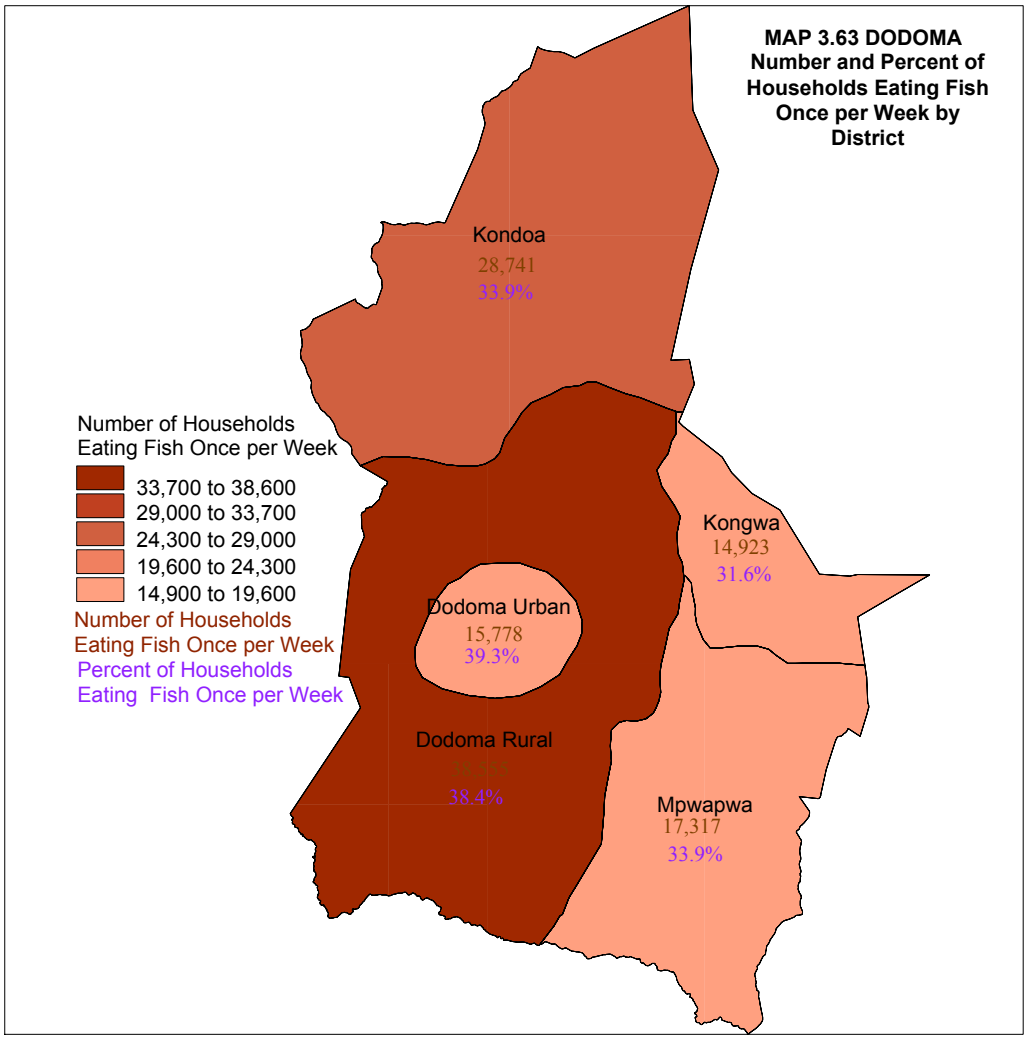
In Dodoma region, 110,205 households (34% of the total agricultural households in the region) said they rarely experienced problems in satisfying the household food requirement. However, 23,088 (7.1%) said they sometimes experience problems, 17 percent often experienced problems and 9.2 percent always had problems in satisfying the household food requirement. About 32.6 percent of the agricultural households said they did not experience any food sufficiency problems (Map 3.65).

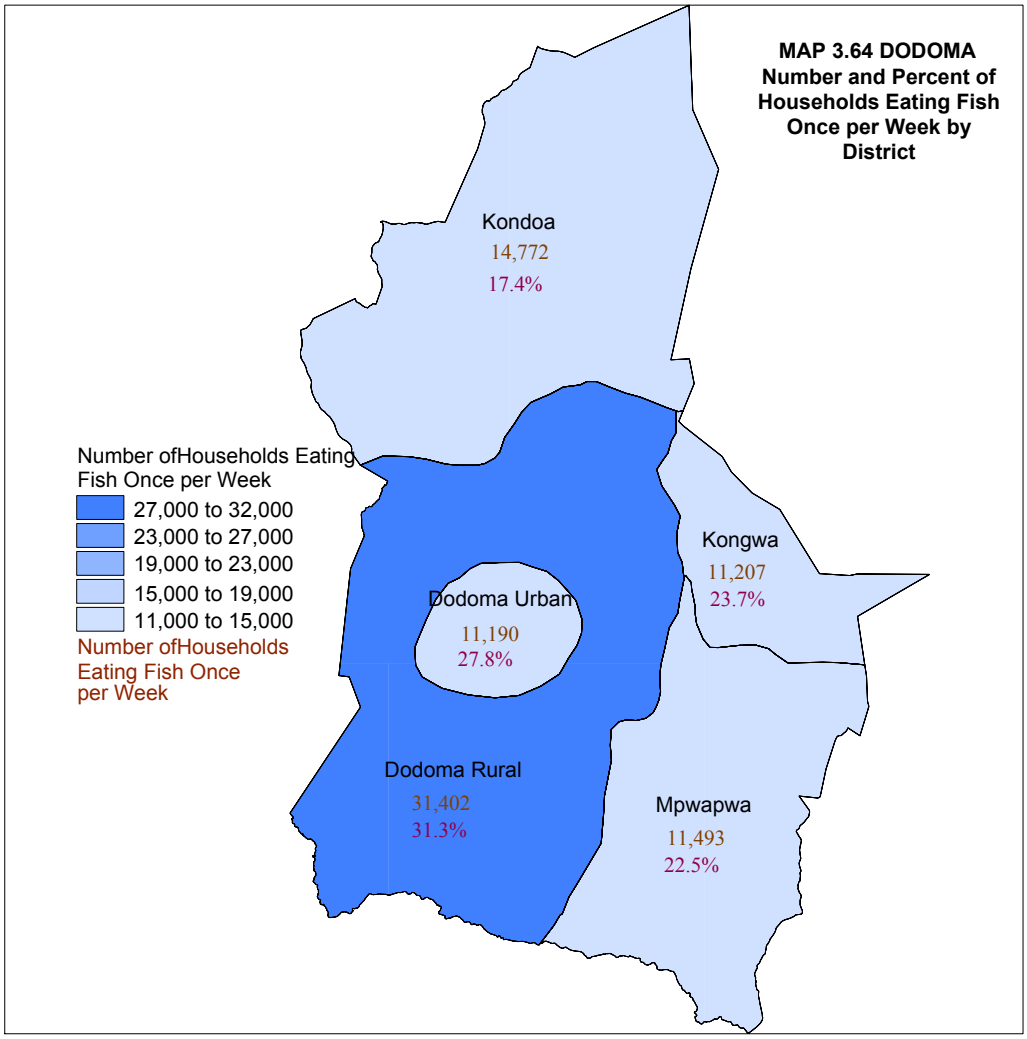
Chart 3.160: Percentage Distribution of the Number of Households by Main Source of Income

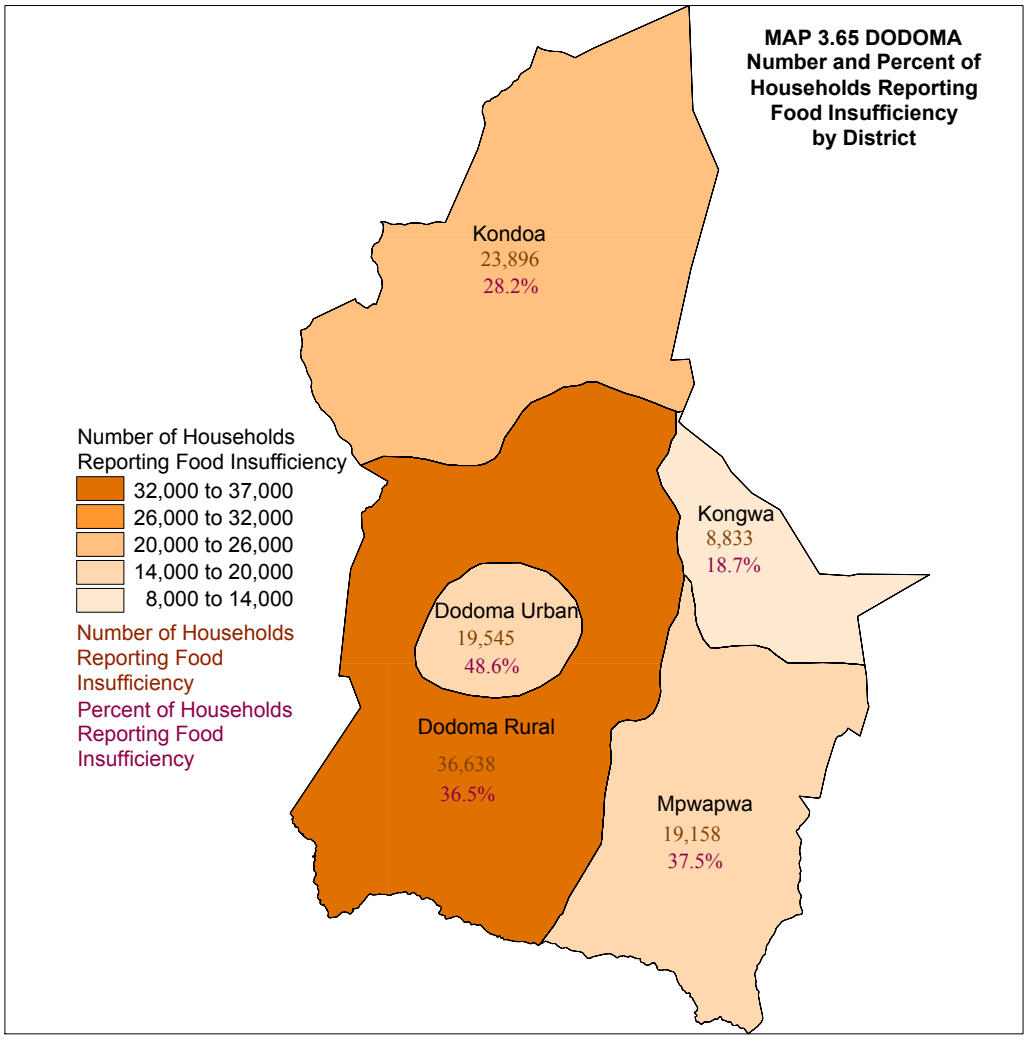



MAP 3.61 DODOMA
Number and Percent of Households Using Grass/ Mud for Roofing Material by District
Kondoa
27,256
32.2%
Kongwa
11,662
24.7%
Dodoma Urban
22,890
57%
Dodoma Rural
76,646
76.3%
Mpwapwa
29,647
58.1%
Number of Households Using Grass/Mud for Roofing Material
63,000 to 77,000
50,000 to 63,000
37,000 to 50,000
24,000 to 37,000
11,000 to 24,000
Number of Households Using Grass/Mud for Roofing Material
Percent of Households Using Grass/Mud for Roofing Materal


MAP 3.62 DODOMA
Number and Percent of Households Eating 3 Meals per day by District
Kondoa
46,899
55.3%
Kongwa
12,545
26.6%
Dodoma Urban
5,815
14.5%
Dodoma Rural
9,991
9.9%
Mpwapwa
7,423
14.5%
Number ofHouseholds Eating 3 Meals per day
38,600 to 46,900
30,400 to 38,600
22,200 to 30,400
14,000 to 22,200
5,800 to 14,000
Number of Households Eating 3 Meals per day
Percent of Households Eating 3 meal per day


MAP 3.63 DODOMA
Number and Percent of Households Eating Fish Once per Week by District
Kondoa
28,741
33.9%
Kongwa
14,923
31.6%
Dodoma Urban
15,778
39.3%
Dodoma Rural
38.4%
Mpwapwa
17,317
33.9%
Number of Households Eating Fish Once per Week
33,700 to 38,600
29,000 to 33,700
24,300 to 29,000
19,600 to 24,300
14,900 to 19,600
Number of Households Eating Fish Once per Week
Percent of Households Eating Fish Once per Week


MAP 3.64 DODOMA
Number and Percent of Households Eating Fish Once per Week by District
Kondoa
14,772
17.4%
Kongwa
11,207
23.7%
Dodoma Urban
11,190
27.8%
Dodoma Rural
31,402
31.3%
Mpwapwa
11,493
22.5%
Number ofHouseholds Eating Fish Once per Week
27,000 to 32,000
23,000 to 27,000
19,000 to 23,000
15,000 to 19,000
11,000 to 15,000
Number ofHouseholds Eating Fish Once per Week


MAP 3.65 DODOMA
Number and Percent of Households Reporting Food Insufficiency by District
Kondoa
23,896
28.2%
Kongwa
8,833
18.7%
Dodoma Urban
19,545
48.6%
Dodoma Rural
36,638
36.5%
Mpwapwa
19,158
37.5%
Number of Households Reporting Food Insufficiency
32,000 to 37,000
26,000 to 32,000
20,000 to 26,000
14,000 to 20,000
8,000 to 14,000
Number of Households Reporting Food Insufficiency
Percent of Households Reporting Food Insufficiency

3.13.9 Main Sources of Cash Income

The main cash income of the households in Dodoma region was from other casual earnings (35.4 percent of smallholder households), followed by selling of food crops (14.7%), businesses (13.5%), selling of cash crops (13.1%) and sale of livestock (8.8%). Other sources of income include sale of forest product (6.1%), cash remittance (4.6%), wages and salaries (2.2%), sale of livestock products (0.8%), fishing (0.5%) and other unspecified sources (0.9%) (Chart 3.160).

PART IV: DODOMA PROFILES

4.1 Region Profile

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

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

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

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

4.2 DISTRICT PROFILES

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

4.2.1 Kondoa

Kondoa 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 livestock keeping only, followed by crop and livestock production. It has a very small number of crops only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Kondoa district is Annual Crop Farming, followed by off farm income and forestry products. However, the district has the lowest 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, Kondoa has a relatively high percent of female headed households (22.7%) and it has the second highest average age of the household head. The district has the highest average household size (4.9 members per household) in the region. Kondoa has the highest literacy rate among smallholder households and this is reflected by the concomitant relatively high

level of school attendance in the district. The district has the second highest literacy rate for the heads of household in the region.

It has the largest utilized land area per household (4.0ha) and the allocated area is almost fully utilized (94% land utilization) indicating an impending high level of land pressure. The district has a third largest total planted area as well as area per household (1.8 ha).

The district is the second largest maize producer in the region with a planted area of 79,653 and the planted area per household is the third largest in the region. Burlush millet production is not important with a planted area of only 6 percent of the total area planted in the region. The district is the third largest producer of sorghum and the highest producer of finger millet in the region. Cassava production is moderate accounting for 15 percent of the quantity harvested in the region. The district is the second among the two Irish potato producing districts in the region (59 ha). The production of beans in Kondoa is much higher than in other districts in the region with a planted area of 4,774ha. Oilseed crops are not important in Kondoa and has the least area planted with groundnuts in the region. Vegetable production is important in the district. It has the largest planted area with onions and second largest area of tomato and amaranths.

Kondoa has a largest planted area with permanent crops which is dominated by pigeon peas (17,199 ha). Other permanent crops are grown in very small quantities.

As with other districts in the region, most land clearing and preparation is done by hand, however it has the largest area of land prepared using oxen.

The use of inputs in the region is very small, however district differences exist. Kondoa has the moderate planted area with improved seed in Dodoma. The district has the second largest planted area with fertilisers (farm yard manure, compost and inorganic fertiliser), however most of this is farm yard manure. Compared to other districts in the region, Kondoa district has a lowest level of insecticide use. The use of fungicides was moderate and has a lowest level of herbicide use compared to other districts. It has the second largest area with irrigation compared to other districts with 2,497 ha of irrigated land. The most common source of water for irrigation is from wells. Flood and bucket are the most common means of irrigation water application and a very small amount of water hose irrigation is used.

The proportion of households storing crops in Kondoa district is the highest in the region and the most common method of crop storage in the district is in sacks and/or open drums. 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 Dodoma region is found in Kondoa district and more than 70 percent of households are processing on farm using neighbor machines. The district also has the second highest percent of households selling processed crops to traders on farm than other districts and no sales are to secondary markets, marketing cooperatives and large scale farms. Access to credit in the district is very small, however Kondoa district has the second highest proportion of household with access to credit. The main sources of credit in the district are family friends and relatives and religious organisations/NGO projects.

The district has a smallest proportion of households receiving extension services in the region and almost all of this is from the government. The quality of extension services was rated good by the majority of the households.

Tree farming is not important in Kondoa (with 229,983 planted trees) and is mostly eucalyptus with some gravellis. The highest proportion of erosion control and water harvesting structures is found in Kondoa district and is mostly erosion control bunds, however it also has the second highest number of vertiver grass strips and water harvesting bunds than other districts.

The district has the second largest number of cattle and goats in the region and they are almost all indigenous, however it has the second smallest sheep population in the region. It has the smallest number of pigs in the region and the second highest number of chickens dominated by indigenous chicken and no layers. Small numbers of ducks and donkeys are also found in the district. It has the largest number of households reporting tsetse and tick problems in the region and it has a relatively small number of households de-worming livestock. The use of draft animals in the district is the highest in the region and there is no fish farming.

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

Kondoa district has the second lowest percent of households with no toilet facilities and it has the lowest percent of households owning TV/video. It has the second highest proportion 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 relatively small percent of households with grass roofs with 53 percent of households having iron sheets. The most common source of drinking water is from unprotected wells followed with piped water. It has the lowest percent of households having two or one meal per day compared to other districts and the highest percent with 3 meals per day. The district is among the two districts with 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 Mpwapwa

Mpwapwa is the second district with the least number of households in the region and it is the two districts with lowest percent of households involved in smallholder agriculture in the region. Most smallholders are involved in livestock only, followed by crop production only. No pastoralists are found in the district.

The most important livelihood activity for smallholder households in Mpwapwa district is Annual Crop Farming, followed by Off farm Income. However, the district has the third highest percent of households with no off-farm activities and has the second highest percent of households with more than one member with off-farm income. Compared to other districts in the region, Mpwapwa has a relatively low percent of female headed households (19%) and it has the lowest average age of the household head in the region. The district has the second highest average household size in the region. Mpwapwa 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 other two districts in the region.

It has the largest utilized land area per household (2.4 ha) and the allocated area is almost fully utilized (94.4% land utilization) indicating an impending high level of land pressure. The district has the second smallest planted area in the region as well as planted area per household (1.01 ha).

Maize production in the district is low compared to other districts in the region with a planted area of 51,352 ha, however the planted area per household is high. Bulrush millet production is less important with a planted area of only 2,748 hectares. The district is a second sorghum producer in the region. Mpwapwa has a largest area planted with cassava, Irish potatoes and beans in the region. Mpwapwa district has the second largest groundnut planted area in Dodoma region with area planted per groundnut growing household of 0.88 ha. Vegetable production is moderately important in the district. It has the third largest planted area with tomatoes and amaranths and second largest area planted with onions. It accounts for 42 percent of the total area planted with onions in the region.

Compared to other districts in the region, Mpwapwa has the third largest planted area with permanent crops which is dominated by bananas (1,458 ha), guava (824 ha) and rubber vine fruits (104 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 and a very of small land preparation is done by oxen.

The use of inputs in the region is very small, however district differences exist. Mpwapwa has the second smallest planted area with improved seed in Dodoma region, however it has the second highest proportion of households using improved seeds. The district has the second lowest planted area with fertilisers (Farm yard manure, compost and inorganic fertiliser), however most of this is farm yard manure. Compared to other districts in the region, Mpwapwa district has low level of insecticide use. The use of fungicides was moderate compared to other districts. It has the second largest area planted applied with herbicides in the region. It has the largest area with irrigation compared to other districts with 1,651 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.

The proportion of households storing crops in Mpwapwa district is moderate and the most common methods of crop storage in the district is in sacks and/or open drum and locally made traditional structures. Mpwapwa district has the second largest proportion of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. Mpwapwa is among the districts with the highest percent of households processing crops in Dodoma region and 58 percent of all households are processing using neighbours machine. The district also has the second highest percent of households selling processed crops to neighbours than other districts and no sales are to farmers associations, large scale farms or local market/trade store. Access to credit in the district is relatively small and the main sources are family, friends and relatives and religious organisations/NGO projects.

A comparatively low number of households receive extension services in Mpwapwa district and 94 percent of this is from the government. The quality of extension services was rated “good” by the majority of the households.

The district has the largest number of trees in the region (with 738,104 planted trees) and is mostly eucalyptus, acacia spp and laucena spp. Mpwapwa district has the third highest proportion of erosion control and water harvesting structures in the region and is mostly dams, erosion control bunds and tree belts, however it also has the a number of water harvesting bunds and drainage ditches.

The district has the smallest number of cattle in the region and they are almost all indigenous. Goat and Sheep production is moderate compared to other districts in the region. It has the second largest number of pigs in the region and the largest number of chickens. Some ducks and donkeys are also found in the district. A number of households reported tsetse and tick problems in Mpwapwa district and it has the third largest proportion of households de-worming livestock. The district has moderate number of households using draft animals in the region. Among all districts, fish farming is practiced in Mpwapwa district only.

Compared to other districts, it has the worst access to almost all infrastructure and services except feeder roads and all weather roads.

The percentage of households without toilet facility in Mpwapwa district is 8.2, which is the second highest in the region. It is among the districts with the lowest percent of households owning wheel barrows, bicycles and irons. It has the third highest proportion of households using mains electricity in the region. The most common source of energy for lighting is the wick lamp and practically almost all households use firewood for cooking. The roofing material for most of the households in the district is grass and mud (58%) and iron sheets (28%). The most common source of drinking water is piped water followed by unprotected wells. It is one of the districts with the highest percent of households having two meals per day. The district has one of the highest percent of households that did not eat meat or fish during the week prior to enumeration, however it has the second highest proportion of households who face problems in satisfying household food requirements.

4.2.3 Kongwa

Kongwa district has the lowest number of households in the region and it has a moderate percent of households involved in smallholder agriculture in the region. Most smallholders are involved in livestock keeping only, followed by crop and livestock production. No pastoralists were found in the district.

The most important livelihood activity for smallholder households in Kongwa district is Annual Crop Farming, followed by off-farm income activities. However, the district has the second 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, Kongwa has the lowest percent of female headed households (16%) and it has the second lowest average age of the household head in the region. The district has the highest average household size (5.3 members per household) in the region. Kongwa has a comparatively low literacy rate among smallholder households and this is reflected by the concomitant relatively low level of school attendance in the region. However, it has the second highest literacy rate for the heads of household in the region.

It has a slightly higher utilized land area per household (4.0ha) than the regional average of 2.4 ha and 94 percent of the allocated area is currently being utilized. The total planted area as well as the area planted per household (1.9 ha) is greater than in other districts in the region.

The district is leading in maize production in the region with a planted area of about 131,930 ha. The highest maize production in the district is attributed by among other factors the highest area planted per maize growing household (2.9ha) in the region. Bulrush millet and sorghum production is not important with a planted area of only 4,971 and 7,740 hectares respectively. The district has the smallest planted area of cassava accounting for 6 percent of the cassava planted area in the region and there is no Irish potato production The production of beans in Kongwa is much lower than in other districts in the region with a

planted area of 142 ha. Oilseed crops are moderate important in Kongwa with 20 percent of the groundnuts grown in the district. Vegetable production is not important in the district.

Permanent crops are of moderate importance in Kongwa district (11% of the total permanent crop planted area in Dodoma region is found in the district). The most prominent permanent crop in the district pigeon peas (2,468 ha) accounting for 93 percent of the total area planted with permanent crops in the district. Other permanent crops are unimportant in the district with banana (59 ha), guava (47 ha), mango (23 ha) and lime/lemons (23 ha) having only 59, 47, 23 and 23 hectares respectively. 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 and small land preparation is done by oxen. The district has the highest percentage of household using tractors for ploughing in the region.

The use of inputs in the region is very small, however district differences exist. Kongwa has the moderate planted area with improved seed in Dodoma region. The district also has the second smallest proportion of planted area with fertilisers (Farm yard manure, compost and inorganic fertiliser), however most of this is farm yard manure. Compared to other districts in the region, Kongwa district has the largest proportion of planted area applied with fungicide and herbicides and the second highest proportion of area applied with insecticide. It has the smallest area with irrigation compared to other districts with 24 ha only of irrigated land. The only source of water for irrigation available in the district is from rivers and bucket/watering is the only means of irrigation water application.

The percent of households storing crops in Kongwa district is the lowest in the region and the most common method of crop storage in the district is in sacks and/or open drums. The district has the second lowest percent of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. Kongwa district has a moderate percent of households processing crops, however 86 percent of households process using neighbour's machines. The district has a relatively low percent of households selling processed crops mainly to neighbours. The district has the highest percent of households receiving credit in the region mainly from commercial banks. It is the only district receiving credit from commercial banks and saving and credit societies in Dodoma region.

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

Tree farming is not important in Kongwa district (with 26,358 planted trees) and is mostly Senna with some Azadritacht. Kongwa district has the second highest proportion of erosion control and water harvesting structures in the region, however it has the highest proportion of vertiver grass, tree belts, dams and terraces.

The district has a moderate number of cattle in the region and compared to other districts it has the highest number of beef and dairy cattle. Although the district has second lowest number of goats in the region it has the second largest number of sheep. It has the largest number of pigs in the region and the second smallest number of chickens. Though small, the district has the third largest number of improved chickens mostly layers. It is the only district with turkeys and has a small number of ducks and donkeys. A number of households reported tsetse and tick problems in Kongwa district. The district has the highest proportion of household de-worming livestock. The use of draft animals in the district is moderate. There is no fish farming in the district.

It is amongst the districts with the best access to secondary schools, all weather roads, hospitals, health clinics, primary markets and tarmac roads compared to other districts.

Kongwa district has the smallest percent of households with no toilet facilities and it has the highest percent of households owning radios, landline phones, mobile phones, irons, wheelbarrows, bicycles and vehicles. It has the highest proportion of households using solar and hurricane lamps in the region. The most common source of energy for lighting is the wick lamp and large proportion of households (96%) use firewood for cooking. The district has a high percent of households with iron sheets (67%) and tiles (2%). The most common source of drinking water is from piped water. Kongwa had the least proportion of households having one meal per day and second largest proportion of households having three meals per day. The district has the lowest percent of households that did not eat meat during the week prior to enumeration, however it has the third highest percent of those who did not eat fish. It has the highest percent of households that never experience food shortage problems.

4.2.4 Dodoma Rural

Dodoma Rural district has the largest number of households in the region and it has 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. Neither crop and livestock households nor pastoralists were found in the district.

The most important livelihood activity for smallholder households in Dodoma Rural district is Annual Crop Farming, followed by Off - farm Income, Tree/Forest resources, Livestock keeping/herding and remittances. The district has a high percent of households with no off-farm activities however it has the lowest percent of households with more than one member with off-farm income. Compared to other districts in the region, Dodoma Rural has the third largest percent of female headed households (23%) and it has the third largest average age of the household head. With an average household size of 4.2 members per household it is the lowest in the region. The literacy rate among smallholder households in Dodoma Rural is the lowest compared to other districts in the region and associated with this is the highest proportion of household members who have never attended school.

It has the second lowest utilized land area per household (2.1 ha) and largest total area planted with annual crops in the region. However, the district had the second smallest planted area per household in the wet season (0.66 ha) and largest area planted per household during dry season (2.9 ha).

The district is moderate important for maize production in the region with a planted area of 62,118 ha and the planted area per household is the second smallest in the region. Bulrush millet production is of most importance in the region with a planted area of 30,103 hectares and the district had the third largest planted area per bulrush millet growing household. The district has the largest area planted with sorghum and paddy in the region. Finger millet is also produced in a very small quantity. The district also has the second largest planted area of cassava (3,316 ha), however very little beans are produced. Oilseed crops are important in Dodoma Rural with the largest planted area of oilseeds in the region (28,042 ha), however the district had the third largest area panted with groundnuts in the region. Vegetable production is not important in the district, however tomatoes, onions and amaranths are produced in very small quantities.

