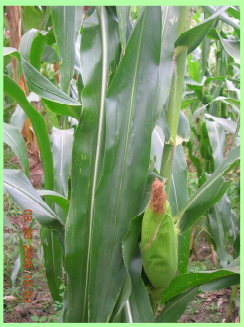
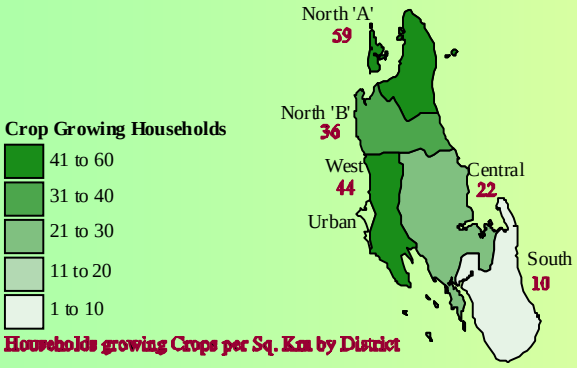
THE ZANZIBAR SAMPLE CENSUS OF AGRICULTURE 2002/2003

SMALL HOLDER AGRICULTURE
Volume VII: CROP SECTOR





Number of Crop Growing Households per Square Kilometer of Land by District



Households growing Crops per Sq. Km by District


The Office of the Chief Government Statistician, National Bureau of Statistics and the Ministry of Agriculture, Natural Resources, Environment and Cooperatives – Zanzibar

October 2006

ZANZIBAR SAMPLE CENSUS OF AGRICULTURE 2002/2003

SMALL HOLDER AGRICULTURE

Volume VII: CROP SECTOR

The Office of the Chief Government Statistician, National Bureau of Statistics and the Ministry of Agriculture, Natural Resources, Environment and Cooperatives - Zanzibar

October 2006

TABLE OF CONTENTS

ABBREVIATIONS

ASDP	Agriculture Sector Development Programme
CSPro	Census and Survey Processing System
DADOs	District Agricultural Development Officers
DFID	Department for International Development
EAs	Enumeration Areas
EU	European Union
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
ICR	Intelligent Character Recognition
IEC	Information, Education and Communication
JICA	Japan International Cooperation Agency
Km^2	Kilometer Square
MAFS	Ministry of Agriculture and Food Security
MANREC	Ministry of Agriculture Natural Resources, Environment and Cooperatives
MCM	Ministry of Cooperatives and Marketing
MOFEA	Ministry of Finance and Economic Affairs
MWLD	Ministry of Water and Livestock Development
NBS	National Bureau of Statistics
NGOs	Non Government Organizations
NMS	National Master Sample
OCGS	Office of Chief Government Statistician
RADO	Regional Agricultural Development Officers
SAC	Scotts Agriculture Consultants.
SPSS	Statistics Package for Social Sciences
ULG	Ultek Laurence Gold Consultants
UNDP	United Nations Development Programme
ZPR	Zanzibar Poverty Reduction Programme

PREFACE

The 2002-2003 National Sample Census of Agriculture is the first comprehensive Sample Census of Agriculture undertaken in Zanzibar. It covered nine out of 10 districts. The census focused on all district which have rural characteristics and involved households located in rural areas only.

This publication is volume seven of the publications which provide the results of the small holder farming in crop sector. The results presented in this report are detailed data on. all annual and permanent crops It is considered that this census is one of the largest to be carried out in Africa and indeed in many other countries of the world. For the crop sub-sector, the census collected detailed data on. It also collected comprehensive input use, storage, processing, marketing, tree farming, erosion control and extension services.

In addition the census was large in its coverage as it provides data that are disaggregated at district level. The census covered smallholders in rural areas only and it focuses on crops grown kept by smallholders. Therefore this report will provide added insights for planners, policy makers and others involved in agricultural sector to produce relevant programme that will assist crop producers in Zanzibar.

We acknowledge and express our appreciation to the United Nations Development Programme (UNDP), European Union (EU) and the Government of Japan and others who contributed to the financial support through the UN support programme and other pool fund mechanism of the United Republic of Tanzania. We also appreciate the support in the form of technical assistance provided by FAO, ULG and Scotts Agriculture Consultancy (SAG). The success in carrying out this census depended on the generous material, financial and moral support provided by all actors including development partners and consultants.

Acknowledgements also go to the many individuals who helped in undertaking of this census for their vital contributions. It was through their diligence that we were to conduct the census and produce this report.

Finally, my appreciation goes to the census project staff of the OCGS and MANREC for their commendable effort during the whole process of the census to report writing.

Comments and suggestions on the report are welcome, and should be sent to the Office of Chief Government Statistician e-mail: zanstat@zanlink.com or economicstat@ocgs.go.tz.

Mr. Mohamed H. Rajab
Chief Government Statistician
Office of Chief Government Statistician
Zanzibar

ILLUSTRATIONS

List of Tables

List of Charts

List of Maps

EXECUTIVE SUMMARY

Of the total 96,522 rural agriculture households in Zanzibar, the number of crop growing households was 96,221 representing 99.7 percent of the agriculture households. Sixty two percent of the households only grow crops whilst 37.6 percent grow crops and keep livestock. North 'A', Micheweni and Mkoani districts have the highest number of crop growing households, whereas South and North 'B' Districts have the lowest numbers. In terms of number of households per square kilometer, South, West and North 'A' Districts have the highest number of crop growing households per square kilometer while Central and Wete Districts had the lowest numbers.

The total land area allocated to smallholders either through formal titles or customary rights is 111,939 ha, (1.2 ha per household). Of this, each household uses an average of 1.1 ha, which means almost all the agricultural land has been utilized and thus there is very little land still left for agricultural activities. There is negligable district variations in availability of agriculture land within districts and Central district (1.47 ha. per household) having the biggest agriculture available land per household and South district had the smallest (0.80 ha.) area per household. Around 40 percent of households reported insufficiency of land. The result of the census strongly indicates that there is real pressure of land and if land utilization continues to increase, serious encroachment into undesignated land will occur.

The total planted area with annual crops is 78,274 ha and the planted area per household is 0.81 ha. The planted area in the short rainy season was 11,058 ha. (14 percent of area planted with annual crops) and in
Cultivation of permanent mono-crops is the dominant farming practice, followed by temporary mono-crops, permanent mixed crops while areas under natural bush occupies the least area followed by area under pasture. Most of the area under permanent mono-crop is found in Mkoani followed by Wete and the area is mostly occupied with clove plantations while the area under temporary mono crops is mostly found in Wete followed by North 'A' then Mkoani.

In terms of area occupied by a crop, cassava is most important crop (34,002 ha) in the country followed by paddy (21,614 ha) which has the second largest planted area. Banana, seaweed, groundnuts, sweet potatoes, oranges and mangoes are also very important crops.

A total of 10,359 tonnes of maize was produced from a planted area of 21,614 ha resulting in a low yield of 0.48 tonnes per hectare. About 313 tonnes of pigeon peas and 502 tonnes of cow peas are produced from 792 and 2,526 ha respectively.

The most important areas for the production of fruit and vegetable are found in Central and West Districts, North 'A' District is also an important district in vegetable and fruit production especially in the production of tomatoes. Cabbage, carrots, onions and water mollons are produced in very small amounts. Seaweed, is mostly cultivated in Central District and account 67 percent of the area planted. Other cash crops such as tobacco, tumeric, chillies cinnamon, cardamom, black pepper are grown in small amount by few households.

The planted areas of permanent crops are 32,120 ha which are grown by 68,756 smallholder households, as with annual crops. Banana have the largest planted area (42 percent of the area planted with permanent crops), followed by coconut 21 percent, then cloves 15 percent. Central District accounted for 19 percent of the area followed by Mkoani (14 percent) whilst South District accounted for only 3 percent of the area under permanent crops.

Bananas are mainly grown in Mkoani District with 17 percent of the area planted area with the crop followed by North 'A' 14 percent; Central and Micheweni District each accounted for 19 percent of the area planted with coconut. Mkoani District accounted for 29 percent of the area planted with cloves trees followed by Chakechake 26 percent and West District accounted for only 1 percent of the area. Mango was mostly found in Mkoani (36 percent), Wete (27 percent) and West District accounted for 10 percent of the area. About 65 percent of the area planted with oranges is found in Central District and 49 percent of the area planted with sugar cane is found in Central District.

The area under irrigation is very small with an annual crop planted area of only 2,181 ha, which is 3.0 percent of the total area planted. West, Central and North 'B' have the largest planted area with irrigation practice. Of the total irrigated area 28 percent is applied to paddy, 26 percent tomatoes, 12 percent egg plant and 11 percent amaranths. However, a higher percent of irrigation is applied to fruits and vegetables than any other crop type. Wells and pipe water are the main source of water for irrigation and water is mostly taken to the fields by water buckets and use of water canes being the most common means of field application.

Land clearing is predominantly done by hand slashing. Soil preparation is also mostly done by hand (93 percent) of the total planted area). Only a small area is cultivated using tractors (7 percent). North 'A' had the largest area cultivated with tractors whilst all of the cultivated land in Micheweni District was prepared by hands. Only 15 percent of the total planted area is with improved seed with cereals having 57 percent of the total planted area with improved seed, 20 percent with cash crops (dominated by sea-weed) and 14 percent fruits and vegetable.

Fertilisers were applied to only 16 percent of the total planted area and 9 percent of this was with farm yard manure, 5 percent was with inorganic fertilizers and 2 percent with compost. The highest percent of planted area with fertilizers was in Central and North 'A' Districts. North 'A' District have the highest number of households using in-organic fertilizer followed by Wete District. Micheweni and South Districts have the smallest number of households using the fertilizers. Very small areas had pesticide applications.. Of the total area planted with annual crops, only 2 percent of the area was applied with insecticides, 3 percent applied with herbicide and only 0.08 percent was applied with fungicides

Paddy is stored by more households than any other crop. This is followed by coconut and maize, root and tubers, sorghum then sea-weeds. The most common period of storage is 3 to 6 months but this is closely followed by over 6 months. The most common means of storage is in open drums/sacks and traditional storage cribs. Other means of storage are not common. The main reason for the storage of subsistence food crops was as seeds for planting the following season then as food for home consumption. For cash crops the reason for storage is prospecting for a higher price. The reported storage loss was relatively low with paddy having the highest percent loss.

Sixty four percent of the crop growing households reported selling crops. Central District has the highest percent of crop growing households that sell crops (16 percent) which was 89 percent of the crop growing households within the district,

followed by Micheweni with 14 percent of crop selling households which were 67 percent of the crop growing households within the district. Low market price is the main marketing problem facing smallholders (83 percent of those who encounter the market problems). Apart from low prices, the main marketing problems were related to access to markets (for instance the market is too far, the transport cost too high and no transport). For the majority of the households that did not sell farm products, the over-riding reason for not selling was that their production was insufficient to sell.

Agro-processing is carried out by 56 percent of the crop growing households in Zanzibar. South District accounted for only 7 percent of the households that processed crops. The main processed product is rice, with bran being the most common bi-product. Most processing is done on farm by hands (64 percent) followed by those using neighbors machine (26 percent). The highest percent of manual processing was in Micheweni district. Only about 0.3 percent of the households that processed crops considered selling of the processed product as the primary objective. Most processing is done for household use/consumption (97 percent of the households that processed products) and only 0.3 percent considers selling of the processed product as the primary objective. Most of the processed products are sold to neighbors and local markets.

Outreach on crop extension was reported by only 18 percent of crop growing households mostly in Mkoani District (32 percent of the households). The lowest numbers of households receiving extension service/advice were in South District which accounted only 3 percent of the households that received crop extension advice. The government provides 95 percent of extension, N.G.Os 2 percent and others 3 percent

Only 3 percent of households have planted trees on their land, with the ***Cassuarina*** and ***Acacia spp*** being the most planted. South District has the highest number of trees planted by smallholders (29 percent of the trees) and Wete has the lowest number (only 0.1 percent of the trees). Most of the trees are planted in boundaries (35 percent), 34 percent scattered in the field and 31 percent in small plantations or coppice stands.

Nearly one percent of the total crop growing households has erosion control/water harvesting structures on their farms. Most of these structures are in the North 'A' (38 percent) followed by West District (16 percent) whilst no such structures are reported in South District.

1. INTRODUCTION

1.1 Introduction

Agriculture is an important economic sector of the Zanzibar's economy in terms of food production, employment generation, production of raw material for industries and generation of foreign exchange. The agricultural sector produces about 21 percent of Gross Domestic Product (GDP) (Economic Survey, 2003). Farmers grew a wide variety of food and cash crops as well as fruits, vegetables and spices. Having a limited land for grazing animals and also due to the nature of smallness of Zanzibar, there are few livestock kept on the islands. In 2003, the livestock contribution to Zanzibar's GDP was 4 percent (Economic Survey, 2003). The main types of livestock raised in Zanzibar are cattle, goats and chicken. There are very few sheep and pigs, an enterprise which seems to have started recently but with a high growth rate. Besides milk and egg production, other products from livestock included hides and skins. Livestock also contribute to crop production by providing draft animal especially for transportation of farm products to and from farms to homesteads and market places. Very few households used draft animals for land preparation.

This report covers the crop sector. The result of this census serves as a baseline for future agriculture censuses and surveys. Zanzibar does not have a lot of data from previous censuses with which to make comparisons with data from this census. This is confirmed by the Zanzibar's Ministry of Agriculture, Natural Resources, Environment and Cooperative's paper with title "Agriculture Statistics System in Zanzibar: Highlights on Current Status, Practices and Constraints in Data Generation, Processing and Dissemination" where it is stated that "*Currently, there is no baseline information for the crops sub- sector. The recent Agriculture and Livestock Sampling Census (2003), jointly conducted by the Office of Chief Government Statistician(OCGS) and the* Ministry of Agriculture Natural Resources, Environment and Cooperatives (*MANREC) is expected to provide useful information for the establishment of the baseline statistics for crops on which to base any subsequent surveys and estimation.".*

This report has four main sections namely; Introduction, Results, Conclusion and Appendices. The definitions relating to all aspects of this report can be found in the questionnaire.

1.2 Background Information

In 2003 the Government of Zanzibar in collaboration with National Bureau of Statistics (NBS) launched the Agriculture Sample Census as an important part of 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 standard production of data normally collected in an agricultural census. The census is intended to support and fill the information gap necessary for 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 agricultural and rural development programmes as well as prioritizing specific interventions of most agriculture and rural development programmes.

Following the decentralization of the Government's administration and planning functions, there is a need for agriculture and rural development data to be disaggregated at regional and district level. The provision of district level data will

provide essential baseline information on the state of agriculture that support decision making by local authorities and in the designing of agriculture projects.

1.2.1Census Objectives.

The main objectives of 2002/03 Zanzibar Agricultural Sample Census were the following:-

- To provide a framework for agricultural sample survey based on current agricultural information system.
- To obtain benchmark information (indicators) disaggregated at national, regional, and district levels for facilitating actions and plans in the implementation of the Zanzibar Poverty Reduction Plan (ZPRP) in particular for monitoring and evaluation of agricultural sector.
- To enhance capacity building in OCGS and the MANREC in regard to planning, designing, collecting, processing, analysing and dissemination of agricultural statistical information.
- To provide data for small administrative units.
- To establish a database for agricultural statistics covering a broad spectrum of agricultural sector in relation to other socio economic sectors.
- To provide aggregate information for use as benchmark for inter-censal estimates and forecast of agricultural production.

1.2.2 Census Coverage and Scope.

The 2002/03 Zanzibar Agricultural Sample Census covered all agricultural households in the sampled areas.

The census was conducted for both small and all large scale farms. This report covers small scale farms in details e.g., total crop growing households. The data was collected from a sample of 4,755 small scale agriculture households.

Three different questionnaires were used to collect data on agriculture and related aspects. These were:-

- Small scale farm questionnaire
- Community questionnaire
- Large scale farm questionnaire.

Main subjects covered during the census include: -

- Description of holdings.
- Methods of land preparation and use of fertilizers.
- List of household members engaged in agriculture sector classified by age, sex, occupations, and education level.
- Access and use of communal resources (grazing, communal forest, water for humans and livestock, beekeeping etc)
- Crops situation in terms of the area planted by type of crop and season, production of major crops by type and season and yield of major crops by type and season.
- Agricultural inputs and practice
- Agricultural implements and machinery
- Employment in agriculture
- Income from agriculture
- Crops storage and markets
- Livestock numbers by type, change in stock, production of milk and eggs

- Price of livestock and livestock products
- *Social* amenities.

The community level questionnaire was designed to collect village data such as access and use of common resources, community tree plantation and seasonal farm gate prices. While large Scale Farm questionnaire was administered to all large scale farms either privately or corporately managed.

1.3 CENSUS METHODOLOGY

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

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

1.3.1 Census Organisation

The census was conducted incollaboration by the Office of Chief Government Statistician (OCGS), the Ministry of Agriculture, Natural Resources, Environment and Cooperatives (MANREC), the Ministry of Finance and Economic Affair and National Bureau of Statistics (NBS). There was a technical committee that approved the operational aspects for the census. At the regional level, implementation of census activities was overseen by Regional Agricultural Development Officers (RADO) and at district level there were District Agricultural Development Officers (DADO). Local Government officials were fully involved at the time of field operations in the respective villages.

1.3.2 Tabulation Plan Preparation

The tabulation plan was developed following workshops and thus reflects the information needed by the end users.

1.3. 3 Sample Design

A sample was extracted from the Zanzibar National Master Sample (NMS) developed with local technical assistance from the University of Dar es Salaam.

The sample consisted of 317 EA's spread over nine districts. These EA's were drawn from the NMS and developed to serve as a national framework for different sample censuses and surveys to be conducted in Zanzibar.

A stratified two stage sample was established. The numbers of EAs were selected at the first stage with a probability proportional to the number of households in each EA. At the second stage, 15 farming households were selected from each EA using systematic random sampling.

Table 1.1 Census Sample Size

Description	Number
Households	4,755
EA's	317
District	9
Regions	5

1.3.4 Questionnaire Design and Other Census Instruments

The questionnaire was designed following users meetings to ensure that the questions asked were in line with the users 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 definition for each section were printed on the opposite page so that the enumerator could easily refer to the instructions whilst interviewing the farmer
- The responses to all questions were placed in boxes printed on the questionnaire, with one box per character. This feature made it possible to use scanning and Intelligent Character Recognition (ICR) technologies for data entry.
- Skip pattern were used to reduce unnecessary and incorrect coding of section which do not apply to the respondent.

Each section was clearly numbered, which facilitated the use of skip patterns and provided a reference for data type coding for the programming of CSPro, SPSS and dissemination applications.

Three other instruments were used:

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

1.3.5 Field Pre-testing of the Census Instruments

The Small Scale Farmer Questionnaire was pre-tested in different areas in both Unguja and Pemba. The villages of Bambi and Ndijani in South Region Unguja, Kinyasini and Matemwe in North Unguja, Chakechake and Micheweni in Pemba were used as pilot areas to test the questionnaire.

1.3.6 Training of Trainers, Supervisors and Enumerators

Training Programme for the census was prepared and carried out prior to the actual field work. Four participants from Zanzibar attended the national training of trainers' course in Dodoma organized by NBS. The idea was to have a uniformity of training on the modality of filling in questionnaire between Mainland and Zanzibar.

A training program was developed and four centers were used to impart knowledge and skills of filling in the questionnaires and conducting the interviews. Jambiani Centre was used as venue for training of regional agriculture development officers (RADOs), district agriculture development officers (DADOs) and statistics officers, Mahonda and Amani were used as training centers for field enumerators and supervisors in Unguja and Madungu for field enumerators and supervisors for Pemba. Emphasis was placed on training the enumerators and supervisors in consistency checks. Tests were given to the enumerators and supervisors and those who did well were selected for the actual field work.

1.3.7 Information, Education and Communication (IEC) Campaign

Strategies for sensitization were prepared during the initial stage of the project and involved the forming of the IEC team. The IEC team of Zanzibar Poverty Reduction Plan (ZPRP) within the Ministry of Finance and Economic Affairs was assigned to perform this task.

Among the IEC activities were the identification of messages, choice of channels of communications and items required so as to meet the required goals.

Effective sensitization methods were used to disseminate information to a large number of people within the predetermined time period.

The IEC materials used include: -

- Logo, leaflets, T-shirts, caps.
- Radio, Television and Newspapers.

1.3.8 Data Collection

Data collection activities started on 30th, October 2003 and lasted for 10 days for both Unguja and Pemba. However, in some areas due to in call back data collection was prolonged up to a month. The data collection methods used during the census consisted of interviewing heads of households and an elaborate field organization was set up to increase the accuracy of the collected data. The enumeration was done by staff from of the Ministry of Agriculture, Natural Resources, Environment and Cooperatives. Supervision was provided by senior officers of the same ministry and the Office of Chief Government Statistician. 158 enumerators were used and additional five percent were held as reserves in case of drop outs during the enumeration exercise.

1.3.9 Field Supervision and Consistency Checks

Enumerators were trained interviewing techniques and how to probe questions to the respondents until they were satisfied with the responses given before they recorded in the survey questionnaires. The first check of the filed questionnaires was done by enumerators in the field and then by field supervisors. The second check was done by district supervisor (DADOs) who signed the questionnaire and handed them over to regional supervisors for further checking.

National supervisors then worked on all questionnaires focusing on consistency checking and when inconsistencies were found the concerned enumerators were instructed to go back to the respondent to get the correct data.

1.3.10 Data Processing

Data processing consisted of the following processes:

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

Data Entry

CSPro data base was used for manual data entry, data capturing and cleaning. The method was adopted due to the relatively small number of questionnaires compared to the Mainland where scanning and ICR data capture technology were used. Interactive validation program was incorporated to counter check the validity of entered data. Manual data cleaning was carried out before the actual data entry; this exercise was meant to assess the correctness of identifications in each questionnaire and other inconsistencies. However, latter the data was taken to the mainland where the process of ICR was done after the scanning of the Zanzibar questionnaires.

Data Structure Formatting

Following scanning, visual basics was used to harmonise with the manual entered data. The programme automatically checked and changed the number of digits for each variable, the report type code, the number of questionnaires in the enumeration area, the consistency of the area ID and saved the data of one area in a file named after the area code.

Batch Validation

A batch validation programme was developed in order to identify inconsistencies within the questionnaire. CSPro data base was used for manual data entry, data capturing and cleaning. The method was adopted due to the relatively small number of questionnaires compared to the Mainland where scanning and ICR data capture technology were used. Interactive validation program was incorporated to counter check the validity of entered data. Manual data cleaning was carried out before the actual data entry; this exercise was meant to assess the correctness of identifications in each questionnaire and other inconsistencies. After the long process of data cleaning, the tabulation were prepared based on the pre-designed tabulation plan.

Tabulation

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

Analysis and Report Preparation

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

Data Quality

A great deal of emphasis was placed on data quality throughout the whole exercise, from planning, questionnaire design, training, supervision, data entry, validation and cleaning/editing. As a result of this, it is believed that the census is highly accurate and representative of what it was experienced at the field level during the Census year. With very few exceptions, the variables in the questionnaire are within the norms for Zanzibar. Standard Errors and Coefficients of Variations are presented in the Technical Report (Volume 1)

2.0 FUNDING ARRANGEMENTS

The Agricultural Sample Census was financially supported mainly by the United Nations Development Programme (UNDP) Other funds for operational activities mainly came from the Government of Zanzibar ,the Government of Japan. Technical assistance was funded mainly by the European Union with some inputs provided by DFID and JICA. The management of the technical assistance was by the FAO, ULG and Scotts Agriculture Consultants

2. CROP RESULTS

This section analyze the census results relating to types of crop holdings, types of crops, crop production and husbandry, land and input use, storage, marketing, processing, investment and use of credit for improved agricultural production, agro-forestry and extension services. The data were obtained through systemic statistical methods. As this was the first census on crop production, the analysis of the data does not include trends of production, input use, services etc. because there was no other information to compare with the present figures.

At the time of the 2002/03 agricultural census there were 96,522 agricultural households (those involved in crops and/or livestock production). About 96,221 households (99.7 percent of the agricultural households) engaged in crops production. Some households cultivated crops in both long and short rainy seasons. Most of the holdings cultivated annual crops in the long rainy season (81 percent) compared to only 31 percent of the crop growing households which grew the crops in the short rainy season. A total of 78,274 hectares were planted with annual crops; 67,216 hectares in long rainy season and 11,058 hectares (a sixth of the area) in short rainy season (Table 2.1).

Table 2.1 Number and Percentage of Crop Growing Households in Long and Short Rainy Seasons by District, during 2002/03 Agricultural Year

District	Short Rain			Long Rain			Total Crop Growing Households	Total Planted Area(ha)
	Number of Households	Percent	Planted Area(ha)	Number of Households	Percent	Planted Area(ha)		
North 'A'	7,176	51	2,400	11611	82	8820	14080	11220
North 'B'	1,879	21	801	7498	86	6670	8758	7471
Central	4,750	43	2,949	8086	73	7330	11145	10279
South	2,478	59	857	2089	50	995	4196	1852
West	4,493	43	1,523	6170	59	4671	10379	6194
Wete	3,312	27	968	10746	89	10477	12088	11445
Micheweni	2,347	18	479	11706	89	10819	13093	11298
Chakechake	2,026	20	608	8593	86	7890	10011	8498
Mkoani	1,521	12	472	10968	88	9543	12472	10015
Total	**29,982**	31	**11,058**	**77,467**	81	**67,216**	**96,221**	**78,274**

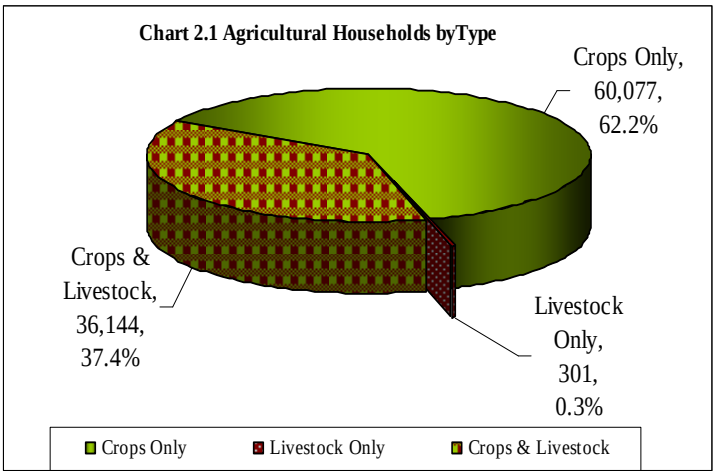
Most of the households that cultivated crops in short rainy season were in North 'A' District (7,176 households) and these accounted for 51 percent of the crop holdings within the district. South District had 2,478 households but these were 59 percent of the crop holdings within the district and Mkoani District had the least number of the households (1,521) which were 12 percent of the crop growing households within the district.

In the long rainy season, most of the crop holdings were found in Micheweni and North 'A' districts each of which accounted for 15 percent of the holdings that planted annual crops in the season but these were 89 percent of the crop holdings within Micheweni District and 82 percent in North 'A' Districts. South District contributed only three percent of the crop holdings in the season but these accounted for 50 percent of crop holdings within the district (Table 2.1).

The districts with the highest number of agricultural households were North 'A', Micheweni, Mkoani, Wete, Central and West. However, the average farming intensity (number of agriculture households per km² of land) for Zanzibar was 39 households were 59 households in North 'A', followed by Mkoani (53) and the lowest (10 households) in South District (Map 2.1 and 2.2).

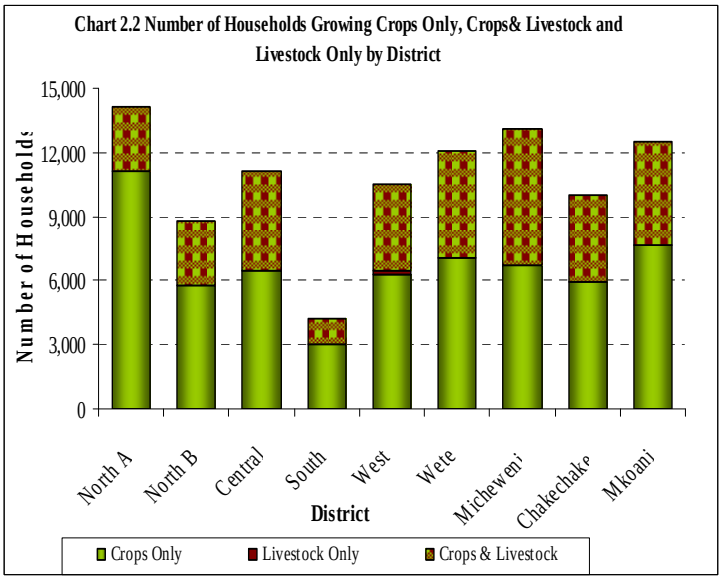
2.1 Types of Agriculture Households

Out of the 96,522 agricultural households, 62.2 percent (60,077households) were crop growing only, 37 percent (36,144 households) cultivated crops and raised livestock while less than one percent (301 households) raised livestock only and did not cultivate crops (Chart 2.1) Thus, more than 99 percent of the agricultural households cultivated crops. There was no pastoralists practice in Zanzibar.



Crop Only

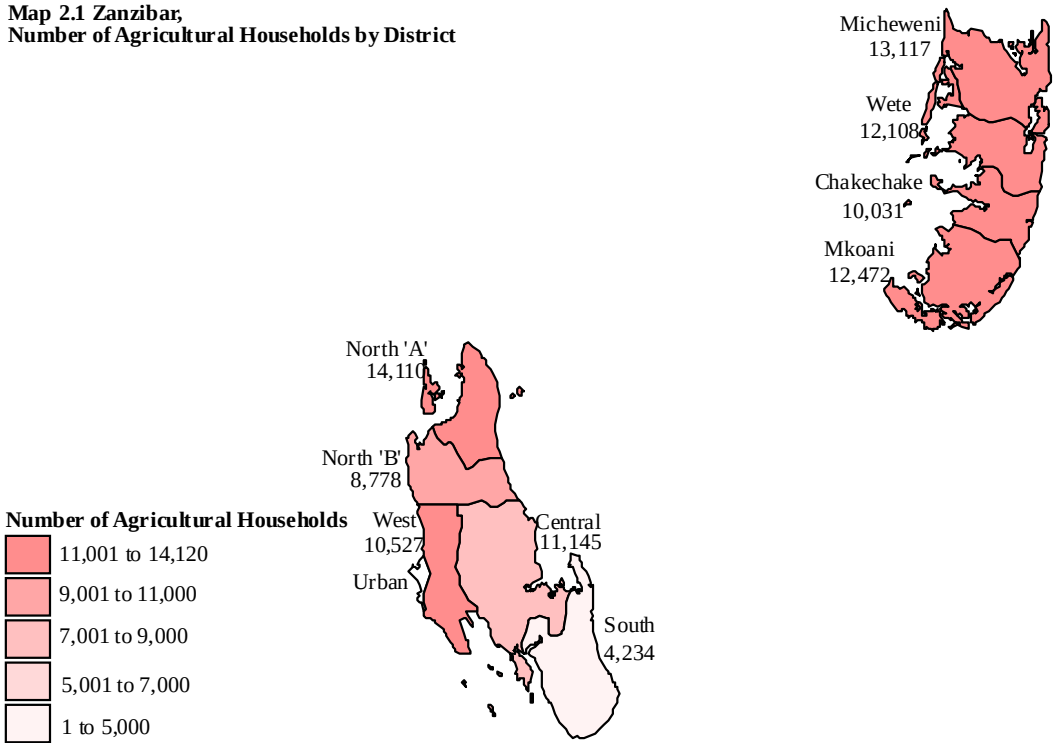
In Zanzibar crop farming is more important than livestock keeping with 99.7 percent (96,221 households) of the smallholders involve in crop production. From the total of 60,077 crop growing households that are involved in crop only production North 'A' District had the highest number (11,121households, 18.5percent), followed by Mkoani District which account (7,641households, 12.7percent), Wete (6,334 households, 11.8 percent), Central (6,494households, 10.8percent), West District (6,334households, 10.5percent, Micheweni 6703households, 11.2percent), while South district account for (2,988households, 5 percent only) (Chart 2.2).



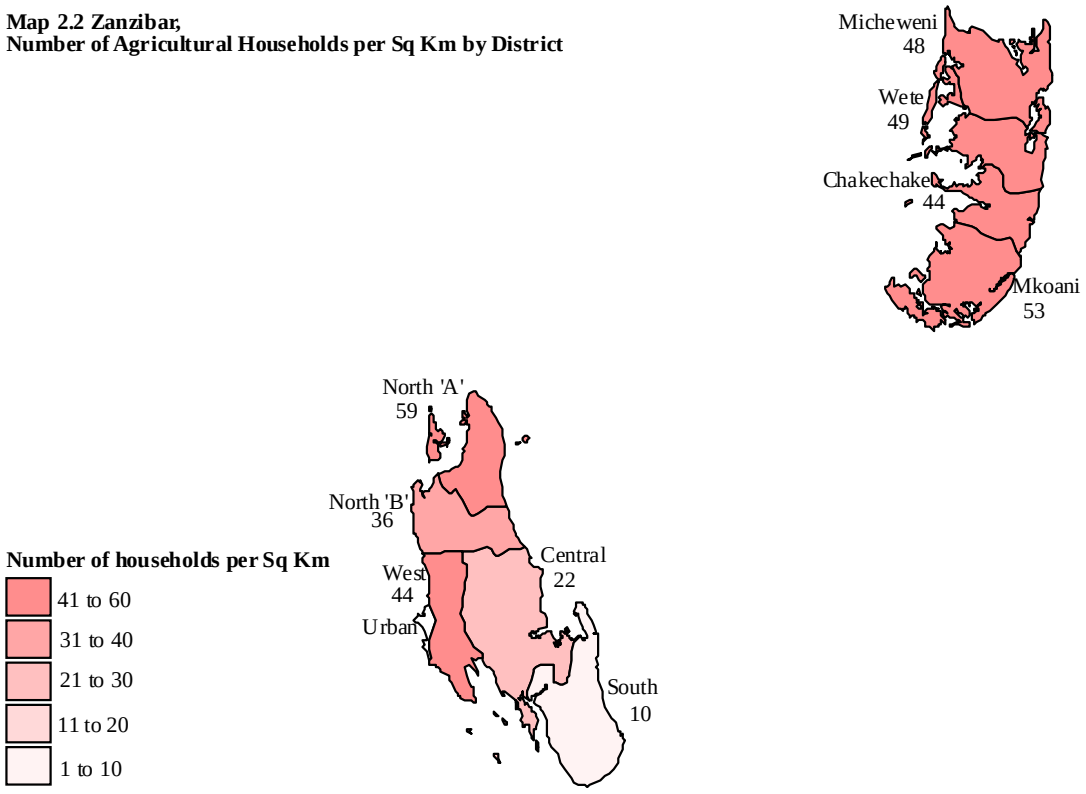
Crop and Livestock

About 36,144 households cultivated crops and kept livestock. Micheweni District accounted for 18 percent, followed by Wete 14 percent, central 13 percent, West and Chakechake 11 percent each and South District had three percent of the households.

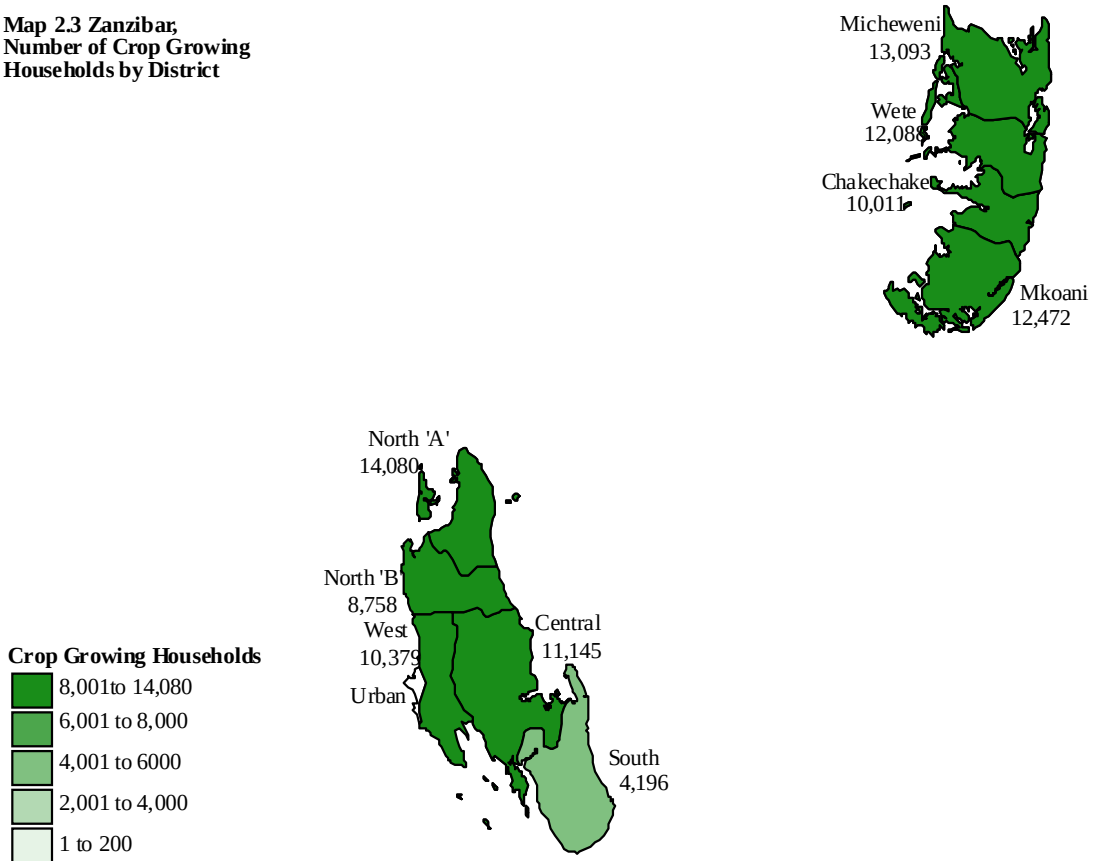
Map 2.1 Zanzibar,
Number of Agricultural Households by District



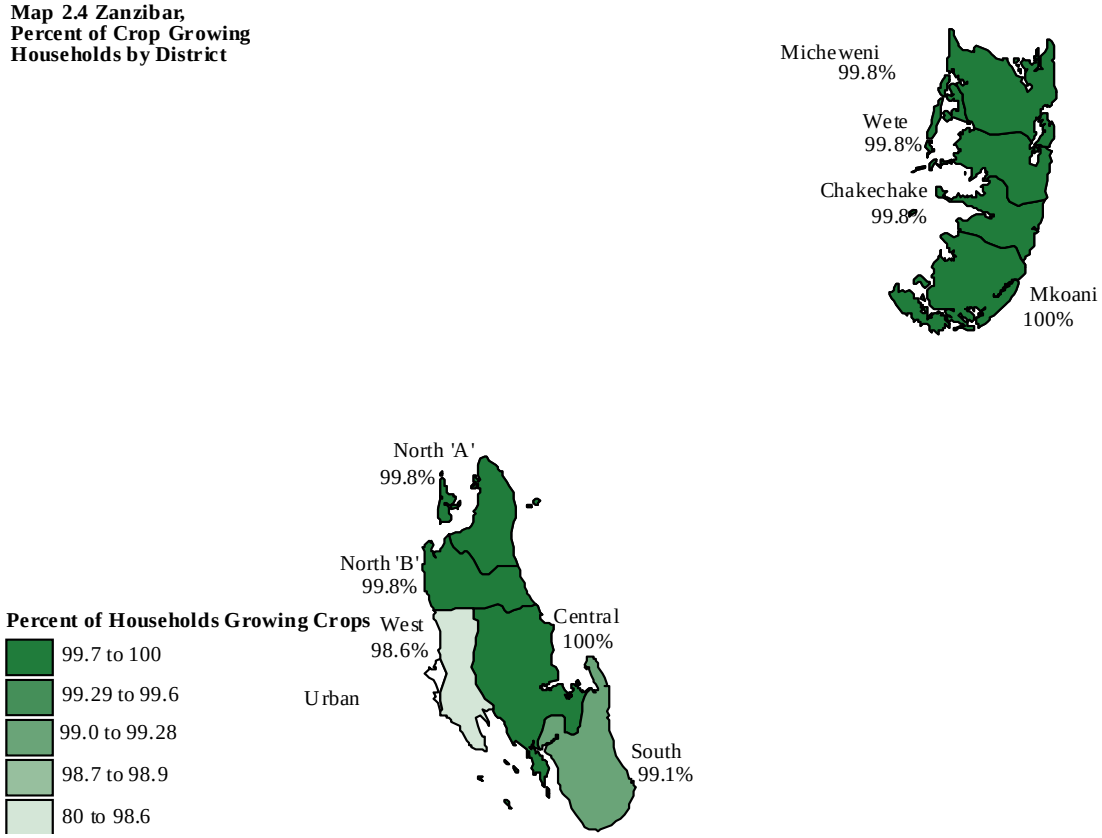
Map 2.2 Zanzibar,
Number of Agricultural Households per Sq Km by District



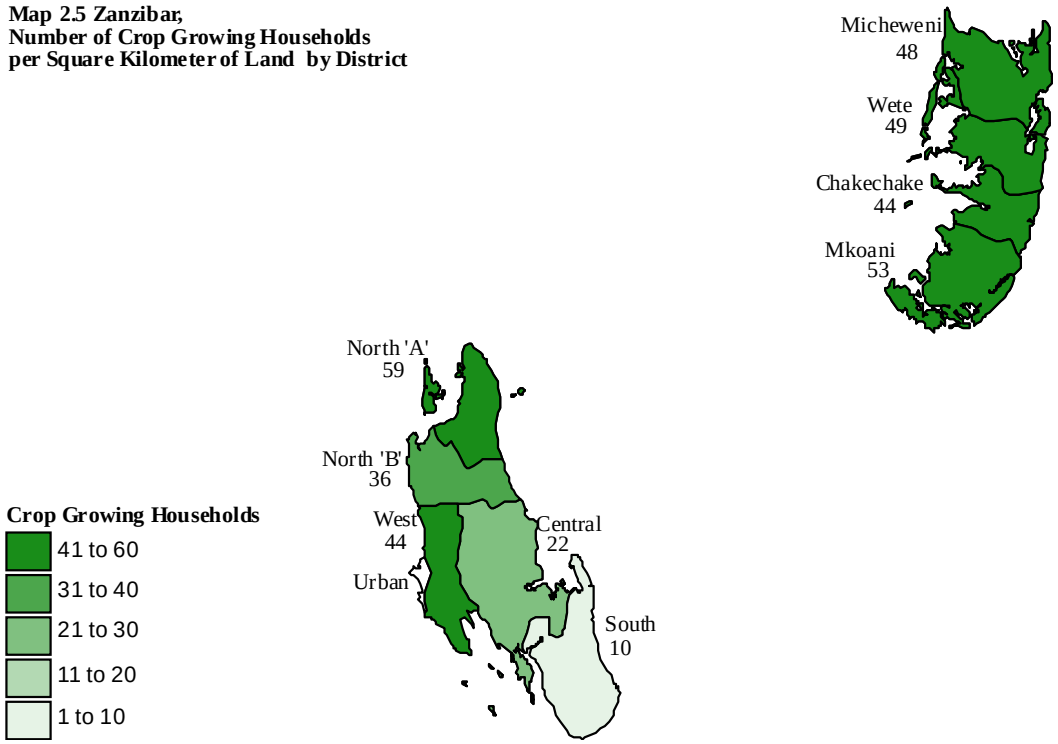
**Map 2.3 Zanzibar,
Number of Crop Growing
Households by District**



**Map 2.4 Zanzibar,
Percent of Crop Growing
Households by District**



Map 2.5 Zanzibar,
Number of Crop Growing Households
per Square Kilometer of Land by District



2.2 Land Use

Land area planted and planted area are two different types of measurements. Land area planted 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 piece of land in a year.

2.2.1 Area of Land Utilised for Growing Crops

The total area of physical land available for agricultural production was 111,939 hectares. About 110,395hectares were utilized as planted land for crop production. The average utilizable area (area utilized plus area usable but not utilized) was 1.2 ha per household. About 78,274 hectares were planted with annual crops in 2002/03 agricultural year.

Table 2.2 Total Area Used for Annual and Permanent Crops and Average Area per Household by District during 2002/03 Agricultural Year

District	Planted Area(ha)						Total	Average Area (ha) per Household
	Short Rainy (Vuli)	Percent	Long Rainy (Masika)	Percent	Permanent Crops	Percent	Area Used (ha)	
North 'A'	2,400	22	8,820	13	4,226	13	15,446	1.10
North 'B'	801	7	6,672	10	2,594	8	10,067	1.15
Central	2,949	27	7,330	11	6,137	19	16,417	1.47
South	857	8	995	1	980	3	2,832	0.67
West	1,523	14	4,671	7	3,080	10	9,275	0.88
Wete	968	9	10,477	16	3,253	10	14,698	1.21
Micheweni	479	4	10,819	16	3,390	11	14,688	1.12
Chakechake	608	5	7,890	12	3,983	12	12,482	1.24
Mkoani	472	4	9,543	14	4,478	14	14,492	1.16
Total	**11,058**	**100**	**67,216**	**100**	**32,120.0**	**100**	**110,395**	

Central District accounted for 27 percent of the area planted with annual crops in short rainy season and 11 percent of the area planted in the long rainy season. North 'A' accounted for 22 percent of the area in short rainy season and 13 percent in long rainy season while Mkoani accounted for only 4 percent of the area in short rainy season and 14 percent in long rainy season. Wete accounted for 9 percent of the area cultivated in short rainy season and 16 percent in long rainy season while Micheweni accounted for only 4 percent in short rainy season and 16 percent in long rainy season. The district that had the smallest area was South with only one percent of the area cultivated in the long rainy season (Table 2.2).

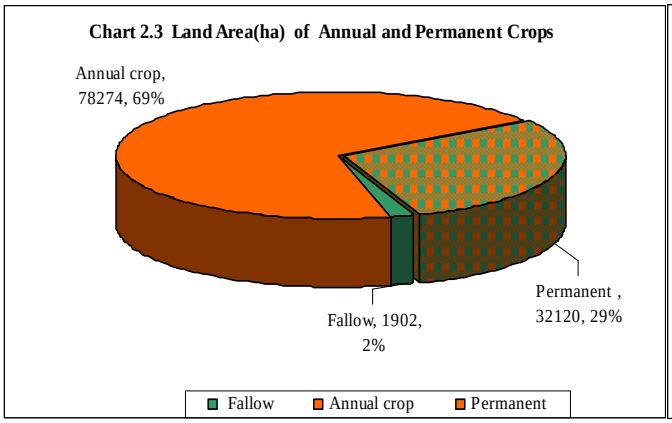
Some differences in planted area utilized per household existed between districts with Central District utilizing 1.47 ha per household followed by Chakechake 1.24ha per household, Wete 1.21ha, Mkoani 1.16 ha, North 'B' 1.15 ha, Micheweni 1.12 ha, North 'A' 1.10 ha West 0.88 ha and the lowest was South District with 0.67 ha per household (Table 2.2).

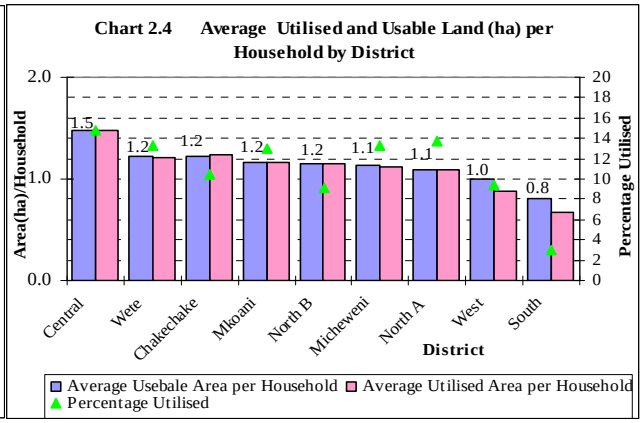
For annual crop production the highest average planted area per household was 0.95 ha. in Wete District followed by Central District (0.92 ha.) and the lowest were 0.44 ha. in South District and 0.59 ha. in West District. For other districts the average planted area ranged between 0.80 ha to 0.86 ha (Table 2.3).

Table 2.3 Average Planted Area per Household by District during 2002/03 Agricultural Year

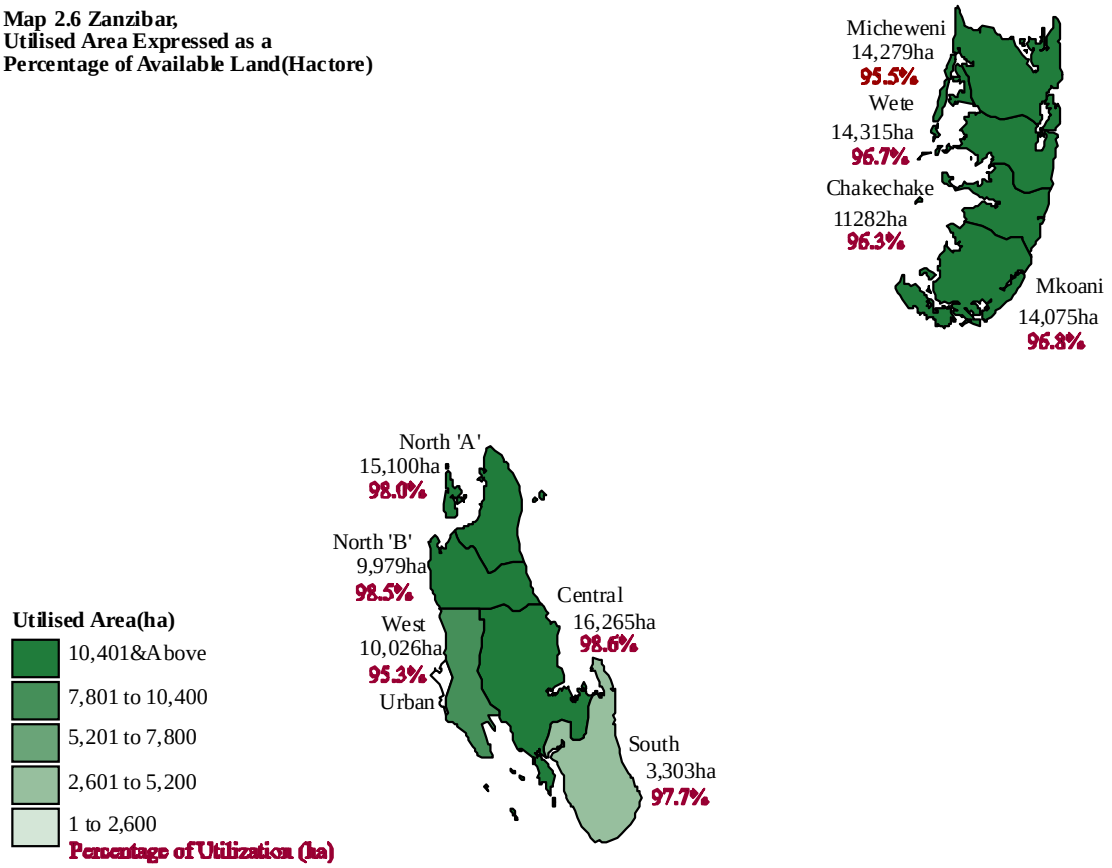
District	Planted Area(ha)								Total Crop Growing Households
	Short Rainy Season (Vuli)	Average Area per Household	Long Rainy (Masika)	Average Area (ha) per Household	Permanent Crops	Average Area (ha) per Household	Total Planted Area(Annual Crop)	Total Average Area (ha) per Household	
North "A"	2,400	0.17	8,820	0.63	4,226	0.30	11,220	0.80	14,080
North "B"	801	0.09	6,670	0.76	2,594	0.30	7,471	0.85	8,758
Central	2,949	0.26	7,330	0.66	6,137	0.55	10,280	0.92	11,145
South	857	0.20	995	0.24	980	0.23	1,852	0.44	4,196
West	1,523	0.15	4,671	0.45	3,080	0.30	6,195	0.60	10,379
Wete	968	0.08	10,477	0.87	3,253	0.27	11,445	0.95	12,088
Micheweni	479	0.04	10,819	0.83	3,390	0.26	11,299	0.86	13,093
Chakechake	608	0.06	7,890	0.79	3,983	0.40	8,498	0.85	10,011
Mkoani	472	0.04	9,543	0.77	4,478	0.36	10,015	0.80	12,472
Total	**11,058**	**0.11**	**67,216**	**0.70**	**32,120**	**0.33**	**78,274**	**0.81**	**96,221**

The average holding size was 0.11ha in the short rainy season and 0.70ha in the long rainy season. In the case of permanent crops, the highest was 0.55 ha in Central District followed by 0.40 ha in Chakechake District and the lowest was 0.23 ha. in South District and 0.26 ha. in Micheweni District. While the average holdings size 0.33ha (Table 2.3). All districts has utilized almost all of the available land for agriculture (Map 2.8)





Map 2.6 Zanzibar,
Utilised Area Expressed as a
Percentage of Available Land(Hactore)



2.2.2. Land Sufficiency

Zanzibar experienced high pressure on agricultural land. About 38,748 households (40 percent of agricultural households) reported that they did not have sufficient land for agricultural production. Many of these households (5,857) were in North 'A' District, followed by Micheweni District (5,828 households) then Wete District (5,137 households). South District had the lowest number of households (745) with insufficient land for crop production. About 47 percent of households in North 'B' did not have sufficient land for agriculture while 18 percent of the households in the South District reported the same problem (Chart 2.5 &2.6).