Compared to other districts in the region, Dodoma Rural has the smallest planted area with permanent crops which is dominated by grape (186 ha), banana (91 ha), pawpaw (47 ha) mango (32 ha) and Guava. Other permanent crops are either not grown or are grown in small quantities.

Most land clearing is done by hand slashing and it has also the largest area of bush clearance in the region. Most land preparation is done by hand, however it has the third highest planted area cultivated by oxen. A small amount of land preparation is done by tractor.

The use of inputs in the region is very small, however district differences exist. Dodoma Rural has the highest proportion of planted area with improved seed in Dodoma region. The use of fertiliser is relatively high compared to other districts and is mostly farm yard manure and compost. It has a relatively small area planted with inorganic fertilisers. Compared to other districts in the region, Dodoma Rural district has the smallest percentage of the planted area in the district with fungicides application and the second smallest area of herbicide use. The district has the largest percent of area planted with insecticide use. It has the second smallest area with irrigation with a planted area of only 74 ha under irrigation. The only 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 proportion of households storing crops in Dodoma Rural district is the lowest in Dodoma region and the most common method of crop storage is in locally made traditional cribs. The district has a moderate proportion of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. Dodoma Rural has the lowest percent of households processing crops and is mostly done using neighbours machines. The district has a low percent of households selling processed crops mostly to secondary markets. There is little access to credit in the district of which all are from religious organizations/NGOs projects.

A comparatively high proportion of households receive extension services in Dodoma Rural and it is 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 Dodoma Rural with 102,885 trees dominated by Azadracht Spp and Senna Spp. The second highest proportion of erosion control and water harvesting structures is found in Dodoma Rural district and is mostly, gabions, terraces and erosion control bunds.

The district has the largest number of cattle in the region dominated by indigenous breed and very little dairy breeds. Goat and sheep populations are also the largest in the region. The district has a comparatively small number of pigs, but it has a comparatively moderate chicken population, dominated by indigenous breeds and very few layers and broilers. The district has the highest number of donkeys in the region. It has the second lowest proportion of households reporting Tsetse and tick problems in the region and it has the second highest proportion of households de-worming livestock compared to other districts. Draft animals use is relatively moderate and fish farming is not practiced in the district.

It is amongst the districts with good access to primary schools and feeder roads, however it has one of the worst access to all weather roads, hospitals and tertiary markets.

Dodoma Rural district has the highest proportion of households with no toilet facilities in Dodoma region. It has the lowest proportion of households with landline phones and irons. It has the smallest proportion of households using mains electricity, hurricane lamps, pressure lamps and candles; however it has the highest proportion of households using firewood for lighting. The most common source of energy for lighting is the wick lamp and almost all households use firewood for cooking. The district has the highest percent of households with grass and mud roofs with and 19 percent of households have iron sheet roofing. The most common sources of drinking water are from piped water and unprotected wells. It has the highest percent of households having two meals per day compared to other districts and lowest percent with three meals per day. The district has a moderate to high percent of households that did not eat meat and smallest percent of households that did not eat fish during the week prior to enumeration; however most households seldom had problems with food satisfaction.

4.2.5 Dodoma Urban

Dodoma Urban district has the smallest number of households as well as the smallest proportion 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 neither livestock only households nor pastoralists.

The most important livelihood activity for smallholder households in Dodoma Urban district is off-farm income, followed by annual crop farming, tree/Forest Resources and livestock keeping/herding. However, the district has high proportion 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, Dodoma Urban has the highest percent of female headed households (26%) in the region and it has the second lowest average age of the household head. With an average household size of 4.4 members per household it is the second smallest for the region. Dodoma Urban has the second highest literacy rate among smallholder households in and this is reflected by the relatively high level of those attending school in the region. The literacy rate for the heads of household is the lowest in the region.

It has the lowest utilized land area per household (1.6 ha) in the region. The total planted area is the smallest compared to other districts in the region, however it has also the smallest planted area per household (0.53 ha during wet season and 0.2 ha in the dry season).

The district has the smallest area planted with maize and smallest area planted per maize growing household in the region. The district has the second largest planted area of bulrush millet (22,634 ha) and lowest area planted with sorghum and paddy. Finger millet is produced in the district in small quantity. Cassava production is small accounting for only 8 percent of the cassava planted area in the region. The production of beans in Dodoma Urban is comparatively small (102 ha) and the area planted with cowpeas is moderate (885 ha). Other pulses produced in the district are of minor importance. Oilseed crops are not important in Dodoma Urban, and it has the second lowest area planted with groundnuts in the region. Simsim and sunflower are grown in small amounts. The district has the largest area planted with fruit and vegetables in the region which is dominated by tomatoes (732 ha) followed by amaranths. It has the largest area planted with tomatoes and amaranths in the region. Other vegetables are grown in small quantities.

Compared to other districts in the region, Dodoma Urban has low planted area with permanent crops which is dominated by mango (220 ha), guava (98 ha), grape (92 ha) and pawpaw (72 ha). Small quantities of banana, sugar cane, oranges and pigeon peas 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 land cleared by burning. Most land preparation is done by hand, however it has a small planted area cultivated by oxen. A small amount of land preparation is also done by tractor.

The use of inputs in the region is very small, however district differences exist. Dodoma Urban has the largest proportion of its planted area with fertilisers (compost, Farm yard manure and inorganic manure), however most of this is compost). It has the smallest proportion of area planted with improved seeds. The district has a relatively moderate level of insecticide and herbicide use, however the use of fungicides was the second highest in the region. It has the second highest area of irrigation with 1,618 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 sprinkler and flood methods are used.

The proportion of households storing crops in the district is the second lowest in the region and the most common method of crop storage is in locally made traditional cribs and sacks/open drums. The district has the smallest proportion of households selling crops, however for those who did not sell, the main reason for not selling is insufficient production. The second lowest percent of households processing crops in Dodoma region is found in Dodoma Urban district and is mostly done on farm using neighbours machines. Virtually no processing is 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 little access to credit in the district and mostly it is from from religious organisations/NGO projects.

A comparatively high number of households receive extension services in Dodoma Urban district and a large percent of this is from the government. The quality of extension services was rated between Very good by the majority of the households.

Tree farming is relatively important in Dodoma Urban with 362,642 planted trees and is mostly Pinus spp with some Azadrachta spp, Syszygium Spp and Senna spp. The smallest proportion of erosion control and water harvesting structures is found in Dodoma Urban district and is mostly of terraces and erosion control bunds.

The district has the second lowest number of cattle in the region dominated by indigenous breeds with very few beef and dairy breeds. It has the lowest goat, sheep and chicken populations compared to other districts in the region, however it has the second largest layer population in the region. It has one of the smallest number of pigs in the region. A small numbers of ducks, donkeys and other livestock are also found in the district. There is a large proportion of households reporting tick related problems and the least proportion of households reporting tsetse related problems, however it has one of the smallest proportion 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, all weather roads, secondary schools, hospitals, regional capital, tertiary markets and tarmac roads, however it has one of the worst accesses to the feeder roads and primary markets.

Dodoma Urban district has the third highest percent of households with no toilet facilities and it has no households owning mobile phones and vehicles. It has the highest proportion of households with access to mains electricity, biogas and candles. 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 and mud roofs with 40 percent of households having iron sheet

roofing. The most common source of drinking water is from unprotected wells, followed by piped water. It has the highest percent of households having one meal per day compared to other districts and the second lowest percent with 3 meals per day. The district has one of the highest percent of households that did not eat meat during the week prior to enumeration; however it has the second lowest percent of households that did not eat fish during the respective period. The district has the largest percent of households that have food satisfaction problems in the region.

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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

District	Agriculture, Non Agriculture and Urban Households								
	Rural households involved in Agriculture	% of Total rural households	Rural households NOT involved in Agriculture	% of Total Rural household	Total Rural Households	% of Total households	Urban Households	% of Total households	Total Number of Households (from 2002 Pop. Census)
	Number	%	Number	%	Number	%	Number	%	Number
Kondoa	84,756	98	2,099	2	86,855	97	3,038	3	89,893
Mpwapwa	51,055	97	1,336	3	52,391	93	4,172	7	56,563
Kongwa	47,238	99	248	1	47,486	93	3,391	7	50,877
Dodoma Rural	100,482	97	3,177	3	103,659	99	624	1	104,283
Dodoma Urban	40,189	99	557	1	40,746	54	34,168	46	74,914
Total	323,719	98	7,418	2	331,138	88	45,392	12	376,530

2.2 TYPE OF AGRICULTURE HOUSEHOLD:Number of Agriculture Households By Type of Holding and District during 2002/03 Agricultural Year

District	Type of Agriculture Household								Total Number of Agriculture Households	Total Number of Households Growing Crops	Total Number of Households Rearing Livestock
	Crops Only		Livestock Only		Crops & Livestock		Total				
	Number of households	%	Number of households	%	Number of households	%	Number of households	%			
Kondoa	53,654	23	286	47	30,816	34	84,756	26	84,756	84,470	31,102
Mpwapwa	37,978	16	204	34	12,872	14	51,055	16	51,055	50,850	13,077
Kongwa	31,955	14	117	19	15,166	17	47,238	15	47,238	47,121	15,283
Dodoma Rural	77,975	33	0	0	22,507	25	100,482	31	100,482	100,482	22,507
Dodoma Urban	32,148	14	0	0	8,041	9	40,189	12	40,189	40,189	8,041
Total	233,709	100	608	100	89,402	100	323,719	100	323,719	323,112	90,010

NUMBER OF AGRICULTURE HOUSEHOLDS

3.0: 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	%	
Kondoa	65,524	77	5	19,233	22.7	4	84,756	100	4.9
Mpwapwa	41,404	81	5	9,651	18.9	4	51,055	100	4.7
Kongwa	39,549	84	5	7,689	16.3	5	47,238	100	5.3
Dodoma Rural	77,348	77	4	23,134	23.0	4	100,482	100	4.2
Dodoma Urban	29,742	74	5	10,447	26.0	4	40,189	100	4.4
Total	253,566	78	5	70,153	22	4	323,719	100	4.6

RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES

3.1 The livelyhood 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	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Kondoa	1	6	4	2	5	7	3
Mpwapwa	1	7	4	2	5	6	3
Kongwa	1	6	4	2	5	7	3
Dodoma Rural	1	6	4	2	5	7	3
Dodoma Urban	2	6	4	1	5	7	3
Total	1	6	4	2	5	7	3

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
Kondoa	69,282	285	2,435	9,759	2,560	289	290
Mpwapwa	31,545	0	2,129	13,533	765	204	1,622
Kongwa	40,377	0	1,518	3,260	464	0	234
Dodoma Rural	51,435	230	6,492	29,884	2,737	510	5,551
Dodoma Urban	4,002	101	2,782	23,647	2,283	498	5,288
Total	196,641	616	15,357	80,083	8,808	1,501	12,986

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
Kondoa	12,627	4,278	16,343	42,499	5,417	0	3,153
Mpwapwa	14,917	129	6,638	23,891	2,306	204	2,789
Kongwa	4,544	117	6,173	31,064	2,323	117	2,669
Dodoma Rural	16,890	690	8,161	44,512	3,614	458	26,833
Dodoma Urban	17,205	199	1,497	8,557	591	0	13,318
Total	66,183	5,413	38,811	150,523	14,251	780	48,761

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
Kondoa	2,551	2,861	8,942	17,819	9,286	0	41,769
Mpwapwa	2,740	1,025	6,156	8,727	3,147	462	27,768
Kongwa	1,167	1,047	5,725	6,530	1,517	117	29,621
Dodoma Rural	26,885	1,820	3,630	12,276	2,518	219	49,272
Dodoma Urban	16,408	596	1,192	3,706	703	0	16,192
Total	49,751	7,349	25,645	49,058	17,170	798	164,622

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
Kondoa	290	3,735	4,053	3,177	3,702	145	30,397
Mpwapwa	462	1,532	5,878	1,415	1,989	1,796	15,492
Kongwa	0	1,055	3,506	690	1,403	0	12,139
Dodoma Rural	4,135	4,998	4,347	3,090	2,048	456	13,795
Dodoma Urban	1,969	1,900	3,266	798	1,905	192	3,783
Total	6,856	13,221	21,050	9,170	11,046	2,589	75,607

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
Kondoa	0	1,810	862	434	1,132	145	5,590
Mpwapwa	0	642	641	974	914	903	1,645
Kongwa	0	352	585	116	463	0	234
Dodoma Rural	230	1,585	1,133	686	229	0	0
Dodoma Urban	202	1,504	299	0	603	101	302
Total	431	5,894	3,520	2,210	3,341	1,149	7,772

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
Kondoa	144	288	143	0	280	0	143
Mpwapwa	0	128	387	0	510	129	258
Kongwa	0	0	116	0	0	0	0
Dodoma Rural	0	0	0	0	0	0	0
Dodoma Urban	101	0	0	0	202	0	0
Total	245	417	645	0	991	129	401

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
Kondoa	0	0	0	0	0	0	0
Mpwapwa	258	0	128	129	0	0	0
Kongwa	0	0	0	466	0	0	0
Dodoma Rural	0	0	0	230	224	0	224
Dodoma Urban	201	0	0	0	0	0	0
Total	459	0	128	825	224	0	224

HOUSEHOLDS DEMOGRAPHS

3.2 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (row %)

	Sex					
	Male		Female		Total	
Age Group	Number	%	Number	%	Number	%
Less than 4	105,546	47	120,526	53	226,072	100
05 - 09	123,884	50	124,027	50	247,911	100
10 - 14	101,172	49	103,494	51	204,666	100
15 - 19	80,896	55	67,533	45	148,429	100
20 - 24	55,397	45	67,683	55	123,080	100
25 - 29	46,724	44	59,692	56	106,416	100
30 - 34	40,075	45	48,608	55	88,683	100
35 - 39	35,139	46	41,403	54	76,541	100
40 - 44	33,912	52	31,187	48	65,099	100
45 - 49	22,935	51	22,329	49	45,264	100
50 - 54	22,049	50	21,973	50	44,022	100
55 - 59	15,838	51	14,987	49	30,825	100
60 - 64	15,958	56	12,535	44	28,492	100
65 - 69	10,888	48	11,665	52	22,553	100
70 - 74	9,826	50	9,673	50	19,498	100
75 - 79	5,963	61	3,745	39	9,708	100
80 - 84	5,219	55	4,291	45	9,510	100
Above 85	4,209	53	3,667	47	7,876	100
Total	735,628	49	769,017	51	1,504,645	100

3.3 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Sex and Age Group for the 2002/03 Agricultural Year (column %)

	Sex					
	Male		Female		Total	
Age Group	Number	%	Number	%	Number	%
Less than 4	105,546	14	120,526	16	226,072	15
05 - 09	123,884	17	124,027	16	247,911	16
10 - 14	101,172	14	103,494	13	204,666	14
15 - 19	80,896	11	67,533	9	148,429	10
20 - 24	55,397	8	67,683	9	123,080	8
25 - 29	46,724	6	59,692	8	106,416	7
30 - 34	40,075	5	48,608	6	88,683	6
35 - 39	35,139	5	41,403	5	76,541	5
40 - 44	33,912	5	31,187	4	65,099	4
45 - 49	22,935	3	22,329	3	45,264	3
50 - 54	22,049	3	21,973	3	44,022	3
55 - 59	15,838	2	14,987	2	30,825	2
60 - 64	15,958	2	12,535	2	28,492	2
65 - 69	10,888	1	11,665	2	22,553	1
70 - 74	9,826	1	9,673	1	19,498	1
75 - 79	5,963	1	3,745	0	9,708	1
80 - 84	5,219	1	4,291	1	9,510	1
Above 85	4,209	1	3,667	0	7,876	1
Total	735,628	100	769,017	100	1,504,645	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	%
Kondoa	203,592	49	209,918	51	413,510	100
Mpwapwa	113,325	48	124,867	52	238,192	100
Kongwa	122,899	49	126,077	51	248,977	100
Dodoma Rural	210,093	49	216,142	51	426,235	100
Dodoma Urban	85,718	48	92,012	52	177,730	100
Total	735,628	49	769,017	51	1,504,645	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		Total	
District	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	207,999	59.6	15,080	4.3	564	0.2	125,152	35.9	348,795	100
Mpwapwa	119,655	60.7	3,813	1.9	75	0.0	73,558	37.3	197,100	100
Kongwa	122,538	59.0	3,252	1.6	234	0.1	81,579	39.3	207,603	100
Dodoma Rural	201,332	54.4	3,365	0.9	228	0.1	165,274	44.6	370,199	100
Dodoma Urban	92,171	59.5	4,977	3.2	98	0.1	57,630	37.2	154,875	100
Total	743,694	58.2	30,486	2.4	1,200	0.1	503,193	39.4	1,278,573	100

3.6 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members 5 years and above By School Attendance and District , 2002/03 Agricultural Year

	School Attendancy							
	Attending School		Completed		Never Attended to School		Total	
District	Number	%	Number	%	Number	%	Number	%
Kondoa	114,832	33	122,614	35	111,350	32	348,795	100
Mpwapwa	52,767	27	81,478	41	62,855	32	197,100	100
Kongwa	54,474	26	80,067	39	73,062	35	207,603	100
Dodoma Rural	91,506	25	136,135	37	142,559	39	370,199	100
Dodoma Urban	43,995	28	58,316	38	52,564	34	154,875	100
Total	357,574	28	478,610	37	442,389	35	1,278,573	100

3.7 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members by Main Activity and District, 2002/03 Agricultural Year

	Main Activity									
	Crop/Seaweed Farming		Livestock Keeping / Herding		Livestock Pastoralist		Fishing		Government / Parastatal	
District	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	180,432	52	2,589	1	713	0	145	0	1,373	0
Mpwapwa	109,058	55	2,440	1	279	0	150	0	842	0
Kongwa	128,488	62	1,632	1	229	0	0	0	1,280	1
Dodoma Rural	185,159	50	7,699	2	511	0	282	0	2,046	1
Dodoma Urban	48,276	31	3,576	2	389	0	495	0	2,085	1
Total	651,414	51	17,936	1	2,121	0	1,072	0	7,626	1

cont… Number of Agricultural Household Members By Main Activity and District, 2002/03 Agricultural Year

	Main Activity									
	Private - NGO / Mission / etc		Self Employed (Non Farmimg) with Employees		Self Employed (Non Farmimg) without Employees		Unpaid Family Helper (Non Agriculture)		Not Working & Available	
District	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	1,726	0	1,142	0	1,731	0	509	0	577	0
Mpwapwa	2,078	1	128	0	4,600	2	638	0	258	0
Kongwa	818	0	116	0	348	0	0	0	0	0
Dodoma Rural	26,727	7	865	0	14,447	4	452	0	228	0
Dodoma Urban	23,691	15	1,690	1	15,849	10	784	1	295	0
Total	55,040	4	3,940	0	36,975	3	2,384	0	1,359	0

cont… Number of Agricultural Household Members By Main Activity and District, 2002/03 Agricultural Year

	Main Activity											
	Not Working & Unavailable		Housemaker / Housewife		Student		Too Old / Retired / Sick / Disabled		Other		Total	
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	287	0	3,497	1	109,304	31	40,494	12	4,275	1	348,795	100
Mpwapwa	129	0	1,667	1	47,828	24	23,923	12	3,081	2	197,100	100
Kongwa	0	0	0	0	52,031	25	21,021	10	1,639	1	207,603	100
Dodoma Rural	0	0	688	0	86,802	23	43,382	12	911	0	370,199	100
Dodoma Urban	295	0	2,184	1	40,311	26	14,350	9	604	0	154,875	100
Total	710	0	8,037	1	336,277	26	143,171	11	10,510	1	1,278,573	100

3.8 HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of involvement in Farming Activivty 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		Total	
District	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	18,476	5	28,981	8	214,295	61	87,043	25	348,795	100
Mpwapwa	38,715	20	38,023	19	88,074	45	32,288	16	197,100	100
Kongwa	47,960	23	21,950	11	103,002	50	34,691	17	207,603	100
Dodoma Rural	42,612	12	70,832	19	210,094	57	46,661	13	370,199	100
Dodoma Urban	15,396	10	23,780	15	96,043	62	19,656	13	154,875	100
Total	163,159	13	183,567	14	711,508	56	220,339	17	1,278,573	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		Standard Four	
District	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	405	0	863	1	2,429	2	1,993	2	13,284	11
Mpwapwa	257	0	1,225	2	1,668	2	2,248	3	7,094	9
Kongwa	0	0	467	1	936	1	1,873	2	6,657	8
Dodoma Rural	458	0	2,507	2	1,369	1	5,454	4	13,096	10
Dodoma Urban	198	0	400	1	804	1	784	1	6,989	12
Total	1,319	0	5,461	1	7,206	2	12,352	3	47,119	10

cont... HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

	Education Level									
	Standard Seven		Standard Eight		Training After Primary Education		Pre Form One		Form One	
District	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	94,358	77	427	0	289	0	0	0	145	0
Mpwapwa	59,738	73	891	1	511	1	0	0	126	0
Kongwa	57,892	72	703	1	234	0	117	0	233	0
Dodoma Rural	101,906	75	457	0	681	1	229	0	0	0
Dodoma Urban	42,893	74	694	1	195	0	0	0	99	0
Total	356,787	75	3,172	1	1,911	0	346	0	602	0

cont... HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

	Education Level									
	Form Two		Form Three		Form Four		Form Six		Training After Secondary Education	
District	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	848	1	0	0	1,997	2	0	0	719	1
Mpwapwa	253	0	124	0	850	1	0	0	258	0
Kongwa	468	1	117	0	1,162	1	0	0	115	0
Dodoma Rural	871	1	0	0	2,500	2	0	0	0	0
Dodoma Urban	202	0	297	1	789	1	100	0	599	1
Total	2,641	1	538	0	7,297	2	100	0	1,690	0

cont... HOUSEHOLDS DEMOGRAPHS: Number of Agricultural Household Members By Level of Formal Education Completion and District, 2002/03 Agricultural Year

	Education Level							
	Tertiary Education		Adult Education		Not applicable		Total	
District	Number	%	Number	%	Number	%	Number	%
Kondoa	0	0	2,569	2	0	0	122,614	100
Mpwapwa	129	0	2,446	3	0	0	81,478	100
Kongwa	0	0	5,128	6	117	0	80,067	100
Dodoma Rural	0	0	229	0	0	0	136,135	100
Dodoma Urban	101	0	1,784	3	0	0	58,316	100
Total	229	0	12,156	3	117	0	478,610	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	%	
Kondoa	65,524	77		19,233	22.7		84,756	100	4.9
Mpwapwa	41,404	81		9,651	18.9		51,055	100	4.7
Kongwa	39,549	84		7,689	16.3		47,238	100	5.3
Dodoma Rural	77,348	77		23,134	23.0		100,482	100	4.2
Dodoma Urban	29,742	74		10,447	26.0		40,189	100	4.4
Total	253,566	78		70,153	22		323,719	100	4.6

3.11 HOUSEHOLD DEMOGRAPHS: Number of Agricultural Households By Number of Household Members with Off-farm Income Generating Activities and District, 2002/03 Agricultural Year

	Number of household members with Off farm income							
	One		Two		More than Two		Total	
District	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Kondoa	14,127	17	42,570	50	27,637	33	84,333	100
Mpwapwa	6,359	13	33,058	65	11,126	22	50,543	100
Kongwa	2,674	6	27,767	59	16,563	35	47,004	100
Dodoma Rural	17,546	18	54,678	56	25,854	26	98,077	100
Dodoma Urban	6,375	16	19,301	49	14,012	35	39,688	100
Total	47,080	15	177,373	55	95,192	30	319,645	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
Kondoa	33,127	47,621	289	1,714	145	0	1,861	84,756
Mpwapwa	15,302	32,201	129	973	258	129	2,062	51,055
Kongwa	15,375	27,657	234	937	115	0	2,920	47,238
Dodoma Rural	42,151	56,049	0	2,053	0	0	229	100,482
Dodoma Urban	16,693	21,209	101	799	196	201	991	40,189
Total	122,648	184,737	754	6,475	713	330	8,062	323,719

3.13 HOUSEHOLDS DEMOGRAPHS: Mean, Median, Mode of Age of Head of Agricultural Household and District

	Male			Female			Total		
District	Mean	Median	Mode	Mean	Median	Mode	Mean	Median	Mode
Kondoa	45	41	25	52	54	65	47	43	25
Mpwapwa	39	35	25	44	40	40	40	38	40
Kongwa	42	40	45	44	43	45	42	40	45
Dodoma Rural	45	41	30	48	50	50	46	42	50
Dodoma Urban	45	42	40	52	50	50	47	45	50
Total	44	40	40	49	49	50	45	41	40

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 Heads	202,483	207,000	211,000	234,000	222,000	200,432
Female Heads	69,388	71,000	71,000	80,000	83,000	64,766
Total	**271,871**	**278,000**	**282,000**	**314,000**	**305,000**	**265,198**
Male headed (Percentage)	74	74	75	75	73	76
Female headed (Percentage)	26	26	25	25	27	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
Kondoa	45,889	5,996	51,885	19,635	13,236	32,871	65,524	19,233	84,756
Mpwapwa	31,362	3,876	35,237	10,042	5,775	15,817	41,404	9,651	51,055
Kongwa	27,776	3,738	31,515	11,772	3,951	15,724	39,549	7,689	47,238
Dodoma Rur	48,267	10,969	59,236	29,081	12,164	41,245	77,348	23,134	100,482
Dodoma Urb	19,214	4,087	23,300	10,528	6,360	16,889	29,742	10,447	40,189
Total	172,507	28,666	201,173	81,058	41,487	122,546	253,566	70,153	323,719

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		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	%	
Kondoa	5,857	7	63,017	74	38,936	46	12,134	14	6,855	8	2,039	2	14,921	18	84,756
Mpwapwa	3,243	6	43,680	86	9,794	19	8,198	16	3,008	6	497	1	3,382	7	51,055
Kongwa	2,909	6	36,617	78	27,190	58	25,028	53	1,907	4	545	1	6,093	13	47,238
Dodoma Rural	7,770	8	86,805	86	15,992	16	6,018	6	6,349	6	1,488	1	17,981	18	100,482
Dodoma Urban	19,711	49	16,990	42	8,984	22	2,579	6	1,195	3	1,288	3	4,096	10	40,189
Total	39,490	12	247,109	76	100,896	31	53,957	17	19,313	6	5,856	2	46,473	14	323,719

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
Kondoa	8,485	137,182	38,936	12,134	6,855	2,039	14,921	220,553
Mpwapwa	6,724	99,225	9,794	8,198	3,008	497	3,382	130,828
Kongwa	9,730	134,004	27,190	25,028	1,907	545	6,093	204,497
Dodoma Rural	12,502	167,710	15,992	6,018	6,349	1,488	17,981	228,040
Dodoma Urban	26,596	26,593	8,984	2,579	1,195	1,288	4,096	71,330
Total	64,037	564,714	100,896	53,957	19,313	5,856	46,473	855,247
%	384,196	3,388,044	605,333	323,719	115,871	35,134	278,820	5,131,119

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 Rented to Others	Households Unusable	Households of Uncultivated Usable Land	Area of land Utilized by household	Total Number of Households
Kondoa	40,632	58,853	6,146	2,227	4,238	1,002	5,744	720	3,861	987	2,111	7,114	133,635	84,756
Mpwapwa	45,545	20,818	902	503	383	386	6,921	123	1,663	1,417	1,954	5,807	86,422	51,055
Kongwa	42,571	9,110	234	233	234	350	2,901	0	580	467	1,165	5,379	63,223	47,238
Dodoma Rural	94,204	22,673	1,149	6,348	6,137	2,502	13,184	449	3,394	458	1,590	9,736	161,823	100,482
Dodoma Urban	30,627	20,150	1,402	2,396	2,701	198	1,494	297	1,591	202	598	3,672	65,328	40,189
Total	253,579	131,602	9,834	11,706	13,693	4,439	30,243	1,589	11,090	3,531	7,417	31,707	510,431	323,719

5.2 LAND USE: Area of Land (Ha) by type of Land Use and District for the 2002/03 Agricultural Year

District	**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
Kongwa	154,831	23,198	95	377	285	1,043	8,678	0	163	1,009	2,669	12,149	204,497
Kondoa	67,049	114,170	2,052	2,460	4,057	1,270	8,128	2,986	516	2,271	2,971	12,623	220,553
Mpwapwa	77,593	31,317	448	996	851	625	7,672	1,536	792	1,672	1,604	5,722	130,828
Dodoma Rural	149,725	27,923	372	6,056	6,174	4,621	14,049	2,181	2,447	556	2,427	11,509	228,040
Dodoma Urban	38,246	22,262	375	1,572	2,124	241	910	200	513	24	772	4,106	71,346
Total	487,445	218,871	3,342	11,460	13,491	7,801	39,437	6,902	4,431	5,533	10,443	46,108	855,264
%	57	26	0	1	2	1	5	1	1	1	1	5	100

5.3: Number of Agricultural Households by Whether All Land Available to the Household Was Used and District, 2002/03 Agricultural Year

District	Was all Land Available to the Hh Used During 2002/03?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Kondoa	63,363	75	21,107	25	84,470	100
Mpwapwa	34,756	68	16,094	32	50,850	100
Kongwa	35,575	75	11,546	25	47,121	100
Dodoma Rural	73,952	74	26,530	26	100,482	100
Dodoma Urban	35,082	87	5,107	13	40,189	100
Total	242,727	75	80,385	25	323,112	100

5.4: Number of Agricultural Households by Whether they Consider Having Sufficient Land for the Household and District, 2002/03 Agricultural Year

District	Do you Consider that you have sufficient land for the Hh?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Kondoa	42,031	50	42,439	50	84,470	100
Mpwapwa	35,286	69	15,565	31	50,850	100
Kongwa	18,878	40	28,243	60	47,121	100
Dodoma Rural	75,310	75	25,172	25	100,482	100
Dodoma Urban	30,730	76	9,458	24	40,189	100
Total	202,235	63	120,877	37	323,112	100

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

District	Do any Female Members of the Hh own or have customary right					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Kondoa	11,185	13	73,285	87	84,470	100
Mpwapwa	7,631	15	43,219	85	50,850	100
Kongwa	7,097	15	40,024	85	47,121	100
Dodoma Rural	32,301	32	68,181	68	100,482	100
Dodoma Urban	12,922	32	27,266	68	40,189	100
Total	71,136	22	251,976	78	323,112	100

TOTAL ANNUAL CROP & VEGETABLES PRODUCTION WET & DRY SEASONS

7.1 & 7.2a TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted (ha) by Season and District.

District	Dry Season		Wet Season		Total Area Planted (Hectare)	% Area planted in Dry Season
	Number of household	Planted area (hectare)	Number of household	Planted Area (hectare)		
Kondoa	522	310	198,390	154,767	155,077	0.20
Mpwapwa	0	0	103,798	104,395	104,395	0.00
Kongwa	0	0	85,996	166,247	166,247	0.00
Dodoma Rural	229	649	260,517	171,608	172,257	0.38
Dodoma Urban	101	20	114,955	60,982	61,002	0.03
Total	1,273	980	763,656	657,998	658,978	0.15

7.1 & 7.2b TOTAL ANNUAL CROPS AND VEGETABLE PRODUCTION: Number of Crop Growing Households Planting Crops by Season and District.

District	Dry Season		Wet 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	
Kondoa	522	83,949	84,238	232	84,470
Mpwapwa	0	50,850	50,850	0	50,850
Kongwa	0	47,121	47,121	0	47,121
Dodoma Rural	229	100,253	100,253	229	100,482
Dodoma Urban	101	40,088	40,189	0	40,189
Total	851	322,260	322,651	461	323,112

7.1 and 7.2c TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Area planted (ha) and Quantity Harvested by Season and Crop for the 2002/03 agriculture year, Dodoma Region

Crop	Dry season			Wet 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)
Maize	821	1,663	2,026	345,066	147,829	428	345,887	149,492	432
Paddy	0	0	0	4,225	2,587	612	4,225	2,587	612
Sorghum	0	0	0	63,932	22,032	345	63,932	22,032	345
Bulrush Millet	59	14	247	78,496	22,711	289	78,555	22,726	289
Finger Millet	0	0	0	10,153	5,106	503	10,153	5,106	503
CEREALS	**880**	**1,678**		**501,873**	**200,264**		**502,753**	**201,942**	
Cassava	0	0	0	12,593	3,896	309	12,593	3,896	309
Sweet Potatoes	0	0	0	336	380	1,133	336	380	1,133
Irish Potatoes	0	0	0	491	1,268	2,584	491	1,268	2,584
ROOTS & TUBERS	**0**	**0**		**13,419**	**5,544**		**13,419**	**5,544**	
Mung Beans	0	0	0	57	0	0	57	0	0
Beans	0	0	0	9,620	2,665	277	9,620	2,665	277
Cowpeas	0	0	0	5,737	1,362	237	5,737	1,362	237
Green Gram	17	3	165	79	16	204	96	19	197
Chich Peas	0	0	0	88	0	0	88	0	0
Bambaranuts	0	0	0	4,956	1,303	263	4,956	1,303	263
PULSES	**17**	**3**		**20,537**	**5,347**		**20,554**	**5,350**	
Sunflower	34	17	494	21,040	6,565	312	21,074	6,582	312
Simsim	0	0	0	20,709	7,121	344	20,709	7,121	344
Groundnuts	34	18	535	78,277	30,227	386	78,311	30,245	386
Soya Beans	0	0	0	116	0	0	116	0	0
OIL SEEDS & OIL NUTS	**68**	**35**		**120,143**	**43,913**		**120,211**	**43,948**	
Okra	0	0	0	173	83	479	173	83	479
Radish	0	0	0	29	9	296	29	9	296
Turmeric	0	0	0	19	8	395	19	8	395
Onions	0	0	0	304	511	1,679	304	511	1,679
Cabbage	15	9	642	10	8	790	25	17	703
Tomatoes	0	0	0	1,143	1,982	1,735	1,143	1,982	1,735
Spinnach	0	0	0	80	129	1,610	80	129	1,610
Carrot	0	0	0	10	38	3,754	10	38	3,754
Chillies	0	0	0	64	290	4,530	64	290	4,530
Amaranths	0	0	0	193	352	1,823	193	352	1,823
FRUITS & VEGETABLES	**15**	**9**		**2,027**	**3,410**		**2,041**	**3,419**	
Total	**980**			**657,998**			**658,978**		

*The total area planted include the sum of the planted area for both Wet and Dry Season and it is an overestimation of the actual area due to being produced on the same land during the two seasons. Previous surveys have used the Long/Wet Season to estimate physical land area under 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 - Wet and Dry Seasons, Dodoma Region

Crop	Dry Season		Wet Season		Total Area Planted Dry & Wet Season	% Area Planted in Dry Season
	Number of Households	Planted area (ha)	Number of Households	Planted area (ha)		
CEREALS	***707***	***880***	***472,300***	***501,873***	***502,753***	***0.0017***
Maize	562	821	258,627	345,066	345,887	0.0024
Paddy	0	0	8,112	4,225	4,225	0.0000
Sorghum	0	0	87,136	63,932	63,932	0.0000
Bulrush Millet	145	59	105,464	78,496	78,555	0.0007
Finger Millet	0	0	12,961	10,153	10,153	0.0000
ROOTS & TUBERS	***0***	***0***	***23,750***	***13,419***	***13,419***	***0.0000***
Cassava	0	0	21,630	12,593	12,593	0.0000
Sweet Potatoes	0	0	1,089	336	336	0.0000
Irish Potatoes	0	0	1,031	491	491	0.0000
PULSES	***141***	***17***	***56,043***	***20,537***	***20,554***	***0.0008***
Mung Beans	0	0	141	57	57	0.0000
Beans	0	0	20,250	9,620	9,620	0.0000
Cowpeas	0	0	14,859	5,737	5,737	0.0000
Green Gram	141	17	378	79	96	0.1770
Chich Peas	0	0	145	88	88	0.0000
Bambaranuts	0	0	20,270	4,956	4,956	0.0000
OIL SEEDS & OIL NUTS	***281***	***68***	***203,061***	***120,143***	***120,211***	***0.0006***
Sunflower	141	34	31,436	21,040	21,074	0.0016
Simsim	0	0	27,164	20,709	20,709	0.0000
Groundnuts	141	34	144,318	78,277	78,311	0.0004
Soya Beans	0	0	143	116	116	0.0000
FRUITS & VEGETABLES	***145***	***15***	***8,501***	***2,027***	***2,041***	***0.0072***
Okra	0	0	286	173	173	0.0000
Radish	0	0	144	29	29	0.0000
Turmeric	0	0	95	19	19	0.0000
Onions	0	0	796	304	304	0.0000
Cabbage	145	15	100	10	25	0.5919
Tomatoes	0	0	4,458	1,143	1,143	0.0000
Spinnach	0	0	527	80	80	0.0000
Carrot	0	0	100	10	10	0.0000
Chillies	0	0	701	64	64	0.0000
Amaranths	0	0	1,294	193	193	0.0000
Total		***980***		***657,998***	***658,978***	***0.0015***

7.1 & 7.2e TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) By Means of Soil Preparation and District Wet & Dry Season, Dodoma

	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
District	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Kondoa	3,247	13,642	36,971	63,742	44,541	75,852	84,760	153,235
Mpwapwa	643	989	643	17,990	43,700	81,607	44,986	100,586
Kongwa	5,946	40,340	5,946	42,084	31,484	83,824	43,376	166,247
Dodoma Rural	1,899	4,426	13,124	28,245	85,458	138,532	100,482	171,203
Dodoma Urban	1,401	3,158	2,876	5,040	36,012	52,623	40,290	60,821
Total	13,136	62,555	59,560	157,101	241,197	432,437	313,892	652,093
%		10		24		66		100

7.1 & 7.2f TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fertilizer Use and District for the 2002/03 Agriculture Year - Wet & Dry Season, Dodoma

	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
District	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area
Kondoa	21,343	41,146	434	1,641	289	1,336	62,408	110,643	84,238	154,767
Mpwapwa	9,431	18,229	846	2,171	586	385	39,987	83,610	50,850	104,395
Kongwa	5,112	31,645	578	2,535	117	47	41,313	132,020	47,121	166,247
Dodoma Rural	19,480	45,436	689	735	229	371	79,854	125,065	100,253	171,608
Dodoma Urban	10,235	19,528	302	834	502	540	29,652	40,080	40,189	60,982
Total	65,601	155,984	2,849	7,916	1,724	2,115	253,215	491,983	322,651	657,998

7.1 & 7.2g TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION:Total Number of Agriculture Households and Planted Area by Irrigation Use and District during Wet Season, 2002/03 Agriculture Year

	Irrigation Use						% of Area Planted Under Irrigation
	Households Using Irrigation		Households not Using Irrigation		Total		
District	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	
Kondoa	1,441	2,512	83,315	152,550	84,756	155,077	1.62
Mpwapwa	3,832	5,595	47,222	98,800	51,055	104,395	5.36
Kongwa	117	593	47,121	165,654	47,238	166,247	0.36
Dodoma Rural	456	1,573	100,025	170,684	100,482	172,257	0.91
Dodoma Urban	3,591	1,836	36,598	59,166	40,189	61,002	3.01
Total	9,438	12,109	314,282	646,854	323,719	658,978	1.84

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 - Wet & Dry Season.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	2,708	2,209	195,682	152,558	198,390	154,767	1.43
Mpwapwa	4,000	2,988	99,798	101,407	103,798	104,395	2.86
Kongwa	1,974	5,977	84,021	160,270	85,996	166,247	3.60
Dodoma rural	12,860	11,300	247,657	160,307	260,517	171,608	6.58
Dodoma urban	5,978	2,037	108,977	58,945	114,955	60,982	3.34
Total	27,520	24,511	736,136	633,487	763,656	657,998	3.73

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 - Wet & Dry Season.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	684	425	197,707	154,342	198,390	154,767	0.27
Mpwapwa	1,672	1,199	102,126	103,196	103,798	104,395	1.15
Kongwa	813	3,521	85,183	162,726	85,996	166,247	2.12
Dodoma rural	1,279	1,158	259,238	170,449	260,517	171,608	0.68
Dodoma urban	1,360	611	113,595	60,370	114,955	60,982	1.00
Total	5,808	6,915	757,849	651,083	763,656	657,998	1.05
%	0.8	1.1	99.2	98.9	100	100	

7.1 & 7.2j TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicides Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	1,416	1,500	196,974	153,267	198,390	154,767	0.97
Mpwapwa	2,074	1,371	101,724	103,023	103,798	104,395	1.31
Kongwa	1,391	4,235	84,605	162,012	85,996	166,247	2.55
Dodoma rural	2,233	862	258,285	170,746	260,517	171,608	0.50
Dodoma urban	3,675	1,283	111,280	59,698	114,955	60,982	2.10
Total	10,790	9,252	752,867	648,747	763,656	657,998	1.41

7.1 & 7.2k TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Improved Seed Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Improved Seed Use						% of Planted Area Using Improved Seeds
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	11,763	13,569	182,402	141,198	194,021	154,767	8.77
Mpwapwa	9,183	10,116	93,715	94,278	102,899	104,395	9.69
kondoa	7,230	26,545	78,766	139,703	85,996	166,247	15.97
Dodoma rural	40,502	28,320	218,469	143,287	258,971	171,608	16.50
Dodoma urban	13,012	6,945	101,347	54,037	114,358	60,982	11.39
Total	81,690	85,495	674,699	572,503	756,244	657,998	12.99

ANNUAL CROP & VEGETABLES PRODUCTION
DRY SEASON

7.1a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - DRY SEASON, Dodoma 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
Kondoa	0	0	232	237	290	73	522	310
Mpwapwa	0	0	0	0	0	0	0	0
Kongwa	0	0	0	0	0	0	0	0
Dodoma Rural	0	0	229	649	0	0	229	649
Dodoma Urban	0	0	0	0	101	20	101	20
Total	0	0	461	886	390	94	851	980
%	0	0	54	90	46	10	100	100

7.1b ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Fertilizer Use and District during 2002/03 Agriculture Year - DRY SEASON, Dodoma 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
Kondoa	236	98	0	0	0	0	285	212	522	310
Mpwapwa	0	0	0	0	0	0	0	0	0	0
Kongwa	0	0	0	0	0	0	0	0	0	0
Dodoma Rural	0	0	0	0	0	0	229	649	229	649
Dodoma Urban	0	0	0	0	0	0	101	20	101	20
Total	236	98	0	0	0	0	615	882	851	980
%	28	10	0	0	0	0	72	90	100	100

7.1c ANNUAL CROP AND VEGETABLE PRODUCTION:Total Number of Crop Growing Households and Planted Area by Irrigation Use and District during Dry Season, 2002/03 Agriculture Year, Dodoma Region

District	Irrigation Use						% of planted area under irrigation in dry season
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	145	15	798	296	943	310	5
Mpwapwa		0	0	0	0	0	0
Kongwa	0	0	0	0	0	0	0
Dodoma Rural	0	0	229	649	229	649	0
Dodoma Urban	0	0	101	20	101	20	0
Total	145	15	1,128	965	1,273	980	1
%	11	1	89	99	100	100	

7.1d ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Dry Season.

	Insecticide Use						% of Planted Area Using Insecticides
	Household Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	0	0	943	310	943	310	0.00
Mpwapwa	0	0	0	0	0	0	0.00
Kongwa	0	0	0	0	0	0	0.00
Dodoma rural	0	0	229	649	229	649	0.00
Dodoma urban	0	0	101	20	101	20	0.00
Total	0	0	100	100	100	100	0.00

7.1e ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicides Use and District for the 2002/03 Agriculture Year - Dry Season.

	Herbicide Use						% of Planted Area Using Herbicides
	Household Using Herbicidess		Households Not Using Herbicidess		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	0	0	943	310	943	310	0.00
Mpwapwa	0	0	0	0	0	0	0.00
Kongwa	0	0	0	0	0	0	0.00
Dodoma rural	0	0	229	649	229	649	0.00
Dodoma urban	0	0	101	20	101	20	0.00
Total	0	0	100	100	100	100	0.00

7.1f ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicide Use and District for the 2002/03 Agriculture Year - Dry Season.

	Fungicide Use						% of Planted Area Using Fungicides
	Household Using Fungicides		Households Not Using Fungicides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	0	0	943	310	943	310	0.00
Mpwapwa	0	0	0	0	0	0	0.00
Kongwa	0	0	0	0	0	0	0.00
Dodoma rural	0	0	229	649	229	649	0.00
Dodoma urban	0	0	101	20	101	20	0.00
Total	0	0	100	100	100	100	0.00

7.1g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - DRY SEASON

District	Improved Seed Use						% of Planted Area 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	
Kondoa	145	15	377	296	522	310	4.72
Mpwapwa	0	0	0	0	0	0	0.00
Kongwa	0	0	0	0	0	0	0.00
Dodoma Rural	0	0	229	649	229	649	0.00
Dodoma Urban	0	0	101	20	101	20	0.00
Total	145	15	707	965	851	980	1.50
%	17	1	83	99	100	100	

ANNUAL CROP & VEGETABLES PRODUCTION
WET SEASON

7.2a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - WET SEASON, Dodoma 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
Kondoa	3,247	13,642	36,739	63,505	44,252	75,779	84,238	152,925
Mpwapwa	643	989	6,507	17,341	43,700	81,607	50,850	99,937
Kongwa	5,946	40,340	9,691	42,084	31,484	83,824	47,121	166,247
Dodoma Rural	1,899	4,426	12,895	28,245	85,458	138,532	100,253	171,203
Dodoma Urban	1,401	3,158	2,876	5,040	35,911	52,603	40,189	60,801
Total	13,136	62,555	68,709	156,215	240,806	432,343	322,651	651,113
%	4	10	21	24	75	66	100	100

7.2b ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Fertilizer Use and District during 2002/03 Agriculture Year - WET SEASON, Dodoma Region

	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
Kondoa	21,107	41,048	434	1,641	289	1,336	62,408	110,741	84,238	154,767
Mpwapwa	9,431	18,229	846	2,171	586	385	39,987	83,610	50,850	104,395
Kongwa	5,112	31,645	578	2,535	117	47	41,313	132,020	47,121	166,247
Dodoma Rural	19,480	45,436	689	735	229	371	79,854	125,065	100,253	171,608
Dodoma Urban	10,235	19,528	302	834	502	540	29,150	40,080	40,189	60,982
Total	65,365	155,886	2,849	7,916	1,724	2,680	252,713	491,516	322,651	657,998

7.2c ANNUAL CROP AND VEGETABLE PRODUCTION:Total Number of Crop Growing Households and Planted Area by Irrigation Use and District during Wet Season, 2002/03 Agriculture Year, Dodoma Region

District	Irrigation Use						% of planted area under irrigation in dry season
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	1,441	2,482	83,315	152,285	84,238	154,767	2
Mpwapwa	3,832	5,595	47,222	98,800	50,850	104,395	5
Kongwa	117	593	47,121	165,654	47,121	166,247	0
Dodoma Rural	456	1,573	100,025	170,035	100,253	171,608	1
Dodoma Urban	3,591	1,836	36,598	59,146	40,189	60,982	3
Total	9,438	12,079	314,282	645,919	322,651	657,998	2
%	3	2	48	98	100	100	

7.2d ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Wet Season.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	1,990	2,209	82,248	152,558	84,238	154,767	1.43
Mpwapwa	2,511	2,988	48,339	101,407	50,850	104,395	2.86
Kongwa	1,857	5,977	45,264	160,270	47,121	166,247	3.60
Dodoma rural	7,527	11,300	92,726	160,307	100,253	171,608	6.58
Dodoma urban	3,485	2,037	36,704	58,945	40,189	60,982	3.34
Total	17,371	24,511	305,280	633,487	322,651	657,998	3.73

7.2e ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture Year - Wet Season.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	420	425	83,818	154,342	84,238	154,767	0.27
Mpwapwa	901	1,199	49,949	103,196	50,850	104,395	1.15
Kongwa	461	3,521	46,659	162,726	47,121	166,247	2.12
Dodoma rural	599	1,158	99,654	170,449	100,253	171,608	0.68
Dodoma urban	868	611	39,321	60,370	40,189	60,982	1.00
Total	3,249	6,915	319,401	651,083	322,651	657,998	1.05
%	1.0	1.1	99.0	98.9	100	100	

7.2f ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicide Use and District for the 2002/03 Agriculture Year - WET SEASON

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Kondoa	842	1,500	83,397	153,267	84,238	154,767	0.97
Mpwapwa	974	1,371	49,877	103,023	50,850	104,395	1.31
Kongwa	571	4,235	46,549	162,012	47,121	166,247	2.55
Dodoma rural	1,050	862	99,203	170,746	100,253	171,608	0.50
Dodoma urban	1,990	1,283	38,199	59,698	40,189	60,982	2.10
Total	5,427	9,252	317,224	648,747	322,651	657,998	1.41

7.2g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - WET SEASON

District	Improved Seed Use						% of planted area under irrigation in dry season
	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	
Kondoa	7,767	13,554	76,471	141,213	84,238	154,767	8.76
Mpwapwa	6,622	10,116	44,228	94,278	50,850	104,395	9.69
Kongwa	5,600	26,545	41,521	139,703	47,121	166,247	15.97
Dodoma Rural	14,518	28,320	85,735	143,287	100,253	171,608	16.50
Dodoma Urban	3,781	6,945	36,408	54,037	40,189	60,982	11.39
Total	38,288	85,480	284,363	572,518	322,651	657,998	12.99
%	12	13	88	87	100	100	

Table 7.2h: Planted Area and Number of Crop Growing Households During Wet Season by Method of Land Clearing and Crops; 2002/03 Agriculture Year

Crop	Land Clearing											
	Mostly Bush Clearance		Mostly Hand Slashing		Mostly Tractor Slashing		Mostly Burning		Not cleared		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	Number of Households	Planted Area
CEREALS		**52,312**		**323,571**		**9,544**		**80,607**		**34,344**		**500,377**
Maize	24,855	36,851	175,230	217,948	2,736	9,013	44,066	49,225	11,509	31,749	258,396	344,786
Paddy	0	.	7,739	3,889	144	58	229	278	0	.	8,112	4,225
Sorghum	9,223	6,971	57,222	42,712	129	157	17,735	12,303	2,496	1,428	86,805	63,571
Bulrush Millet	8,352	6,656	70,844	52,119	435	315	24,846	18,103	870	449	105,347	77,641
Finger Millet	1,721	1,834	9,505	6,903	0	.	721	698	1,013	718	12,961	10,153
ROOTS & TUBERS		**464**		**4,421**		**.**		**1,413**		**235**		**6,534**
Cassava	1,661	464	9,095	3,732	0	.	2,759	1,276	703	235	14,218	5,707
Sweet Potatoes	0	.	861	302	0	.	229	33	0	.	1,089	336
Irish Potatoes	0	.	774	387	0	.	257	104	0	.	1,031	491
PULSES		**1,099**		**13,450**		**46**		**5,226**		**717**		**20,537**
Mung Beans	141	57	0	.	0	.	0	.	0	.	141	57
Beans	516	91	17,042	7,396	0	.	2,575	2,085	117	47	20,250	9,620
Cowpeas	711	214	10,211	3,101	228	46	3,220	2,031	489	344	14,859	5,737
Green Gram	0	.	261	68	0	.	117	12	0	.	378	79
Chich Peas	0	.	145	88	0	.	0	.	0	.	145	88
Bambaranuts	1,287	736	12,774	2,797	0	.	4,637	1,098	1,573	325	20,270	4,956
OIL SEEDS & OIL NUTS		**10,916**		**77,478**		**894**		**22,816**		**7,142**		**119,245**
Sunflower	1,771	1,356	24,704	15,916	117	95	2,643	1,802	2,101	1,831	31,335	21,000
Simsim	3,047	2,283	20,786	16,067	549	381	1,789	969	762	823	26,934	20,523
Groundnuts	12,360	7,276	88,348	45,379	954	418	36,211	20,046	5,896	4,488	143,769	77,607
Soya Beans	0	.	143	116	0	.	0	.	0	.	143	116
FRUITS & VEGETABLES		**108**		**1,477**		**.**		**401**		**40**		**2,027**
Okra	144	88	0	.	0	.	141	86	0	.	286	173
Radish	0	.	144	29	0	.	0	.	0	.	144	29
Turmeric	0	.	95	19	0	.	0	.	0	.	95	19
Onions	0	.	796	304	0	.	0	.	0	.	796	304
Cabbage	0	.	100	10	0	.	0	.	0	.	100	10
Tomatoes	101	20	3,309	884	0	.	1,048	239	0	.	4,458	1,143
Spinnach	0	.	427	64	0	.	0	.	100	16	527	80
Carrot	0	.	100	10	0	.	0	.	0	.	100	10
Chillies	0	.	601	56	0	.	0	.	100	8	701	64
Amaranths	0	.	765	100	0	.	429	77	100	16	1,294	193
Total		**64,899**		**420,396**		**10,484**		**110,464**		**42,477**		**648,720**
%		**10**		**65**		**2**		**17**		**7**		**100**

Table 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											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	232	152	60	0.397	72,878	79,501	48,022	0.604	79,653	48,082	0.604
Mpwapwa	0	0	0	0.000	41,348	51,352	23,251	0.453	51,352	23,251	0.453
Kongwa	0	0	0	0.000	45,017	131,930	48,983	0.371	131,930	48,983	0.371
Dodoma Rural	229	649	1,603	2.470	68,311	61,469	21,330	0.347	62,118	22,933	0.369
Dodoma Urban	101	20	0	0.000	31,073	20,813	6,242	0.300	20,834	6,242	0.300
Total	562	821	1,663	2.026	258,627	345,066	147,829	0.428	345,887	149,492	0.432

Table 7.2.2: Number of Agricultural Households, Area Planted (ha) and Quantity of Burlush millet Harvested (tons) by Season and District;2002/03 Agricultural Year

Burlush millet											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	145	59	14	0.247	24,798	18,040	4,057	0.225	18,098	4,071	0.225
Mpwapwa	0	0	0	0.000	4,124	2,748	730	0.266	2,748	730	0.266
Kongwa	0	0	0	0.000	4,557	4,971	1,598	0.321	4,971	1,598	0.321
Dodoma Rural	0	0	0	0.000	43,435	30,103	10,381	0.345	30,103	10,381	0.345
Dodoma Urban	0	0	0	0.000	28,550	22,634	5,946	0.263	22,634	5,946	0.263
Total	145	59	14	0.247	105,464	78,496	22,711	0.289	78,555	22,726	0.289

Table 7.2.3: Number of Agricultural Households, Area Planted (ha) and Quantity of Paddy Harvested (tons) by Season and District;2002/03 Agricultural Year

Paddy											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	1,263	258	185	0.715	258	185	0.715
Mpwapwa	0	0	0	0.000	0	.	.	0.000	0	0	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	0	0	0.000
Dodoma Rural	0	0	0	0.000	6,648	3,906	2,352	0.602	3,906	2,352	0.602
Dodoma Urban	0	0	0	0.000	202	61	50	0.823	61	50	0.823
Total	0	0	0	0.000	8,112	4,225	2,587	0.612	4,225	2,587	0.612

Table 7.2.4: Number of Agricultural Households, Area Planted (ha) and Quantity of Sorghum Harvested (tons) by Season and District;2002/03 Agricultural Year

Sorghum											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	18,988	10,798	3,262	0.302	10,798	3,262	0.302
Mpwapwa	0	0	0	0.000	17,270	14,375	5,941	0.413	14,375	5,941	0.413
Kongwa	0	0	0	0.000	8,066	7,740	2,390	0.309	7,740	2,390	0.309
Dodoma Rural	0	0	0	0.000	37,737	28,406	9,794	0.345	28,406	9,794	0.345
Dodoma Urban	0	0	0	0.000	5,074	2,614	645	0.247	2,614	645	0.247
Total	0	0	0	0.000	87,136	63,932	22,032	0.345	63,932	22,032	0.345

Table 7.2.5: Number of Agricultural Households, Area Planted (ha) and Quantity of Finger millet Harvested (tons) by Season and District;2002/03 Agricultural Year

Finger millet											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	12,643	9,661	4,937	0.511	9,661	4,937	0.511
Mpwapwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	224	454	112	0.247	454	112	0.247
Dodoma Urban	0	0	0	0.000	94	38	56	1.482	38	56	1.482
Total	0	0	0	0.000	12,961	10,153	5,106	0.503	10,153	5,106	0.503

Table 7.2.6: Number of Agricultural Households, Area Planted (ha) and Quantity of Beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Beans											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	11,022	4,774	744	0.156	4,774	744	0.156
Mpwapwa	0	0	0	0.000	7,776	4,510	1,833	0.406	4,510	1,833	0.406
Kongwa	0	0	0	0.000	468	142	70	0.496	142	70	0.496
Dodoma Rural	0	0	0	0.000	682	92	5	0.050	92	5	0.050
Dodoma Urban	0	0	0	0.000	302	102	14	0.134	102	14	0.134
Total	0	0	0	0.000	20,250	9,620	2,665	0.277	9,620	2,665	0.277