Chart 2.5 Number of Households Resporting to Sufficiency of Land

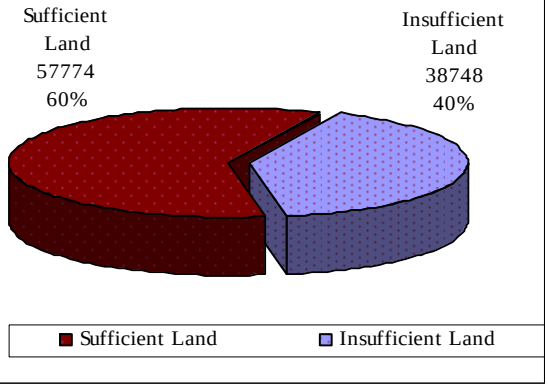
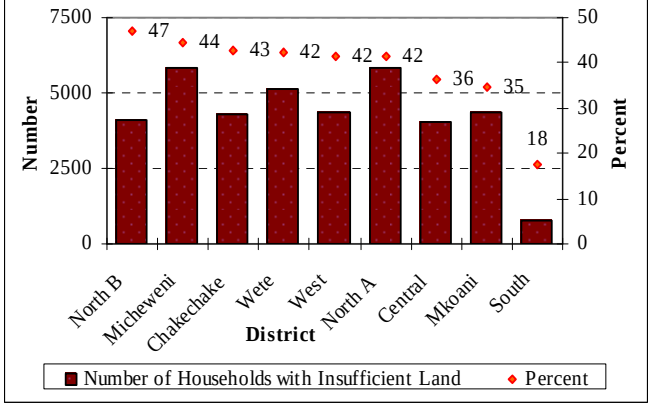


Chart 2.6 Number and Percentage of Households Resporting Insufficient Land by District

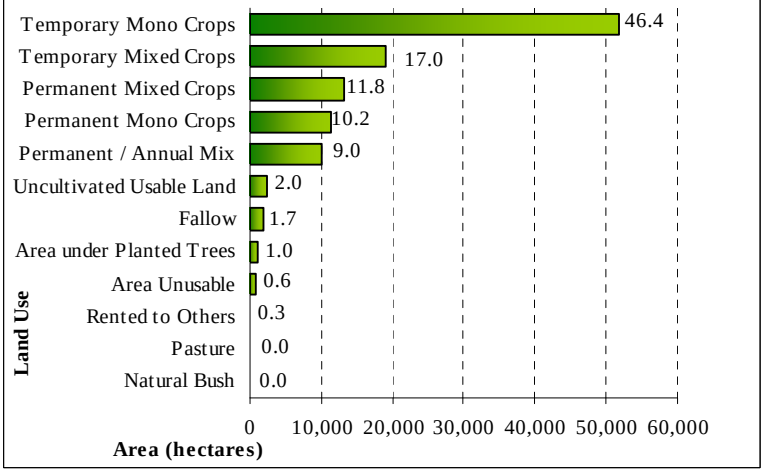


2.2.3 Type of land use

About 661 hectares (one percent of the available land) were considered as an unusable or unsuitable for crop growing unless advanced technology was used for crop production. A total of 111,278 ha (99 percent of the available land) was used for growing different types of annual and permanent crops, pastures, forestry trees, or left as natural bush or fallow.

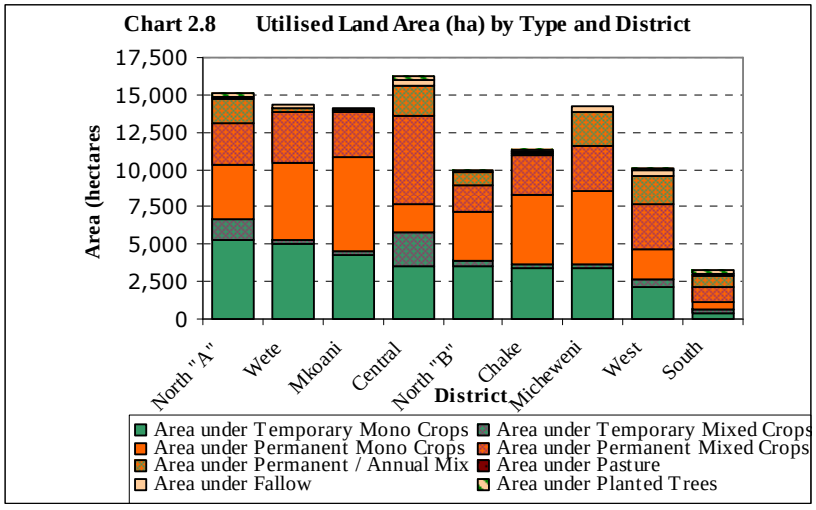
About 46 percent of the land was plated with temporary mono-crops, 17 percent with temporary mixed crops, 12 percent permanent mixed crops, 10 percent permanent mono crops, 9 percent permanent/annual mix, 2 percent was uncultivated usable land, 2 percent fallow land, 1 percent occupied by forest trees, 1 percent as land not usable for agriculture while rested area pasture land and natural bush each individually occupied less than one percent of the land (0.05, and 0.04 respectively) (Chart 2.7).

Chart 2.7 Land Area by Type of Use



Annual mono crops were cultivated on 65,008 hectares. North 'A' District accounted for 13 percent of the land, Wete 16 percent and Mkoani 15 percent. North 'B' 10 percent, Micheweni and Chakechake accounted for 15 and 12 percent respectively. South District accounted for only one percent of the land.

Chart 2.8 Utilised Land Area (ha) by Type and District



Temporary mixed crops were planted on 5,869 ha of which Central District accounted for 37 percent of the land, North 'A', West, and Chakechake Districts had 23percent, 8 percent and 5 percent respectively. The rest of the districts collectively accounted for 27.1 percent of the land.

Permanent mono-crops occupied 32,312 ha. Most of such land was planted with clove trees. Mkoani District accounted for 20 percent of the land, Wete 16 percent, Micheweni 15 percent and Chakechake 14 percent. North 'A' and North 'B' accounted for 11 and 10 percent of the land respectively. South District account only 2 percent.

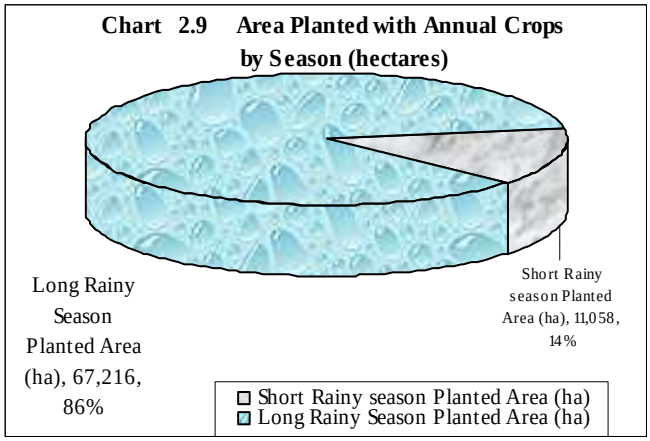
Permanent mixed crops occupied 26,349 ha. Central district accounted for 23 percent of the land, Wete 13 percent, West 12 percent, North 'A', Micheweni and Mkoani districts with about 11 percent each and South District accounted for only four percent.

Established forest trees were planted on 1,094 ha. Central and South districts jointly accounted 49 percent of that land while North 'A' and North 'B' accounted for 19 percent and 10 percent respectively. West district accounted for about 12 percent of the land. Micheweni, Chakechake and Mkoani jointly accounted for 10 percent of the land. Wete District did not have an area with planted trees (Chart 2.8).

2.3 Annual Crop Production

In Zanzibar, rainfall intensity and availability is a key determinant for crop production and productivity. Draught, little and delayed rainfall often causes reduced harvests. Zanzibar has two main rainy seasons; the long rainy season (Masika) and the short rainy season (Vuli). Long rainy season is more reliable. Some short rains other than Vuli are occasionally experienced and in most cases they increase the abundance of yields.

Chart 2.9 Area Planted with Annual Crops by Season (hectares)

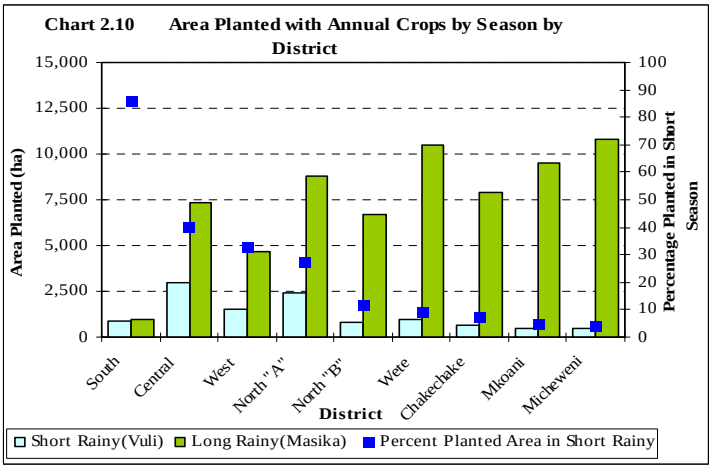


2.3.1 Area Planted

The total area planted with annual crops during 2002/03 Agriculture Year was 78,276 ha of which 67,216 ha. (86 percent) were planted in the long rainy season and 11,058 ha. (14 percent) were planted in the short rainy season (Chart 2.9 and Map 2.7).The total area planted with annual and perennial crops was 110,395 ha.

Small holders mostly planted annual crops on the same piece of land for both long and short rainy season production. In all districts, more land is cultivated in the long rainy season for annual crop production. Micheweni used 10,819ha, which was the largest, followed by Wete District 10,477ha. Whilst South and West Districts had the smallest areas (995 and 4,671ha respectively). For short rainy season, the largest areas were planted in Central District followed by North 'A' and the smallest areas were in Mkoani and Micheweni Districts (Chart2.10).

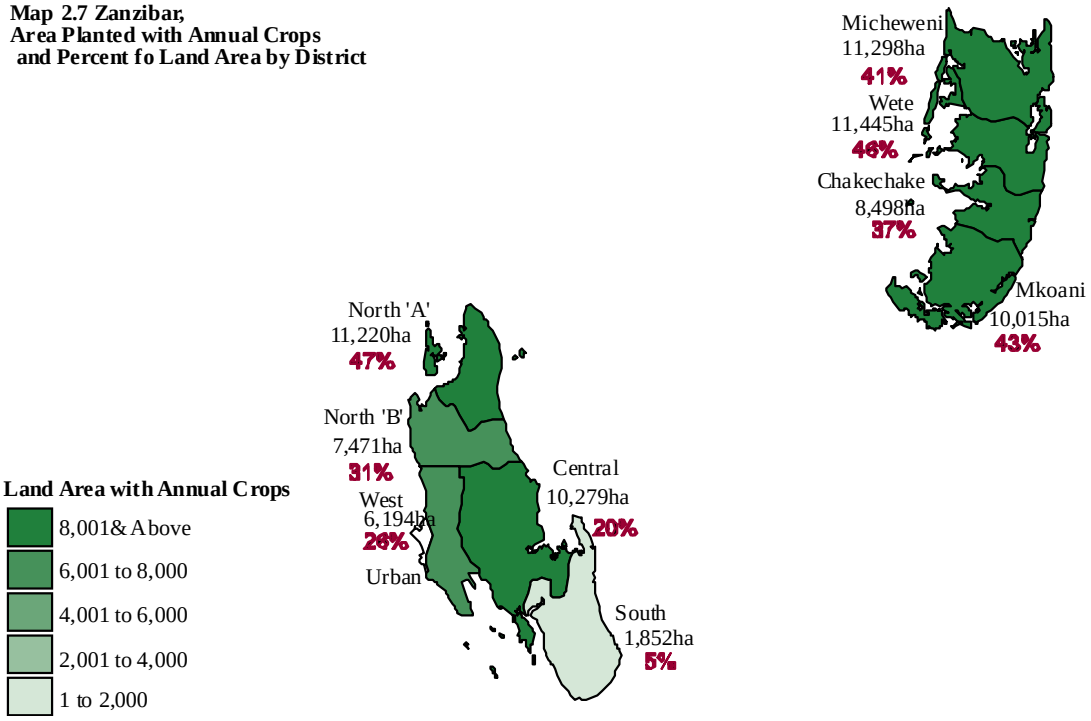
Chart 2.10 Area Planted with Annual Crops by Season by District



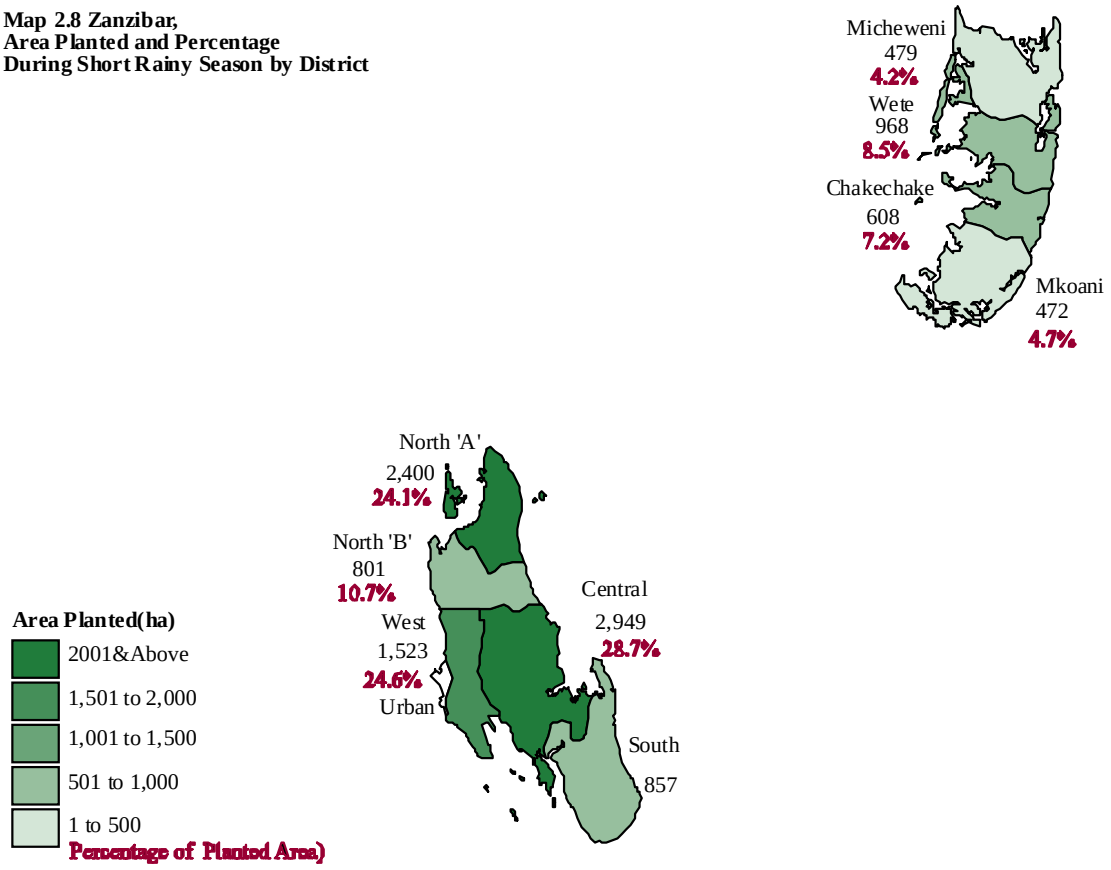
The average planted area for annual crops was 0.81 ha per crop holding. During long rainy season, the average was 0.70ha. and in the short rainy season it was 0.11ha. Wete District had the highest average planted area (0.87ha.) for annual crops in the long rainy season followed by Micheweni and Chakechake (0.83ha and .79ha respectively). While West District (0.45ha.) and South District (0.24ha.) had the lowest areas. During the short rainy season, Central District had the highest

average planted area (0.26ha.) followed by North 'A' (0.17ha.) while Micheweni and Mkoani (0.04ha.each) and considered as the lowest average area per household (Chart 2.11).

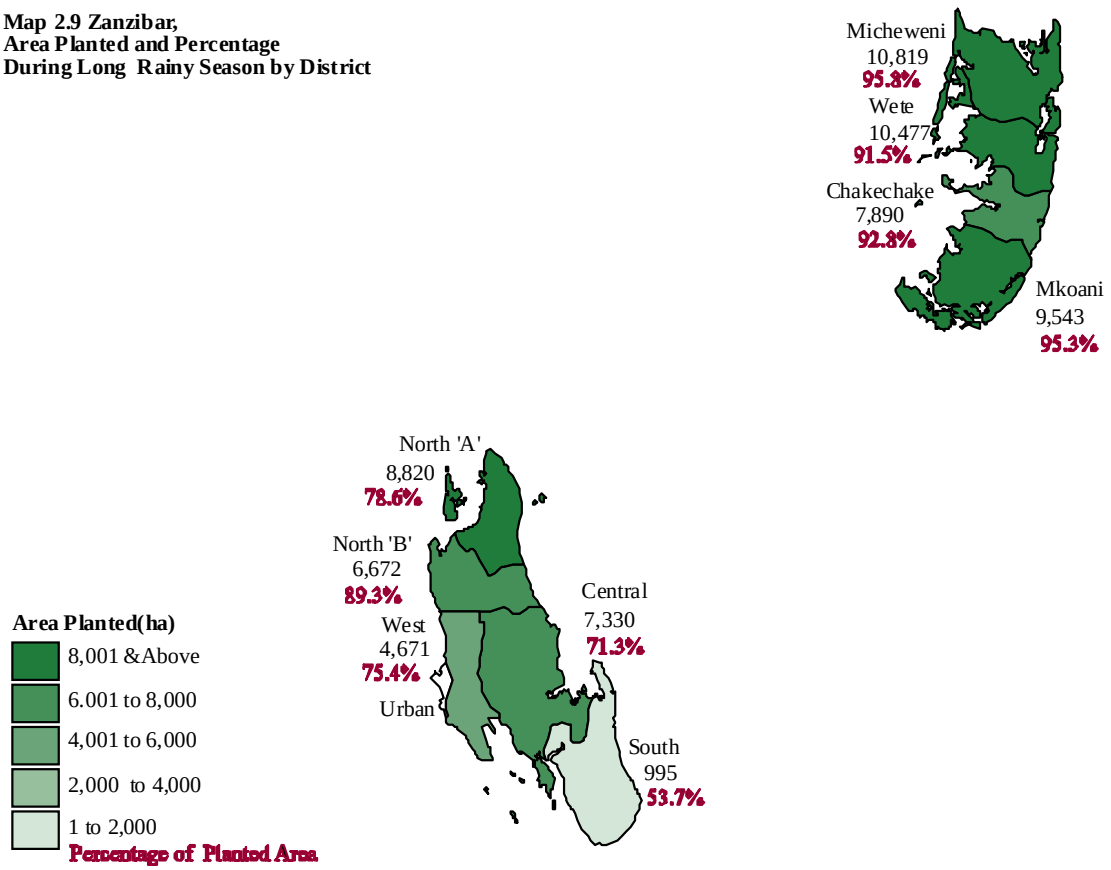
Map 2.7 Zanzibar,
Area Planted with Annual Crops
and Percent fo Land Area by District



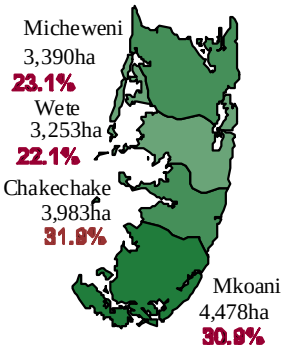
Map 2.8 Zanzibar,
Area Planted and Percentage
During Short Rainy Season by District

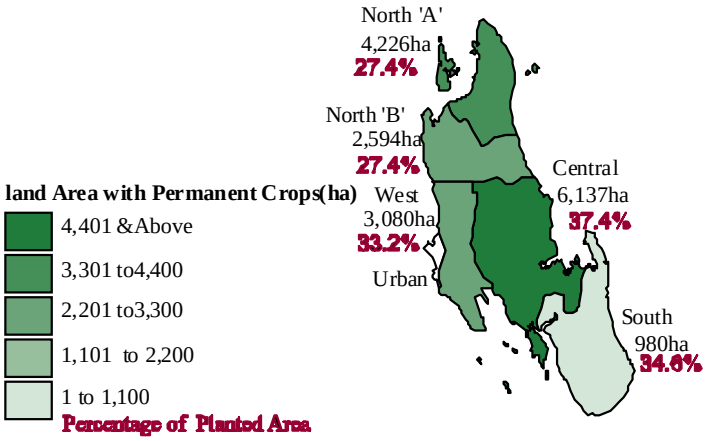


Map 2.9 Zanzibar,
Area Planted and Percentage
During Long Rainy Season by District

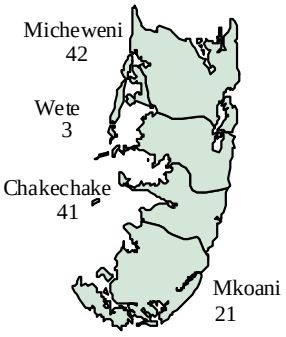


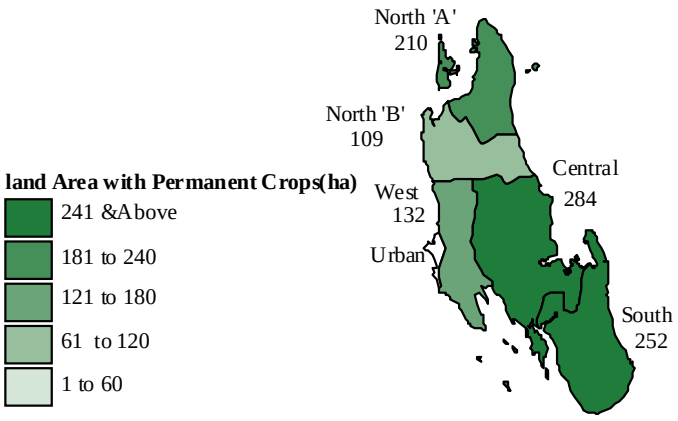
Map 2.10 Zanzibar,
Land Area and Percentage
of Permanent Crops by District





Map 2.11 Zanzibar,
Land Area of Planted Trees by District

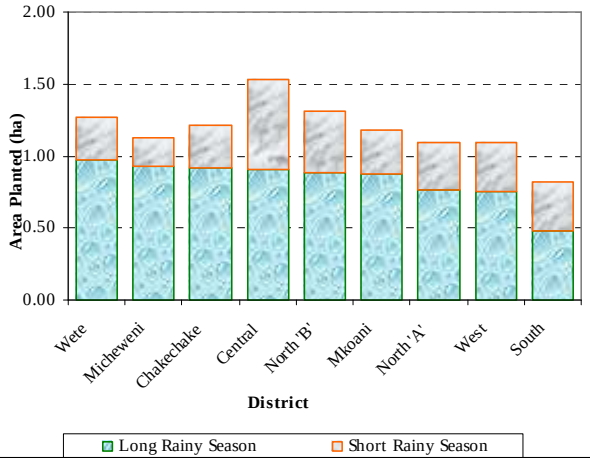




2.3.2 Analysis of the Most Important Crops

The results on crop production are presented in three different sections. The first section compares the importance of the crops regardless of whether they are annual or permanent. The second and third sections present the detailed analyses of annual crops followed by permanent crops respectively**.**

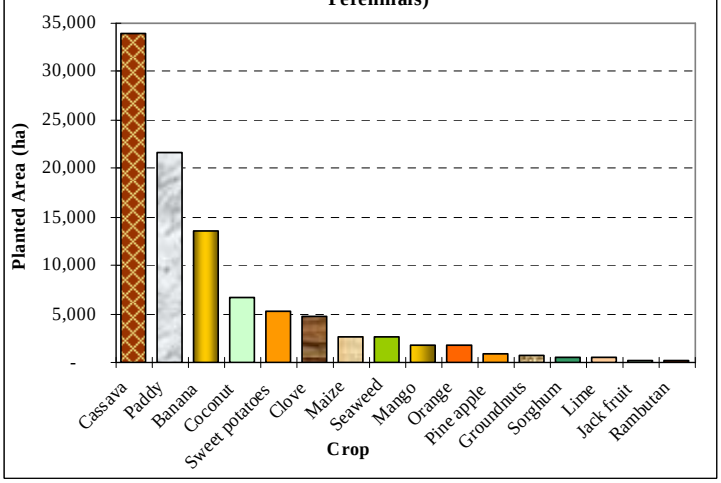
Chart 2.11 Area Planted with Annual Crops(ha) per Household by Season and District



Crop Importance

Cassava was the most dominant crop and was planted over 34,002 ha. It was followed by paddy (21,614 ha), bananas (13,572 ha.), coconut (6,730 ha.), sweet potatoes (5,231 ha.) and cloves (4,681 ha.). Other important crops included maize, seaweed, cow peas and tomatoes (Chart 2.12).

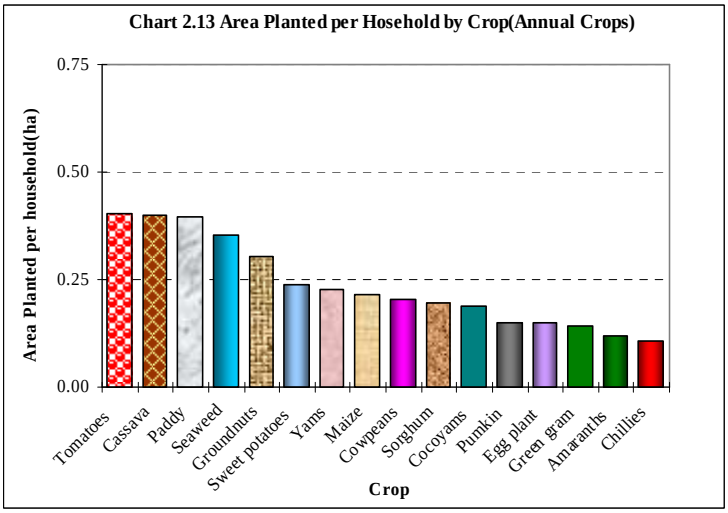
Chart 2.12 Planted Area (ha) of Major Crops (Annuals and Perennials)



Crop Area Planted per Household.

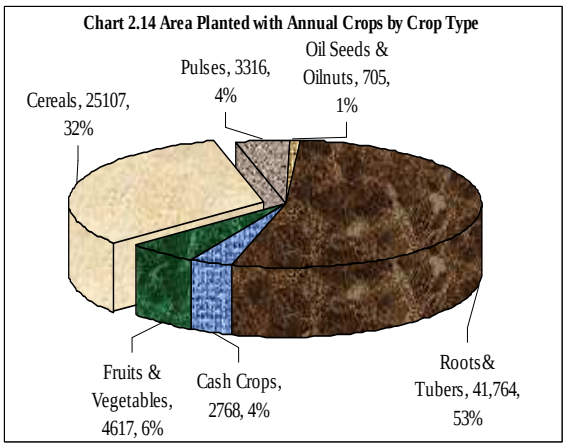
Small differences existed on the average area per household for households growing selected crops. Tomatoes, cassava and paddy growers had being lager planted areas per growing household being 0.41, 0.40 and 0.40ha respectively compared to other annual crops such as chillies and amaranths for which the average area per household'd were 0.11ha and 0.12ha respectively (Chart.2.13).