Table 7.2.7: Number of Agricultural Households, Area Planted (ha) and Quantity of Green gram Harvested (tons) by Season and District;2002/03 Agricultural Year

Green gram											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	141	17	3	0.165	145	44	14	0.329	61	17	0.283
Mpwapwa	0	0	0	0.000	0	.	.	0.000	0	0	0.000
Kongwa	0	0	0	0.000	233	35	2	0.049	35	2	0.049
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	0	0	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0.000	0	0	0.000
Total	0	0	0	0.000	378	79	16	0.204	79	16	0.204

Table 7.2.8: Number of Agricultural Households, Area Planted (ha) and Quantity of Mung beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Mung beans											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	141	57	0	0.000	57	0	0.000
Mpwapwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Total	0	0	0	0.000	141	57	0	0.000	57	0	0.000

Table 7.2.9: Number of Agricultural Households, Area Planted (ha) and Quantity of Cowpeas Harvested (tons) by Season and District;2002/03 Agricultural Year

Cowpeas											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	4,923	1,701	858	0.504	1,701	858	0.504
Mpwapwa	0	0	0	0.000	2,171	2,020	261	0.129	2,020	261	0.129
Kongwa	0	0	0	0.000	696	212	12	0.058	212	12	0.058
Dodoma Rural	0	0	0	0.000	3,371	918	118	0.129	918	118	0.129
Dodoma Urban	0	0	0	0.000	3,698	885	113	0.127	885	113	0.127
Total	0	0	0	0.000	14,859	5,737	1,362	0.237	5,737	1,362	0.237

Table 7.2.10: Number of Agricultural Households, Area Planted (ha) and Quantity of Bambaranuts Harvested (tons) by Season and District;2002/03 Agricultural Year

Bambaranuts											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	433	73	10	0.139	73	10	0.139
Mpwapwa	0	0	0	0.000	517	131	41	0.316	131	41	0.316
Kongwa	0	0	0	0.000	1,867	1,017	172	0.170	1,017	172	0.170
Dodoma Rural	0	0	0	0.000	6,513	1,576	357	0.226	1,576	357	0.226
Dodoma Urban	0	0	0	0.000	10,940	2,160	723	0.335	2,160	723	0.335
Total	0	0	0	0.000	20,270	4,956	1,303	0.263	4,956	1,303	0.263

Table 7.2.11: Number of Agricultural Households, Area Planted (ha) and Quantity of Chick peas Harvested (tons) by Season and District;2002/03 Agricultural Year

Chick peas											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	145	88	0	0.000	88	0	0.000
Mpwapwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Total	0	0	0	0.000	145	88	0	0.000	88	0	0.000

Table 7.2.12: Number of Agricultural Households, Area Planted (ha) and Quantity of Cassava Harvested (tons) by Season and District;2002/03 Agricultural Year

Cassava											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	6,675	2,893	1,171	0.405	2,893	1,171	0.405
Mpwapwa	0	0	0	0.000	1,357	4,618	187	0.041	4,618	187	0.041
Kongwa	0	0	0	0.000	1,166	767	0	0.000	767	0	0.000
Dodoma Rural	0	0	0	0.000	9,537	3,316	1,778	0.536	3,316	1,778	0.536
Dodoma Urban	0	0	0	0.000	2,895	999	759	0.760	999	759	0.760
Total	0	0	0	0.000	21,630	12,593	3,896	0.309	12,593	3,896	0.309

Table 7.2.13: Number of Agricultural Households, Area Planted (ha) and Quantity of Sweet potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Sweet potatoes											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	434	149	313	2.092	149	313	2.092
Mpwapwa	0	0	0	0.000	128	13	3	0.198	13	3	0.198
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	228	92	27	0.296	92	27	0.296
Dodoma Urban	0	0	0	0.000	299	81	37	0.463	81	37	0.463
Total	0	0	0	0.000	1,089	336	380	1.133	336	380	1.133

Table 7.2.14: Number of Agricultural Households, Area Planted (ha) and Quantity of Irish potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Irish potatoes											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	145	59	43	0.741	59	43	0.741
Mpwapwa	0	0	0	0.000	886	432	1,224	2.834	432	1,224	2.834
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Total	0	0	0	0.000	1,031	491	1,268	2.584	491	1,268	2.584

Table 7.2.15: Number of Agricultural Households, Area Planted (ha) and Quantity of Groundnuts Harvested (tons) by Season and District;2002/03 Agricultural Year

Groundnuts											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	141	34	18	0.535	7,553	3,091	875	0.283	3,125	893	0.286
Mpwapwa	0	0	0	0.000	25,679	22,540	8,899	0.395	22,540	8,899	0.395
Kongwa	0	0	0	0.000	20,423	16,091	5,074	0.315	16,091	5,074	0.315
Dodoma Rural	0	0	0	0.000	65,910	28,042	12,472	0.445	28,042	12,472	0.445
Dodoma Urban	0	0	0	0.000	24,753	8,513	2,908	0.342	8,513	2,908	0.342
Total	0	0	0	0.000	144,318	78,277	30,227	0.386	78,311	30,245	0.386

Table 7.2.16: Number of Agricultural Households, Area Planted (ha) and Quantity of Sunflower Harvested (tons) by Season and District;2002/03 Agricultural Year

Sunflower											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	141	34	17	0.494	26,747	17,063	4,811	0.282	17,063	4,811	0.282
Mpwapwa	0	0	0	0.000	252	89	21	0.238	89	21	0.238
Kongwa	0	0	0	0.000	3,503	3,341	1,391	0.416	3,341	1,391	0.416
Dodoma Rural	0	0	0	0.000	635	385	272	0.706	385	272	0.706
Dodoma Urban	0	0	0	0.000	300	162	70	0.431	162	70	0.431
Total	0	0	0	0.000	31,436	21,040	6,565	0.312	21,040	6,565	0.312

Table 7.2.17: Number of Agricultural Households, Area Planted (ha) and Quantity of Simsim Harvested (tons) by Season and District;2002/03 Agricultural Year

Simsim											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	7,451	5,677	993	0.175	5,677	993	0.175
Mpwapwa	0	0	0	0.000	1,397	1,334	355	0.266	1,334	355	0.266
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	16,831	12,779	5,338	0.418	12,779	5,338	0.418
Dodoma Urban	0	0	0	0.000	1,485	919	435	0.473	919	435	0.473
Total	0	0	0	0.000	27,164	20,709	7,121	0.344	20,709	7,121	0.344

Table 7.2.18: Number of Agricultural Households, Area Planted (ha) and Quantity of Soya beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Soya beans											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	143	116	0	0.000	116	0	0.000
Mpwapwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Total	0	0	0	0.000	143	116	0	0.000	116	0	0.000

Table 7.2.19: Number of Agricultural Households, Area Planted (ha) and Quantity of Cabbage Harvested (tons) by Season and District;2002/03 Agricultural Year

Cabbage											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	145	15	9	0.642	0	.	.		15	9	0.642
Mpwapwa	0	0	0	0.000	0	.	.				
Kongwa	0	0	0	0.000	0	.	.				
Dodoma Rural	0	0	0	0.000	0	.	.				
Dodoma Urban	0	0	0	0.000	100	10	8	0.790	10	8	0.790
Total	145	15	9	0.000	100	10	8		25	17	

Table 7.2.20: Number of Agricultural Households, Area Planted (ha) and Quantity of Okra Harvested (tons) by Season and District;2002/03 Agricultural Year

Okra											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	286	173	83	0	173	83	0.479
Mpwapwa	0	0	0	0.000	0	.	.	0	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0	.	.	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0	.	.	0.000
Total	0	0	0	0.000	286	173	83	0	173	83	0.479

Table 7.2.21: Number of Agricultural Households, Area Planted (ha) and Quantity of Radish Harvested (tons) by Season and District;2002/03 Agricultural Year

Radish											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	144	29	9	0.296	29	9	0.296
Mpwapwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Total	0	0	0	0.000	144	29	9	0.296	29	9	0.296

Table 7.2.22: Number of Agricultural Households, Area Planted (ha) and Quantity of Tumeric Harvested (tons) by Season and District;2002/03 Agricultural Year

Tumeric											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mpwapwa	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kongwa	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Dodoma Rural	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Dodoma Urban	0	0	0	0.000	95	19	8	0.395	19	8	0.395
Total	0	0	0	0.000	95	19	8	0.395	19	8	0.395

Table 7.2.23: Number of Agricultural Households, Area Planted (ha) and Quantity of Onions Harvested (tons) by Season and District;2002/03 Agricultural Year

Onions											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	290	176	226	1.284	176	226	1.284
Mpwapwa	0	0	0	0.000	507	128	285	2.219	128	285	2.219
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Total	0	0	0	0.000	796	304	511	1.679	304	511	1.679

Table 7.2.24: Number of Agricultural Households, Area Planted (ha) and Quantity of Tomatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Tomatoes											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	1,005	312	770	2.468	312	770	2.468
Mpwapwa	0	0	0	0.000	129	52	70	1.334	52	70	1.334
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	228	46	21	0.445	46	21	0.445
Dodoma Urban	0	0	0	0.000	3,095	732	1,122	1.532	732	1,122	1.532
Total	0	0	0	0.000	4,458	1,143	1,982	1.735	1,143	1,982	1.735

Table 7.2.25: Number of Agricultural Households, Area Planted (ha) and Quantity of Spinach Harvested (tons) by Season and District;2002/03 Agricultural Year

Spinach											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Mpwapwa	0	0	0	0.000	127	26	19	0.741	26	19	0.741
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	399	55	110	2.020	55	110	2.020
Total	0	0	0	0.000	527	80	129	1.610	80	129	1.610

Table 7.2.26: Number of Agricultural Households, Area Planted (ha) and Quantity of Carrot Harvested (tons) by Season and District;2002/03 Agricultural Year

Carrot											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Mpwapwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	100	10	38	3.754	10	38	3.754
Total	0	0	0	0.000	100	10	38	3.754	10	38	3.754

Table 7.2.27: Number of Agricultural Households, Area Planted (ha) and Quantity of Chillies Harvested (tons) by Season and District;2002/03 Agricultural Year

Chillies											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Mpwapwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Urban	0	0	0	0.000	701	64	290	4.530	64	290	4.530
Total	0	0	0	0.000	701	64	290	4.530	64	290	4.530

Table 7.2.28: Number of Agricultural Households, Area Planted (ha) and Quantity of Amaranths Harvested (tons) by Season and District;2002/03 Agricultural Year

Amaranths											
	Dry Season				Wet Season				Total		
District	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kondoa	0	0	0	0.000	138	33	55	1.647	33	55	1.647
Mpwapwa	0	0	0	0.000	129	26	16	0.593	26	16	0.593
Kongwa	0	0	0	0.000	0	.	.	0.000	.	.	0.000
Dodoma Rural	0	0	0	0.000	228	23	23	0.988	23	23	0.988
Dodoma Urban	0	0	0	0.000	799	110	259	2.344	110	259	2.344
Total	0	0	0	0.000	1,294	193	352	1.823	193	352	1.823

PERMANENT CROPS

7.3.1 PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Dodoma

District/Crop		Area planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)
Kondoa	Pigeon Pea	17,199	14,550	4,930	339
	Malay Apple	.	0	.	0
	Sugarcane	568	463	8,653	18,679
	Nutmeg	0	0	.	0
	Banana	138	76	996	13,106
	Mango	394	91	792	8,731
	Pawpaw	174	2	101	57,247
	Orange	1	78	14	184
	Mandarine/Tangerine	0	0	33	0
	Guava	244	186	381	2,048
	Lime/Lemon	0	0	5	0
	Rambutan	.	9	87	9,880
	Total	18,719	15,455	15,991	1,035
Mpwapwa	Rubber Vine Fruit	104	104	32	309
	Banana	1,458	92	56	615
	Pawpaw	5	0	12	0
	Orange	25	0	.	0
	Guava	824	13	3	245
	Total	2,415	208	104	499
Kongwa	Pigeon Pea	2,468	249	142	569
	Banana	59	0	.	0
	Mango	23	434	7	16
	Pawpaw	14	23	2	89
	Guava	47	23	3	138
	Lime/Lemon	23	12	1	99
	Durian	12	59	5	79
	Total	2,647	801	160	200
Dodoma Rural	Banana	91	23	25	1,087
	Mango	32	0	322	0
	Pawpaw	47	0	5	0
	Grape	186	186	414	2,223
	Guava	12	0	69	0
	Total	368	209	834	3,993
Dodoma Urban	Pigeon Pea	10	0	69	0
	Sugarcane	30	28	100	3,529
	Banana	41	20	10	497
	Mango	220	107	449	4,178
	Pawpaw	72	30	51	1,684
	Orange	23	16	15	960
	Grape	92	56	58	1,046
	Mandarine/Tangerine	.	.	.	0
	Guava	98	69	482	7,026
	Lime/Lemon	.	.	3	0
	Total	584	326	1,237	3,793
Total	Rubber Vine Fruit	104	104	32	309
	Pigeon Pea	19,678	14,799	5,140	347
	Malay Apple	.	0	.	0
	Sugarcane	598	492	8,754	17,802
	Nutmeg	0	0	.	0
	Banana	1,786	211	1,087	5,160
	Mango	669	632	1,569	2,483
	Pawpaw	312	55	170	3,082
	Orange	49	94	29	313
	Grape	278	242	472	1,952
	Mandarine/Tangerine	0	0	33	0
	Guava	1,225	291	939	3,221
	Lime/Lemon	24	12	9	766
	Durian	12	59	5	79
	Rambutan	.	9	87	9,880
	Total	24,734	16,999	18,326	1,078

7.3.2 PERMANENT CROP: Area Planted by Crop Type - Dodoma Region

Crop	Area Planted	%
Pigeon Pea	19,678	79.56
Banana	1,786	7.22
Guava	1,225	4.95
Mango	669	2.71
Sugarcane	598	2.42
Pawpaw	312	1.26
Grape	278	1.12
Rubber Vine Fruit	104	0.42
Orange	49	0.20
Lime/Lemon	24	0.10
Durian	12	0.05
Mandarine/Tangerine	0.1	0.00
Nutmeg	0	0.00
Total	24,734	100.00

7.3.3 PERMANENT CROPS: Area Planted with Pigeon peas by District

Pigeon peas					
District	Area Planted with Pigeon peas	Total Area Planted (Ha)	% of Total Area Planted	Households with Pigeon peas	Average Planted Area per Household
Kondoa	17,199	172,276	10.0	27,101	0.6
Mpwapwa	0	104,395	0.0	0	0.0
Kongwa	2,468	168,716	1.5	234	10.5
Dodoma rural	0	172,257	0.0	0	0.0
Dodoma urban	10	61,012	0.0	100	0.1
Total	19,678	678,655	2.9	27,435	0.7

7.3.4 PERMANENT CROPS: Area planted with Banana by District

Banana					
District	Area Planted with Banana	Total Area Planted (Ha)	% of Total Area Planted	Households with Banana	Average Planted Area per Household
Kondoa	138	172,276	0.1	1,008	0.1
Mpwapwa	1,458	104,395	1.4	641	0.0
Kongwa	59	168,716	0.0	116	0.5
Dodoma rural	91	172,257	0.1	224	0.0
Dodoma urban	41	61,012	0.1	200	0.2
Total	1,786	678,655	0.3	2,189	0.8

7.3.5 PERMANENT CROPS: Area planted with Mango by District

Mango					
District	Area Planted with Mango	Total Area Planted (Ha)	% of Total Area Planted	Households with Mango	Average Planted Area per Household
Kondoa	394	172,276	0.23	2567	0.15
Mpwapwa	0	104,395	0.00	0	0.00
Kongwa	23	168,716	0.01	116	0.20
Dodoma rural	32	172,257	0.02	460	0.07
Dodoma urban	220	61,012	0.36	991	0.22
Total	669	678,655	0.10	4134	0.16

7.3.6 PERMANENT CROPS: Area Planted with Guava by District

Guava					
District	Area Planted with Guava	Total Area Planted (Ha)	% of Total Area Planted	Households with Guava	Average Planted Area per Household
Kondoa	244	172,276	0.14	1,137	0.22
Mpwapwa	824	104,395	0.79	253	3.26
Kongwa	47	168,716	0.03	116	0.40
Dodoma rural	12	172,257	0.01	458	0.03
Dodoma urban	98	61,012	0.16	798	0.12
Total	1,225	678,655	0.18	2,761	0.44

7.3.7 PERMANENT CROPS: Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Fertilizer Use				
	Mostly Farm Yard Manure	Mostly Compost	Mostly Inorganic Fertilizer	No Fertilizer Applied	Total
Rubber Vine Fruit	0	104	0	0	104
Pigeon Pea	2,383	751	463	16,081	19,678
Malay Apple	0	0	0	0	0
Sugarcane	145	0	0	453	598
Nutmeg	0	0	0	0	0
Banana	1,119	45	0	623	1,786
Mango	104	23	0	542	669
Pawpaw	172	0	0	140	312
Orange	48	0	0	1	49
Grape	41	0	0	51	92
Mandarine/Tangerine	0	0	0	0	0
Guava	87	45	0	1,093	1,225
Lime/Lemon	0	0	0	24	24
Durian	0	12	0	0	12
Rambutan	0	0	0	0	0
Total	4,099	979	463	19,007	24,547

cont… Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Farm Yard Manure	Total	%
Orange	48	49	98.6
Banana	1,119	1,786	62.7
Pawpaw	172	312	55.1
Grape	41	92	44.4
Sugarcane	145	598	24.2
Mango	104	669	15.6
Pigeon Pea	2,383	19,678	12.1
Guava	87	1,225	7.1
Rubber Vine Fruit	0	104	0.0
Nutmeg	0	0	0.0
Mandarine/Tangerine	0	0	0.0
Lime/Lemon	0	24	0.0
Durian	0	12	0.0
Rambutan	0	0	0.0
Total	4,099	24,547	16.7

cont… Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Inorganic Fertilizer	Total	%
Pigeon Pea	463	19,678	2
Rubber Vine Fruit	0	104	0
Malay Apple	0	0	0
Sugarcane	0	598	0
Nutmeg	0	0	0
Banana	0	1,786	0
Mango	0	669	0
Pawpaw	0	312	0
Orange	0	49	0
Grape	0	92	0
Mandarine/Tangerine	0	0	0
Guava	0	1,225	0
Lime/Lemon	0	24	0
Durian	0	12	0
Rambutan	0	0	0
Total	463	24,547	2

cont… Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Compost	Total	%
Rubber Vine Fruit	104	104	100.00
Pigeon Pea	751	19,678	3.81
Malay Apple	0	0	0.00
Sugarcane	0	598	0.00
Nutmeg	0	0	0.00
Banana	45	1,786	2.49
Mango	23	669	3.50
Pawpaw	0	312	0.00
Orange	0	49	0.00
Grape	0	92	0.00
Mandarine/Tangerine	0	0	0.00
Guava	45	1,225	3.64
Lime/Lemon	0	24	0.00
Durian	12	12	100.00
Rambutan	0	0	0.00
Total	979	24,547	3.99

AGROPROCESSING

8.1.1a: Number of Crop Growing Households Reported to have Processed Products by District; 2002/03 Agriculture Year

	Households That Processed Crops		Households That did not Process Crops		Total	
	Number	%	Number	%	Number	%
Kondoa	80,478	95	4,278	5	84,756	100
Mpwapwa	47,544	93	3,510	7	51,055	100
Kongwa	43,965	93	3,273	7	47,238	100
Dodoma Rural	88,601	88	11,881	12	100,482	100
Dodoma Urban	36,313	90	3,876	10	40,189	100
Total	296,901	92	26,818	8	323,719	100

8.1.1b Number of Crop Growing Households by Method of Processing and District; 2002/03 Agricultural Year

	Method of Processing					
District	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Trader	Other	Total
Kondoa	14,250	5,109	57,028	4,090	0	80,478
Mpwapwa	11,230	2,459	27,799	6,056	0	47,544
Kongwa	5,134	1,049	37,782	0	0	43,965
Dodoma Rural	26,424	3,201	57,854	0	1,121	88,601
Dodoma Urban	4,007	3,106	27,904	0	1,296	36,313
Total	61,046	14,924	208,367	10,146	2,418	296,901

8.1.1c AGRO PROCESSING: Number of Crop Growing Households Processing Crops During 2002/03 Agricultural Year by Location and Crop, Dodoma Region

	Method of Processing						
Crop	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Trader	On Large Scale Farm	Other	Total
Maize	2,715	2,703	17,770	0	91	297	23,576
Paddy	0	0	101	0	0	0	101
Sorghum	705	301	3,364	0	0	0	4,371
Bulrush Millet	3,511	2,004	19,486	0	98	697	25,796
Cassava	403	0	300	0	0	0	703
Beans	101	0	0	0	0	0	101
Cowpeas	1,205	0	201	0	0	0	1,406
Bambaranut	2,912	95	0	0	0	780	3,787
Groundnut	10,426	101	698	0	0	1,586	12,810

8.1.1d AGRO PROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year by Use of Product and Crop, Dodoma Region

	Product Use						
Crop	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Other	Total
Maize	221,523	755	783	1,715	607	0	225,382
Paddy	6,614	0	0	0	0	0	6,614
Sorghum	67,777	453	325	115	0	0	68,671
Bulrush Millet	88,830	0	0	0	776	0	89,606
Finger Millet	1,096	0	327	0	91	0	1,514
Cassava	1,511	0	0	0	0	0	1,511
Sweet Potatoes	145	0	0	0	0	145	290
Beans	3,190	0	726	0	0	128	4,045
Cowpeas	3,104	0	91	115	0	0	3,310
Pigeon Peas	3,131	0	917	0	0	0	4,048
Bambaranut	6,716	0	145	115	117	0	7,093
Sunflower	2,450	0	267	0	0	145	2,862
Simsim	374	0	128	0	0	0	502
Groundnut	43,725	329	5,614	230	839	372	51,110
Total	450,186	1,537	9,324	2,290	2,430	790	466,557

8.1.1e AGRO PROCESSING: Number of Crop Growing Households Reporting Processing of Farm Products Produced During 2002/03 Agricultural Year by Location of Sale of Product and Crop, Dodoma Region

	Where Sold									
Crop	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	Total
Maize	4,518	480	693	469	667	91	1,151	5,697	211,616	225,382
Paddy	228	0	0	0	0	0	132	276	5,978	6,614
Sorghum	1,814	516	129	465	0	192	328	2,139	63,087	68,671
Bulrush Millet	839	330	888	0	143	0	374	885	86,146	89,606
Finger Millet	0	0	0	0	0	0	325	0	1,189	1,514
Cassava	0	0	0	0	0	0	0	0	1,511	1,511
Sweet Potatoes	0	0	0	0	0	0	0	0	290	290
Beans	128	253	127	0	0	0	384	128	3,024	4,045
Cowpeas	0	0	0	0	0	0	0	0	3,310	3,310
Pigeon Peas	0	0	0	0	0	0	1,073	0	2,975	4,048
Bambaranut	145	0	0	0	0	0	0	0	6,949	7,093
Sunflower	262	123	0	0	0	0	274	0	2,202	2,862
Simsim	229	0	0	0	0	0	0	0	273	502
Groundnut	2,155	997	1,706	229	0	0	1,327	1,607	43,089	51,110
Total	10,318	2,700	3,543	1,163	811	283	5,368	10,733	431,639	466,557

8.1.1f AGRO PROCESSING: Number of Crop Growing Households By Main Product and District During 2002/03 Agriculture Year, Dodoma Region

	Main Product						
District	Flour / Meal	Grain	Oil	Juice	Fiber	Other	Total
Kondoa	77,632	1,571	1,001	0	274	0	80,478
Mpwapwa	46,116	1,224	75	0	0	129	47,544
Kongwa	40,583	2,797	234	351	0	0	43,965
Dodoma Rural	79,301	9,071	229	0	0	0	88,601
Dodoma Urban	35,521	492	300	0	0	0	36,313
Total	279,153	15,155	1,839	351	274	129	296,901

8.1.1g AGRO PROCESSING: Number of Crop Growing Households By Use of Primary Processed Product and District During 2002/03 Agriculture Year, Dodoma Region

	Product Use					
District	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Total
Kondoa	78,882	430	499	91	576	80,478
Mpwapwa	46,773	0	513	259	0	47,544
Kongwa	43,031	0	234	467	233	43,965
Dodoma Rural	86,792	682	0	898	229	88,601
Dodoma Urban	36,313	0	0	0	0	36,313
Total	291,791	1,111	1,246	1,715	1,038	296,901

8.1.1h AGRO PROCESSING: Number of Crop Growing Households By Where Product Sold and District During 2002/03 Agriculture Year, Dodoma Region

District	Where Sold									
	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	Total
Kondoa	1,729	145	0	0	433	0	917	4,823	72,431	80,478
Mpwapwa	1,050	0	259	129	0	0	129	2,178	43,799	47,544
Kongwa	2,104	352	234	586	234	0	234	117	40,104	43,965
Dodoma Rural	228	181	916	0	0	0	230	219	86,826	88,601
Dodoma Urban	386	302	201	0	0	91	0	595	34,738	36,313
Total	5,496	979	1,610	716	667	91	1,511	7,933	277,898	296,901

8.1.1i AGRO PROCESSING: Number of Crop Growing Households By type of By-Product and District During 2002/03 Agriculture Year, Dodoma Region

District	By Product										
	Bran	Cake	Husk	Juice	Fiber	Pulp	Oil	Shell	No by-product	Other	Total
Kondoa	1,416	2,003	553	0	145	2,282	145	434	71,040	2,461	80,478
Mpwapwa	38,218	129	129	129	129	0	0	2,525	6,284	0	47,544
Kongwa	33,119	233	0	0	117	234	0	1,635	8,627	0	43,965
Dodoma Rural	32,710	0	3,447	0	0	14,875	0	888	36,681	0	88,601
Dodoma Urban	7,025	202	0	0	0	2,510	0	303	26,274	0	36,313
Total	112,488	2,567	4,129	129	391	19,901	145	5,783	148,907	2,461	296,901

MARKETING

10.1: Number of Crop Producing Households Reported to have Sold Agricultural Produce by District During 2002/03; Dodoma Region

	Households that Sold		Households that Did not Sell		Total Number of households
	Number	%	Number	%	
Kondoa	62,660	74.2	21,810	25.8	84,470
Mpwapwa	33,065	65.0	17,785	35.0	50,850
Kongwa	24,367	51.7	22,754	48.3	47,121
Dodoma Rural	54,612	54.4	45,870	45.6	100,482
Dodoma Urban	16,095	40.0	24,094	60.0	40,189
Total	190,800	59.1	132,312	40.9	323,112

10.2: Number of Households who Reported Main Reasons for Not Selling their Crops by District During 2002/03Agriccultural Year, Dodoma Region

	Main Reasons for Not Selling Crops								
District	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Other	Total
Kondoa	575	21557	141	0	141	0	0	1570	23984
Mpwapwa	515	22490	512	125	0	250	0	256	24147
Kongwa	468	21593	352	0	0	0	0	233	22646
Dodoma Rural	510	48251	0	0	224	0	230	1821	51037
Dodoma Urban	99	24928	101	0	0	101	0	2087	27314
Total	2168	138819	1105	125	365	351	230	5967	149130

10.3 Proportion of Households who Reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year, Dodoma Region

	Main Reasons for Not Selling Crops								
District	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Other	Total
Kondoa	2.40	89.88	0.59	0.00	0.59	0.00	0.00	6.55	100.00
Mpwapwa	2.13	93.14	2.12	0.52	0.00	1.03	0.00	1.06	100.00
Kongwa	2.07	95.35	1.55	0.00	0.00	0.00	0.00	1.03	100.00
Dodoma Rural	1.00	94.54	0.00	0.00	0.44	0.00	0.45	3.57	100.00
Dodoma Urban	0.36	91.26	0.37	0.00	0.00	0.37	0.00	7.64	100.00
Total	1.45	93.09	0.74	0.08	0.24	0.24	0.15	4.00	100.00

IRRIGATION/EROSION CONTROL

11.1 Number and Percent of Households Reporting use of irrigation during 2002/03 Agricultural year by District

	Households Practicing Irrigation		Households not Practicing Irrigation		Total	
	Number of Household	%	Number of Household	%	Number of Household	%
Kondoa	1,441	2	83,315	98	84,756	100
Mpwapwa	3,832	8	47,222	92	51,055	100
Kongwa	117	0	47,121	100	47,238	100
Dodoma Rural	456	0	100,025	100	100,482	100
Dodoma Urban	3,591	9	36,598	91	40,189	100
Total	9,438	3	314,282	97	323,719	100

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)	%
Kondoa	925	925	100.0
Mpwapwa	1,687	1,651	97.9
Kongwa	95	24	25.0
Dodoma Rural	92	74	80.0
Dodoma Urban	1,916	1,618	84.4
Total	4,715	4,291	91.0

11.3: IRRIGATION: Number of Agriculture Households using irrigation by Source of Irrigation Water by districts during the 2002/03 agricultural Year

	Source of Irrigation Water							
District	River	Lake	Dam	Well	Borehole	Canal	Pipe water	Total
Kondoa	578	0	0	718	0	0	145	1,441
Mpwapwa	2,034	0	125	258	129	1,162	123	3,832
Kongwa	117	0	0	0	0	0	0	117
Dodoma Rural	0	0	0	456	0	0	0	456
Dodoma Urban	0	98	292	3,099	0	0	101	3,591
Total	2,730	98	417	4,533	129	1,162	369	9,438

11.4: IRRIGATION: Number of Agriculture Households by Method used to obtain water and District during 2002/03 Agricultural Year

	Method of Obtaining Water				
District	Gravity	Hand Bucket	Hand Pump	Motor Pump	Total
Kondoa	290	1,008	144	0	1,441
Mpwapwa	2,805	1,028	0	0	3,832
Kongwa	117	0	0	0	117
Dodoma Rural	0	456	0	0	456
Dodoma Urban	198	3,292	0	101	3,591
Total	3,409	5,784	144	101	9,438

11.5 IRRIGATION: Number of Agricultulture Households by Method of Field Application of Irrigation Water and District for the 2002/03 Agricultural Year

District	Method of Application				
	Flood	Sprinkler	Water Hose	Bucket / Watering Can	Total
Kondoa	290	0	144	1,008	1,441
Mpwapwa	2,675	0	0	1,157	3,832
Kongwa	0	0	0	117	117
Dodoma Rural	0	0	0	456	456
Dodoma Urban	98	502	0	2,991	3,591
Total	3,063	502	144	5,729	9,438

11.6: 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		Number of Households
	Number	%	Number	%	
Kondoa	1,441	2	83,315	98	84,756
Mpwapwa	3,832	8	47,222	92	51,055
Kongwa	117	0	47,121	100	47,238
Dodoma Rural	456	0	100,025	100	100,482
Dodoma Urban	3,591	9	36,598	91	40,189
Total	9,438	3	314,282	97	323,719

11.7 EROSION CONTROL: Number of Erosion Control/Water Harvesting Structures By Type and District as of 2002/03 Agricultural Year

District	Type of Erosion Control								
	Terraces	Erosion Control Bunds	Gabions / Sandbag	Vetiver Grass	Tree Belts	Water Harvesting Bunds	Drainage Ditches	Dam	Total
Kondoa	0	64,312	183	430	3,554	28,157	183	0	96,819
Mpwapwa	513	24,031	0	0	1,892	2,820	638	129	30,024
Kongwa	3,688	585	0	703	5,385	349	814	116	11,641
Dodoma Rural	1,829	17,758	2,958	0	0	1,111	8,037	0	31,694
Dodoma Urban	2,490	6,288	0	0	0	402	0	0	9,180
Total	8,520	112,974	3,141	1,134	10,832	32,840	9,671	245	179,357

ACCESS TO FARM INPUTS

Table 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	%	
Kondoa	1,283	1.5	83,471	98.8	84,470
Mpwapwa	382	0.8	50,543	99.4	50,850
Kongwa	0	0.0	47,238	100.2	47,121
Dodoma Rural	229	0.2	100,253	99.8	100,482
Dodoma Urban	401	1.0	39,787	99.0	40,189
Total	2,295	0.7	321,292	99.4	323,112

Table 12.1.2 ACCESS TO INPUTS: Number of Crop Growing 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	%	
Kondoa	27,968	33	57,356	68	84,470
Mpwapwa	11,865	23	39,394	77	50,850
Kongwa	8,140	17	39,098	83	47,121
Dodoma Rural	33,050	33	67,432	67	100,482
Dodoma Urban	15,814	39	24,475	61	40,189
Total	96,837	30	227,755	70	323,112

Table 12.1.3 ACCESS TO INPUTS: Number of Crop Growing 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	%	
Kondoa	2,079	2.5	82,820	98.0	84,470
Mpwapwa	770	1.5	50,285	98.9	50,850
Kongwa	928	2.0	46,310	98.3	47,121
Dodoma Rural	444	0.4	100,037	99.6	100,482
Dodoma Urban	301	0.7	39,787	99.0	40,189
Total	4,523	1.4	319,239	98.8	323,112

Table 12.1.4 ACCESS TO INPUTS: Number of Crop Growing Households Using Insecticide/Fungicides by District during 2002/03 Agricultural Year

District	Using Insecticides/Fungicide		Not Using Insecticide/Fungi		Total Number of Crop growing households
	No of households	%	No of households	%	
Kondoa	714	1	84,046	99	84,470
Mpwapwa	1,097	2	49,958	98	50,850
Kongwa	1,286	3	45,952	98	47,121
Dodoma Rural	3,454	3	97,028	97	100,482
Dodoma Urban	2,401	6	37,787	94	40,189
Total	8,951	3	314,771	97	323,112

Table 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	%	
Kondoa	0	0	84,665	100	84,470
Mpwapwa	75	0	50,905	100	50,850
Kongwa	0	0	47,238	100	47,121
Dodoma Rural	141	0	100,341	100	100,482
Dodoma Urban	199	0	39,990	100	40,189
Total	415	0	323,138	100	323,112

Table 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	%	
Kondoa	5,262	6	79,303	94	84,470
Mpwapwa	4,941	10	46,113	91	50,850
Kongwa	4,894	10	42,344	90	47,121
Dodoma Rural	12,759	13	87,722	87	100,482
Dodoma Urban	6,257	16	33,932	84	40,189
Total	34,114	11	289,414	90	323,112

Table 12.1.7 ACCESS TO INPUTS: Number of Agricultural Households by Source of Chemical Fertilizer and District, 2002/03 Agricultural Year

District	Local Market / Trade Store		Locally Produced by Household		Neighbour		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	
Kondoa	996	1.2	287	0.3	0	0.0	83,471	98.5	84,754
Mpwapwa	0	0.0	0	0.0	382	0.8	50,543	99.2	50,925
Kongwa	0	0.0	0	0.0	0	0.0	47,238	100.0	47,238
Dodoma Rural	229	0.2	0	0.0	0	0.0	100,253	99.8	100,482
Dodoma Urban	301	0.7	101	0.3	0	0.0	39,787	99.0	40,189
Total	1,526	0.5	388	0.1	382	0.1	321,292	99.3	323,588

Table 12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year

	Co-operative		Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Crop Buyers	
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mpwapwa	0	0.0	123	0.2	0	0.0	129	0.3	128	0.2	129	0.3
Kongwa	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dodoma Rural	590	0.6	363	0.4	458	0.5	0	0.0	181	0.2	0	0.0
Dodoma Urban	0	0.0	198	0.5	98	0.2	101	0.3	101	0.3	0	0.0
Total	590	0.2	685	0.2	557	0.2	230	0.1	410	0.1	129	0.0

cont…..Table 12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year

	Large Scale Farm		Locally Produced by Household		Neighbour		Other		Not applicable		Total
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number
Kondoa	0	0.0	12,744	14.9	14,844	17.4	379	0.4	57,356	67.2	85,324
Mpwapwa	125	0.2	4,709	9.2	6,262	12.2	258	0.5	39,394	76.9	51,259
Kongwa	0	0.0	3,021	6.4	5,119	10.8	0	0.0	39,098	82.8	47,238
Dodoma Rural	0	0.0	9,224	9.2	21,773	21.7	460	0.5	67,432	67.1	100,482
Dodoma Urban	595	1.5	3,877	9.6	10,844	26.9	0	0.0	24,475	60.7	40,289
Total	720	0.2	33,576	10.3	58,842	18.1	1,097	0.3	227,755	70.2	324,592

Table 12.1.9 ACCESS TO INPUTS: Number of Agricultural Households and Source of COMPOST Manure by District, 2002/03 Agricultural Year

	Co-operative		Crop Buyers		Locally Produced by Household		Neighbour		Not applicable		Total
District	Number	%	Number	%	Number	%	Number	%	Number	%	
Kondoa	0	0.0	0	0.0	2,079	2.4	0	0.0	82,820	97.6	84,899
Mpwapwa	0	0.0	0	0.0	770	1.5	0	0.0	50,285	98.5	51,055
Kongwa	0	0.0	0	0.0	928	2.0	0	0.0	46,310	98.0	47,238
Dodoma Rural	222	0.2	222	0.2	0	0.0	0	0.0	100,037	99.6	100,482
Dodoma Urban	0	0.0	0	0.0	201	0.5	101	0.3	39,787	99.2	40,088
Total	222	0.1	222	0.1	3,977	1.2	101	0.0	319,239	98.6	323,762

Table 12.1.10 ACCESS TO INPUTS: Number of Agricultural Households and Source of Insecticides/Fungicides by District, 2002/03 Agricultural Year

	Local Market / Trade Store		Secondary Market		Development Project		Neighbour		Not applicable		Total
District	Number	%	Number	%	Number	%	Number	%	Number	%	
Kondoa	714	0.8	0	0.0	0	0.0	0	0.0	84,046	99.2	84,760
Mpwapwa	713	1.4	129	0.3	0	0.0	255	0.5	49,958	97.9	51,055
Kongwa	1,053	2.2	0	0.0	233	0.5	0	0.0	45,952	97.3	47,238
Dodoma Rural	459	0.5	0	0.0	2,813	2.8	181	0.2	97,028	96.6	100,482
Dodoma Urban	2,301	5.7	0	0.0	0	0.0	101	0.3	37,787	94.0	40,189
Total	5,239	1.6	129	0.0	3,047	0.9	537	0.2	314,771	97.2	323,723

Table 12.1.11 ACCESS TO INPUTS: Number of Agricultural Households by Source of Herbicides and District, 2002/03 Agricultural Year

	Local Market / Trade Store		Neighbour		Not applicable		Total
District	Number	%	Number	%	Number	%	
Kondoa	0	0.0	0	0.0	84,665	100.0	84,665
Mpwapwa	75	0.1	0	0.0	50,905	99.9	50,980
Kongwa	0	0.0	0	0.0	47,238	100.0	47,238
Dodoma Rural	0	0.0	141	0.1	100,341	99.9	100,482
Dodoma Urban	199	0.5	0	0.0	39,990	99.5	40,189
Total	274	0.1	141	0.0	323,138	99.9	323,553

12.1.12 ACCESS TO INPUTS: Number of Agricultural Households Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Crop Buyers		Large Scale Farm		Locally Produced by Household		Neighbour		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Kondoa	142	0.2	2,557	3.0	429	0.5	290	0.3	0	0.0	0	0.0	568	0.7	1,276	1.5	79,303	93.8	84,565
Mpwapwa	0	0.0	3,281	6.4	0	0.0	502	1.0	0	0.0	0	0.0	129	0.3	1,029	2.0	46,113	90.3	51,055
Kongwa	234	0.5	3,259	6.9	116	0.2	349	0.7	117	0.2	0	0.0	117	0.2	702	1.5	42,344	89.6	47,238
Dodoma Rural	0	0.0	5,236	5.2	0	0.0	6,152	6.1	0	0.0	228	0.2	228	0.2	916	0.9	87,722	87.3	100,482
Dodoma Urban	0	0.0	5,269	13.1	101	0.3	202	0.5	100	0.2	0	0.0	100	0.2	485	1.2	33,932	84.4	40,189
Total	376	0.1	19,601	6.1	646	0.2	7,495	2.3	217	0.1	228	0.1	1,142	0.4	4,408	1.4	289,414	89.5	323,528

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	%	
Kondoa	428	33	141	11	0	0	144	11	571	44	1,283
Mpwapwa	0	0	0	0	382	100	0	0	0	0	382
Kongwa	-	-	-	-	-	-	-	-	-	-	-
Dodoma Rural	229	100	0	0	0	0	0	0	0	0	229
Dodoma Urban	101	25	0	0	0	0	0	0	301	75	401
Total	758	33	141	6	382	17	144	6	871	38	2,295

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		20 km and Above		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kondoa	25,553	91	1,703	6	572	2	0	0	141	1	27,968
Mpwapwa	11,276	95	387	3	201	2	0	0	0	0	11,865
Kongwa	6,512	80	815	10	813	10	0	0	0	0	8,140
Dodoma Rural	31,310	95	1,141	3	370	1	0	0	229	1	33,050
Dodoma Urban	12,337	78	2,594	16	689	4	194	1	0	0	15,814
Total	86,988	90	6,640	7	2,645	3	194	0	370	0	96,837

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		20 km and Above		Total Number
	Number	%	Number	%	
Kondoa	2,079	100	0	0	2,079
Mpwapwa	770	100	0	0	770
Kongwa	928	100	0	0	928
Dodoma Rural	444	100	0	0	444
Dodoma Urban	201	67	101	33	301
Total	4,422	98	101	2	4,523

12.1.16 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	%	
Kondoa	1,979	38	716	14	286	5	286	5	1,995	38	5,262
Mpwapwa	1,378	28	255	5	795	16	388	8	2,126	43	4,941
Kongwa	1,286	26	585	12	1,514	31	347	7	1,162	24	4,894
Dodoma Rural	3,727	29	1,268	10	4,121	32	459	4	3,183	25	12,759
Dodoma Urban	982	16	101	2	796	13	596	10	3,782	60	6,257
Total	9,351	27	2,925	9	7,513	22	2,076	6	12,248	36	34,114

12.1.17 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Insecticide/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	%	
Kondoa	0	0	0	0	145	20	0	0	569	80	714
Mpwapwa	256	23	0	0	257	23	129	12	455	41	1,097
Kongwa	234	18	0	0	467	36	0	0	584	45	1,286
Dodoma Rural	0	0	362	10	458	13	0	0	2,633	76	3,454
Dodoma Urban	95	4	0	0	300	13	301	13	1,705	71	2,401
Total	585	7	362	4	1,627	18	431	5	5,947	66	8,951

12.1.18 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Chemical Fertilizer by District, 2002/03 Agricultural Year

	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		
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Total
Kondoa	24,827	30	46,055	55	3,832	5	290	0	3,863	5	4,030	5	144	0	431	1	83,471
Mpwapwa	12,922	26	30,169	60	646	1	129	0	1,692	3	3,573	7	0	0	1,412	3	50,543
Kongwa	9,526	20	30,000	64	234	0	0	0	1,755	4	5,138	11	115	0	469	1	47,238
Dodoma Rural	31,023	31	47,261	47	2,973	3	0	0	2,742	3	15,802	16	0	0	453	0	100,253
Dodoma Urban	1,090	3	31,472	79	492	1	0	0	891	2	5,541	14	101	0	199	1	39,787
Total	79,388	25	184,957	58	8,177	3	419	0	10,944	3	34,084	11	359	0	2,964	1	321,292

12.1.19 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Farm Yard Manure by District, 2002/03 Agricultural Year

	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		
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Total
Kondoa	14,377	25	21,413	37	10,380	18	2,594	5	3,838	7	2,591	5	0	0	2,162	4	57,356
Mpwapwa	7,695	20	5,389	14	17,077	43	4,186	11	2,266	6	1,871	5	0	0	910	2	39,394
Kongwa	8,713	22	4,206	11	21,153	54	2,691	7	1,053	3	350	1	0	0	932	2	39,098
Dodoma Rural	8,173	12	12,043	18	36,052	53	1,831	3	229	0	7,519	11	0	0	1,585	2	67,432
Dodoma Urban	7,596	31	10,140	41	5,070	21	393	2	0	0	303	1	101	0	872	4	24,475
Total	46,553	20	53,191	23	89,733	39	11,695	5	7,386	3	12,634	6	101	0	6,462	3	227,755

12.1.20 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using COMPOST Manure by District, 2002/03 Agricultural Year

	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		
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Total
Kondoa	12,866	16	28,851	35	22,581	27	2,722	3	10,906	13	3,450	4	0	0	1,444	2	82,820
Mpwapwa	4,175	8	9,111	18	7,050	14	1,744	3	22,751	45	2,920	6	329	1	2,205	4	50,285
Kongwa	6,778	15	3,857	8	22,817	49	6,797	15	3,733	8	583	1	351	1	1,394	3	46,310
Dodoma Rural	4,763	5	19,706	20	29,376	29	5,374	5	29,282	29	7,642	8	2,985	3	910	1	100,037
Dodoma Urban	3,084	8	12,492	31	10,388	26	199	1	9,809	25	2,009	5	1,102	3	704	2	39,787
Total	31,667	10	74,017	23	92,213	29	16,836	5	76,480	24	16,602	5	4,767	1	6,656	2	319,239

12.1.21 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Insecticides/Fungicides by District, 2002/03 Agricultural Year

	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		
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Total
Kondoa	16,936	20	53,490	64	5,332	6	696	1	5,285	6	1,584	2	0	0	723	1	84,046
Mpwapwa	6,378	13	28,361	57	256	1	0	0	3,115	6	10,179	20	0	0	1,669	3	49,958
Kongwa	4,182	9	29,676	65	938	2	234	1	2,672	6	7,561	16	0	0	689	1	45,952
Dodoma Rural	20,357	21	61,942	64	2,051	2	0	0	6,181	6	5,356	6	230	0	911	1	97,028
Dodoma Urban	302	1	29,236	77	890	2	100	0	1,777	5	5,182	14	0	0	300	1	37,787
Total	48,154	15	202,705	64	9,467	3	1,031	0	19,029	6	29,862	9	230	0	4,292	1	314,771

12.1.22 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Herbicides by District, 2002/03 Agricultural Year

	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		
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Total
Kondoa	17,956	21	51,409	61	5,192	6	833	1	5,997	7	2,558	3	720	1	84,665
Mpwapwa	9,451	19	27,513	54	639	1	0	0	3,394	7	8,104	16	1,805	4	50,905
Kongwa	3,830	8	30,384	64	1,172	2	117	0	3,846	8	6,966	15	923	2	47,238
Dodoma Rural	16,476	16	57,725	58	1,370	1	228	0	9,147	9	14,482	14	912	1	100,341
Dodoma Urban	603	2	28,368	71	591	1	100	0	2,059	5	7,868	20	400	1	39,990
Total	48,316	15	195,399	60	8,965	3	1,278	0	24,444	8	39,977	12	4,760	1	323,138

12.1.23 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Improved Seeds by District, 2002/03 Agricultural Year

	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		
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Total
Kondoa	16,620	21	53,291	67	4,275	5	833	1	2,708	3	712	1	0	0	864	1	79,303
Mpwapwa	13,444	29	29,911	65	388	1	0	0	637	1	502	1	129	0	1,102	2	46,113
Kongwa	14,348	34	26,357	62	821	2	117	0	117	0	117	0	0	0	467	1	42,344
Dodoma Rural	13,969	16	70,334	80	1,144	1	229	0	458	1	906	1	0	0	683	1	87,722
Dodoma Urban	1,406	4	31,030	91	502	1	101	0	101	0	392	1	101	0	299	1	33,932
Total	59,787	21	210,924	73	7,129	2	1,280	0	4,021	1	2,629	1	230	0	3,415	1	289,414

Table 12.1.24 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Total
	Number	%	Number	%	Number	%	
Kondoa	142	11	855	67	285	22	1,283
Mpwapwa	127	33	0	0	255	67	382
Kongwa	-	-	-	-	-	-	-
Dodoma Rural	0	0	229	100	0	0	229
Dodoma Urban	302	75	100	25	0	0	401
Total	571	25	1,184	52	540	24	2,295

12.1.25 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Does not Work		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kondoa	8,029	29	18,520	66	1,130	4	289	1	0	0	27,968
Mpwapwa	5,134	43	4,803	40	1,416	12	382	3	129	1	11,865
Kongwa	2,092	26	5,464	67	349	4	234	3	0	0	8,140
Dodoma Rural	10,304	31	22,234	67	512	2	0	0	0	0	33,050
Dodoma Urban	7,565	48	8,149	52	100	1	0	0	0	0	15,814
Total	33,124	34	59,171	61	3,507	4	905	1	129	0	96,837

12.1.26 ACCESS TO INPUTS: Number of Agricultural Households and Quality of COMPOST Manure by District, 2002/03

District	Excellent		Good		Average		Poor		Total
	Number	%	Number	%	Number	%	Number	%	
Kondoa	0	0	1,796	86	138	7	145	7	2,079
Mpwapwa	0	0	770	100	0	0	0	0	770
Kongwa	0	0	694	75	234	25	0	0	928
Dodoma Rural	444	100	0	0	0	0	0	0	444
Dodoma Urban	100	33	201	67	0	0	0	0	301
Total	545	12	3,461	77	372	8	145	3	4,523

12.1.27 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Does not Work		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Kondoa	145	20	569	80	0	0	0	0	0	0	714
Mpwapwa	126	12	714	65	257	23	0	0	0	0	1,097
Kongwa	117	9	1,169	91	0	0	0	0	0	0	1,286
Dodoma Rural	230	7	3,224	93	0	0	0	0	0	0	3,454
Dodoma Urban	696	29	1,107	46	200	8	299	12	100	4	2,401
Total	1,313	15	6,783	76	456	5	299	3	100	1	8,951

12.1.28 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Herbicides by District, 2002/03 Agricultural Year

District	Excellent		Good		Total
	Number	%	Number	%	
Mpwapwa	0	0	75	100	75
Dodoma Rural	0	0	141	100	141
Dodoma Urban	99	50	101	50	199
Total	99	24	317	76	415

12.1.29 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Improved Seeds by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Does not Work		Total
	Number	%	Number	%	Number	%	Number	%	
Kondoa	276	5	4,419	84	567	11	0	0	5,262
Mpwapwa	2,407	49	2,276	46	258	5	0	0	4,941
Kongwa	1,985	41	2,676	55	233	5	0	0	4,894
Dodoma Rural	4,099	32	5,684	45	2,748	22	229	2	12,759
Dodoma Urban	2,877	46	2,981	48	399	6	0	0	6,257
Total	11,644	34	18,036	53	4,205	12	229	1	34,114

12.1.30 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Chemical Fertilizer Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Chemical Fertilizers Next Year		Agricultural Households With NO Plan to use Next Year Chemical Fertilizers		Total
	Number	%	Number	%	
Kondoa	10,876	13	73,877	87	84,754
Mpwapwa	2,202	4	48,723	96	50,925
Kongwa	1,040	2	46,198	98	47,238
Dodoma Rural	1,358	1	99,123	99	100,482
Dodoma Urban	495	1	39,693	99	40,189
Total	15,973	5	307,615	95	323,588

12.1.31 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 Farm Yard Manure		Agricultural Households With NO Plan to use Next Year Farm Yard Manure		Total
	Number	%	Number	%	
Kondoa	35,626	42	49,698	58	85,324
Mpwapwa	24,606	48	26,653	52	51,259
Kongwa	20,367	43	26,871	57	47,238
Dodoma Rural	48,650	48	51,831	52	100,482
Dodoma Urban	20,988	52	19,301	48	40,289
Total	150,238	46	174,354	54	324,592

12.1.32 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 COMPOST ManureNext Year		Agricultural Households With NO Plan to use COMPOST Manure Next Year		Total
	Number	%	Number	%	
Kondoa	11,597	14	73,302	86	84,899
Mpwapwa	6,257	12	44,798	88	51,055
Kongwa	10,333	22	36,905	78	47,238
Dodoma Rural	7,906	8	92,576	92	100,482
Dodoma Urban	1,097	3	38,991	97	40,088
Total	37,190	11	286,572	89	323,762

12.1.33 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Insecticides/Fungicides Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Pesticides/Fungicides Next Year		Agricultural Households With NO Plan to use Pesticides/FungicidesNext Year		Total
	Number	%	Number	%	
Kondoa	12,630	15	72,130	85	84,760
Mpwapwa	2,351	5	48,704	95	51,055
Kongwa	6,986	15	40,252	85	47,238
Dodoma Rural	11,454	11	89,028	89	100,482
Dodoma Urban	2,603	6	37,586	94	40,189
Total	36,023	11	287,700	89	323,723

12.1.34 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 Herbicides Next Year		Agricultural Households With NO Plan to use Herbicides Next Year		Total
	Number	%	Number	%	
Kondoa	10,383	12	74,282	88	84,665
Mpwapwa	849	2	50,131	98	50,980
Kongwa	2,107	4	45,131	96	47,238
Dodoma Rural	1,363	1	99,119	99	100,482
Dodoma Urban	199	0	39,990	100	40,189
Total	14,901	5	308,652	95	323,553

Table 12.1.35 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 Improved Seeds Next Year		Agricultural Households With NO Plan to use Improved Seeds Next Year		Total
	Number	%	Number	%	
Kondoa	23,626	28	60,940	72	84,565
Mpwapwa	13,311	26	37,744	74	51,055
Kongwa	17,233	36	30,005	64	47,238
Dodoma Rural	25,662	26	74,820	74	100,482
Dodoma Urban	12,226	30	27,962	70	40,189
Total	92,058	28	231,471	72	323,528

AGRICULTURE CREDIT

13.1a AGRICULTURE CREDIT: Number of Agriculture Households receiving Credit by sex of household head and District During the 2002/03 Agriculture Year

District	Male		Female		Total
	Number	%	Number	%	
Kondoa	285	67	142	33	428
Mpwapwa	124	50	123	50	247
Kongwa	702	100	0	0	702
Dodoma Rural	181	100	0	0	181
Dodoma Urban	201	100	0	0	201
Total	1,493	85	266	15	1,759

13.1b AGRICULTURE CREDIT: Number of Households Receiving Credit By Main Source of Credit and District; 2002/03 Agriculture Year.