Chart 2.13 Area Planted per Household by Crop(Annual Crops)



2.3.3 Crop Types

Roots and tubers were the most important subsistence crops in Zanzibar. Out of 78,274 hectares planted with annual crops in 2002/03 agriculture year; roots and tubers were planted on 41,764 ha (53 percent of the planted area), cereals 25,107 ha. (32 percent), fruits and vegetables 4,617 ha (6 percent), pulses 3,316 ha. (4 percent), cash crops 2,768 ha.(4 percent) and oil seeds 705ha.(1percent). Vegetables were planted on very small plots and this made it difficult to establish the area for vegetables and this may have led to the underestimation of the area. (Chart 2.14)



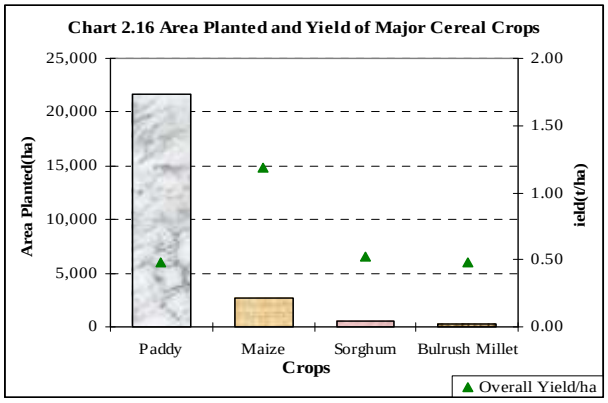
There are unequal proportions of the total planted areas for individual crops in the two seasons. Crops such as paddy, maize, sweet potatoes, groundnuts and tomatoes were mainly planted in the long rainy season. Cocoyam, eggplant and seaweed were planted on almost equal areas for the two seasons. However, yams and cowpeas were mostly planted in the short rainy season.

2.3.4 Cereals

Production

Paddy, maize, sorghum and bulrush millet were planted on area of relatively significant. Other cereals, such as finger millet were planted on very small areas while wheat and barley were not planted at all.

The total area planted with cereals was 25,106 hectares and 13,938 tonnes were produced. The production of paddy was 10,359 tonnes (74 percent of the total cereal production), followed by maize which accounted for 23 percent of the total production, sorghum (2 percent) and bulrush millet accounted for 1 percent (Map 2.12).



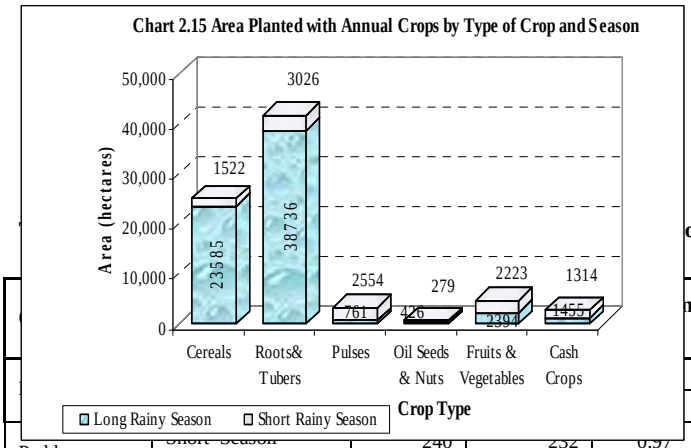
Paddy was planted on 21,614 hectares (28 percent of the total area planted with annual crops and 86 percent of the area planted with cereals), maize 2,639 hectares (11 percent of the area planted with cereals), sorghum 542 hectors (2 percent), bulrush millet 312 hectares (1 percent) and finger millet was

planted on less than 1 percent of the area with cereals. The average annual yields for paddy was 0.48 tonnes/ha., maize 1.19 tonnes/ha, sorghum 0.52 tonnes/ha and for bulrush millet 0.49 tonnes/ha (Chart 2.16).

Only 1 percent of area cultivated with paddy was planted in the short rainy season. About 38 percent of the area planted with maize, 17 percent for sorghum and 62 percent of the area planted with bulrush millet were planted in the short rainy season. However, cereal production was not considered as relatively important in the short rainy season as it accounted for only six percent of the area planted with cereals in 2002/03). Wete District accounted for 18 percent of the area planted with cereals (4,628 ha.), North 'A' and Mkoani about 16 percent each (4,060 ha. and 4,004 ha. respectively) and South District accounted only 0.4 percent (108 ha.) (Chart 2.17).

Although Central District account eight percent of the total paddy planted area but this was accounted only 4 percent of the total area within the district used for cereals production. Contrary for Wete, North 'A' and Mkoani with almost equal percentage of total planted area with cereals and percentage of land was planted of total land area of which had 18.4 to 18.7 for Wete (Chart2.17).

Chart 2.15 Area Planted with Annual Crops by Type of Crop and Season



Paddy	Short Season	240	232	0.97
	Long Season	21374	10127	0.47
Sorghum	Short Season	93	41	0.45
	Long Season	450	241	0.54
Bulrush Millet	Short Season	192	63	0.33
	Long Season	120	88	0.74
Total	Short Season	**1,522**	**1,544**	
	Long Season	**23,585**	**12,394**	

Paddy Production

Paddy is normally planted in a long rainy season but some households planted it in the short rainy season, especially in the irrigation schemes.

The number of households that planted paddy in the short rainy season was 870 and 53,680 households planted it in the long rainy season. These are accounted for 3 percent and 69 percent of the households that planted annual crops in the short and long rainy seasons respectively.

A total of 21,614 ha (28 percent of area planted with annual crops) were planted with paddy, one percent of the area was cultivated in the short rainy season and 99 percent in the long rainy season. The production was 10,359 tonnes, two percent of which was produced in the short rainy season and 98 percent in the long rainy season. The annual average yield was 0.48 tonnes/ha. but it was 1

Chart 2.17 Percentage of Area Planted (ha) and Percent of Land with Cereals by District

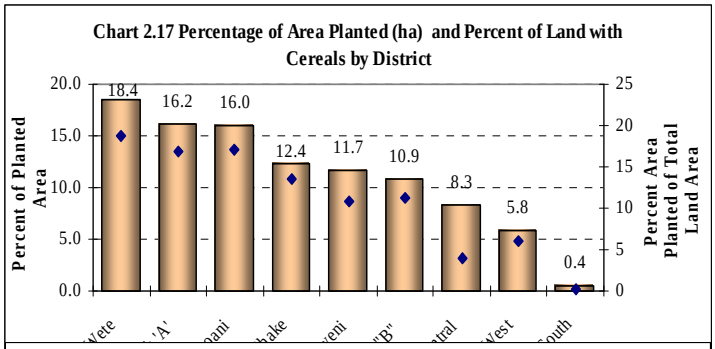
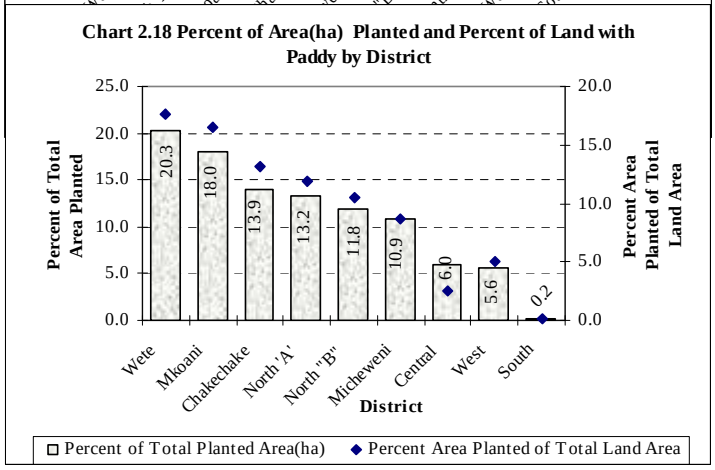


Chart 2.18 Percent of Area(ha) Planted and Percent of Land with Paddy by District

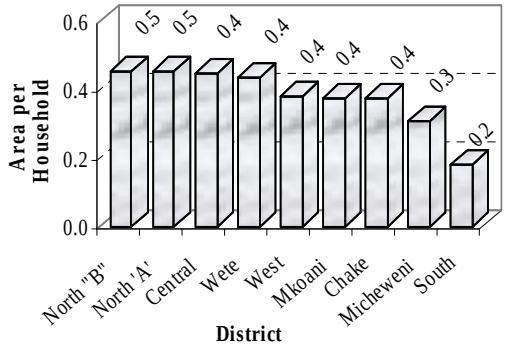


tonne/ha in short rainy season (mostly from irrigation scheme) and 0.47 tonnes/ha in long rainy season (mostly rainfed).

Paddy was mostly planted in Wete District which accounted for 20 percent (43,85ha) of the area planted, followed by Mkoani 18 percent (3,899ha), Chakechake 14 percent (3,009ha) and North 'A' 13 percent (2,856ha). South District accounted the least area which was only 0.2 percent (43ha) of the total area planted with paddy (Chart 2.18 and Map 2.13). Mkoani District (second in area planted with paddy) produced 23 percent of total paddy production, followed by Wete (18 percent of the production), then North 'A' (15 percent) and Chakechake 14 percent. South district produced less than 1 percent of total paddy production.

The crop was not planted in the South, Wete, Micheweni, Chakechake and Mkoani Districts during short rainy season.

Chart 2.19 Paddy Planted Area(ha) per Paddy Growing Household by District (Long Rainy Season Only).



Average cultivated area was 0.28 ha per household in short rainy season and 0.40 ha per household in the long rainy season. Although Wete District accounted for much of the area planted with paddy in the long rainy season, North 'B' had the largest average planted area of paddy growing household (0.46ha), followed by North 'A' and Central Districts with 0.45 ha each per household while for Wete it was 0.44ha per household and South District had the lowest paddy holding size of 0.18ha per household (Chart 2.19).

Chart 2.20 Percent of Area Planted (ha) and Percent of Land with Maize by District

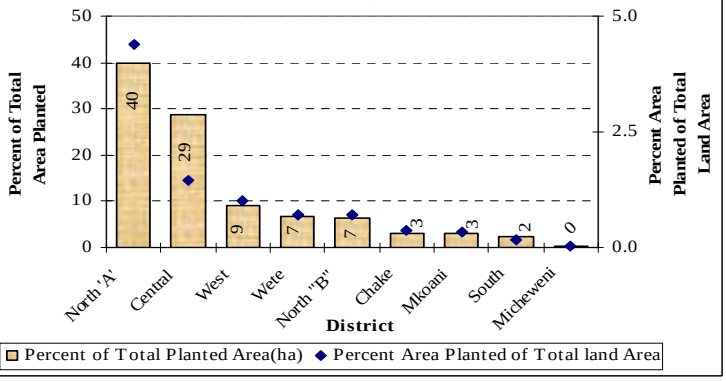
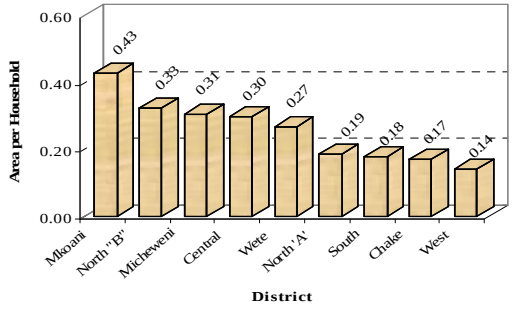


Chart 2.21 Maize Planted Area(ha) per Maize Growing Household by District (Long Rainy Season Only).



Maize Production

Maize was the second most important cereal crop after paddy. About 4,958 households grew maize in the short rainy season and 7,218 in the long rainy season. These represented 17 percent and 9 percent of the holdings that planted annual crops in the respective seasons. The annual production was 3,146 tonnes; 38 percent produced in short rainy season and 62 percent in the long rainy season. About 2,639 hectares (3 percent of area

planted with annual crops) were planted with maize, 998 ha (38 percent) in short rainy season and 1,642ha (62 percent) in long rainy season. The annual average yield was 1.19 tonnes/ha straight.

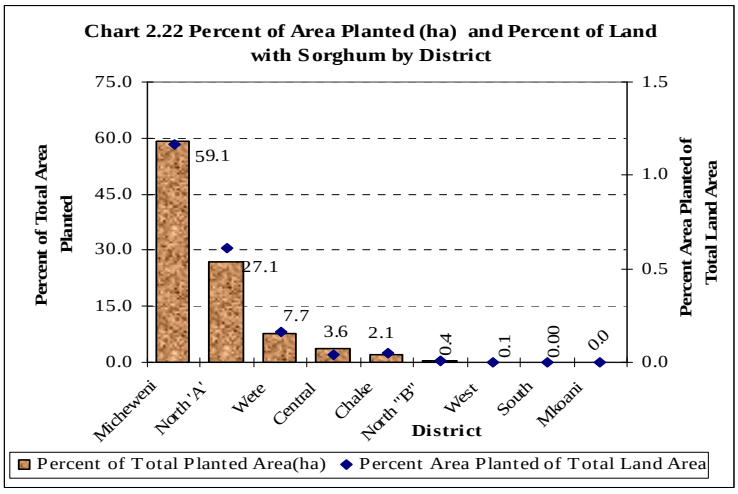
North 'A' district accounted for 40 percent of the area planted with maize but contributed only 23 percent of the maize annual production. Central district accounted for 29 percent of the area but 43 percent of the production. Wete, Micheweni, Chakechake and Mkoani Districts jointly accounted for 13 percent of the area planted with the crop and 10 percent of the annual production (Chart 2.20).

In the long rainy season, North 'A' District had the largest maize planted area (686 ha.) but had the lowest area of maize per household (0.12 ha.) The average area for maize per maize growing household was 0.23 ha and the district with the largest area was Mkoani 0.43ha (Chart 2.21).

Sorghum Production

The number of households that grew sorghum during the short rainy and long rany seasonws were 663 and 2,097 respectively. These represented 2 and 3 percent of households that planted annual crops during the respective seasons. The annual production of sorghum was 283 tonnes; 41 tonnes (14 percent) produced in short rainy season and 242 tonnes (86 percent) in the long rainy season.

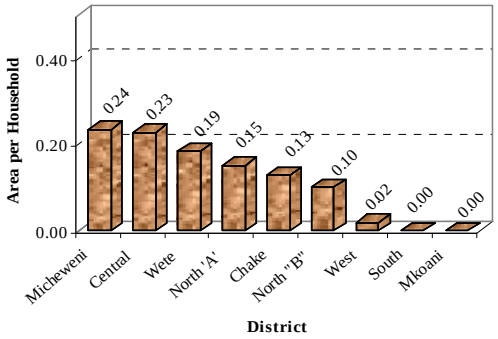
About 541ha were planted with the crop; 91ha in short rainy season and 450ha in the long rainy season. Micheweni District accounted for 59 percent of the area planted with sorghum, followed by North 'A' District (27 percent) then Wete 8 percent. West District accounted only 0.1 of the area planted with sorghum. Sorghum was not planted in Mkoani and South Districts.



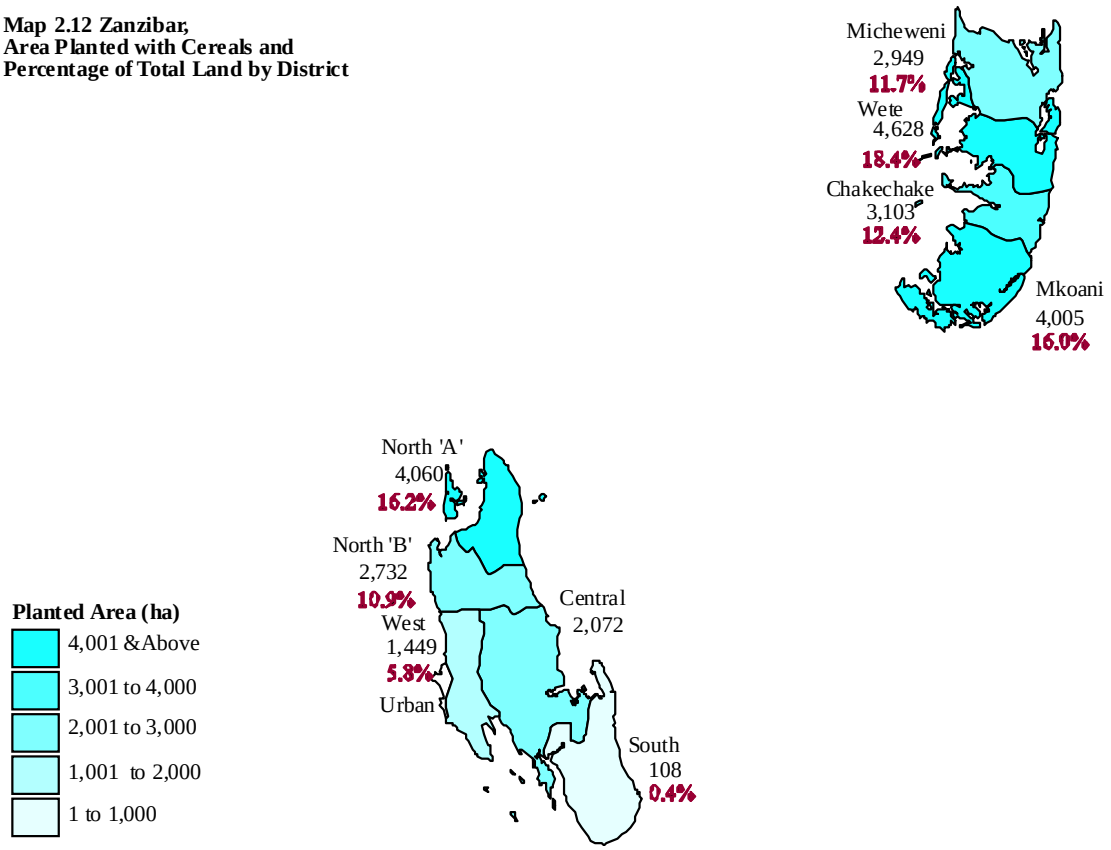
Very small proportions of the land were planted with sorghum. The district with the highest concentration of sorghum was Micheweni where 1.17 of the total land was planted with the crop, followed by North 'A' District where 0.61 percent of the land was planted with the crop. Sorghum was virtually not planted in Mkoani, West, South and North 'B' Districts (Chart 2.22).

The average planted area per sorghum growing household was 0.14 ha during the short rainy season and 0.21 ha. during long rainy season. Sorghum growing households in Micheweni District had the highest average planted area (0.24 ha.) followed by households in Central District (0.23ha per household) (Chart 2.23)

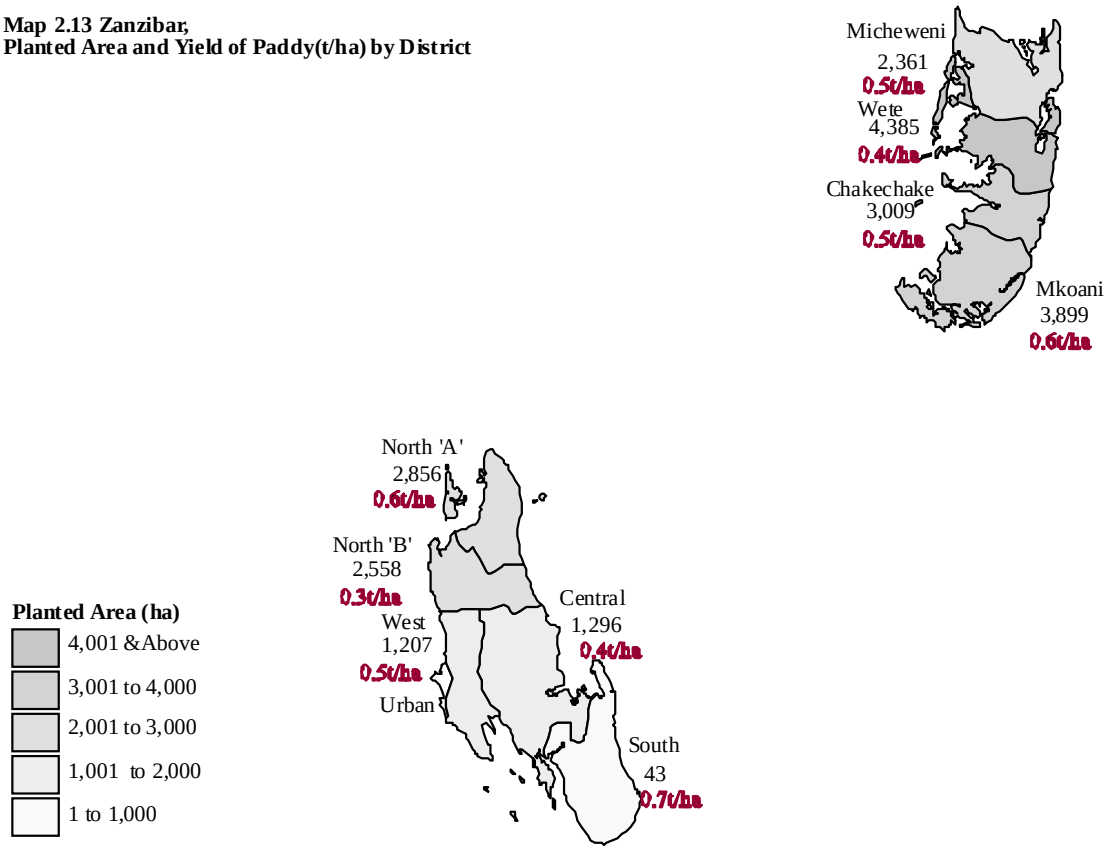
Chart 2.23 SorghumPlanted Area(ha) per Sorghum Growing Household by District (Long Rainy Season Only).



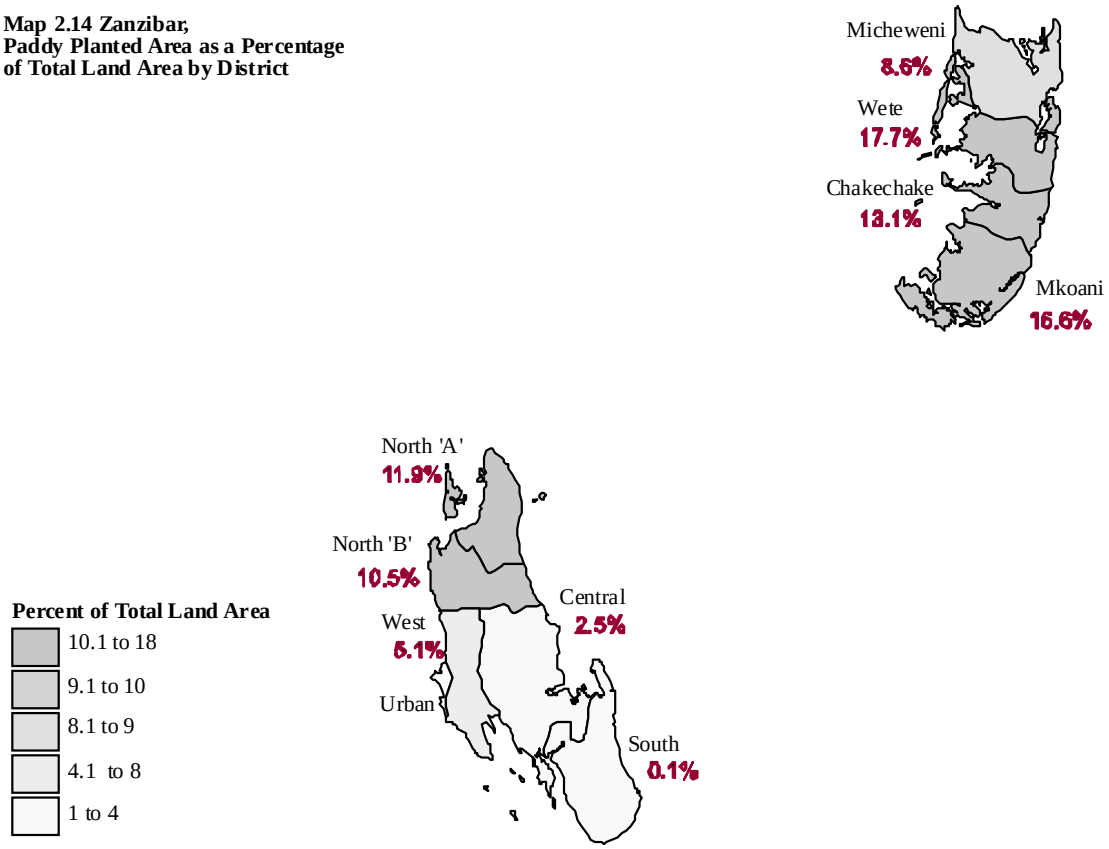
Map 2.12 Zanzibar,
Area Planted with Cereals and
Percentage of Total Land by District



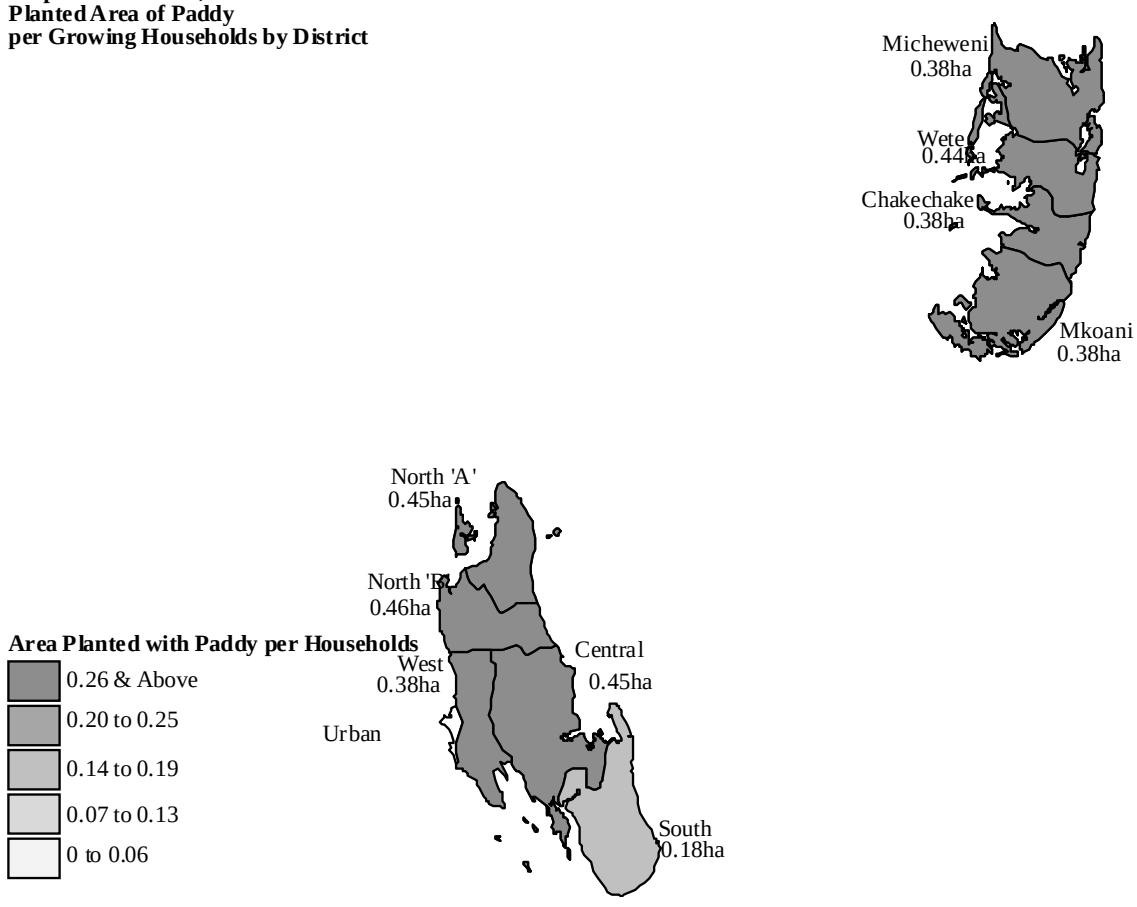
Map 2.13 Zanzibar,
Planted Area and Yield of Paddy(t/ha) by District