District	Source of Credit				Total
	Family, Friend and Relative	Commercial Bank	Saving & Credit Society	Religious Organisation / NGO / Project	
Kondoa	283	0	0	145	428
Mpwapwa	124	0	0	123	247
Kongwa	117	467	117	0	702
Dodoma Rural	0	0	0	181	181
Dodoma Urban	0	0	0	201	201
Total	524	467	117	650	1,759

13.2a AGRICULTURE CREDIT: Number of Households Reporting the Main reasons for Not Using Credit by District During the 2002/03 Agriculture Year

District	Not needed	Not available	Did not want to go into debt	Interest rate/cost too high	Did not know how to get credit	Difficult bureaucracy procedure	Credit granted too late	Other	Don't know about credit	Total
Kondoa	3,548	13,346	8,619	3,408	26,483	1,705	290	1,299	25,632	84,328
Mpwapwa	1,659	6,047	4,970	1,488	22,778	1,777	629	249	11,211	50,807
Kongwa	580	5,736	4,082	1,164	24,282	1,053	0	231	9,408	46,536
Dodoma Rural	2,058	27,909	5,578	1,139	45,029	1,051	451	685	16,401	100,301
Dodoma Urban	1,066	11,287	3,889	503	13,451	1,605	1,287	0	6,900	39,988
Total	8,910	64,325	27,138	7,702	132,023	7,190	2,657	2,465	69,551	321,960

13.2b AGRICULTURE CREDIT: Number of Credits Received by Main Purpose of Credit and District During the 2002/03 Agriculture Year

District	Labour	Seeds	Agro-chemicals	Tools / Equipment	Livestock	Other	Total Credits
Kondoa	141	142	0	0	145	142	570
Mpwapwa	124	124	0	0	123	0	371
Kongwa	352	0	0	116	117	234	819
Dodoma Rural	0	0	0	181	0	0	181
Dodoma Urban	201	100	100	0	0	0	401
Total Credits	817	367	100	297	385	377	2,343

TREE FARMING AND AGROFORESTRY

14.1 ON FARM TREE PLANTING: Number of Planted Trees By Species and District During the 2002/03 Agriculture Year, Dodoma Region

District	Senna Spp	Gravellis	Acacia Spp	Pinus Spp	Eucalyptus Spp	Cyprus Spp	Tectona Grandis
Kondoa	11,774	47,537	.	.	164,775	.	1,303
Mpwapwa	92,033	3,488	156,132	379	262,832	6,236	.
Kongwa	21,780	.	.	.	339	.	.
Dodoma Rural	25,960	.	.	.	687	.	2,295
Dodoma Urban	12,447	101	100	295,166	1,595	.	.
Total	163,994	51,126	156,231	295,545	430,229	6,236	3,598
%	11	4	11	20	29	0	0

cont… ON FARM TREE PLANTING: Number of Planted Trees By Species and District During the 2002/03 Agriculture Year, Dodoma Regiont

District	Terminalia Catapa	Leucena Spp	Syszygium Spp	Azadritachta Spp	Sesbania Spp	Moringa Spp	Trichilia Spp	Total
Kondoa	.	.	2,285	2,308	.	.	.	229,983
Mpwapwa	.	148,059	.	68,946	.	.	.	738,104
Kongwa	.	1,328	.	2,579	332	.	.	26,358
Dodoma Rural	.	7,347	.	62,143	.	4,453	.	102,885
Dodoma Urban	999	7,909	13,329	18,458	.	10,485	2,054	362,642
Total	999	164,642	15,614	154,435	332	14,937	2,054	1,459,972
%	0	11	1	11	0	1	0	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, Dodoma Region

	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
Kondoa	4,417	205,092	1,138	12,731	579	12,160	6,134	229,983
Mpwapwa	1,279	388,268	1,532	18,385	382	331,451	3,193	738,104
Kongwa	700	15,576	228	2,233	467	8,549	1,395	26,358
Dodoma Rural	2,729	67,591	3,169	27,950	688	7,344	6,587	102,885
Dodoma Urban	2,792	315,219	2,107	27,973	100	19,450	4,999	362,642
Total	11,917	991,748	8,175	89,271	2,217	378,953	22,308	1,459,972

14.3 ON FARM TREE PLANTING: Number of responses by main use of planted trees and District for the 2002/03 agriculture year, Dodoma Region

	Main Use							
District	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	Other	Total
Kondoa	7,149	429	0	853	285	144	144	9,005
Mpwapwa	761	374	0	0	2,691	252	247	4,325
Kongwa	0	117	0	798	701	0	117	1,734
Dodoma Rural	1,336	0	0	1,832	5,255	668	668	9,759
Dodoma Urban	592	300	100	1,807	5,282	201	301	8,584
Total	9,839	1,221	100	5,290	14,214	1,266	1,477	33,407

14.4TREE FARMING: Number of Agriculture Households Classified by Distance to Community Planted Forest (Km) By District During the 2002/03 Agriculture Year, Dodoma Region

District	Distance to Community Planted Forest (km)						
	1-9	1-19	20-29	30-39	40-49	60+	Total
Kondoa	7,517	0	0	0	0	0	7,517
Mpwapwa	259	259	388	0	0	129	1,034
Kongwa	4,095	4,554	2,807	818	468	1,051	13,793
Dodoma Rural	3,125	445	0	445	0	0	4,015
Dodoma Urban	1,388	1,387	1,691	1,676	1,371	1,796	9,308
Total	16,383	6,644	4,885	2,939	1,839	2,975	35,666
%	46	19	14	8	5	8	100

14.5 ON FARM TREE PLANTING: Number of responses by Second use of planted trees and District for the 2002/03 agriculture year, Dodoma Region

District	Second Use							
	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	Other	Total
Kondoa	142	1424	0	6300	712	141	287	9005
Mpwapwa	129	253	0	2547	258	1015	123	4325
Kongwa	0	461	0	351	468	117	336	1734
Dodoma Rural	1129	1824	0	5207	452	459	230	9301
Dodoma Urban	301	693	502	4688	1105	795	501	8584
Total	1701	4655	502	19093	2994	2527	1478	32949

CROP EXTENSION

15.1 CROP EXTENSION: Number of Agriculture Households Receiving Extension Messages by District During the 2002/03 Agriculture Year, Dodoma Region

	Households Receiving Extension Advice		Households Not Receiving Extension Advice		Total Number of Households
	Number	%	Number	%	
Kondoa	16,079	19	68,677	81	84,756
Mpwapwa	16,787	33	34,267	67	51,055
Kongwa	26,460	56	20,778	44	47,238
Dodoma Rural	52,046	52	48,435	48	100,482
Dodoma Urban	21,016	52	19,173	48	40,189
Total	132,389	41	191,331	59	323,719

15.2 CROP EXTENSION: Number of Households By Quality of Extension Services and District During the 2002/03 Agricultural Year, Dodoma Region

	Very Good		Good		Average		Poor		No Good		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	860	5	12,941	80	2,001	12	145	1	132	1	16,079	100
Mpwapwa	2,188	13	12,211	73	2,131	13	257	2	0	0	16,787	100
Kongwa	3,982	15	20,754	79	1,268	5	228	1	111	0	26,343	100
Dodoma Rural	9,604	19	27,515	53	11,587	22	2,000	4	887	2	51,593	100
Dodoma Urban	4,054	20	12,882	63	2,878	14	101	0	399	2	20,313	100
Total	20,687	16	86,304	66	19,865	15	2,731	2	1,528	1	131,115	100

15.3 EXTENSION MESSAGES: Number of Agriculture Households By Source of Crop Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

	Government		NGO / Development Project		Large Scale Farm		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	15,645	98	0	0	0	0	145	1	145	1	15,934	100
Mpwapwa	15,244	94	0	0	0	0	128	1	774	5	16,146	100
Kongwa	25,776	97	117	0	0	0	0	0	566	2	26,460	100
Dodoma Rural	48,397	93	691	1	229	0	453	1	2,047	4	51,817	100
Dodoma Urban	19,318	92	194	1	0	0	0	0	1,403	7	20,915	100
Total	124,380	95	1,003	1	229	0	726	1	4,935	4	131,272	100

15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Spacing						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kondoa	14,800	0	0	145	145	15,089	84,756	17.8
Mpwapwa	14,858	0	0	128	645	15,631	51,055	30.6
Kongwa	25,661	117	0	0	566	26,344	47,238	55.8
Dodoma Rural	47,064	691	229	453	1,596	50,034	100,482	49.8
Dodoma Urban	19,318	194	0	0	1,403	20,915	40,189	52.0
Total	121,701	1,003	229	726	4,354	128,013	323,719	39.5

15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agrochemicals by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Use of Agrochemicals							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Kondoa	8,402	290	0	0	144	721	9,557	84,756	11.3
Mpwapwa	7,240	129	0	0	0	7,490	14,860	51,055	29.1
Kongwa	14,820	349	0	0	0	7,201	22,369	47,238	47.4
Dodoma Rural	13,751	1,148	0	229	0	23,733	38,861	100,482	38.7
Dodoma Urban	10,497	1,265	94	0	0	8,663	20,519	40,189	51.1
Total	54,710	3,181	94	229	144	47,808	106,166	323,719	32.8

15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Erosion Control							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Kondoa	11,672	145	0	0	285	864	12,966	84,756	15.3
Mpwapwa	10,399	259	0	0	0	4,073	14,731	51,055	28.9
Kongwa	16,523	234	0	0	0	5,841	22,599	47,238	47.8
Dodoma Rural	13,993	2,523	0	229	229	21,880	38,854	100,482	38.7
Dodoma Urban	12,552	1,204	197	0	0	6,862	20,814	40,189	51.8
Total	65,139	4,364	197	229	514	39,521	109,964	323,719	34.0

15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Organic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Kondoa	13,648	145	0	0	141	420	14,354	84,756	17
Mpwapwa	13,190	129	0	0	0	1,670	14,989	51,055	29
Kongwa	21,551	345	0	0	0	2,338	24,234	47,238	51
Dodoma Rural	35,289	1,102	0	229	453	9,138	46,210	100,482	46
Dodoma Urban	17,942	689	98	0	101	2,085	20,915	40,189	52
Total	101,619	2,410	98	229	695	15,651	120,702	323,719	37

15.8 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Inorganic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Inorganic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development	Cooperative	Large Scale	Other	Not applicable	Total		
Kondoa	3,267	431	0	0	0	1,285	4,983	84,756	6
Mpwapwa	2,827	388	0	0	0	11,137	14,352	51,055	28
Kongwa	8,294	2,344	116	0	0	10,791	21,544	47,238	46
Dodoma Rural	7,274	1,609	224	229	449	26,257	36,042	100,482	36
Dodoma Urban	7,144	2,285	0	199	0	10,788	20,416	40,189	51
Total	28,806	7,056	340	428	449	60,258	97,337	323,719	30

15.9 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Use of Improved Seed						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kondoa	12,090	434	0	0	563	13,088	84,756	15
Mpwapwa	12,677	258	0	0	2,181	15,116	51,055	30
Kongwa	20,841	352	0	0	1,868	23,061	47,238	49
Dodoma Rural	29,291	1,609	229	678	13,171	44,977	100,482	45
Dodoma Urban	16,571	1,250	0	101	2,792	20,714	40,189	52
Total	91,470	3,903	229	779	20,574	116,955	323,719	36

15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Mechanization/LST by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Mechanisation / LST							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Kondoa	1,708	576	0	0	144	1,573	4,000	84,756	5
Mpwapwa	4,644	645	0	0	0	8,554	13,843	51,055	27
Kongwa	14,487	684	0	0	0	7,200	22,371	47,238	47
Dodoma Rural	6,813	2,294	0	229	453	26,646	36,436	100,482	36
Dodoma Urban	9,159	1,494	196	101	0	9,264	20,215	40,189	50
Total	36,809	5,693	196	330	597	53,237	96,863	323,719	30

15.11 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Irrigation Technology by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Irrigation Technology							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Kondoa	2,283	285	0	0	0	1,149	3,718	84,756	4
Mpwapwa	2,564	0	0	0	0	11,139	13,703	51,055	27
Kongwa	3,628	1,050	0	0	0	15,820	20,498	47,238	43
Dodoma Rural	11,397	1,828	0	688	224	22,094	36,232	100,482	36
Dodoma Urban	8,334	2,039	294	0	0	9,849	20,517	40,189	51
Total	28,206	5,202	294	688	224	60,052	94,667	323,719	29

15.12 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Crop Storage by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Crop Storage							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Kondoa	11,394	143	0	0	0	573	12,109	84,756	14
Mpwapwa	12,585	0	0	0	128	2,019	14,732	51,055	29
Kongwa	20,019	234	0	0	0	2,454	22,708	47,238	48
Dodoma Rural	34,939	1,554	0	0	900	11,016	48,410	100,482	48
Dodoma Urban	15,224	603	98	101	0	4,586	20,613	40,189	51
Total	94,162	2,534	98	101	1,028	20,649	118,572	323,719	37

15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Vermin Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Vermin Control						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kondoa	7,143	145	0	0	1,148	8,436	84,756	10
Mpwapwa	7,823	123	128	0	5,246	13,320	51,055	26
Kongwa	11,989	703	0	228	7,922	20,843	47,238	44
Dodoma Rural	23,423	459	0	902	16,146	40,930	100,482	41
Dodoma Urban	11,907	898	101	0	7,709	20,615	40,189	51
Total	62,284	2,329	229	1,130	38,172	104,144	323,719	32

15.14 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-processing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Agro-progressing						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kondoa	7,944	431	132	142	2,158	10,806	84,756	13
Mpwapwa	6,406	0	0	128	6,788	13,323	51,055	26
Kongwa	12,440	117	117	117	7,934	20,726	47,238	44
Dodoma Rural	13,530	1,784	0	1,133	22,416	38,863	100,482	39
Dodoma Urban	11,247	1,293	101	0	7,982	20,623	40,189	51
Total	51,567	3,625	350	1,520	47,278	104,340	323,719	32

15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-processing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Agro-forestry						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kondoa	5,406	290	0	0	2,001	7,697	84,756	9
Mpwapwa	2,566	382	0	0	10,754	13,703	51,055	27
Kongwa	12,554	910	0	0	6,792	20,256	47,238	43
Dodoma Rural	6,106	5,535	229	1,127	23,791	36,787	100,482	37
Dodoma Urban	10,425	1,096	101	101	8,794	20,517	40,189	51
Total	37,057	8,213	330	1,228	52,133	98,960	323,719	31

15.16 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Bee keeping by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Beekeeping						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kondoa	1,723	434	0	144	1,858	4,159	84,756	5
Mpwapwa	1,404	377	0	0	11,287	13,068	51,055	26
Kongwa	8,021	930	0	0	11,188	20,140	47,238	43
Dodoma Rural	4,791	1,834	224	1,127	27,593	35,569	100,482	35
Dodoma Urban	3,679	1,300	98	0	15,143	20,220	40,189	50
Total	19,618	4,875	323	1,271	67,070	93,156	323,719	29

15.17 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Fish Farming by Source of Extension Messages and District During the 2002/03 Agriculture Year, Dodoma Region

District	Fish Farming						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Other	Not applicable	Total		
Kondoa	0	434	0	144	2,146	2,724	84,756	3
Mpwapwa	515	257	0	0	12,295	13,068	51,055	26
Kongwa	2,688	586	0	117	16,513	19,905	47,238	42
Dodoma Rural	5,244	1,834	224	453	27,125	34,881	100,482	35
Dodoma Urban	2,610	797	0	0	16,909	20,316	40,189	51
Total	11,058	3,909	224	715	74,988	90,894	323,719	28

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, Dodoma Region

District	Spacing			Use of Agrochemicals			Erosion Control		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kondoa	14,945	14,521	97	8,402	2,566	31	11,961	10,126	85
Mpwapwa	15,245	11,500	75	6,605	770	12	10,524	2,191	21
Kongwa	25,543	20,549	80	14,700	2,812	19	16,054	4,093	25
Dodoma Rural	48,887	43,682	89	14,213	7,393	52	16,735	8,526	51
Dodoma Urban	19,213	17,113	89	10,470	1,905	18	12,970	4,193	32
Total	123,833	107,366	87	54,390	15,446	28	68,245	29,129	43

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, Dodoma Region

	Organic Fertilizer Use			Inorganic Fertilizer Use			Use of Improved Seed		
District	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kondoa	13,920	10,810	78	3,267	988	30	12,798	6,566	51
Mpwapwa	13,573	4,737	35	2,442	256	11	13,573	3,232	24
Kongwa	22,131	8,606	39	6,303	1,047	17	21,076	7,478	35
Dodoma Rural	38,210	23,031	60	8,405	1,819	22	36,043	21,092	59
Dodoma Urban	19,031	10,503	55	7,539	491	7	18,127	5,652	31
Total	106,865	57,687	54	27,957	4,601	16	101,617	44,020	43

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, Dodoma Region

	Mechanisation / LST			Irrigation Technology			Crop Storage		
District	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kondoa	1,839	561	31	2,135	860	40	11,823	10,261	87
Mpwapwa	4,258	258	6	1,793	1,021	57	13,476	8,339	62
Kongwa	13,184	4,551	35	936	352	38	20,252	17,210	85
Dodoma Rural	7,276	1,138	16	7,495	1,819	24	38,545	33,074	86
Dodoma Urban	9,246	1,099	12	9,177	2,394	26	15,732	12,356	79
Total	35,803	7,608	21	21,536	6,445	30	99,829	81,241	81

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, Dodoma Region

	Vermin Control			Agro-progressing			Agro-forestry		
District	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Kondoa	7,285	6,293	86	8,790	8,219	94	5,837	3,407	58
Mpwapwa	8,077	5,905	73	6,530	5,147	79	2,438	253	10
Kongwa	10,810	7,790	72	12,792	8,107	63	12,531	3,607	29
Dodoma Rural	26,973	23,100	86	15,531	12,334	79	11,156	4,640	42
Dodoma Urban	12,491	6,629	53	11,523	9,585	83	10,917	3,102	28
Total	65,636	49,716	76	55,166	43,393	79	42,878	15,008	35

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, Dodoma Region

	Beekeeping			Fish Farming		
District	Received	Adopted	%	Received	Adopted	%
Kondoa	1,867	1,006	54	0	0	0
Mpwapwa	1,019	1,277	125	387	129	33
Kongwa	5,910	933	16	117	0	0
Dodoma Rural	7,283	2,955	41	5,918	2,058	35
Dodoma Urban	3,489	801	23	1,507	302	20
Total	19,568	6,972	36	7,930	2,489	31

ANIMAL CONTRIBUTION TO CROP PRODUCTION

17.1 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Number of agriculture households using draft animal to cultivate land by District during 2002/03 agriculture year, Dodoma Region

	Households Using Draft Animals		Household Not Using Draft Animals		Total households
	Number	%	Number	%	
Kondoa	30,654	36	54,102	64	84,756
Mpwapwa	5,908	12	45,146	88	51,055
Kongwa	6,309	13	40,929	87	47,238
Dodoma Rural	9,195	9	91,287	91	100,482
Dodoma Urban	1,870	5	38,319	95	40,189
Total	53,937	17	269,782	83	323,719

17.2 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft By Number Owned, Used and Area Cultivated (Hectares) By District during 2002/03 agriculture year, Dodoma Region

	Type of Craft					
	Oxen			Bulls		
District	Number Owned	Number Used	Area Cultivated (Hectares)	Number Owned	Number Used	Area Cultivated (Hectares)
Kondoa	36,139	85,552	48,222	3,410	4,519	707
Mpwapwa	8,217	13,743	11,164	256	0	0
Kongwa	15,568	23,986	21,561	1,875	8,325	427
Dodoma Rural	22,761	33,853	18,122	449	449	91
Dodoma Urban	1,303	3,092	2,537	907	403	122
Total	83,989	160,226	101,607	6,897	13,696	1,348

cont… ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft By Number Owned, Used and Area Cultivated (Hectares) By District during 2002/03 agriculture year, Dodoma Region

	Type of Craft								
	Cows			Donkeys			Total		
District	Number Owned	Number Used	Area Cultivated (Hectares)	Number Owned	Number Used	Area Cultivated (Hectares)	Number Owned	Number Used	Area Cultivated (Hectares)
Kondoa	3,748	144	163	1,134	1,283	393	44,431	91,498	49,486
Mpwapwa	512	0	0	1,035	1,811	497	10,020	15,554	11,662
Kongwa	5,623	0	0	6,329	3,046	520	29,395	35,358	22,508
Dodoma Rural	0	0	0	2,281	449	91	25,491	34,751	18,304
Dodoma Urban	7,967	0	0	403	202	0	10,581	3,697	2,660
Total	17,850	144	163	11,182	6,791	1,501	119,918	180,857	104,620

17.3 ANIMAL CONTRIBUTION TO CROPS: Number of Crop Growing households using organic fertilizer by District during 2002/03 agriculture year, Dodoma

	Did you apply organic fertilizer during 2002/03?					
	Using Organic Fertilizer		Not Using Organic Fertilizer		Total	
District	Number	%	Number	%	Number	%
Kondoa	25,762	31	58,708	24	84,470	26
Mpwapwa	8,792	11	42,058	17	50,850	16
Kongwa	7,324	9	39,797	17	47,121	15
Dodoma Rural	26,494	32	73,988	31	100,482	31
Dodoma Urban	14,315	17	25,873	11	40,189	12
Total	82,687	100	240,424	100	323,112	100

17.4 ANIMAL CONTRIBUTION TO CROPS: Area of farm yard manure and Compost Application by District during 2002/03 agriculture year, Dodoma Region

District	Farm Yard Manure Area Applied		Compost Area Applied		Total Area aplied with Organic Fertilizers	
	Area (Ha)	%	Area (Ha)	%	Area (Ha)	%
Kondoa	26,378	30	1,237	30	27,615	30
Mpwapwa	11,860	13	105	3	11,964	13
Kongwa	12,065	14	2,666	64	14,732	16
Dodoma Rural	24,707	28	45	1	24,752	27
Dodoma Urban	13,446	15	85	2	13,531	15
Total	88,456	100	4,138	100	92,594	100

CATTLE PRODUCTION

18.1 CATTLE PRODUCTION: Total Number Households rearing Cattle by District during 2002/03 agriculture year, Dodoma Region

Distcrict	Households Rearing Cattle		Households Not Rearing Cattle		Total Agriculture households	Total livestock keeping households
	Number	%	Number	%		
Kondoa	21,839	26	62,917	74	84,756	31,102
Mpwapwa	8,489	17	42,565	83	51,055	13,077
Kongwa	10,839	23	36,399	77	47,238	15,283
Dodoma Rural	15,895	16	84,587	84	100,482	22,507
Dodoma Urban	5,976	15	34,213	85	40,189	8,041
Total	63,037	19	260,682	81	323,719	90,010

18.2 CATTLE PRODUCTION: Number of Cattle By Type and District as of 1st October, 2003

District	Indigenous			Improved Beef			Improved Dairy			Total Cattle		
	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%
Kondoa	21,696	203,321	99.5	0	.	0.0	284	996	0.5	21,839	204,317	19.8
Mpwapwa	8,489	96,168	100.0	0	.	0.0	0	.	0.0	8,489	96,168	9.3
Kongwa	10,723	168,861	98.4	234	1,055	0.6	350	1,744	1.0	10,839	171,660	16.6
Dodoma Rural	15,666	453,911	99.8	0	.	0.0	458	915	0.2	15,895	454,826	44.1
Dodoma Urban	5,679	103,128	98.3	199	800	0.8	498	989	0.9	5,976	104,918	10.2
Total	62,255	1,025,388	99.4	433	1,856	0.2	1,589	4,645	0.5	63,037	1,031,889	100.0

18.3 CATTLE PRODUCTION: Number of Households Rearing Cattle, Head of Cattle and Average Head per Household by Herd Size as of 1st October, 2003

Herd Size	Cattle Rearing Households		Heads of Cattle		Average Number Per Household
	Number	%	Number	%	
1-5	20,198	32	67,776	7	3
6-10	17,177	27	134,909	13	8
11-15	9,531	15	121,589	12	13
16-20	5,633	9	99,759	10	18
21-30	4,663	7	117,542	11	25
31-40	1,130	2	41,991	4	37
41-50	1,017	2	46,756	5	46
51-60	720	1	40,575	4	56
61-100	1,496	2	105,535	10	71
101-150	1,012	2	117,245	11	116
151+	461	1	138,212	13	300
Total	63,037	100	1,031,889	100	16

18.4 CATTLE PRODUCTION: 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	%
Bulls	117,559	99.1	218	0.2	826	0.7	118,603	11.5
Cows	398,905	99.5	319	0.1	1,725	0.4	400,949	38.9
Steers	135,958	99.9	196	0.1	.	0.0	136,154	13.2
Heifers	139,340	99.2	687	0.5	450	0.3	140,477	13.6
Male Calves	113,659	99.1	218	0.2	830	0.7	114,707	11.1
Female Calves	119,967	99.1	218	0.2	814	0.7	120,999	11.7
Total	1,025,388	99.4	1,856	0.2	4,645	0.5	1,031,889	100.0

18.5 CATTLE PRODUCTION: Number of Indigenous Cattle By Category and District as on 1st October, 2003

	Category - Indigenous						
District	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Kondoa	31,124	69,771	33,036	21,909	23,851	23,629	203,321
Mpwapwa	14,693	33,328	16,345	13,798	9,361	8,644	96,168
Kongwa	21,125	61,852	27,394	23,968	16,924	17,598	168,861
Dodoma Rural	39,200	197,706	52,723	54,898	52,669	56,714	453,911
Dodoma Urban	11,419	36,248	6,459	24,767	10,854	13,381	103,128
Total	117,559	398,905	135,958	139,340	113,659	119,967	1,025,388

18.6 CATTLE PRODUCTION: Number of Improved Beef Cattle By Category and District as on 1st October, 2003

	Category - Improved Beef Cattle						
District	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Kondoa	.	.	.	.	.	.	.
Mpwapwa	.	.	.	.	.	.	.
Kongwa	117	117	.	586	117	117	1,055
Dodoma Rural	.	.	.	.	.	.	.
Dodoma Urban	101	201	196	101	101	101	800
Total	218	319	196	687	218	218	1,856

18.7 CATTLE PRODUCTION: Number of Improved Dairy Cattle By Category and District as on 1st October, 2003

District	Category - Improved Dairy Cattle						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Kondoa	284	285	.	.	142	285	996
Mpwapwa	.	.	.	.	.	.	.
Kongwa	117	814	.	350	230	232	1,744
Dodoma Rural	230	229	.	.	457	.	915
Dodoma Urban	195	397	.	101	.	297	989
Total	826	1,725	.	450	830	814	4,645

18.8 CATTLE PRODUCTION: Number of Cattle By Category and District as on 1st October, 2003

District	Total Cattle						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Kondoa	31,407	70,056	33,036	21,909	23,993	23,914	204,317
Mpwapwa	14,693	33,328	16,345	13,798	9,361	8,644	96,168
Kongwa	21,359	62,784	27,394	24,903	17,272	17,948	171,660
Dodoma Rural	39,430	197,935	52,723	54,898	53,126	56,714	454,826
Dodoma Urban	11,714	36,846	6,655	24,968	10,955	13,779	104,918
Total	118,603	400,949	136,154	140,477	114,707	120,999	1,031,889

GOATS PRODUCTION

19.1 GOAT PRODUCTION: Total Number of Goats by Type and District as on 1st October, 2003

District	Indigenous			Improved for Meat			Improved Dairy			Total Goat		
	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%
Kondoa	24,215	223,879	99.1	144	288	0.1	142	1,843	0.8	24,215	226,010	28.3
Mpwapwa	8,413	121,401	98.5	0	.	0.0	382	1,881	1.5	8,795	123,282	15.5
Kongwa	7,816	100,416	99.8	0	.	0.0	232	232	0.2	7,934	100,648	12.6
Dodoma Rural	16,861	281,313	98.9	223	891	0.3	633	2,096	0.7	17,265	284,299	35.6
Dodoma Urban	5,755	62,363	98.6	391	580	0.9	199	300	0.5	5,755	63,243	7.9
Total	63,060	789,372	99.0	757	1,758	0.2	1,589	6,352	0.8	63,964	797,481	100.0

19.2 GOAT PRODUCTION: Number of Households Rearing Goats by Herd Size on 1st October, 2003

Herd Size	Goat Rearing Households		Head of Goats		Average Number Per Household
	Number	%	Number	%	
1-4	15,900	25	43,696	5	3
5-9	17,947	28	120,667	15	7
10-14	12,943	20	146,575	18	11
15-19	6,387	10	108,322	14	17
20-24	4,085	6	88,763	11	22
25-29	2,568	4	68,603	9	27
30-39	1,938	3	64,393	8	33
40+	2,196	3	156,462	20	71
Total	63,964	100	797,481	100	12

19.3 Total Number of Goats by Category and Type of Goat as of 1st October, 2003 and District

Category of Goats	Indigenous Goats		Improved Meat Goats		Improved Dairy Goats		Total	
	Number	%	Number	%	Number	%	Number	%
Billy Goat	130,776	98.2	891	0.7	1,513	1.1	133,180	16.7
Castrated Goat	93,064	100.0	.	0.0	.	0.0	93,064	11.7
She Goat	355,638	99.3	297	0.1	2,117	0.6	358,052	44.9
Male Kid	105,938	99.1	182	0.2	750	0.7	106,870	13.4
She Kid	103,955	97.8	389	0.4	1,972	1.9	106,315	13.3
Total	789,372	99.0	1,758	0.2	6,352	0.8	797,481	100.0

19.4 Total Number of Indigenous Goat by Category and District as on 1st October, 2003

District	Number of Indigenous Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kondoa	34,044	17,487	105,153	33,549	33,646	223,879
Mpwapwa	22,014	22,174	51,093	14,301	11,820	121,401
Kongwa	20,216	10,405	48,291	11,213	10,290	100,416
Dodoma Rural	42,138	37,059	124,386	37,880	39,849	281,313
Dodoma Urban	12,365	5,939	26,715	8,995	8,350	62,363
Total	130,776	93,064	355,638	105,938	103,955	789,372

19.5 GOAT PRODUCTION: Number of Improved Goat for Meat by Category and District as on 1st October, 2003

District	Number of Improved Meat Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kondoa	.	.	.	.	288	288
Mpwapwa	.	.	.	.	.	.
Kongwa	.	.	.	.	.	.
Dodoma Rural	891	.	.	.	.	891
Dodoma Urban	.	.	297	182	101	580
Total	891	.	297	182	389	1,758

19.6 Number of Improved Dairy Goat by Category and District on 1st October, 2003

District	Number of Improved Dairy Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kondoa	.	.	425	425	993	1,843
Mpwapwa	764	.	376	123	617	1,881
Kongwa	115	.	117	.	.	232
Dodoma Rural	633	.	1,100	.	362	2,096
Dodoma Urban	.	.	99	201	.	300
Total	1,513	.	2,117	750	1,972	6,352

19.7 Total Number of Goats by Category and District on 1st October, 2003

District	Total Goat					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Kondoa	34,044	17,487	105,579	33,974	34,926	226,010
Mpwapwa	22,778	22,174	51,469	14,424	12,437	123,282
Kongwa	20,332	10,405	48,408	11,213	10,290	100,648
Dodoma Rural	43,662	37,059	125,486	37,880	40,211	284,299
Dodoma Urban	12,365	5,939	27,110	9,378	8,451	63,243
Total	133,180	93,064	358,052	106,870	106,315	797,481

SHEEP PRODUCTION

20.1 Total Number of Sheep By Breed and on 1st October 2003

Breed	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Ram	34,172	99	504	1	34,676	19
Castrated Sheep	14,490	99	116	1	14,606	8
She Sheep	91,919	100	.	0	91,919	49
Male Lamb	22,188	100	.	0	22,188	12
She Lamb	23,620	99	234	1	23,855	13
Total	186,389	100	854	0	187,244	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 Agricultural Households	Total Livestock keeping Households
	Number	%	Number	%		
Kondoa	5,796	7	78,960	93	84,756	31,102
Mpwapwa	4,255	8	46,799	92	51,055	13,077
Kongwa	4,551	10	42,687	90	47,238	15,283
Dodoma Rural	7,083	7	93,398	93	100,482	22,507
Dodoma Urban	1,994	5	38,195	95	40,189	8,041
Total	23,680	7	300,040	93	323,719	90,010

20.3 Number of Sheep by Type of Sheep and District as 1st October, 2002/03

District	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Kondoa	24,970	100	.	0	24,970	13
Mpwapwa	25,358	100	.	0	25,358	14
Kongwa	41,128	99	350	1	41,478	22
Dodoma Rural	79,877	100	.	0	79,877	43
Dodoma Urban	15,056	97	504	3	15,560	8
Total	186,389	100	854	0	187,244	100

20.4 Number of Households and Heads of Sheep by Herd Size on 1st October 2003

Herd Size	Number of Household	%	Number of Sheep	%	Average Number Per Household
1-4	10,483	45	26,961	14	3
5-9	7,535	32	50,811	27	7
10-14	3,312	14	37,882	20	11
15-19	345	1	5,175	3	15
20-24	258	1	5,153	3	20
25-29	325	1	8,805	5	27
30-39	331	1	10,270	5	31
40+	802	3	42,187	23	53
Total	23,391	100	187,244	100	8

20.5 Average Number of Sheep by Type of Sheep and District on 1st October 2003, Dodoma Region

District	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number of Households	Average	Number of Households	Average	Number of Households	Average
Kondoa	5,508	5	0	.	5,508	5
Mpwapwa	4,255	6	0	.	4,255	6
Kongwa	4,551	9	233	2	4,551	9
Dodoma Rural	7,083	11	0	.	7,083	11
Dodoma Urban	1,994	8	101	5	1,994	8
Total	23,391	8	334	3	23,391	8

20.6 Total Number of Indigenous Sheep by Sheep Type and District on 1st October 2003

District	Number of Indigenous Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Kondoa	4,405	1,146	13,362	3,246	2,810	24,970
Mpwapwa	5,564	2,826	12,849	1,802	2,317	25,358
Kongwa	8,639	1,514	20,099	5,969	4,907	41,128
Dodoma Rural	12,384	7,807	38,521	9,274	11,891	79,877
Dodoma Urban	3,181	1,196	7,087	1,897	1,695	15,056
Total	34,172	14,490	91,919	22,188	23,620	186,389

20.7 Total Number of Improved Mutton Sheep by Type and District on 1st October 2003

District	Number of Improved for Mutton					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Kondoa	.	.	.	.	.	.
Mpwapwa	.	.	.	.	.	.
Kongwa	.	116	.	.	234	350
Dodoma Rural	.	.	.	.	.	.
Dodoma Urban	504	.	.	.	.	504
Total	504	116	.	.	234	854

20.8 Total Number of Sheep by Sheep Type and District on 1st October 2003

District	Total Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Kondoa	4,405	1,146	13,362	3,246	2,810	24,970
Mpwapwa	5,564	2,826	12,849	1,802	2,317	25,358
Kongwa	8,639	1,630	20,099	5,969	5,142	41,478
Dodoma Rural	12,384	7,807	38,521	9,274	11,891	79,877
Dodoma Urban	3,685	1,196	7,087	1,897	1,695	15,560
Total	34,676	14,606	91,919	22,188	23,855	187,244

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 Number Per Household
	Number	%	Number	%	
1-4	12,138	82	23,834	54	2
5-9	2,109	14	13,020	30	6
10-14	611	4	6,982	16	11
Total	14,859	100	43,835	100	3

21.2 Number of Households and Pigs by District on 1st October 2003

District	Number of Household	Number of Pig	Average Number Per Household
Kondoa	145	1,737	12
Mpwapwa	5,885	13,550	2
Kongwa	6,080	21,629	4
Dodoma Rural	1,943	4,804	2
Dodoma Urban	805	2,115	3
Total	14,859	43,835	3

21.3 Number of Pigs by Type and District on 1st October, 2003

District	Boar	Castrated Male	Sow / Gilt	Male Piglet	She Piglet	Total
Kondoa	145	0	145	869	579	1,737
Mpwapwa	3,841	2,695	5,498	640	877	13,550
Kongwa	6,426	2,341	7,480	2,690	2,691	21,629
Dodoma Rural	860	181	1,539	1,112	1,112	4,804
Dodoma Urban	705	0	906	303	202	2,115
Total	11,977	5,217	15,567	5,613	5,461	43,835

LIVESTOCK PESTS AND PARASITE CONTROL

22.1 PESTS AND PARASITE: Number of Livestock Rearing households deworming Livestock by District during 2002/03 Agricultural Year

District	Deworming Livestock		Not Deworming Livestock		Total
	Number of Households	%	Number of Households	%	
Kondoa	4,203	14	26,899	86	31,102
Mpwapwa	5,392	41	7,685	59	13,077
Kongwa	5,255	35	9,911	65	15,166
Dodoma Rural	6,893	31	15,614	69	22,507
Dodoma Urban	2,193	27	5,848	73	8,041
Total	23,935	27	65,958	73	89,893

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	Goats		Cattle		Sheep		Pigs	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Kondoa	2,215	26	2,398	14	563	8	145	3
Mpwapwa	1,921	22	3,858	23	1,796	24	1,400	32
Kongwa	1,625	19	3,850	23	2,095	28	1,985	45
Dodoma Rural	1,999	23	4,889	29	2,691	36	687	16
Dodoma Urban	793	9	1,603	10	300	4	201	5
Total	8,552	100	16,597	100	7,445	100	4,417	100

22.3 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of agricultural households reporting to have encountered tick problems during 2002/03 Agriculture Year by District.

District	Ticks Problems		No Ticks Problems		Total
	Number of Households	%	Number of Households	%	
Kondoa	13,854	45	16,963	55	30,817
Mpwapwa	6,281	54	5,254	46	11,535
Kongwa	4,784	33	9,921	67	14,705
Dodoma Rural	8,308	38	13,516	62	21,825
Dodoma Urban	3,282	45	4,068	55	7,350
Total	36,509	42	49,723	58	86,232

22.4 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Ticks Control Use and District During the 2002/03 Agricultural Year

District	Method of Tick Control										Total
	None		Spraying		Dipping		Smearing		Other		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	
Kondoa	2,800	20	8,362	60	723	5	853	6	1,116	8	13,854
Mpwapwa	2,558	41	3,207	51	128	2	0	0	388	6	6,281
Kongwa	819	17	2,447	51	935	20	352	7	232	5	4,784
Dodoma Rural	1,282	15	4,066	49	2,271	27	230	3	459	6	8,308
Dodoma Urban	1,287	39	1,496	46	399	12	101	3	0	0	3,282
Total	8,745	24	19,578	54	4,456	12	1,536	4	2,195	6	36,509

22.5 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

District	Tsetse Flies Problems		No Tsetse Flies Problems		Total
	Number of Households	%	Number of Households	%	
Kondoa	6,489	21	24,327	79	30,816
Mpwapwa	1,672	13	11,018	87	12,690
Kongwa	1,391	9	13,892	91	15,283
Dodoma Rural	1,513	7	20,993	93	22,507
Dodoma Urban	199	3	7,741	97	7,940
Total	11,265	13	77,971	87	89,236

22.6 LIVESTOCK PESTS AND PARASITE CONTROL: 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		
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Total
Kondoa	2,960	46	2,167	33	1,219	19	142	2	6,489
Mpwapwa	1,414	85	259	15	0	0	0	0	1,672
Kongwa	929	67	462	33	0	0	0	0	1,391
Dodoma Rural	1,285	85	0	0	229	15	0	0	1,513
Dodoma Urban	98	49	101	51	0	0	0	0	199
Total	6,686	59	2,989	27	1,448	13	142	1	11,265

OTHER LIVESTOCK

23a OTHER LIVESTOCK: Total Number of Other Livestock by Type on 1st October 2003

	Chicken		Others	
Type	Number	%	Type	Number
Indigenous	1,634,079	89	Ducks	106,227
Layer	122,136	7	Turkeys	12,075
Broiler	69,652	4	Donkeys	24,400
Total	1,825,867	100		142,702

23b OTHER LIVESTOCK: Number of Chicken by Category of Chicken and District on 1st October 2003

	Number of Chicken			Total Number of Chicken
District	Indigenous Chicken	Layer	Broiler	
Kondoa	409,083	0	432	409,515
Mpwapwa	431,047	76,810	67,367	575,225
Kongwa	256,497	7,035	938	264,470
Dodoma Rural	352,935	685	914	354,534
Dodoma Urban	184,517	37,606	0	222,123
Total	1,634,079	122,136	69,652	1,825,867

23c Head Number of Other Livestock by Type of Livestock and District

	Type of Livestock			
District	Ducks	Turkeys	Donkeys	Other
Kondoa	16,646	.	4,024	.
Mpwapwa	80,296	.	7,459	1,654
Kongwa	7,790	12,075	1,927	8,517
Dodoma Rural	.	.	10,788	1,379
Dodoma Urban	1,495	.	202	1,002
Total	106,227	12,075	24,400	12,553

23d OTHER LIVESTOCK: Total Number of Households and Chicken Raised by Flock Size as of 1st October 2003

	Chicken Rearing Households		Number of Chicken	Average Chicken per Household
Flock Size	Number	%		
1 - 4	38,463	27	108,680	3
5 - 9	45,664	33	299,011	7
10 - 19	37,294	27	486,317	13
20 - 29	11,171	8	247,678	22
30 - 39	3,812	3	118,154	31
40 - 49	1,204	1	49,678	41
50 - 99	1,669	1	98,953	59
100+	714	1	417,394	584
Total	139,992	100	1,825,867	13

23e LIVESTOCK/POULTRY POPULATION TREND

Type of Livestock/Poultry	1995	1999	2003
Cattle	1,587,093	774,587	1,031,889
Improved Cattle	8,288	777	6,501
Goats	788,145	621,405	797,481
Sheep	242,314	120,524	187,244
Pigs	31,464	12,725	43,835
Indigenous Chicken	1,990,526	757,075	1,634,079
Layers	6,362	4,262	122,136
Broilers	14,556	5,235	69,652
Total Chickens	2,011,444	766,572	1,825,867

FISH FARMING

28.1 FISH FARMING: Number of Agricultural Households involved in Fish Farming and District, 2002/03 Agricultural Year

District	Agricultural Households Doing Fish Farming		Agricultural Households NOT Doing Fish Farming		Total
	Number	%	Number	%	
Kondoa	0	0.0	84,756	100.0	84,756
Mpwapwa	129	0.3	50,925	99.7	51,055
Kongwa	0	0.0	47,238	100.0	47,238
Dodoma Rural	0	0.0	100,482	100.0	100,482
Dodoma Urban	0	0.0	40,189	100.0	40,189
Total	129	0.0	323,590	100.0	323,719

28.2 FISH FARMING: Number of Agricultural Households By System of Farming and District during the 2002/03 Agricultural Year

District	Fish Farming System	
	Dug out Pon	Total
Mpwapwa	129	129
Total	129	129

28.3 FISH FARMING: Number of Agricultural Households By Source of Fingerlings and District during the 2002/03 Agricultural Year

District	Source of Fingerling	
	NGOs / Project	
	Number	Total
Mpwapwa	129	129
Total	129	129

28.4 FISH FARMING: Number of Agricultural Households By Location of Selling Fish and District during the 2002/03 Agricultural Year

District	Did not Sell	
	Number	Total
Mpwapwa	129	129
Total	129	129

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
Mpwapwa	6,985	0	0
Total	6,985	0	0

LIVESTOCK EXTENSION

29.1a LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension by District During the 2002/03 Agricultural Year

District	Received Livestock Advice		Did Not Receive Livestock Advice		Total	Total Number of households raising livestock	% receiving advice out of total
	Number	%	Number	%			
Kondoa	6,293	7.4	78,463	92.6	84,756	31,102	20
Mpwapwa	5,541	10.9	45,514	89.1	51,055	13,077	42
Kongwa	6,865	14.5	40,373	85.5	47,238	15,283	45
Dodoma Rural	12,942	12.9	87,540	87.1	100,482	22,507	58
Dodoma Urban	2,677	6.7	37,511	93.3	40,189	8,041	33
Total	34,318	10.6	289,401	89.4	323,719	90,010	38

29.1b LIVESTOCK EXTENSION SERVICE PROVIDERS: Number of Agricultural Households By Source of Extension Services and District during the 2002/03 Agricultural Year

District	Source of extension advice									
	Government		NGO / Development Project		Co-operative		Large Scale Farmer		Other	
	Number	%	Number	%	Number	%	Number	%	Number	%
Kondoa	6,139	47.5	2,357	18.2	1,912	14.8	1,912	14.8	616	4.8
Mpwapwa	3,450	63.1	620	11.4	542	9.9	464	8.5	387	7.1
Kongwa	2,094	56.5	509	13.7	509	13.7	509	13.7	87	2.4
Dodoma Rural	4,874	53.2	1,816	19.8	916	10.0	812	8.9	735	8.0
Dodoma Urban	716	56.0	257	20.1	57	4.4	192	15.0	57	4.4
Total	17,274	53.1	5,560	17.1	3,936	12.1	3,889	12.0	1,882	5.8

29.2 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Feeds and Proper Feeding By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Feeds and Proper Feeding			Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Total		
Kondoa	2,431	0	2,431	31,102	7.8
Mpwapwa	1,412	129	1,541	13,077	11.8
Kongwa	3,601	0	3,601	15,283	23.6
Dodoma Rural	7,555	0	7,555	22,507	33.6
Dodoma Urban	1,484	0	1,484	8,041	18.5
Total	16,482	129	16,611	90,010	18.5
%	99.2	0.8	100		

29.3 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Housing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Housing				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Other	Total		
Kondoa	3,013	0	0	3,013	31,102	9.7
Mpwapwa	3,468	382	0	3,850	13,077	29.4
Kongwa	4,190	117	0	4,307	15,283	28.2
Dodoma Rural	4,664	0	229	4,893	22,507	21.7
Dodoma Urban	1,390	101	0	1,491	8,041	18.5
Total	16,725	600	229	17,554	90,010	19.5
%	95	3	1	100		

29.4 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Proper Milking By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Proper Milking				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	not applicable	Total		
Kondoa	2,005	0	142	2,147	31,102	6.9
Mpwapwa	894	129	0	1,023	13,077	7.8
Kongwa	2,558	117	0	2,675	15,283	17.5
Dodoma Rural	4,212	458	0	4,670	22,507	20.7
Dodoma Urban	1,182	0	0	1,182	8,041	14.7
Total	10,850	705	142	11,696	90,010	13.0
%	92.8	6.0	1.2	100		

29.5 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Milk Hygiene By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Milk Hygene			Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Total		
Kondoa	3,000	0	3,000	31,102	9.6
Mpwapwa	1,798	253	2,051	13,077	15.7
Kongwa	2,792	117	2,910	15,283	19.0
Dodoma Rural	4,670	0	4,670	22,507	20.7
Dodoma Urban	1,576	0	1,576	8,041	19.6
Total	13,836	370	14,206	90,010	15.8
%	97.4	2.6	100		

29.6 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Disease Control By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Disease Control				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Other	Total		
Kondoa	6,005	0	0	6,005	31,102	19
Mpwapwa	3,726	129	129	3,984	13,077	30
Kongwa	5,347	0	0	5,347	15,283	35
Dodoma Rural	9,001	0	458	9,459	22,507	42
Dodoma Urban	1,783	202	0	1,985	8,041	25
Total	25,862	331	587	26,780	90,010	30
%	96.6	1.2	2.2	100		

29.7 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Herd /Flock Size and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Herd/Flock Size				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Other	Total		
Kondoa	3,423	0	0	3,423	31,102	11
Mpwapwa	1,919	0	0	1,919	13,077	15
Kongwa	3,832	0	0	3,832	15,283	25
Dodoma Rural	4,157	181	229	4,567	22,507	20
Dodoma Urban	1,374	99	0	1,473	8,041	18
Total	14,705	280	229	15,214	90,010	17
%	96.7	1.8	1.5	100		

29.8 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Pasture Establishment and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Pasture Establishment and Selection				Total	Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Other	not applicable			
Kondoa	2,565	0	144	142	2,851	31,102	9
Mpwapwa	2,183	0	0	0	2,183	13,077	17
Kongwa	3,253	0	0	0	3,253	15,283	21
Dodoma Rural	4,434	181	0	0	4,615	22,507	21
Dodoma Urban	1,178	0	0	0	1,178	8,041	15
Total	13,612	181	144	142	14,079	90,010	16
%	96.7	1.3	1.0	1.0	100		

29.9 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Group Formation and Strengthening By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Group Formation and Strenghthening				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Kondoa	2,863	0	145	3,007	31,102	10
Mpwapwa	1,796	253	0	2,048	13,077	16
Kongwa	4,531	117	0	4,648	15,283	30
Dodoma Rural	4,657	362	0	5,019	22,507	22
Dodoma Urban	1,473	0	0	1,473	8,041	18
Total	15,319	732	145	16,196	90,010	18
%	94.6	4.5	0.9	100		

29.10 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Calf Rearing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Calf Rearing				Total Number of households raising livestock	% receiving advice out of total
	Government	Other	not applicable	Total		
Kondoa	2,573	0	142	2,715	31,102	9
Mpwapwa	1,161	0	0	1,161	13,077	9
Kongwa	2,675	0	0	2,675	15,283	18
Dodoma Rural	4,254	453	0	4,708	22,507	21
Dodoma Urban	1,291	0	0	1,291	8,041	16
Total	11,953	453	142	12,549	90,010	14
%	95.3	3.6	1.1	100		

29.11 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Use of Improved Bulls By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Improved Bulls				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Other	Total		
Kondoa	3,000	0	144	3,144	31,102	10
Mpwapwa	1,797	129	0	1,926	13,077	15
Kongwa	3,142	117	0	3,259	15,283	21
Dodoma Rural	5,252	458	458	6,168	22,507	27
Dodoma Urban	1,495	0	0	1,495	8,041	19
Total	14,686	704	602	15,992	90,010	18
%	91.8	4.4	3.8	100		

29.12 LIVESTOCK EXTENSION: Number of Agricultural Households By Quality of Extension Services and District, 2002/03 Agricultural Year

	Quality of Service										
	Very Good		Good		Average		Poor		No Good		
District	Number	%	Number	%	Number	%	Number	%	Number	%	Total
Kondoa	0	0	5,728	91	561	9	0	0	0	0	6,289
Mpwapwa	774	14	3,790	68	767	14	0	0	258	5	5,589
Kongwa	699	14	4,071	81	234	5	0	0	0	0	5,005
Dodoma Rural	1,140	6	15,361	83	1,638	9	458	2	0	0	18,597
Dodoma Urban	201	6	2,279	67	101	3	403	12	402	12	3,387
Total	2,815	7	31,229	80	3,301	8	861	2	661	2	38,867

ACCESS TO INFRASRUCTURE AND OTHER SERVICES

33.01a Mean Distances from Household Dwellings to Infrastructures 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	District Capital
Kondoa	20.0	2.5	10.9	3.2	52.1	6.1	187.6	9.7	9.0	62.3	170.4	55.9
Mpwapwa	28.2	5.3	5.9	2.1	53.0	9.3	159.2	9.4	15.3	59.0	99.4	63.5
Kongwa	17.7	3.4	1.0	2.4	38.7	6.5	102.7	7.7	10.9	33.1	20.2	41.7
Dodoma Rural	21.0	3.0	10.1	2.5	58.9	7.8	66.4	9.5	12.5	65.6	64.2	65.5
Dodoma Urban	13.1	2.2	2.5	3.4	26.9	7.7	27.5	11.5	11.5	30.5	21.0	27.2
Total	20.4	3.2	7.4	2.7	49.3	7.4	113.2	9.5	11.6	54.6	85.8	54.4

Regional Capital	113.2
Tarmac Roads	85.8
Tertiary Market	54.6
District Capital	54.4
Hospitals	49.3
Secondary Schools	20.4
Secondary Market	11.6
Primary Markets	9.5
Health Clinics	7.4
All weather roads	7.4
Primary Schools	3.2
Feeder Roads	2.7

33.01b: Number of Households By Distance to Secondary School by District for 2002/03 agriculture year

District	Distance to Secondary School										Total number of households	Mean Distance
	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	%		
Kondoa	2,772	3.3	2,218	2.6	16,174	19.1	30,066	35.5	33,525	39.6	84,756	20.0
Mpwapwa	129	0.3	511	1.0	8,291	16.2	12,183	23.9	29,939	58.6	51,055	28.2
Kongwa	1,392	2.9	2,901	6.1	17,103	36.2	13,704	29.0	12,138	25.7	47,238	17.7
Dodoma Rural	1,729	1.7	10,788	10.7	18,098	18.0	20,932	20.8	48,936	48.7	100,482	21.0
Dodoma Urban	4,624	11.5	2,671	6.6	11,849	29.5	14,012	34.9	7,033	17.5	40,189	13.1
Total	10,646	3.3	19,090	5.9	71,516	22.1	90,897	28.1	131,571	40.6	323,719	20.4

33.01c: Number of Households By Distance to All Weather Road by District for 2002/03 agriculture year

District	Distance to All Weather Road										Total number of households	Mean Distance
	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	%		
Kondoa	23,480	27.7	14,799	17.5	17,556	20.7	13,215	15.6	15,705	18.5	84,756	10.9
Mpwapwa	20,644	40.4	8,497	16.6	13,560	26.6	2,034	4.0	6,319	12.4	51,055	5.9
Kongwa	29,527	62.5	12,582	26.6	5,012	10.6	117	0.2	0	0.0	47,238	1.0
Dodoma Rural	17,140	17.1	28,492	28.4	26,972	26.8	9,931	9.9	17,946	17.9	100,482	10.1
Dodoma Urban	12,830	31.9	15,774	39.3	9,373	23.3	2,111	5.3	101	0.3	40,189	2.5
Total	103,622	32.0	80,145	24.8	72,473	22.4	27,409	8.5	40,071	12.4	**323,719**	7.4

33.01d: Number of Households by Distance to Feeder Road by District for 2002/03 agriculture year

District	Distance to Feeder Road										Total number of households	Mean Distance
	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	%		
Kondoa	54,075	63.8	17,632	20.8	11,808	13.9	145	0.2	1,096	1.3	84,756	3.2
Mpwapwa	24,520	48.0	14,060	27.5	10,905	21.4	1,313	2.6	256	0.5	51,055	2.1
Kongwa	33,258	70.4	11,062	23.4	2,683	5.7	0	0.0	234	0.5	47,238	2.4
Dodoma Rural	39,078	38.9	39,742	39.6	17,564	17.5	2,052	2.0	2,045	2.0	100,482	2.5
Dodoma Urban	22,233	55.3	12,755	31.7	4,397	10.9	501	1.2	302	0.8	40,189	3.4
Total	173,165	53.5	95,252	29.4	47,358	14.6	4,011	1.2	3,933	1.2	323,719	2.7

33.01e: Number of Households By Distance to Hospital by District for 2002/03 agriculture year

District	Distance to hospital										Total number of households	Mean Distance
	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	%		
Kondoa	281	0.3	0	0.0	0	0.0	8,335	9.8	76,140	89.8	84,756	52.1
Mpwapwa	766	1.5	124	0.2	4,108	8.0	8,660	17.0	37,397	73.2	51,055	53.0
Kongwa	234	0.5	352	0.7	4,560	9.7	4,096	8.7	37,996	80.4	47,238	38.7
Dodoma Rural	453	0.5	458	0.5	11,847	11.8	2,041	2.0	85,683	85.3	100,482	58.9
Dodoma Urban	99	0.2	597	1.5	4,874	12.1	10,373	25.8	24,247	60.3	40,189	26.9
Total	1,833	0.6	1,530	0.5	25,388	7.8	33,506	10.4	261,462	80.8	323,719	49.3

33.01f: Number of Households by Distance to Health Clinic by District for 2002/03 agricultural year

District	Health clinic										Total number of households	Mean Distance
	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	%		
Kondoa	9,414	11.1	21,037	24.8	35,537	41.9	14,992	17.7	3,777	4.5	84,756	6.1
Mpwapwa	6,821	13.4	7,180	14.1	20,820	40.8	10,697	21.0	5,537	10.8	51,055	9.3
Kongwa	6,281	13.3	13,410	28.4	21,124	44.7	3,514	7.4	2,910	6.2	47,238	6.5
Dodoma Rural	12,652	12.6	36,748	36.6	31,270	31.1	14,322	14.3	5,490	5.5	100,482	7.8
Dodoma Urban	4,068	10.1	14,977	37.3	17,626	43.9	1,207	3.0	2,311	5.8	40,189	7.7
Total	39,235	12.1	93,351	28.8	126,377	39.0	44,731	13.8	20,025	6.2	**323,719**	7.4

33.01g: Number of Households by distance to Primary School for 2002/03 agriculture year

District	Distance to Primary School										Total number of households	Mean Distance
	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	%		
Kondoa	18,928	22.3	45,340	53.5	17,897	21.1	1,440	1.7	1,151	1.4	84,756	2.5
Mpwapwa	20,813	40.8	17,165	33.6	11,753	23.0	939	1.8	385	0.8	51,055	5.3
Kongwa	16,112	34.1	23,430	49.6	7,110	15.1	234	0.5	351	0.7	47,238	3.4
Dodoma Rural	17,677	17.6	54,820	54.6	22,963	22.9	4,117	4.1	906	0.9	100,482	3.0
Dodoma Urban	8,173	20.3	21,797	54.2	9,923	24.7	201	0.5	95	0.2	40,189	2.2
Total	81,704	25.2	162,551	50.2	69,646	21.5	6,931	2.1	2,888	0.9	323,719	3.2

33.01h: Number of Households by Distance to Regional Capital by District for 2002/03 agriculture year

District	Distance to Regional Capital										Total number of households	Mean Distance
	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	%		
Kondoa	283	0.3	426	0.5	138	0.2	569	0.7	83,341	98.3	84,756	187.6
Mpwapwa	386	0.8	0	0.0	381	0.7	773	1.5	49,514	97.0	51,055	159.2
Kongwa	228	0.5	0	0.0	233	0.5	0	0.0	46,777	99.0	47,238	102.7
Dodoma Rural	814	0.8	229	0.2	0	0.0	1,142	1.1	98,298	97.8	100,482	66.4
Dodoma Urban	202	0.5	401	1.0	4,068	10.1	7,886	19.6	27,631	68.8	40,189	27.5
Total	1,911	0.6	1,055	0.3	4,821	1.5	10,370	3.2	305,561	94.4	323,719	113.2

33.01i: Number of Households by Distance to District Capital by District for 2002/03 agriculture year

District	Distance to District Capital										Total number of households	Mean Distance
	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	%		
Kondoa	141	0.2	142	0.2	0	0.0	6,463	7.6	78,010	92.0	84,756	55.9
Mpwapwa	0	0.0	0	0.0	1,672	3.3	6,465	12.7	42,917	84.1	51,055	63.5
Kongwa	228	0.5	0	0.0	4,677	9.9	2,103	4.5	40,230	85.2	47,238	41.7
Dodoma Rural	587	0.6	0	0.0	0	0.0	684	0.7	99,211	98.7	100,482	65.5
Dodoma Urban	0	0.0	303	0.8	4,068	10.1	8,085	20.1	27,733	69.0	40,189	27.2
Total	956	0.3	445	0.1	10,418	3.2	23,800	7.4	288,100	89.0	**323,719**	54.4