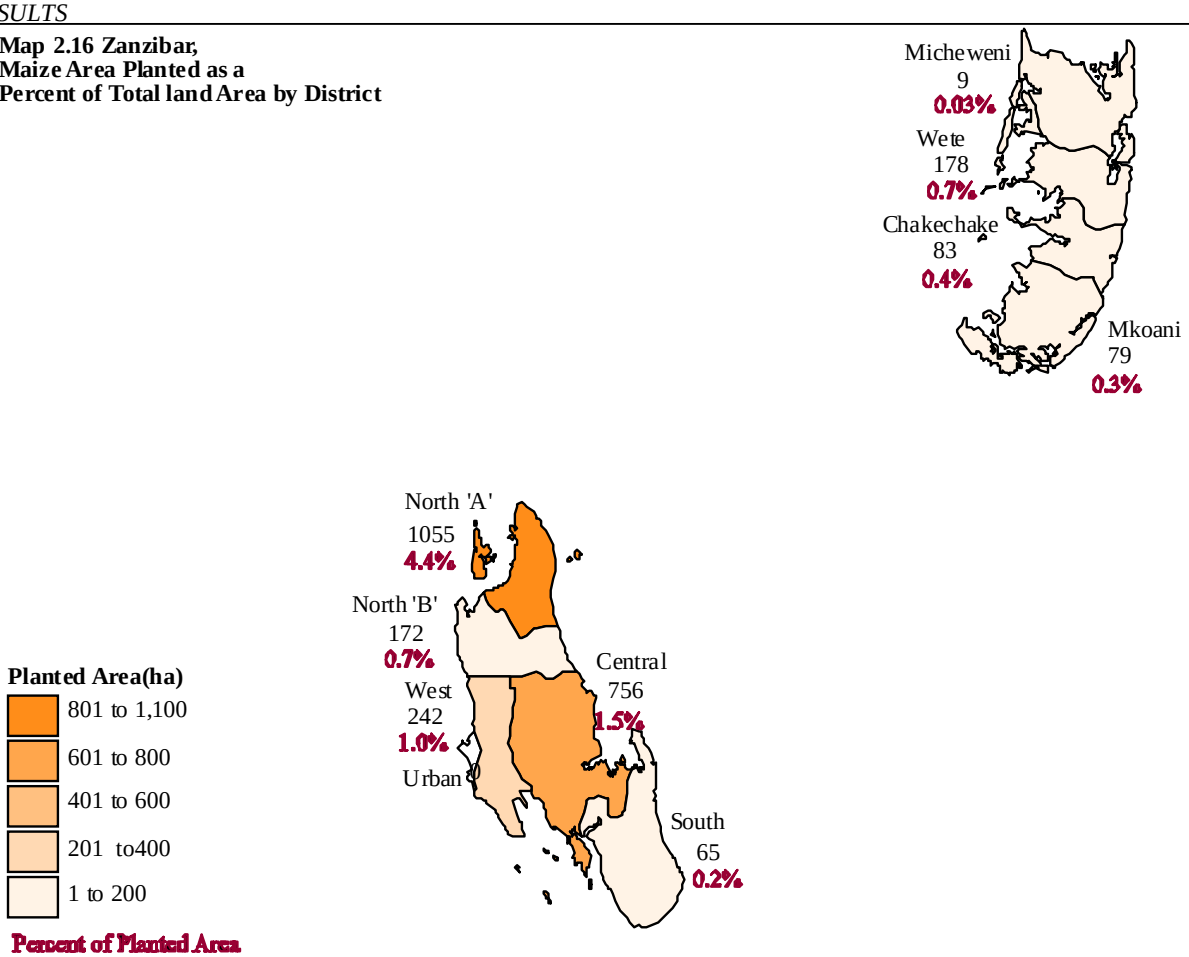
Map 2.14 Zanzibar,
Paddy Planted Area as a Percentage
of Total Land Area by District



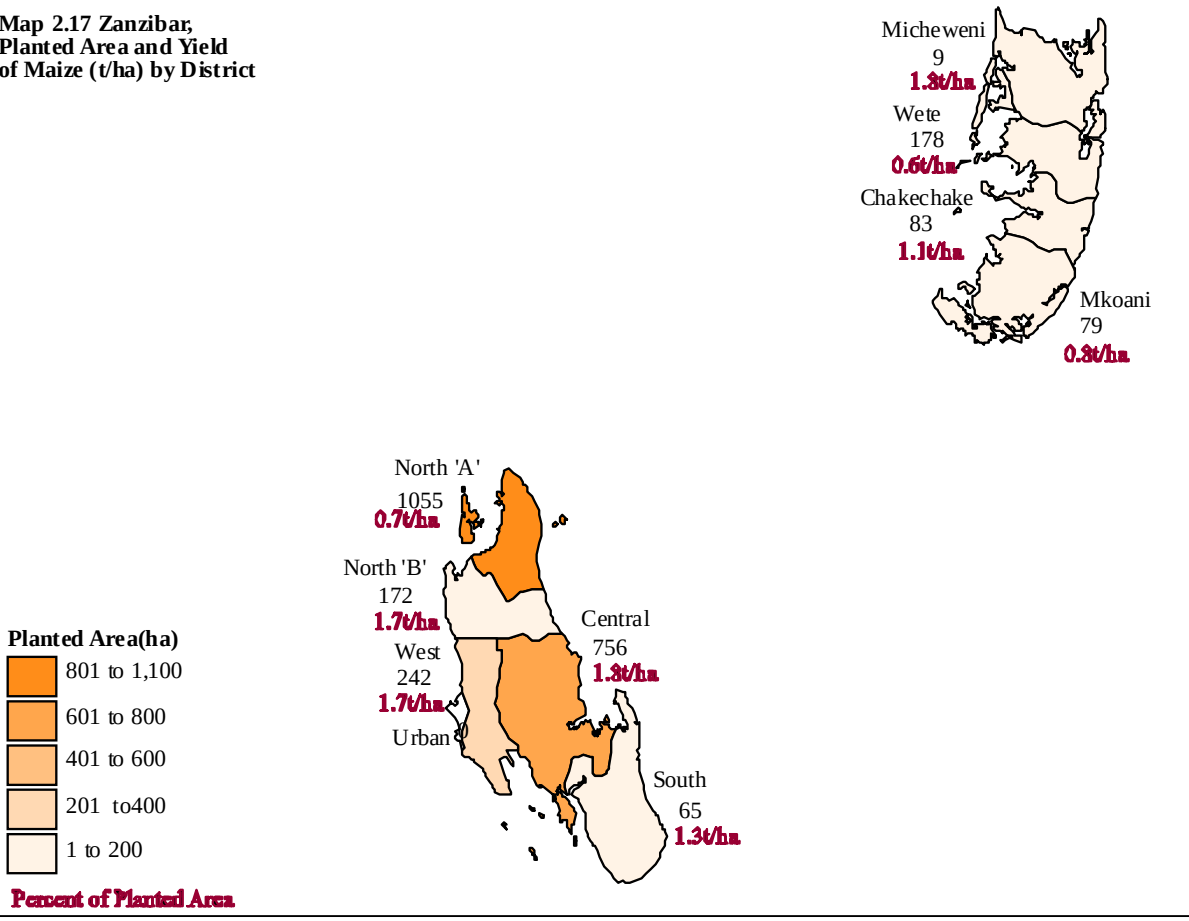
Map 2.15 Zanzibar,
Planted Area of Paddy
per Growing Households by District



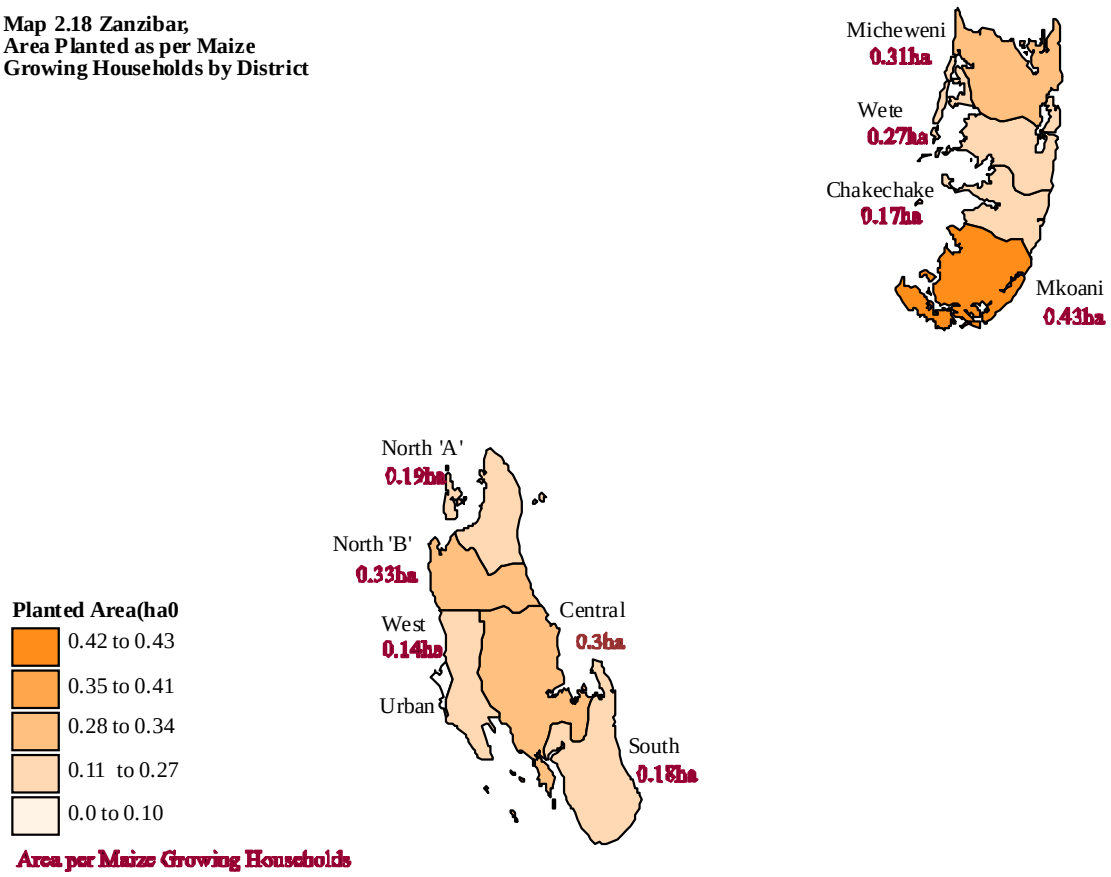
**Map 2.16 Zanzibar,
Maize Area Planted as a
Percent of Total land Area by District**



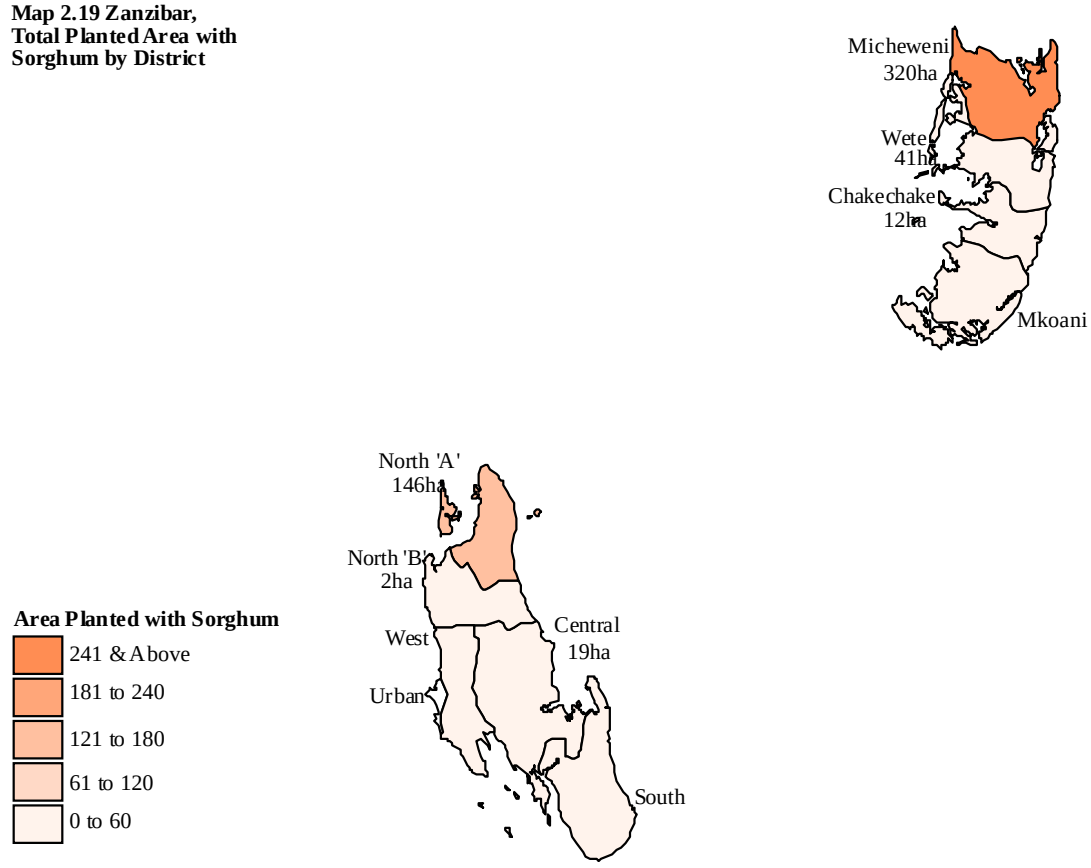
**Map 2.17 Zanzibar,
Planted Area and Yield
of Maize (t/ha) by District**



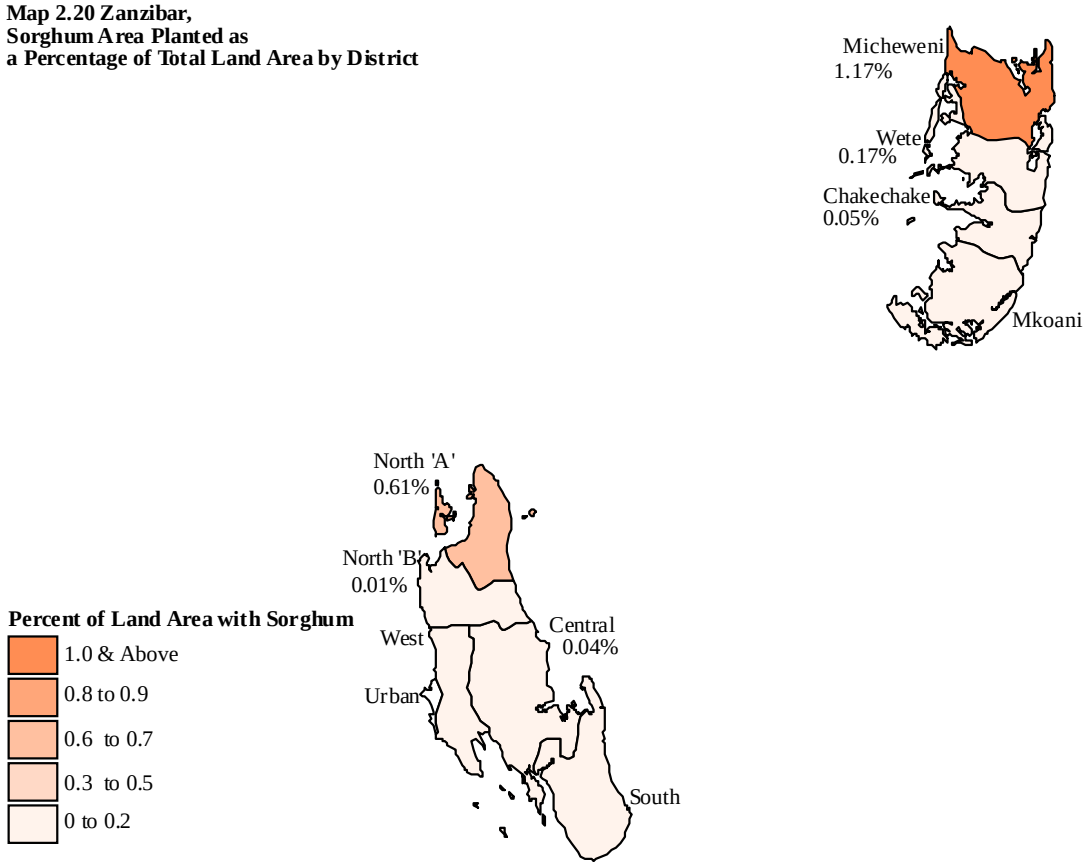
Map 2.18 Zanzibar,
Area Planted as per Maize
Growing Households by District



Map 2.19 Zanzibar,
Total Planted Area with
Sorghum by District



Map 2.20 Zanzibar,
Sorghum Area Planted as
a Percentage of Total Land Area by District



Other Cereals

Other cereals, were produced in small quantities. However, some are very important in some districts such as Bulrush millet in North 'A', Wete, Micheweni and Mkoani Districts. It was planted only during the short rainy season in North 'A' District and only during the long rainy season in Wete District. In Micheweni and Mkoani the crop was planted in both seasons. More households planted this crop in short rainy season (1,005 households) compared to long rainy season (657 households) on a total of 312 hectares; 192 ha during short rainy season and 120 ha in the long rainy season. However, production was higher in the long rainy season. The annual production was 151 tonnes. 41 percent produced in short rainy season and 59 percent in long rainy season and the annual average yield was 0.48 tonnes/ha; 0.33 tonnes/ha in short rainy season and 0.73 tonnes/ha in long rainy season.

Micheweni District accounted for 81 percent of the annual bulrush millet production and 75 percent of the area planted with the crop. This crop was not cultivated in North 'B', Central, South, West and Chakechake Districts.

Finger millet was produced in every small amount whilst wheat and barley were not planted at all.

2.3.5 Root and Tuber Crops Production

Roots and tubers are the major subsistence annual crops. The production and yield of these crops, especially cassava was higher compared to that of all cereals combined together. Root crops can grow even in areas of low soil fertility and can withstand considerable draught conditions.

About 41,765ha (53 percent of area planted with annual crops) was planted with roots and tubers. Sweet potatoes, yams and cocoyams production are presented in both short and long rainy seasons while cassava productions are presented in long rainy season only. Cassava accounted for 81 percent of area planted with roots and tubers, followed by sweet potatoes 13 percent, yams 4 percent and cocoyams 2 percent. The annual production of roots and tubers was 79059 tonnes of which cassava accounted for 86 percent, sweet potatoes 9 percent, yams 3 percent and cocoyam 1 percent (Table 2.4).

A total of 7,764 hectares were planted with sweet potatoes, yams and cocoyams. About 39 percent of the area for these crops was planted in the short rainy season and 61 percent in long rainy season. A total of 11,103tonnes of these crops were produced 37 percent in short rainy season and 63 percent in the long rainy season.

The yields of root and tuber crops, especially cassava are higher than those of cereals. This contributes the preference of root and tuber crops especially among purely subsistence households (Chart 2.24).

Table 2.5 Area Planted and Quantity Harvested by Rainy Season and Type of Root and Tuber Crop

Crop	Season	Area Planted (ha)	Quantity Harvested (tonnes)	Yield t/ha
Cassava	Short Season	0	0	0.00
	Long Season	34002	67958	2.00
Sweet Potatoes	Short Season	1488	2309	1.55
	Long Season	3743	5958	1.59
Yams	Short Season	1036	1416	1.37
	Long Season	467	609	1.30
Cocoyam	Short Season	502	404	0.80
	Long Season	526	407	0.77
Total	**Short Season**	**3,026**	**4,128**	
	Long Season	**38,739**	**74,931**	

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

Chart 2.24 Area Planted and Yield of Major Root and Tuber Crops

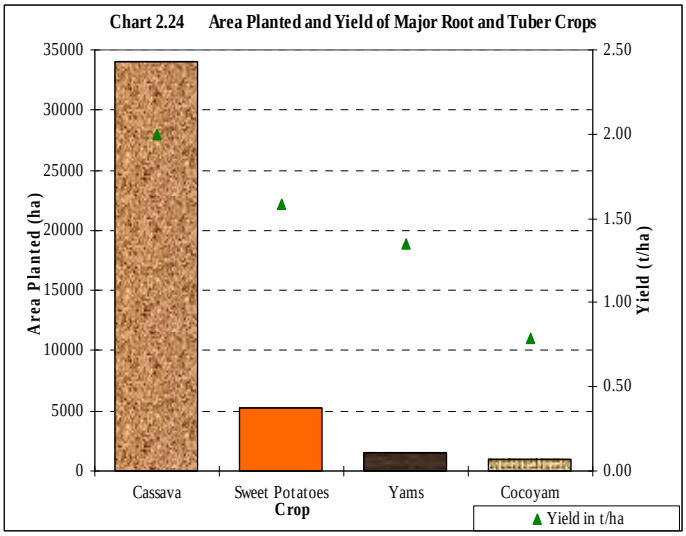
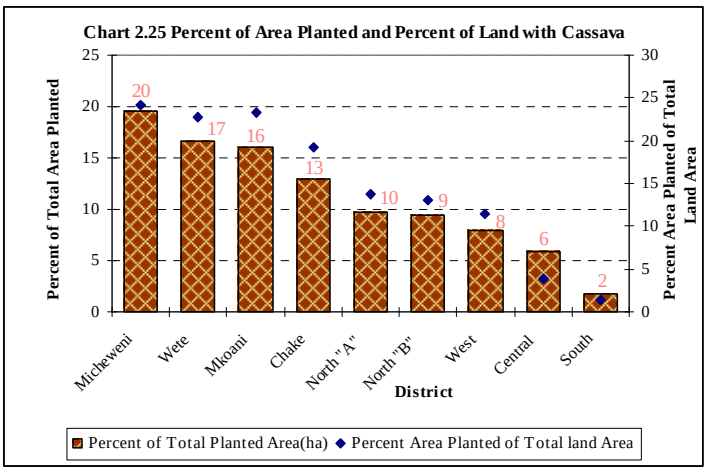


Chart 2.25 Percent of Area Planted and Percent of Land with Cassava



Cassava

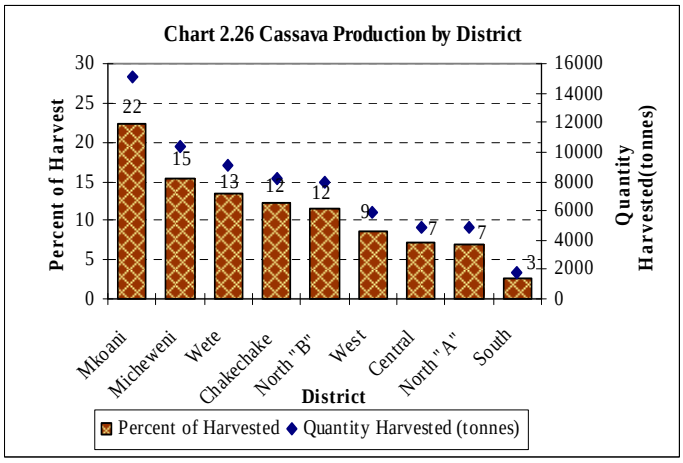
About 63,785 households planted cassava and these represented 66 percent of crop holdings and 82 percent of the households that planted annual crops in

the long rainy season. The crop's in mono or mixed stands with other annual or perennial crops.

The crop was grown on 34,002 hectares which represented 43 percent of the area planted with annual crops and 67, 958 tones were produced. The yield was about 2 tonnes/ha.

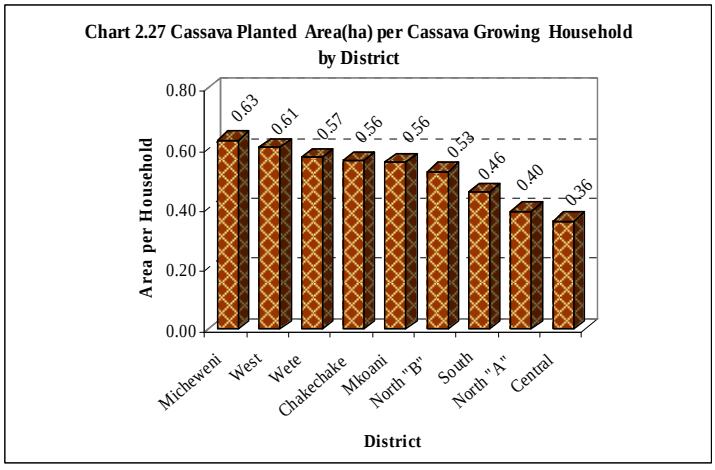
Micheweni District had the largest planted area of cassava (6,652 ha, 20 percent) followed by Wete District (5,626 ha, 17 percent), Mkoani District (5,470ha, 16 percent) and South District had the smallest area of 607ha which was about 2 percent of the area planted with cassava.

About 24 percent of Micheweni total area was planted with the cassava, followed by Mkoani (about 23 percent of the total land area), Wete (23 percent) but only about 2 percent of South District total land area was planted with the cassava (Chart 2.25and Map 2.21).



The highest production was found in Mkoani District which produced 22 percent of the total harvest. Followed by Micheweni 15 percent, Wete 13 percent and South District account for only 3 percent of the produce (Chart 2.26)

The average planted area per cassava growing household was 0.53 ha but there were differences between districts. The average planted area was largest in Micheweni (0.63 ha) followed by West (0.61 ha), Wete (0.57ha), Chakechake and Mkoani was 0.56ha each, Mkoani (0.56 ha.), North 'B' (0.53ha) and smallest for households in Central District at 0.36ha (Chart 2.27 and Map 2.23).

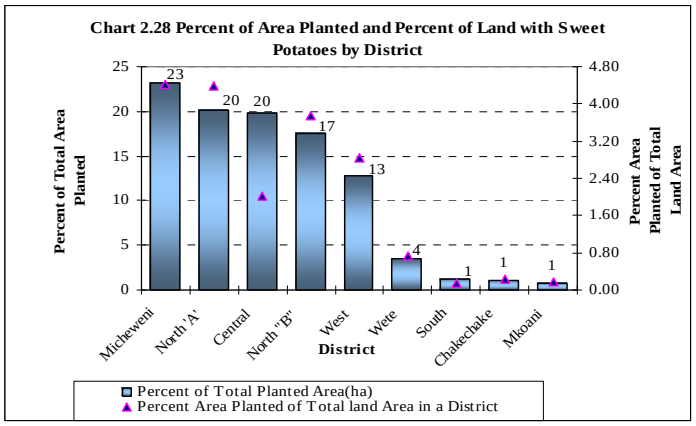


Sweet Potatoes Production

Sweet potato was the second most important root and tuber crop. The crop was planted on 5,231 ha which produce 8,268 tonnes of the crop. About 6,672 households planted sweet potatoes during short rainy season and 15,253 households planted the crop in the long rainy season. These represented 22 and 20 percent of households that planted annual crops in the respective seasons (Map 2.24).