33.01j: Number of Households by Distance to Tarmac Road by District for 2002/03 agricultural year

District	Tarmac Road										Total number of households	Mean Distance
	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	%		
Kondoa	7,529	8.9	702	0.8	1,237	1.5	860	1.0	74,428	87.8	84,756	170.4
Mpwapwa	641	1.3	0	0.0	894	1.8	0	0.0	49,519	97.0	51,055	99.4
Kongwa	787	1.7	1,002	2.1	11,759	24.9	8,775	18.6	24,914	52.7	47,238	20.2
Dodoma Rural	1,508	1.5	4,791	4.8	2,512	2.5	4,106	4.1	87,565	87.1	100,482	64.2
Dodoma Urban	1,107	2.8	1,405	3.5	6,348	15.8	12,207	30.4	19,121	47.6	40,189	21.0
Total	11,573	3.6	7,901	2.4	22,750	7.0	25,948	8.0	255,547	78.9	323,719	85.8

33.01k: Number of Households by Distance to Primary Market by District for 2002/03 agricultural year

District	Primary Market										Total number of households	Mean Distance
	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	%		
Kondoa	18,802	22.2	14,593	17.2	27,487	32.4	13,380	15.8	10,494	12.4	84,756	9.7
Mpwapwa	10,430	20.4	4,372	8.6	21,224	41.6	8,780	17.2	6,249	12.2	51,055	9.4
Kongwa	7,131	15.1	8,277	17.5	17,112	36.2	10,312	21.8	4,407	9.3	47,238	7.7
Dodoma Rural	26,439	26.3	10,872	10.8	26,279	26.2	24,058	23.9	12,835	12.8	100,482	9.5
Dodoma Urban	4,289	10.7	6,246	15.5	16,041	39.9	8,183	20.4	5,430	13.5	40,189	11.5
Total	67,090	20.7	44,359	13.7	108,142	33.4	64,713	20.0	39,414	12.2	323,719	9.5

33.01l: Number of Households by Distance to Tertiary Market by District for 2002/03 agricultural year

District	Tertiary Market										Total number of households	Mean Distance
	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	%		
Kondoa	11,403	13.5	4,207	5.0	7,297	8.6	5,573	6.6	56,277	66.4	84,756	62.3
Mpwapwa	515	1.0	0	0.0	2,834	5.6	10,471	20.5	37,234	72.9	51,055	59.0
Kongwa	117	0.2	221	0.5	7,770	16.4	8,893	18.8	30,237	64.0	47,238	33.1
Dodoma Rural	908	0.9	2,288	2.3	460	0.5	689	0.7	96,137	95.7	100,482	65.6
Dodoma Urban	401	1.0	196	0.5	4,067	10.1	8,596	21.4	26,929	67.0	40,189	30.5
Total	13,344	4.1	6,912	2.1	22,428	6.9	34,221	10.6	246,814	76.2	**323,719**	54.6

33.01m: Number of Households by Distance to Secondary Market by District for 2002/03 agricultural year

District	Secondary Market										Total number of households	Mean Distance
	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	%		
Kondoa	3,233	3.8	9,428	11.1	45,537	53.7	20,793	24.5	5,765	6.8	84,756	9.0
Mpwapwa	3,745	7.3	2,451	4.8	18,648	36.5	12,498	24.5	13,713	26.9	51,055	15.3
Kongwa	1,631	3.5	2,869	6.1	16,185	34.3	22,348	47.3	4,206	8.9	47,238	10.9
Dodoma Rural	6,681	6.6	16,394	16.3	27,771	27.6	27,328	27.2	22,308	22.2	100,482	12.5
Dodoma Urban	1,388	3.5	4,014	10.0	16,801	41.8	15,391	38.3	2,595	6.5	40,189	11.5
Total	16,678	5.2	35,155	10.9	124,942	38.6	98,358	30.4	48,587	15.0	323,719	11.6

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	%	
Kondoa	710	1	31,712	58	5,098	9	16,544	30	434	1	54,498
Mpwapwa	770	4	7,035	35	8,329	41	2,960	15	1,025	5	20,119
Kongwa	1,751	6	19,075	62	8,137	27	1,521	5	117	0	30,601
Dodoma Rural	15,071	32	18,829	40	8,550	18	2,715	6	1,580	3	46,745
Dodoma Urban	2,408	9	13,480	53	1,494	6	7,557	30	604	2	25,543
Total	20,709	12	90,132	51	31,607	18	31,297	18	3,761	2	177,507

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	%	
Kondoa	145	1	10,964	69	2,867	18	1,920	12	0	0	15,895
Mpwapwa	382	6	1,874	31	3,005	50	713	12	0	0	5,974
Kongwa	467	3	10,582	64	5,348	32	234	1	0	0	16,631
Dodoma Rural	11,735	40	11,440	39	5,171	18	678	2	224	1	29,248
Dodoma Urban	1,001	7	11,596	85	700	5	201	1	101	1	13,598
Total	13,730	17	46,455	57	17,089	21	3,746	5	325	0	81,346

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	%	
Kondoa	289	3	4,614	53	0	0	3,657	42	145	2	8,705
Mpwapwa	0	0	1,770	48	1,029	28	770	21	127	3	3,696
Kongwa	350	12	1,162	39	1,384	46	117	4	0	0	3,013
Dodoma Rural	410	12	2,212	67	219	7	224	7	224	7	3,291
Dodoma Urban	301	16	991	52	100	5	403	21	101	5	1,897
Total	1,350	7	10,750	52	2,732	13	5,172	25	597	3	20,601

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	%	
Kondoa	0	0	2,738	56	434	9	1,737	35	0	0	4,910
Mpwapwa	129	11	129	11	383	33	382	33	127	11	1,150
Kongwa	234	29	464	57	116	14	0	0	0	0	813
Dodoma Rural	459	36	362	29	219	17	230	18	0	0	1,271
Dodoma Urban	302	30	196	20	0	0	495	50	0	0	993
Total	1,125	12	3,889	43	1,152	13	2,843	31	127	1	9,137

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	%	
Kondoa	0	0	4,459	47	1,513	16	3,367	36	145	2	9,484
Mpwapwa	129	5	1,108	47	506	21	253	11	385	16	2,382
Kongwa	234	17	350	25	234	17	586	42	0	0	1,405
Dodoma Rural	447	15	585	19	677	22	680	22	678	22	3,066
Dodoma Urban	301	8	0	0	100	3	3,181	86	101	3	3,683
Total	1,112	6	6,502	32	3,030	15	8,067	40	1,309	7	20,020

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	%	
Kondoa	145	2	4,327	56	0	0	3,075	40	145	2	7,692
Mpwapwa	129	5	920	37	900	37	253	10	256	10	2,458
Kongwa	233	5	2,929	66	821	18	350	8	117	3	4,450
Dodoma Rural	457	14	2,134	65	224	7	0	0	453	14	3,269
Dodoma Urban	198	17	100	8	100	8	593	50	201	17	1,193
Total	1,163	6	10,411	55	2,045	11	4,271	22	1,173	6	19,063

HOUSEHOLD FACILITIES

Table 34.1 Number of Agriculture Households by Type of Toilet and District During the 2002/03 Agriculture Yea

District	Type of toilet					
	No Toilet	Flush Toilet	Traditional Pit Latrine	Improved Pit Latrine - hh Owned	Other Type	Total number of households
Kondoa	3,885	418	80,025	144	285	84,756
Mpwapwa	4,208	645	44,595	701	906	51,055
Kongwa	700	586	45,487	465	0	47,238
Dodoma Rural	8,615	598	88,538	2,137	594	100,482
Dodoma Urban	2,620	900	35,691	887	91	40,189
Total	20,028	3,148	294,335	4,333	1,875	323,719
%	6.2	1.0	90.9	1.3	0.6	100.0

34.2 Number of hoseholds reporting average number of rooms and type of Roofing Materials by District, 2002/03 Agricultural Year

District	Average Number of rooms per Household	Iron Sheets	Tiles	Concrete	Asbestos	Grass / Leaves	Grass & Mud	Other	Total number of households
Kondoa	2	45,012	0	142	429	11,917	27,256	0	84,756
Mpwapwa	3	14,281	0	0	893	5,847	29,647	387	51,055
Kongwa	3	31,720	936	0	226	2,693	11,662	0	47,238
Dodoma Rural	2	19,227	451	230	0	3,699	76,646	229	100,482
Dodoma Urban	3	16,095	501	0	0	703	22,890	0	40,189
Total	2	126,335	1,888	373	1,548	24,858	168,102	616	323,719
%		39.0	0.6	0.1	0.5	7.7	51.9	0.2	100

Table 34.3: Number of Agricultural Households by Type of Owned Assets and District during 2002/03 Agricultural Year

Type of Owned Asset	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Radio	44,948	53.0	24,627	48.2	28,122	59.5	39,390	39.2	21,389	53.2	158,476	49.0
Landline phone	289	0.3	253	0.5	469	1.0	228	0.2	101	0.3	1,340	0.4
Mobile phone	431	0.5	253	0.5	936	2.0	229	0.2	0	0.0	1,849	0.6
Iron	11,967	14.1	5,562	10.9	8,767	18.6	8,511	8.5	6,572	16.4	41,379	12.8
Wheelbarrow	1,296	1.5	708	1.4	1,993	4.2	3,405	3.4	1,395	3.5	8,797	2.7
Bicycle	28,201	33.3	9,795	19.2	21,955	46.5	30,465	30.3	14,780	36.8	105,196	32.5
Vehicle	141	0.2	770	1.5	1,053	2.2	453	0.5	0	0.0	2,418	0.7
Television / Video	274	0.3	463	0.9	348	0.7	459	0.5	292	0.7	1,835	0.6
Total Number of Households	84,756	100.0	51,055	100.0	47,238	100.0	100,482	100.0	40,189	100.0	323,719	100.0

34.4: Number of Agricultural Households by Main Source of Energy Used for Lighting during 2002/03 Agricultural Year

Main Source of Energy for Lighting	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Mains Electricity	716	0.8	322	0.6	231	0.5	229	0.2	495	1.2	1,993	0.6
Solar	0	0.0	123	0.2	234	0.5	0	0.0	0	0.0	358	0.1
Gas (Biogas)	145	0.2	0	0.0	117	0.2	229	0.2	301	0.7	792	0.2
Hurricane Lamp	17,979	21.2	6,436	12.6	12,716	26.9	8,046	8.0	6,765	16.8	51,941	16.0
Pressure Lamp	1,852	2.2	2,337	4.6	1,873	4.0	1,146	1.1	801	2.0	8,009	2.5
Wick Lamp	54,722	64.6	39,651	77.7	30,663	64.9	74,928	74.6	29,226	72.7	229,190	70.8
Candles	416	0.5	258	0.5	117	0.2	224	0.2	303	0.8	1,317	0.4
Firewood	8,492	10.0	1,928	3.8	1,287	2.7	15,679	15.6	2,199	5.5	29,585	9.1
Other	434	0.5	0	0.0	0	0.0	0	0.0	100	0.2	535	0.2
Total	84,756	100.0	51,055	100.0	47,238	100.0	100,482	100.0	40,189	100.0	323,719	100.0

34.5: Number of Agricultural Households by Main Source of Energy Used for Cooking during 2002/03 Agricultural Year

Main Source of Energy for Cooking	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Mains Electricity	0	0.0	0	0.0	0	0.0	229	0.2	195	0.5	423	0.1
Solar	290	0.3	0	0.0	0	0.0	0	0.0	199	0.5	489	0.2
Gas (Biogas)	0	0.0	0	0.0	117	0.2	230	0.2	100	0.2	448	0.1
Bottled Gas	142	0.2	129	0.3	0	0.0	0	0.0	0	0.0	271	0.1
Parraffin / Kerocine	132	0.2	0	0.0	351	0.7	0	0.0	0	0.0	482	0.1
Charcoal	1,856	2.2	590	1.2	1,162	2.5	1,354	1.3	1,993	5.0	6,955	2.1
Firewood	82,192	97.0	50,206	98.3	45,264	95.8	96,051	95.6	37,701	93.8	311,415	96.2
Crop Residues	0	0.0	0	0.0	345	0.7	2,387	2.4	0	0.0	2,731	0.8
Livestock Dung	145	0.2	129	0.3	0	0.0	230	0.2	0	0.0	504	0.2
Total	84,756	100.0	51,055	100.0	47,238	100.0	100,482	100.0	40,189	100.0	323,719	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					
		Kondoa	Mpwapwa	Kongwa	Dodoma Rural	Dodoma Urban	Total
Piped Water	wet season	15,536	18,899	29,706	37,381	15,499	117,021
	dry season	22,421	22,806	33,605	49,297	17,178	145,308
Protected Well	wet season	10,271	904	4,091	8,481	2,916	26,664
	Dry season	10,387	1,810	6,319	6,919	3,117	28,552
Protected / Covered Spring	wet season	143	744	117	4,986	101	6,091
	Dry season	426	383	234	5,214	101	6,357
Uprotected Well	wet season	37,871	9,004	1,280	23,022	18,428	89,605
	Dry season	34,594	12,877	1,273	20,751	17,632	87,126
Unprotected Spring	wet season	3,757	7,212	4,064	12,357	402	27,791
	Dry season	6,894	5,292	4,180	12,841	302	29,509
Surface Water (Lake / Dam / River / Stream)	wet season	6,869	6,736	7,044	3,619	2,340	26,607
	Dry season	3,864	6,117	1,164	2,951	1,363	15,459
Covered Rainwater Catchment	wet season	720	129	0	228	101	1,179
	Dry season	575	0	345	459	0	1,379
Uncovered Rainwater Catchment	wet season	9,011	6,910	936	10,185	302	27,344
	Dry season	5,596	1,512	0	2,051	295	9,455
Water Vendor	wet season	0	129	0	0	0	129
	Dry season	0	129	117	0	0	246
Tanker Truck	wet season	0	0	0	0	0	0
	Dry season	0	0	0	0	101	101
Bottled Water	wet season	0	0	0	0	0	0
	Dry season	0	0	0	0	0	0
Other	wet season	579	387	0	222	100	1,288
	dry season	0	128	0	0	100	228
Total Agricultural Households per District		84,756	51,055	47,238	100,482	40,189	323,719

34.7: 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					
		Kondoa	Mpwapwa	Kongwa	Dodoma Rural	Dodoma Urban	Total
Piped Water	wet season	18	37	63	37	39	36
	dry season	26	45	71	49	43	45
Protected Well	wet season	12	2	9	8	7	8
	Dry season	12	4	13	7	8	9
Protected / Covered Spring	wet season	0	1	0	5	0	2
	Dry season	1	1	0	5	0	2
Uprotected Well	wet season	45	18	3	23	46	28
	Dry season	41	25	3	21	44	27
Unprotected Spring	wet season	4	14	9	12	1	9
	Dry season	8	10	9	13	1	9
Surface Water (Lake / Dam / River / Stream)	wet season	8	13	15	4	6	8
	Dry season	5	12	2	3	3	5
Covered Rainwater Catchment	wet season	1	0	0	0	0	0
	Dry season	1	0	1	0	0	0
Uncovered Rainwater Catchment	wet season	11	14	2	10	1	8
	Dry season	7	3	0	2	1	3
Water Vendor	wet season	0	0	0	0	0	0
	Dry season	0	0	0	0	0	0
Tanker Truck	wet season	0	0	0	0	0	0
	Dry season	0	0	0	0	0	0
Bottled Water	wet season	0	0	0	0	0	0
	Dry season	0	0	0	0	0	0
Other	wet season	1	1	0	0	0	0
	dry season	0	0	0	0	0	0

34.8: Number of Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) by District for 2002/03 agriculture year

Time Spent to and from Main Source of Drinking Water	Season	District				
		Kondoa	Mpwapwa	Kongwa	Dodoma Rural	Dodoma Urban
Less than 10	wet season	2,453	1,272	2,573	2,048	1,198
	Dry season	1,003	1,664	1,047	2,060	1,498
10 - 19 Minutes	wet season	13,858	10,740	9,674	16,326	10,199
	Dry season	5,833	10,640	7,011	10,004	7,817
20 - 29 Minutes	wet season	9,780	3,709	3,036	8,252	3,699
	Dry season	3,403	2,657	2,573	7,278	2,399
30 - 39 Minutes	wet season	26,298	12,857	11,784	26,134	9,635
	Dry season	7,560	9,618	10,269	20,535	9,243
40 - 49 Minutes	wet season	4,595	1,567	2,215	9,484	1,196
	Dry season	2,106	1,437	2,801	9,401	1,090
50 - 59 Minutes	wet season	2,994	3,141	1,404	2,592	2,386
	Dry season	2,530	3,533	1,053	2,445	2,176
above one Hour	wet season	24,778	17,768	16,553	35,647	11,876
	Dry season	62,320	21,506	22,485	48,758	15,966

34.9: Proportion of Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) by District for 2002/03 agriculture year

Time Spent to and from Main Source of Drinking Water	Season	District				
		Kondoa	Mpwapwa	Kongwa	Dodoma Rural	Dodoma Urban
Less than 10	wet season	3	2	5	2	3
	Dry season	1	3	2	2	4
10 - 19 Minutes	wet season	16	21	20	16	25
	Dry season	7	21	15	10	19
20 - 29 Minutes	wet season	12	7	6	8	9
	Dry season	4	5	5	7	6
30 - 39 Minutes	wet season	31	25	25	26	24
	Dry season	9	19	22	20	23
40 - 49 Minutes	wet season	5	3	5	9	3
	Dry season	2	3	6	9	3
50 - 59 Minutes	wet season	4	6	3	3	6
	Dry season	3	7	2	2	5
above one Hour	wet season	29	35	35	35	30
	Dry season	74	42	48	49	40

34.10: Number of Agricultural Households by Number of Meals the Household Normally Took per Day by District

Number of Meals per Day	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
One	724	1	1,532	3	352	1	6,823	7	5,203	13	14,633	4.5
Two	37,133	44	41,841	82	34,341	73	83,667	83	29,078	72	226,061	69.8
Three	46,899	55	7,423	15	12,545	27	9,991	10	5,815	14	82,673	25.5
Four	0	0	259	1	0	0	0	0	94	0	352	0.1
Total	84,756	100	51,055	100	47,238	100	100,482	100	40,189	100	323,719	100.0

34.11: Number of Households by Number of Days the Household Consumed Meat during the Preceding Week by District

Number of Days	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Not Eaten	33,361	39	18,689	37	14,680	31	32,488	32	15,846	39	115,065	36
One	28,741	34	17,317	34	14,923	32	38,555	38	15,778	39	115,314	36
Two	16,367	19	10,175	20	12,256	26	17,819	18	5,968	15	62,584	19
Three	3,983	5	3,639	7	4,562	10	7,647	8	1,901	5	21,732	7
Four	1,728	2	1,160	2	350	1	2,741	3	595	1	6,575	2
Five	286	0	75	0	350	1	1,232	1	0	0	1,942	1
Six	0	0	0	0	0	0	0	0	101	0	101	0
Seven	290	0	0	0	117	0	0	0	0	0	407	0
Total	84,756	100	51,055	100	47,238	100	100,482	100	40,189	100	323,719	100

34.12: Number of Households by Number of Days the Household Consumed Fish during the Preceding Week by District

Number of Days	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Not Eaten	51,373	61	32,210	63	27,862	59	51,798	52	21,916	55	185,158	57
One	14,772	17	11,493	23	11,207	24	31,402	31	11,190	28	80,064	25
Two	12,159	14	4,491	9	4,784	10	13,050	13	4,279	11	38,764	12
Three	3,519	4	840	2	2,448	5	2,410	2	1,098	3	10,314	3
Four	1,962	2	783	2	703	1	687	1	1,203	3	5,339	2
Five	537	1	714	1	234	0	905	1	403	1	2,792	1
Six	145	0	0	0	0	0	229	0	0	0	374	0
Seven	290	0	524	1	0	0	0	0	101	0	914	0
Total	84,756	100	51,055	100	47,238	100	100,482	100	40,189	100	323,719	100

34.13: Number of Households Reporting the Status of Food Satisfaction of the Household during the Preceding Year by District

Status of Food Satisfaction	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Never	32,156	37.9	19,116	37.4	22,880	48.4	25,795	25.7	5,498	13.7	105,445	32.6
Seldom	28,703	33.9	12,781	25.0	15,525	32.9	38,049	37.9	15,146	37.7	110,205	34.0
Sometimes	6,984	8.2	4,864	9.5	2,107	4.5	6,060	6.0	3,073	7.6	23,088	7.1
Often	9,044	10.7	8,520	16.7	3,383	7.2	26,059	25.9	8,180	20.4	55,187	17.0
Always	7,868	9.3	5,773	11.3	3,342	7.1	4,518	4.5	8,292	20.6	29,793	9.2
Total	84,756	100.0	51,055	100.0	47,238	100.0	100,482	100.0	40,189	100.0	323,719	100.0

34.14: Number of Households by Type of Roofing Materials and District during the 2002/03 Agricultural Year

Roofing Materials	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Iron Sheets	45,012	36	14,281	11	31,720	25	19,227	15	16,095	13	126,335	39.0
Tiles	0	0	0	0	936	50	451	24	501	27	1,888	0.6
Concrete	142	38	0	0	0	0	230	62	0	0	373	0.1
Asbestos	429	28	893	58	226	15	0	0	0	0	1,548	0.5
Grass / Leaves	11,917	48	5,847	24	2,693	11	3,699	15	703	3	24,858	7.7
Grass & Mud	27,256	16	29,647	18	11,662	7	76,646	46	22,890	14	168,102	51.9
Other	0	0	387	63	0	0	229	37	0	0	616	0.2
Total	84,756	26	51,055	16	47,238	15	100,482	31	40,189	12	323,719	100.0

34.15: Number of Households by Main Source of Cash Income and District during 2002/03 Agriculture Year

Main Source of Energy for Cooking	District										Total	
	Kondoa		Mpwapwa		Kongwa		Dodoma Rural		Dodoma Urban			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Sales of Food Crops	13,466	16	4,407	9	21,078	45	6,913	7	1,807	4.5	47,670	14.7
Sale of Livestock	5,729	7	4,560	9	2,689	6	13,054	13	2,480	6.2	28,513	8.8
Sale of Livestock Products	1,002	1	387	1	586	1	230	0	403	1.0	2,608	0.8
Sales of Cash Crops	16,551	20	12,641	25	1,755	4	10,045	10	1,292	3.2	42,284	13.1
Sale of Forest Products	2,449	3	2,135	4	117	0	8,302	8	6,590	16.4	19,593	6.1
Business Income	6,133	7	2,873	6	3,262	7	20,130	20	11,456	28.5	43,854	13.5
Wages & Salaries in Cash	1,286	2	848	2	1,517	3	1,819	2	1,777	4.4	7,246	2.2
Other Casual Cash Earnings	30,760	36	21,332	42	15,653	33	35,362	35	11,595	28.9	114,703	35.4
Cash Remittance	6,945	8	1,669	3	582	1	3,654	4	2,188	5.4	15,038	4.6
Fishing	145	0	75	0	0	0	742	1	500	1.2	1,462	0.5
Other	290	0	129	0	0	0	228	0	101	0.3	748	0.2
Total	84,756	100	51,055	100	47,238	100	100,482	100	40,189	100.0	323,719	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)
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☐☐		☐☐☐☐	☐☐☐☐	
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☐☐		☐☐☐☐	☐☐☐☐	
Total		☐☐☐☐	☐☐☐☐	

Name of enumerator…… Signature ……. Date…….

Name of supervisor…… Signature ……. Date…….

UNITED REPUBLIC OF TANZANIA

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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)
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	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	Involvement in farming	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		Secondary Education	
Not of school age	NA	Form one	11
Under Standard One	00	Form two	12
Standard One	01	Form three	13
Standard Two	02	Form four	14
Standard Three	03	Form five	15
Standard Four	04	Form six	16
Standard Five	05	Training after Secondary Education	17
Standard Six	06	University & other tertiary Education	18
Standard Seven	07	Adult Education	19
Standard Eight	08	Not applicable	99
Training after Primary Education	09		
Pre Form One	10		

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)
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……																	
……																	
……																	
……																	

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		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:

16.1	the 5 most important problems		16.2	the 5 least important problems	
	Order of most importance	Constraint		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:

_____

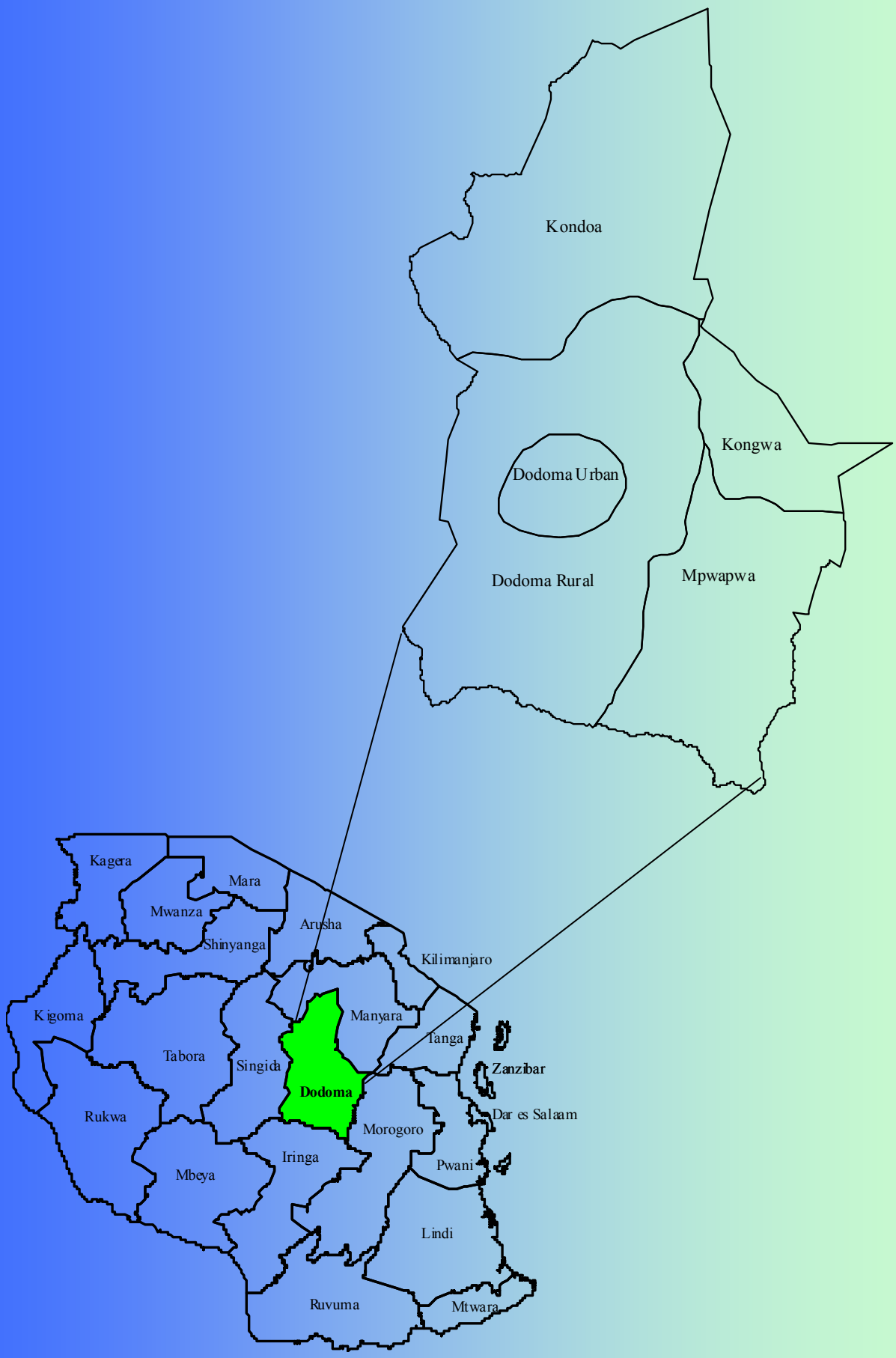
_____

_____

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 ☐


Kondoa
Kongwa
Dodoma Urban
Dodoma Rural
Mpwapwa
Kagera
Mara
Mwanza
Arusha
Shinyanga
Kilimanjaro
Kigoma
Manyara
Tanga
Tabora
Singida
Zanzibar
Dodoma
Rukwa
Dar es Salaam
Morogoro
Iringa
Pwani
Mbeya
Lindi
Ruvuma
Mtwara