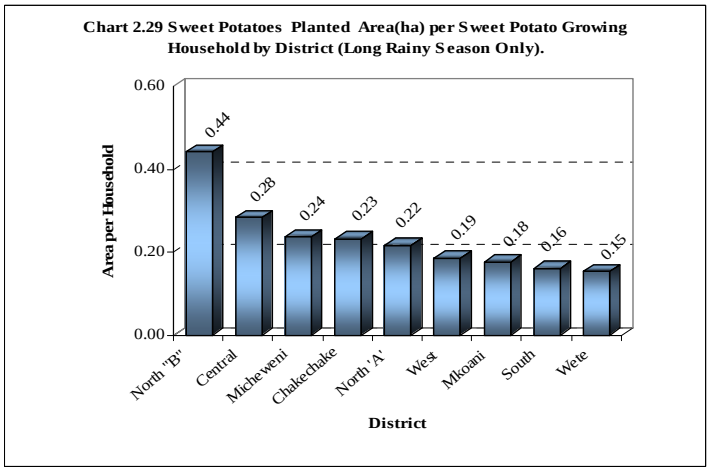
About 1,488ha of the crop were planted during the short rainy season and 3,743ha in the long rainy season. These represented 14 and 6 percent of areas planted with annual crops in the respective seasons. Micheweni District accounted for 23 percent of area planted with the crop, followed by North 'A' and Central Districts with 20 percent each, North 'B' District 17 percent while South, Chakechake and Mkoani Districts accounted for one percent each.

The district with the highest proportion of land planted with sweet potatoes was Micheweni (4.43 percent), followed by North 'A' (4.39 percent), North 'B' 3.73 percent) and the least proportions were in Mkoani and South Districts 0.16 percent of each district's area.(Chart2.28 and Map 2.25).

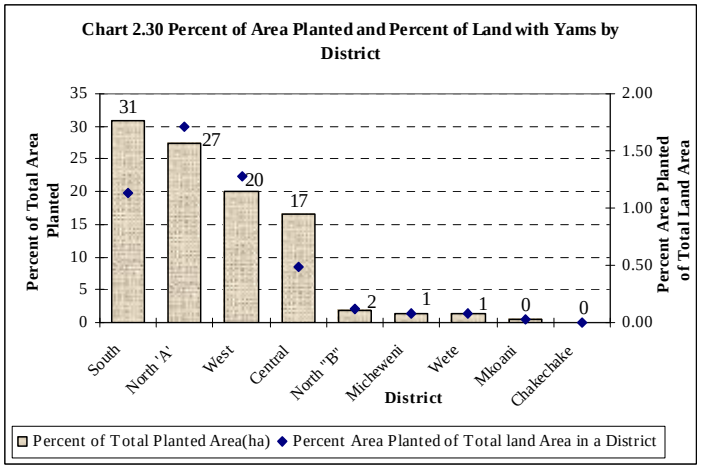


Most sweet potatoes were produced in Central District (26 percent of annual production) followed by North 'B' (22 percent), Micheweni (18 percent) and Chakechake, Mkoani and South districts each accounting for one percent.

The overall annual yield of sweet potatoes was 1.58 tonnes/ha. In the short rainy season the yield was 1.55 tones/ha, ranging from 0.80 tonnes/ha in South district to 3.03 tonnes/ha in Central District. In the long rainy season the yield was 1.59 tonnes/ha; ranging from the lowest 0.64 tonnes/ha in South district to 2.48 tonnes/ha in North 'B' (where the residual effect of inorganic fertilizers was thought to bring this improvement in production). With an exception of very few cases, sweetpotatos were cultivated on ranging from about 0.07 to 0.4 ha.



The average planted area of sweet potatoes in the long rainy season was 0.25 ha. per sweet potato growing household. However there were district variations. The area planted per sweet potato growing household in this season was 0.44ha in North 'B' followed by Central (0.28ha), The lowest average area was 0.15 ha in Wete District (Chart 2.29).



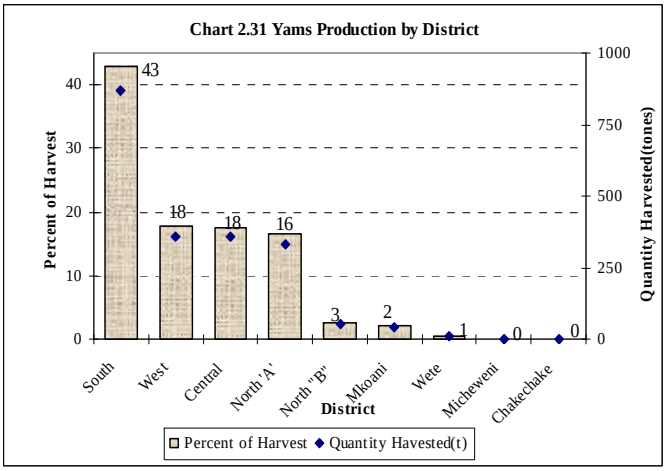
Yams Production

About 4,375 households planted yams in the short rainy season and 2,205 households in the long rainy season. These represented 15 and 3 percent of the households that planted annual crops in short and long rainy seasons respectively.

The total area planted with the crop was 1,503ha, with 69 percent of the area planted in the short rainy season and 31 percent in the long rainy season. About 2,025 tonnes of yams were produced being 70 percent in the short rainy season and 30 percent in long rainy season. The average yield was 1.3 tonnes/ha.

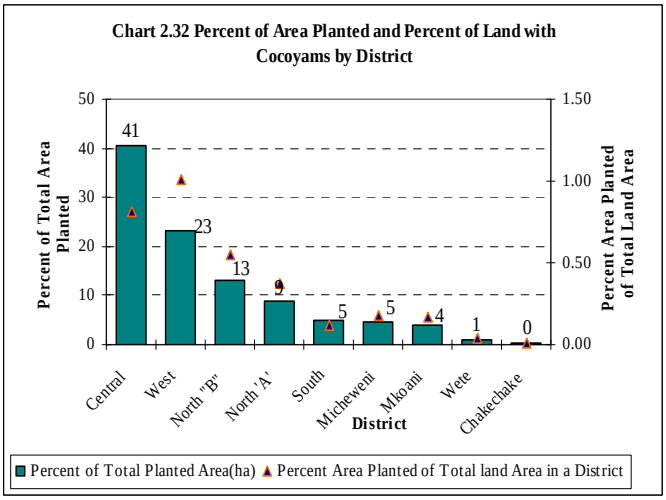
South District had the largest planted area of this crop (465ha, 31percent) followed by North 'A' (412ha, 27 percent), West (302ha 20 percent) while Micheweni and Wete had the least plated areas each accounting for one percent of the total area and Chakechake did not report any area planted with yams (Chart 2.30).

South District was the lowest producer of most crops, was the highest producer of yams (accounting for 43 percent of the annual production), followed by Wete District (18 percent) The production of yams was very littile in 'B', Wete, Micheweni, and Mkoani districts and yarms weren't planted at all in Chakechake District (Chart 2.31).



Cocoyam Production

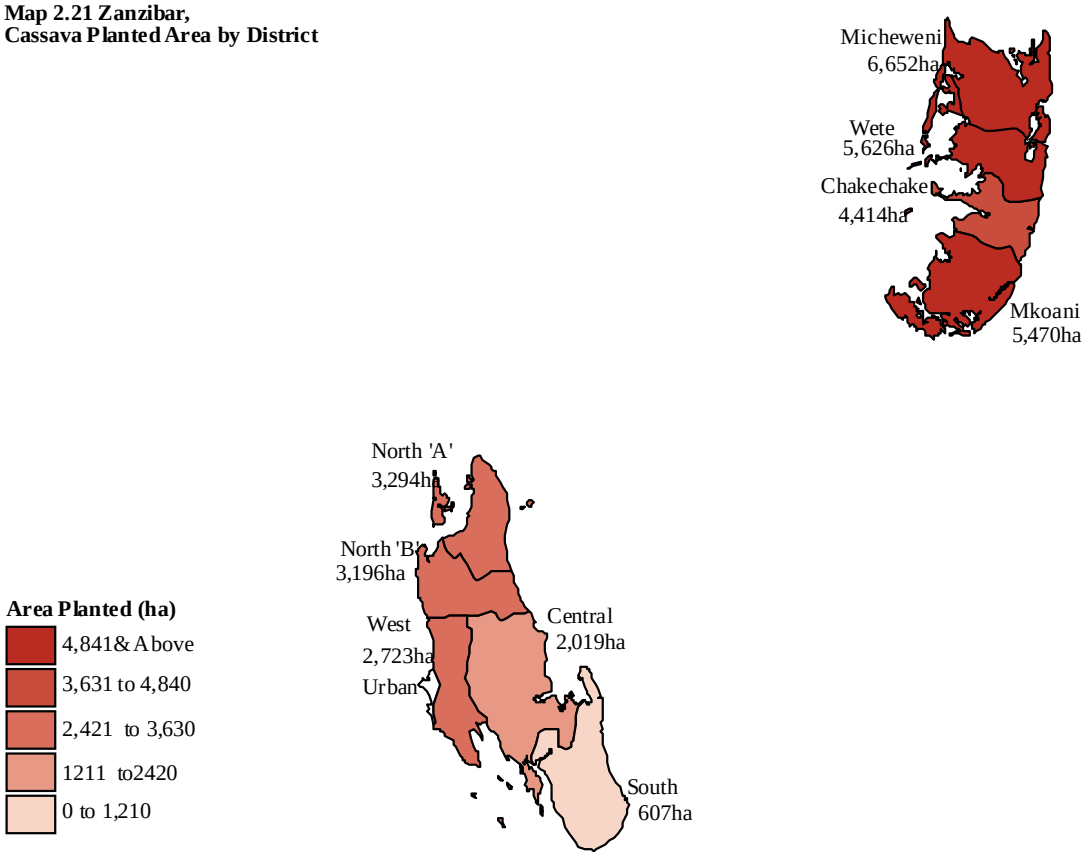
The number of households that planted cocoyam during short rainy season was 2,489 and 3,022 households planted the crop in the long rainy season. These represented 8 and 4 percent of households that planted annual crops in the respective seasons. The planted area was 1,029 ha and the annual production was 811 tonnes (404 tonnes, in the short rainy season and 407 tonnes, in the long rainy season). The average planted area per cocoyam growing household was 0.20ha in short rainy season and 0.17 ha in long rainy season. The annual average yield was 0.79 tonnes/ha while it was 0.80 tonnes/ha in short rainy season and 0.77 tonnes/ha in long rainy season.



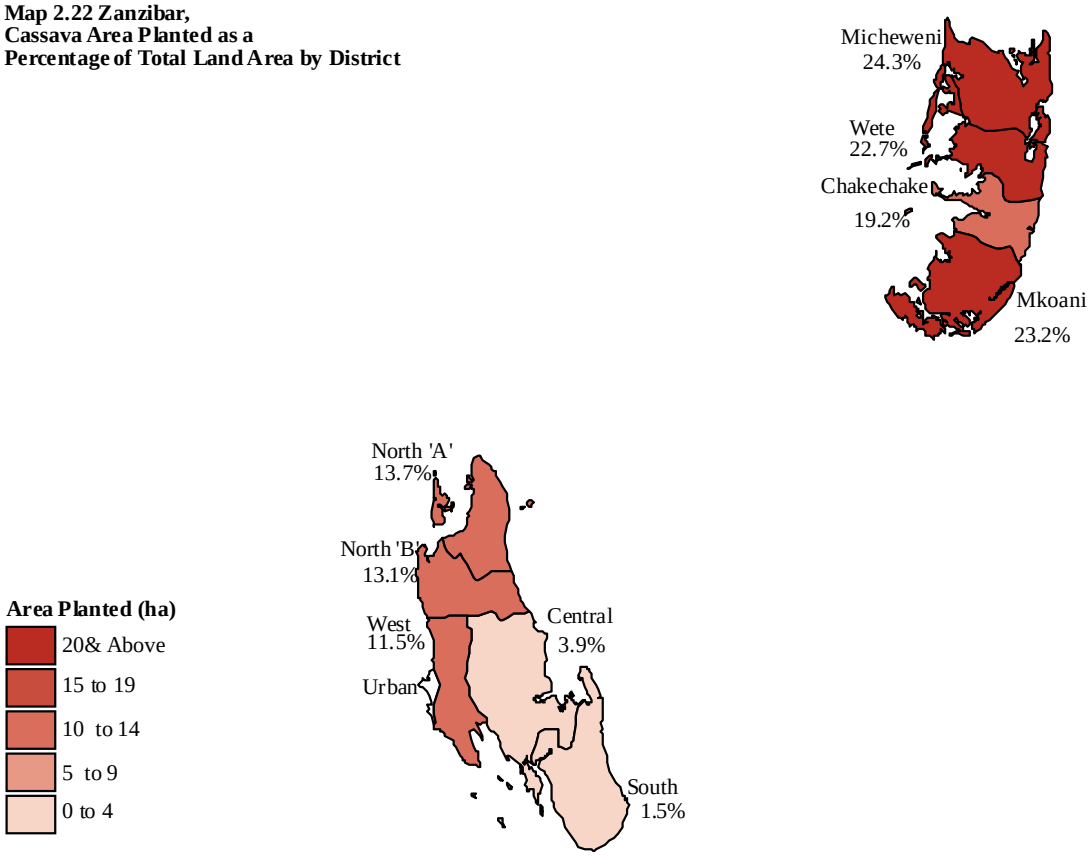
Central District accounted for 41 percent of the area planted with cocoyam, followed by West District (23 percent) while the lowest proportion was in Chakechake District (0.2 percent). Generaly the proportion of the total land used to grow cocoyam was very low in all districts. The highest proportion was 1.01 of the total land in West District, followed by Central District (0.81 percent) and the lowest was Chakechake (0.01 percent) (Chart 2.32).

`

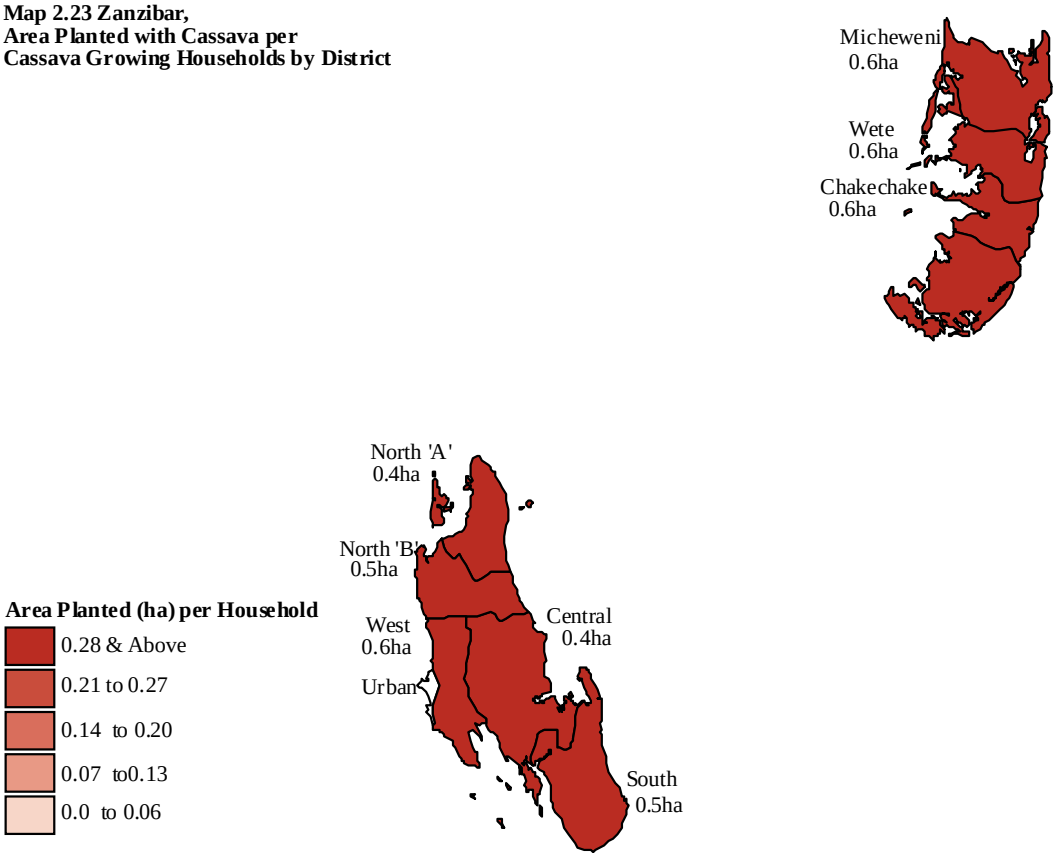
Map 2.21 Zanzibar,
Cassava Planted Area by District



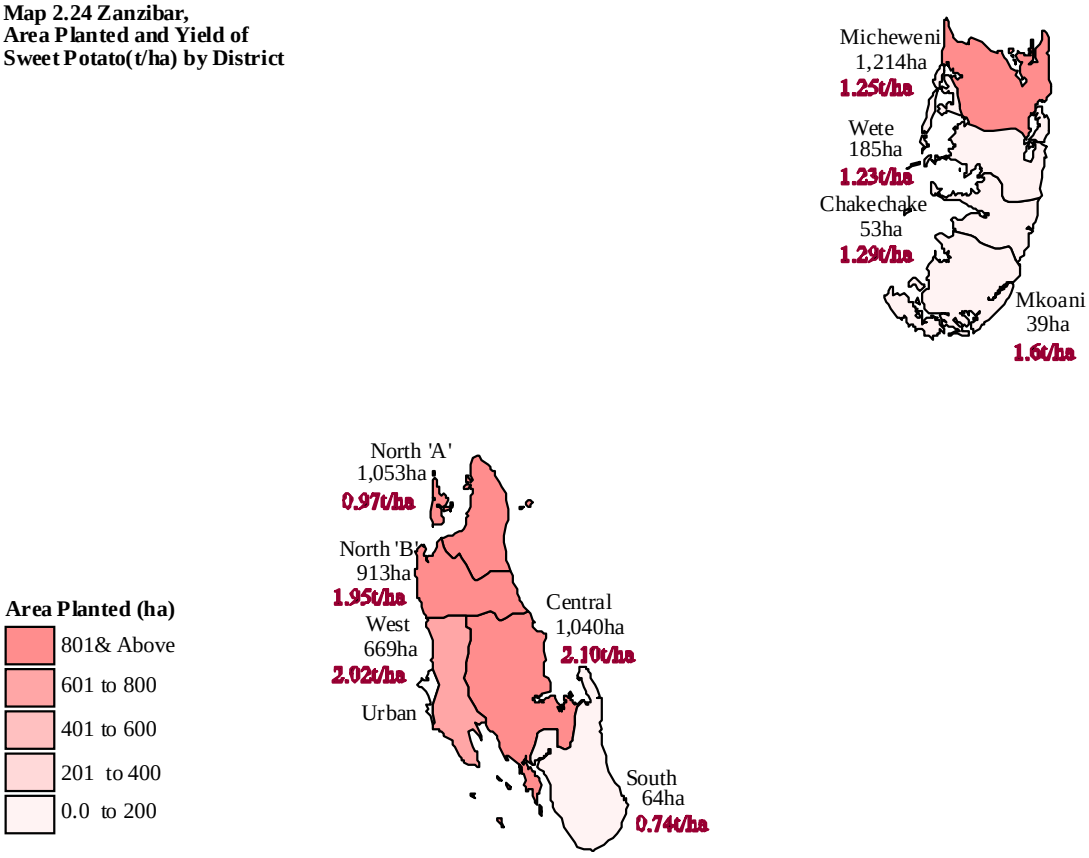
Map 2.22 Zanzibar,
Cassava Area Planted as a
Percentage of Total Land Area by District



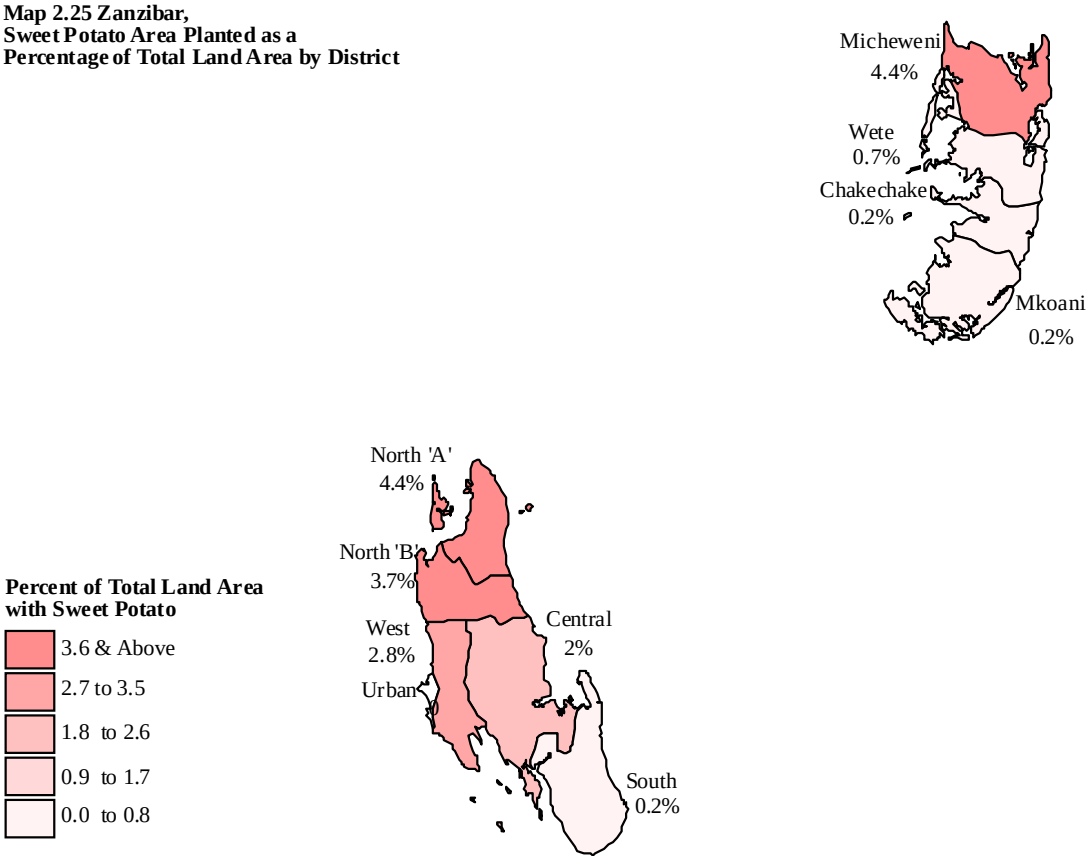
Map 2.23 Zanzibar,
Area Planted with Cassava per
Cassava Growing Households by District



Map 2.24 Zanzibar,
Area Planted and Yield of
Sweet Potato(t/ha) by District



Map 2.25 Zanzibar,
Sweet Potato Area Planted as a
Percentage of Total Land Area by District



2.3.6 Pulse Crop Production

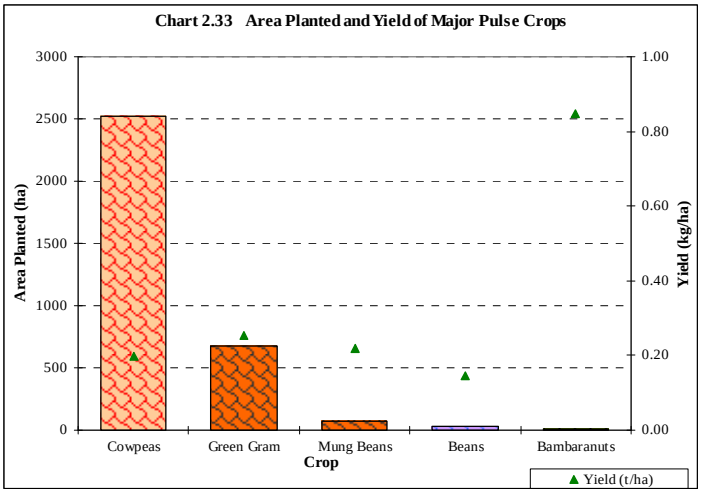
The total production of pulses was 1,012.5 tonnes (509.5 tonnes in short rainy season, 503.0 tonnes in long rainy season including 313 tonnes of pigeon peas a permanent crop). Cow peas production (501.5 tonnes) was the highest and represented 50 percent the total pulse production, followed by pigeon peas (313 tonnes, 31 percent) and then green grams (171 tonnes, 17 percent) Other pulses such as beans, bambaranuts and mung beans were produced in small quantities (Table 2.5).

Table 2.6 Area Planted and Quantity Harvested by Rainy Season and Type of Pulse Crop

Crops	Season	Area Planted (ha)	Quantity Harvested (tonnes)	Yield t/ha
Mung Beans	Short Season	15	6.8	0.46
	Long Season	61	9.8	0.16
Beans	Short Season	14	1.8	0.13
	Long Season	14	2.4	0.17
Cowpeas	Short Season	2033	367.0	0.18
	Long Season	493	134.5	0.27
Green Gram	Short Season	492	133.8	0.27
	Long Season	187	37.1	0.20
Bambaranuts	Short Season	0	0.0	0.00
	Long Season	7	5.9	0.84
Pigeon Peas	Short Season	0	0.0	0.00
	Long Season	792	313.4	0.40
Total	**Short Season**	**2,554**	**509.5**	
	Long Season	**1,553**	**503.0**	

The total area planted with pulses (including pigeon peas) was 4,107 hectares but annual pulses i.e cow peas, green gram, beans, mung beans and bambaranuts accounted for 4 percent of the total area planted with annual crops. Cow peas accounted for (61 percent, 2,526ha) of the area planted with pulses, pigeon peas (19 percent, 792ha) and green gram (16 percent, 679ha). Other pulses such as mung beans, beans, and bambaranuts were planted on very small areas (Chart 2.33).

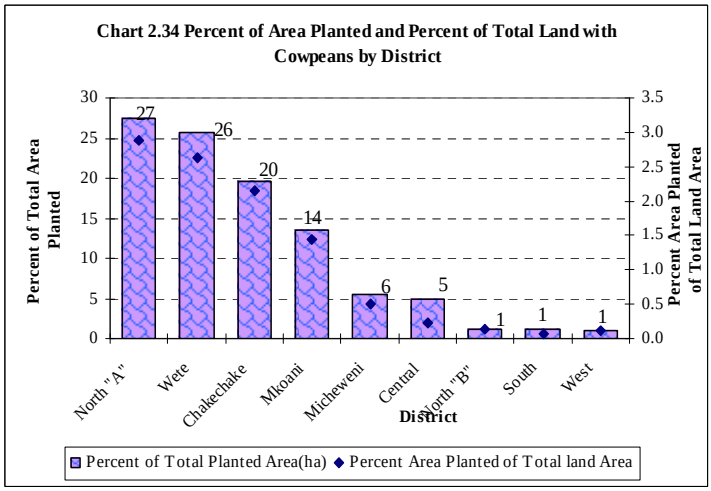
Chart 2.33 Area Planted and Yield of Major Pulse Crops



In Zanzibar short rainy season was more important for pulses production. The short rainy season accounted for about 73 percent of annual pulses production and 77 percent of the area planted.

The districts where most of pulses were planted were North 'A' (27 percent), followed by Wete (26 percent), Chakechake (20 percent) whereas little pulses were grown in South and West districts (Chart 2.34).

Chart 2.34 Percent of Area Planted and Percent of Total Land with Cowpeans by District



Cow peas

The number of households that grew cow peas during short rainy season was 9,787 while 2,714 households in the long rainy season. These represented 33 percent and 4 percent of the households that planted annual crops in short and long rainy seasons respectively. About 2,526

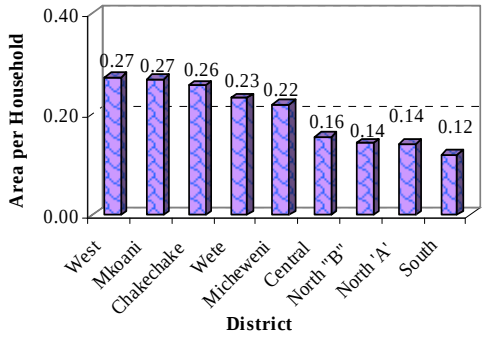
hectares were planted; 80 percent of the area in the short rainy season and 20 percent in the long rainy season. The annual production was 501.5 tonnes. The average yield was 0.20 tonnes/ha; with 0.18 tonnes/ha in the short rainy season and 0.27 tonnes/ha in the long rainy season.

North 'A' district accounted for 27 percent of the area planted with cow peas, followed closely by Wete with 26 percent of the area, Chakechake (20 percent) while the lest areas were South, West and North 'B' districts with each accounting for 1 percent of the area (Map 2.26).

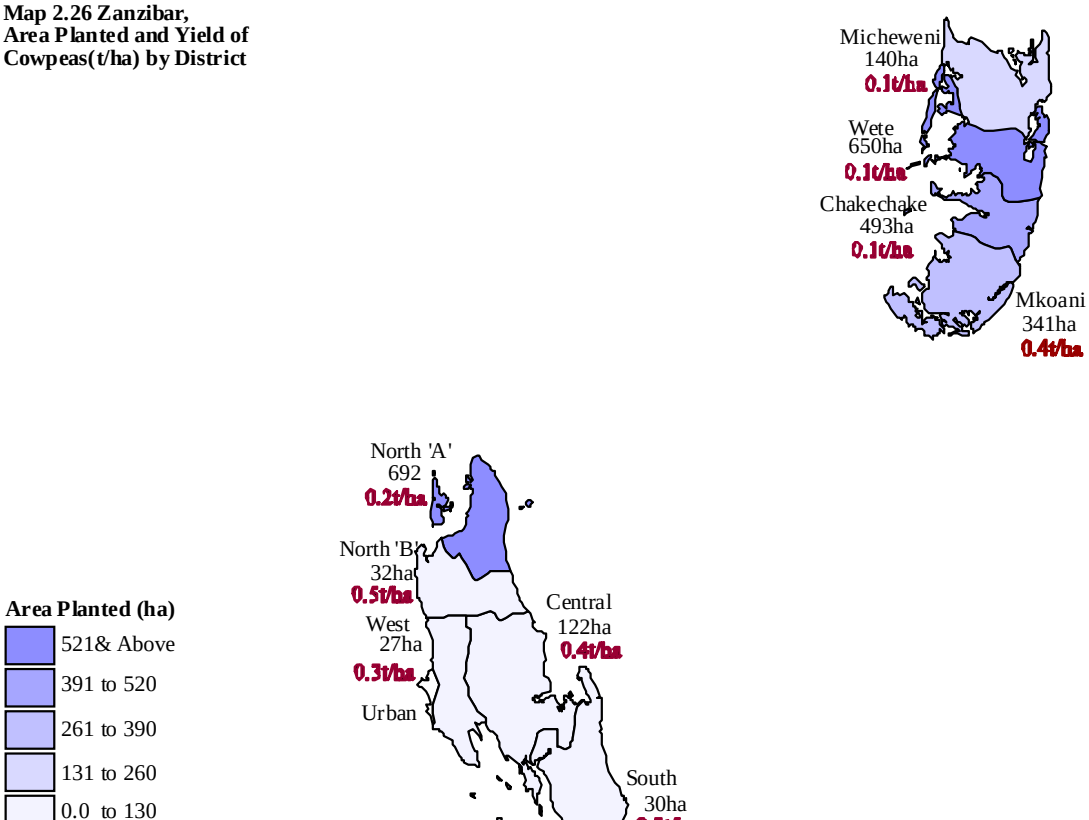
The highest proportion of land with cow peas was found in North 'A' (2.9 percent) followed by Wete (2.6 percent). The lowest proportions were 0.1 percent in North 'B', South and West districts (Chart2.34 and Map 2.27).

The average planted area per household was small. Wete and Mkoani districts had the largest average areas planted with the crop per household at 0.27ha per household each followed by Chakechake (0.26ha), Wete (0.23ha) the smallest area were for , North 'B' and North 'A' districts each with 0.14ha per household (Chart 2.35).

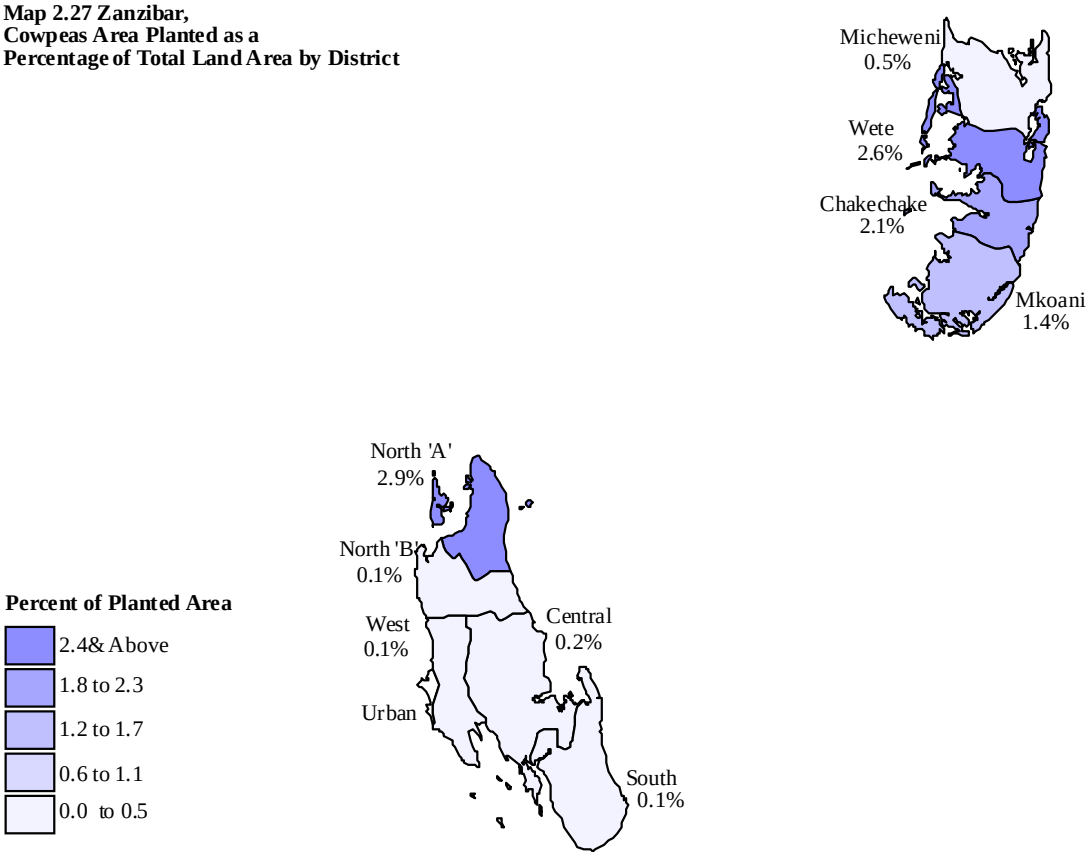
Chart 2.35 Area Planted per Cowpeas Growing Household by District (Short Rainy Season Only)



Map 2.26 Zanzibar,
Area Planted and Yield of
Cowpeas(t/ha) by District

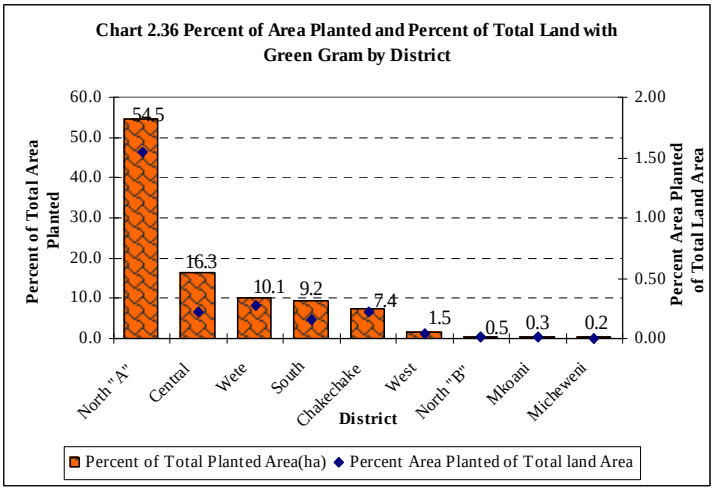


Map 2.27 Zanzibar,
Cowpeas Area Planted as a
Percentage of Total Land Area by District



Green grams

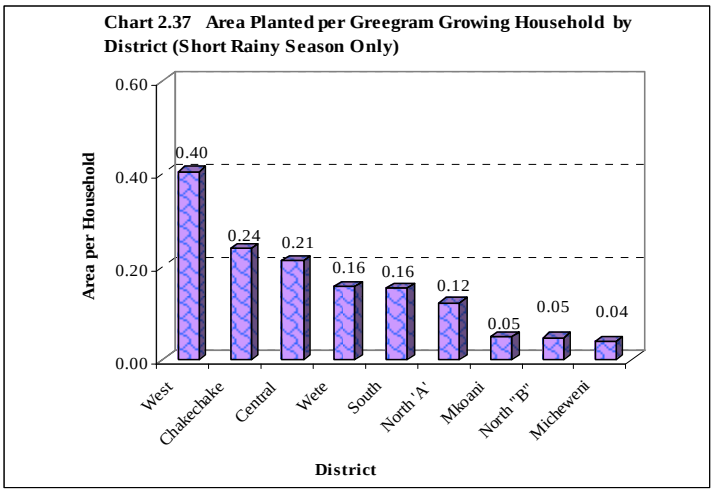
Like other pulses, green grams were mostly grown during the short rainy season. About 3,302 households cultivated this crop in short rainy season, while 1,522 households in long rainy season and these represented 11 and 2 percent of the households that cultivated annual crops in the respective seasons. The annual planted area was 679 ha; 492 ha. (72 percent of the area) planted in the short rainy season and 187 ha (28 percent) in the long rainy season. The annual production was 171 tonnes. The yield was 0.25 tonnes/ha.



North 'A' District accounted for 54 percent of the area planted with green grams and Central District accounted for 16 percent of the area while North 'B', Mkoani and Micheweni districts accounted for less than one percent of the area each.

As there was small area planted with green grams, the highest proportion of the land with the crop was only 1.5 percent for North 'A' District followed by 0.3 percent for Wete District. North 'B', Mkoani and Micheweni each had less than 0.5 percent of land areas planted with green grams (Chart 2.36).

Although households and the area planted with green grams in West District were smaller than a number of district, the district had the largest average area (0.40 ha.) planted with the crop per household during the short rainy season followed by Chakechake District with 0.24ha per household (Chart 2.37).



Other Pulses

Mung beans, bambaranuts and beans were planted and produced in very small quantities. The annual production of these three crops was only 27 tons out of which mung beans accounted for 18 tonnes.

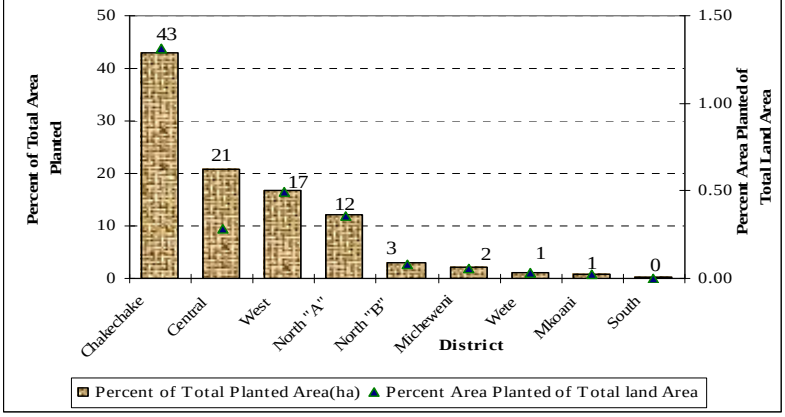
2.3.7 Oil Seed Production

There were not many varieties of oil seed crops planted in Zanzibar and groundnuts were the most predominant. The annual production of oil seed crops was 387 tonnes out of which 386 tonnes were groundnuts (99.7 percent) and one tonne was simsim. The total planted area for these crops was 705 hectares. Of which 703 hectares (99.7 percent) were planted with groundnuts.

Groundnuts

The number of households that planted groundnuts during the short rainy season was 903 while 1,410 households planted the crop in the long rainy season. These represented 3 and 2 percent of the households that cultivated annual crops in the seasons respectively. About 277 ha (39 percent of the area planted with groundnuts) was planted in the short rainy season and 426 ha. (61 percent of the area planted with the crop) in the long rainy season. The total production was 387 tonnes; 184 tonnes (48 percent) produced in the short rainy season and 203 tonnes (52 percent) in the long rainy season. The annual average yield was 0.55 tonnes/ha but with seasonal differences in yields 0.66 tonnes/ha in short rainy season 0.48 tonnes/ha in long rainy season (Map 2.28).

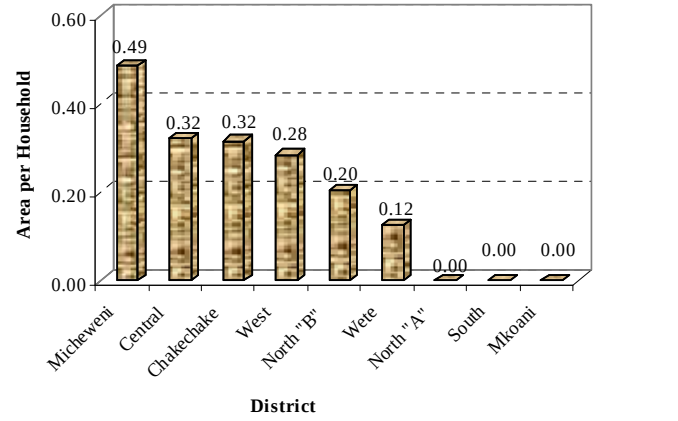
Chart 2.38 Percent of Area Planted and Percent of Total Land with Groundnuts by District



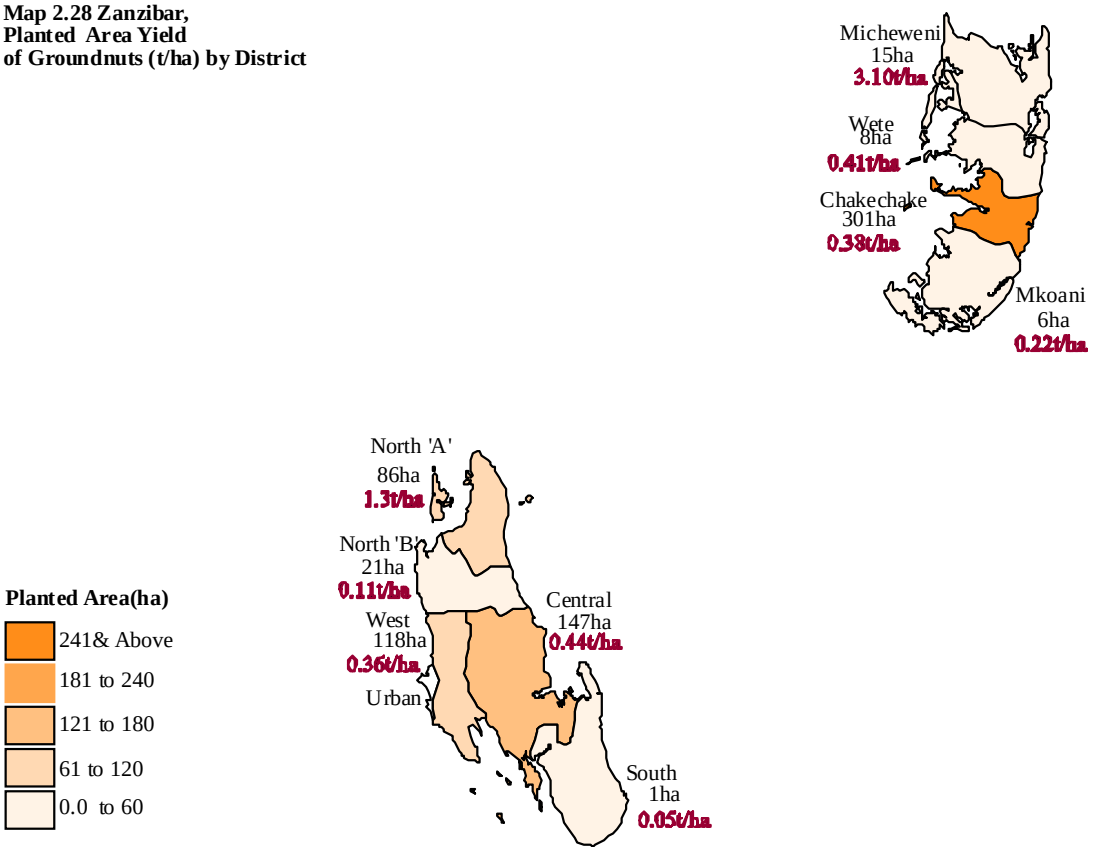
Chakechake District had the highest percentage of the area planted with groundnuts (43 percent), followed by Central District (21 percent) and West District (17 percent) while South District had the lowest percentage of land planted with the crop at less than one percent. Also Chakechake District had the highest proportion of land with groundnuts (1.3 percent) followed by West District (0.5 percent) whilst South, Wete and Mkoani districts had the lowest proportions being less than one percent each (Chart 2.38).

Households in Micheweni District had the highest average land planted with groundnuts per household in the long rainy season (0.49 ha) followed by Chakechake and Central districts with (0.32ha) each. The crop was not planted in North 'A', South and Mkoani districts during the long rainy season (Chart2.39).

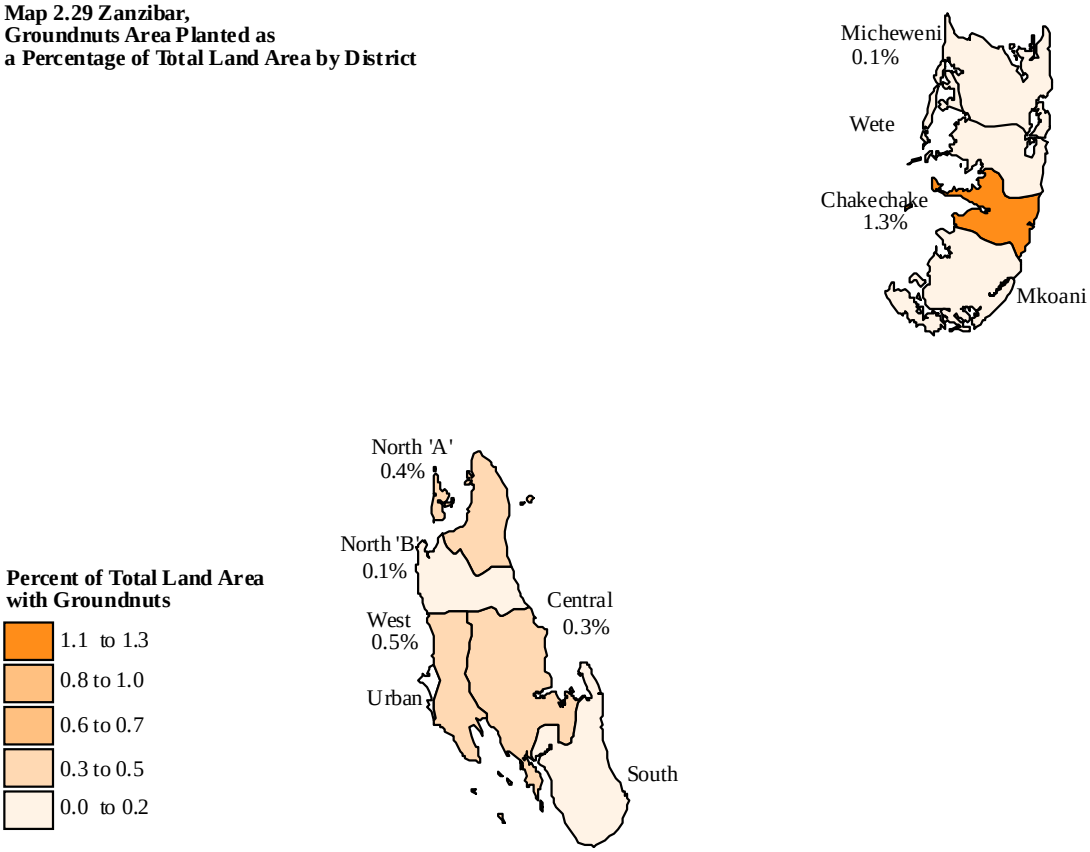
Chart 2.39 Area Planted per Groundnuts Growing Household by District (Long Rainy Season Only)



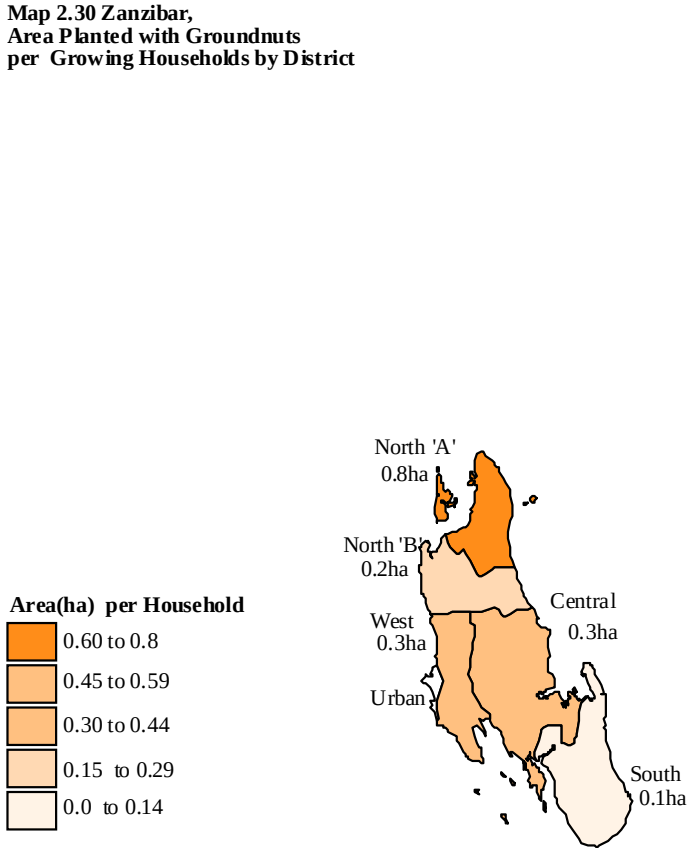
**Map 2.28 Zanzibar,
Planted Area Yield
of Groundnuts (t/ha) by District**



**Map 2.29 Zanzibar,
Groundnuts Area Planted as
a Percentage of Total Land Area by District**



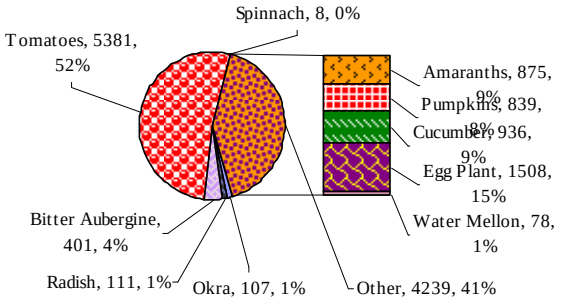
Map 2.30 Zanzibar,
Area Planted with Groundnuts
per Growing Households by District



2.3.8 Fruits and Vegetable Production

The fruits and vegetables that are discussed in this section are from annual crops such as tomatoes, egg plant, water mellon, pumpkin e.t.c. and fruits obtained from perennial crops will be discussed in the relevant section. About 4,618 hectares were planted with such crops (2,223ha in short and 4618ha in long rainy seasons) and this represented about 6 percent of the total area planted with annual crops. A bigger proportion of fruits and vegetables were grown to generate cash income for the farming households while a smaller was consumed by the households.

Chart 2.40 Fruit and Vegetable Production (tonnes).



The total production of fruits and vegetables was about 10,264 tonnes. Tomatoes production was the highest (5,381 tonnes) and it accounted for 52 percent of the total production followed by egg plant (1,508 tonnes, 15 percent), cucumber (937 tonnes, 9 percent and amaranths (875 tonnes) and pumpkin (839 tonnes) eight percent each; bitter aubergine (4 percent) and okra (1 percent)(Chart 2.40)

Tomatoes accounted for more area planted with fruits and vegetables (52 percent of the area planted with fruits and vegetables) than all the rest put together, followed by egg plant (15 percent of the area), cucumber (9 percent), amaranths and pumpkin (8 percent each), the contribution of other fruits and vegetables crops small. There was no significant difference between areas planted with fruits and vegetables in the short and long rainy seasons being (48 percent and 52 percent respectively).

In the short rainy season, 47 percent of the area was planted with tomatoes, 15percent with egg plant, amaranths

Table 2.7 Area Planted and Quantity Harvested by Rainy Season and Type of Fruit and Vegetable Crop

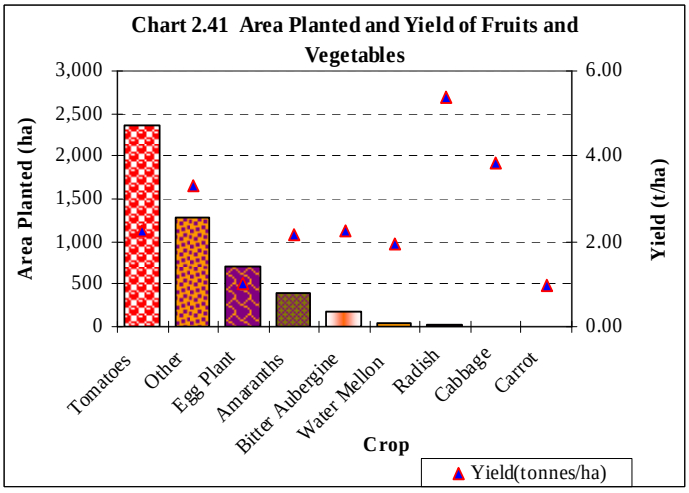
Crop	Season	Area Planted (ha)	Quantity Harvested (tonnes)	Yield Tons/ha
Tomatoes	Short Season	1043	2,197	2.11
	Long Season	1327	3,184	2.40
Amaranths	Short Season	227	590	2.60
	Long Season	180	285	1.58
Cucumber	Short Season	215	526	2.45
	Long Season	175	410	2.34
Egg Plant	Short Season	325	717	2.21
	Long Season	388	791	2.04
Pumpkins	Short Season	174	333	1.92
	Long Season	200	506	2.53
Radish	Short Season	18	111	6.09
	Long Season	2	1	0.35
Bitter Aubergine	Short Season	113	177	1.57
	Long Season	65	224	3.45
Water Mellon	Short Season	29	45	1.5
	Long Season	12	33	2.75
Others	Short Season	79	81	
	Long Season	45	53	
Total	**Short Season**	**2223**	**4777**	
	Long Season	**2394**	**5487**	

and cucumber (10 percent each), pumpkin (9 percent), bitter aubergine (5 percent) and okra (3 percent). In the long rainy season, tomatoes accounted 55 percentof the area, followed by egg plant (16 percent), pumpkin and amaranths (8 percent each), cucumber (7 percent),bitter aubergine (3 percent) and okra (1 percent). Other such crops were produced in very small quantities.

Radish was planted on a small area but it had the highest yield of 5.6 tonnes/ha followed by cabbage 3.75 tonnes/ha, tomatoes 2.27 tonnes/ha while amaranths and cucumber yield was 2.4 tonnes/ha.

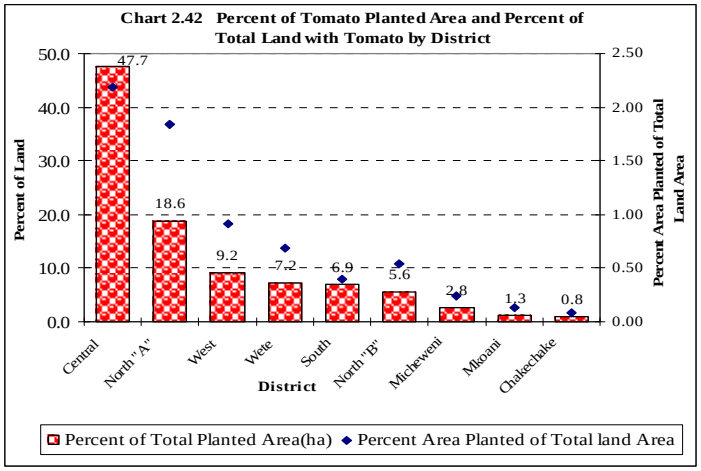
Tomatoes

About 4,884 households planted tomatoes in short rainy season while 5,846 households planted them in the long rainy season. These represented 16 percent and 6 percent of households that cultivated annual crops respective seasons. The average annual yield was 2.27 tonnes/ha. The total annual planted area was 2,370ha. The annual production was 5,381 tonnes.

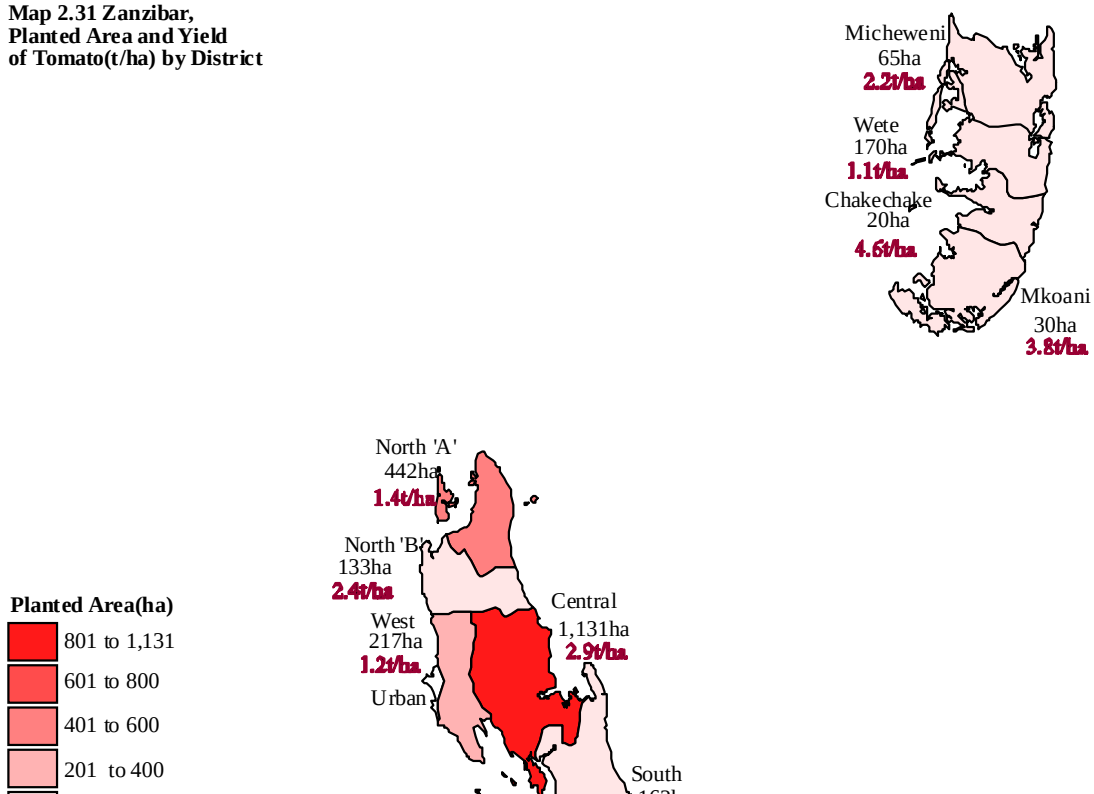


Central District had the largest planted area of the crop (48 percent) which was more than twice the area of the second district North 'A' (19 percent) and accounted for 63 percent of the annual production which was about five times the amount produced in the second North 'A' District.(12 percent) of the total annual production). Chakechake accounted only one percent of the production but had the highest yield of 4.65 tonnes/ha. The lowest yield was experienced in Wete District (1.11 tonnes/ha.) while Central District had a moderate yield of 2.93 tonnes/ha (Chart 2.42 and Map 2.31).

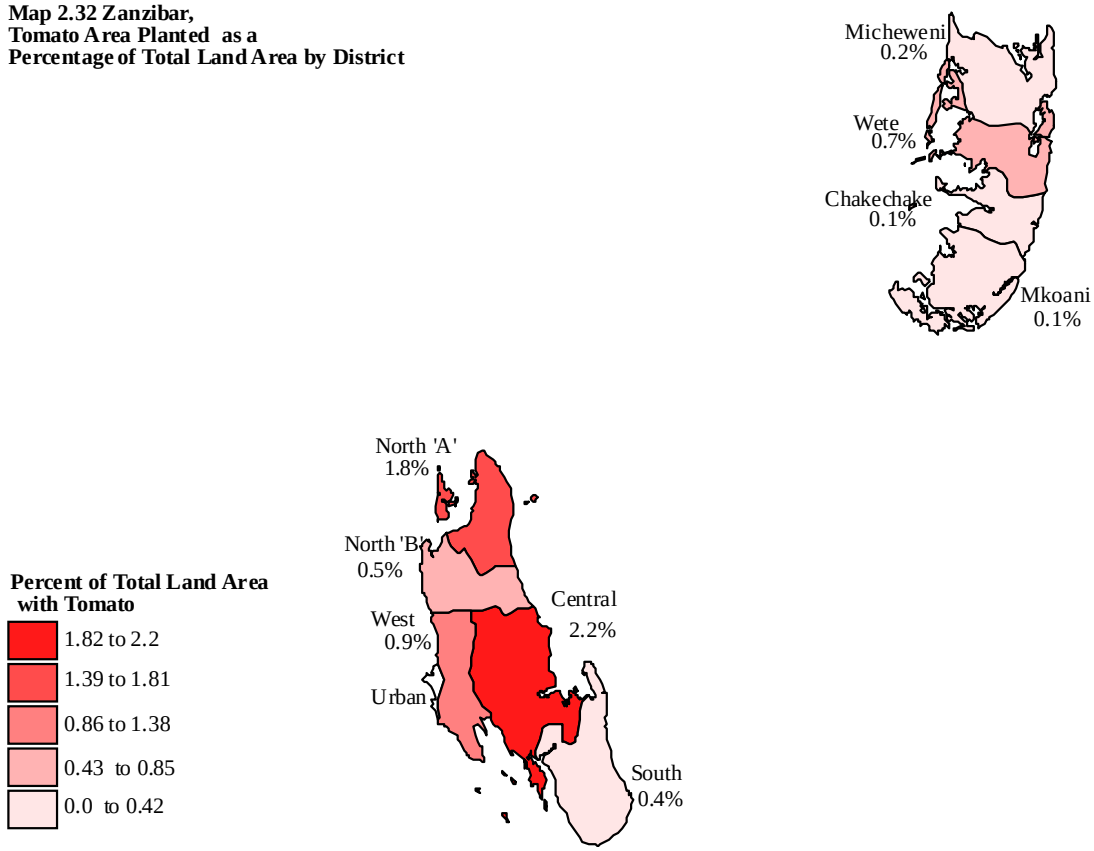
The highest proportion of land area planted with the tomato was found in Central District (2.2 percent) followed by North 'A' (1.8 percent) whilst Chakechake and Mkoani districts had the lowest proportions (0.1 percent) planted with the crop (Chart 2.42 and Map 2.32).



**Map 2.31 Zanzibar,
Planted Area and Yield
of Tomato(t/ha) by District**



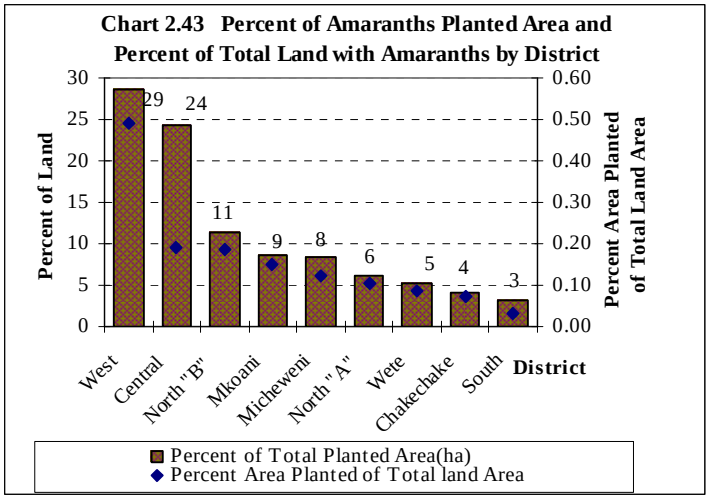
**Map 2.32 Zanzibar,
Tomato Area Planted as a
Percentage of Total Land Area by District**



Amaranths

This crop was mostly planted during the short rainy season where 2,025 households were involved and 1,369 households planted it during the long rainy season. These households represented 8 and 1 percent of the total households that planted annual crops in the respective seasons.

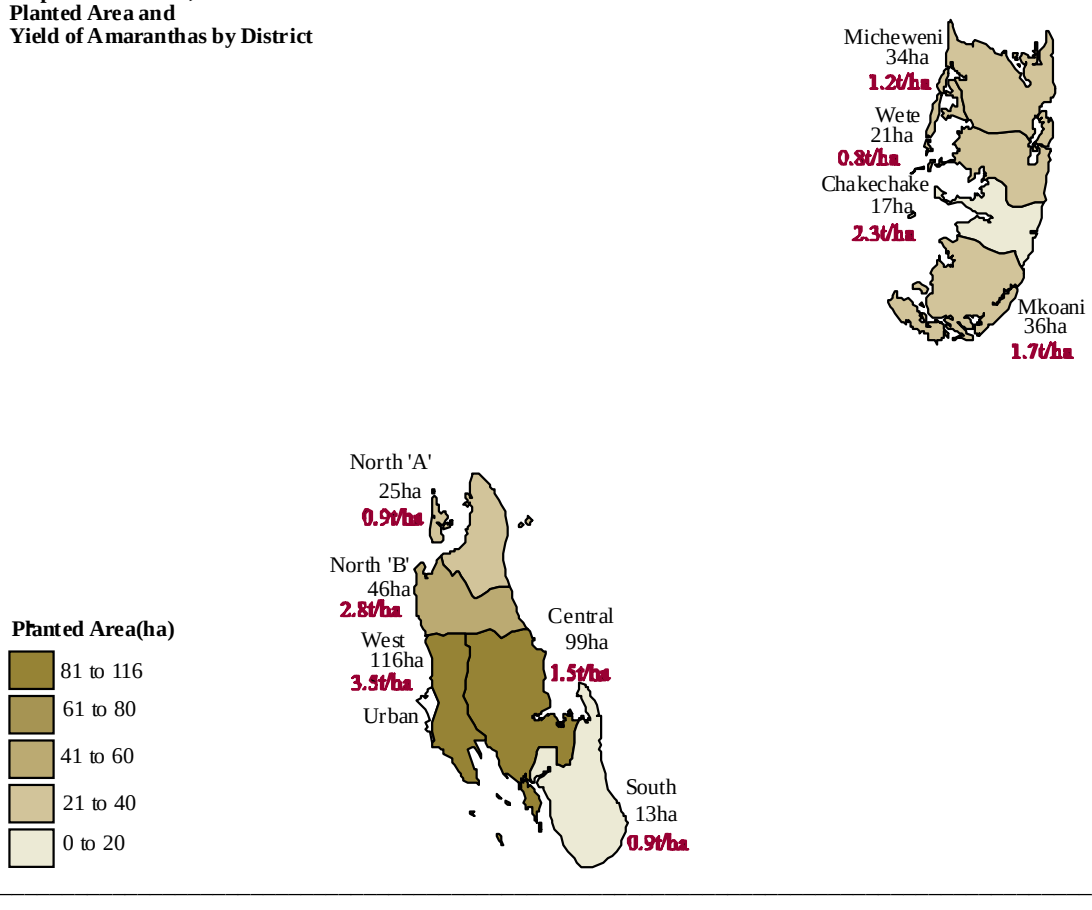
A of total 407 ha was planted with amaranths; 56 percent of the area during the short rainy season and 44 percent in long rainy season. The annual production was 876 tonnes; 67 percent produced in short rainy season and 33 percent in long rainy season and the annual yield was 2.15 tonnes/ha; 2.59 tonnes/ha in short rainy season and 1.58 tonnes/ha in long rainy season



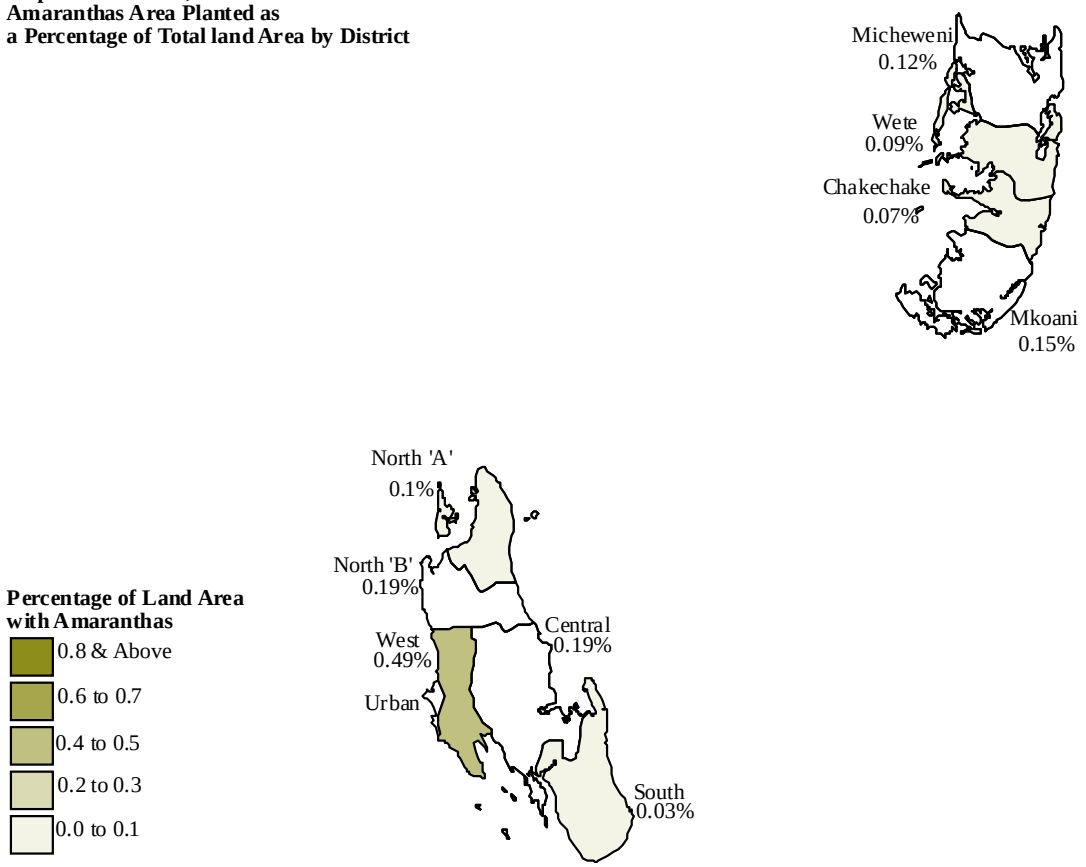
West district accounted for (29 percent, 116ha) of the area planted with the crop and 47 percent of the annual production, Central District (24 percent, 99ha) of the area and 17 percent of the total production South district (3 percent, 13ha) of the area but only 1 percent of the total production (Chart 2.43 and Map 2.34)

Very small proportions of the total district land areas were planted with the crop with the highest being 0.49 percent in West District followed by Central and North 'B' Districts with 0.19 percent of the area each and the lowest being 0.03 percent of the area in South District (Chart 2.43 and Map 2.35)

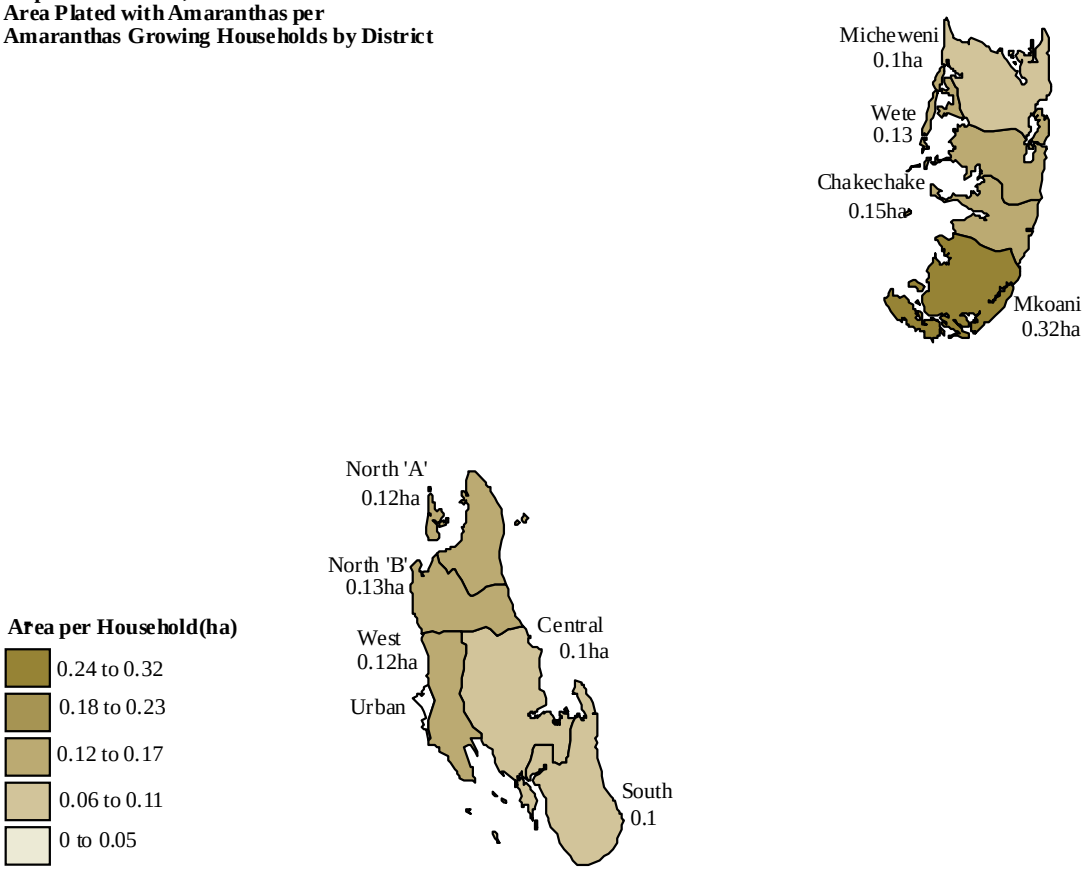
**Map 2.34 Zanzibar,
Planted Area and
Yield of Amaranthas by District**



**Map 2.35 Zanzibar,
Amaranthas Area Planted as
a Percentage of Total land Area by District**



Map 2.36 Zanzibar,
Area Plated with Amaranthas per
Amaranthas Growing Households by District

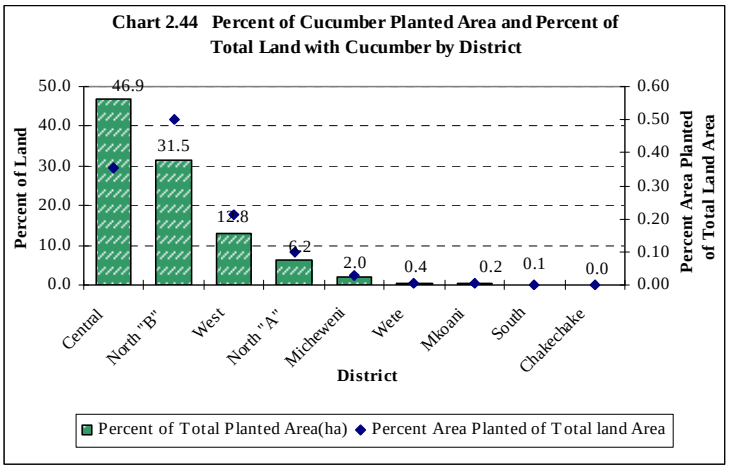


Cucumber

The number of households that planted cucumber during the short rainy season was 1,133 and 1,021 households planted the crop in the long rainy season. These represented 4 and one percent of the households that cultivated the crop in the respective seasons.

About 390 hectares were planted with the crop;55 percent of the area planted during short rainy season and 45 percent in the long rainy season. The annual production was 937 tons;54 percent produced in the short rainy season and 46 percent in long rainy season.

Chart 2.44 Percent of Cucumber Planted Area and Percent of Total Land with Cucumber by District

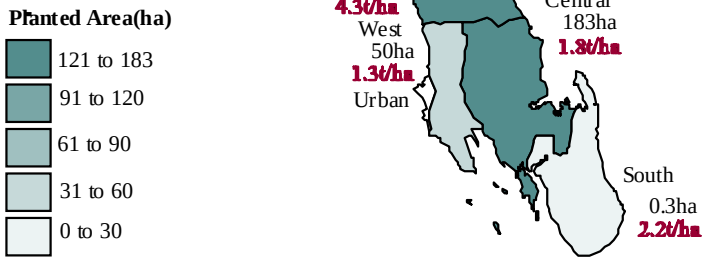


Central district accounted for 47 percent (183ha) of the area planted with cucumber (highest) but it was second to North 'B' in production. Central District accounted for 34 percent of production while North 'B' accounted for 56 percent of the production. North 'B' accounted for 32 percent (123ha) of the

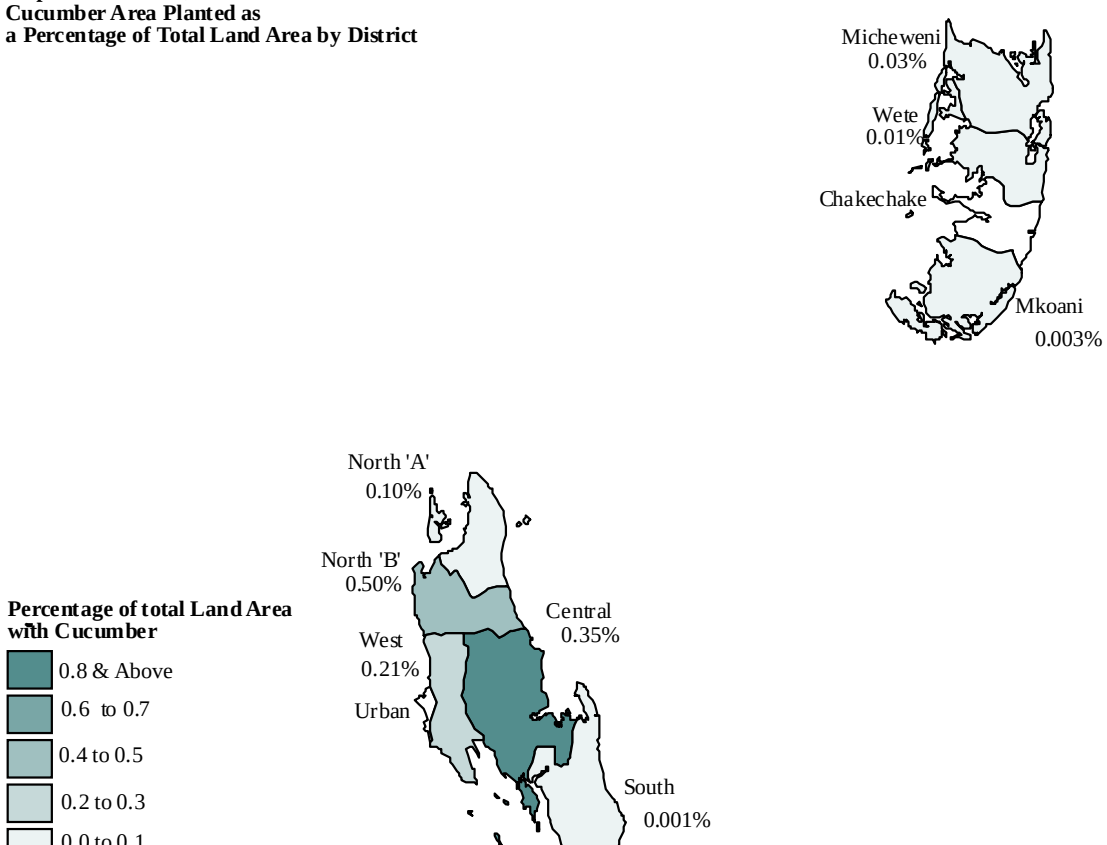
area planted with cucumber and the smallest area planted was in South District which accounted for 0.1 percent of the total planted area. The cucumber was not planted in Chakechake (Map 2.37).

The highest proportion of the total area within a district planted with the crop was 0.5 percent of the area in North 'B' followed by 0.35 percent of the area in Central District the proportions of the remaining districts were insignificant (Chart 2.44 and Map 2.38).

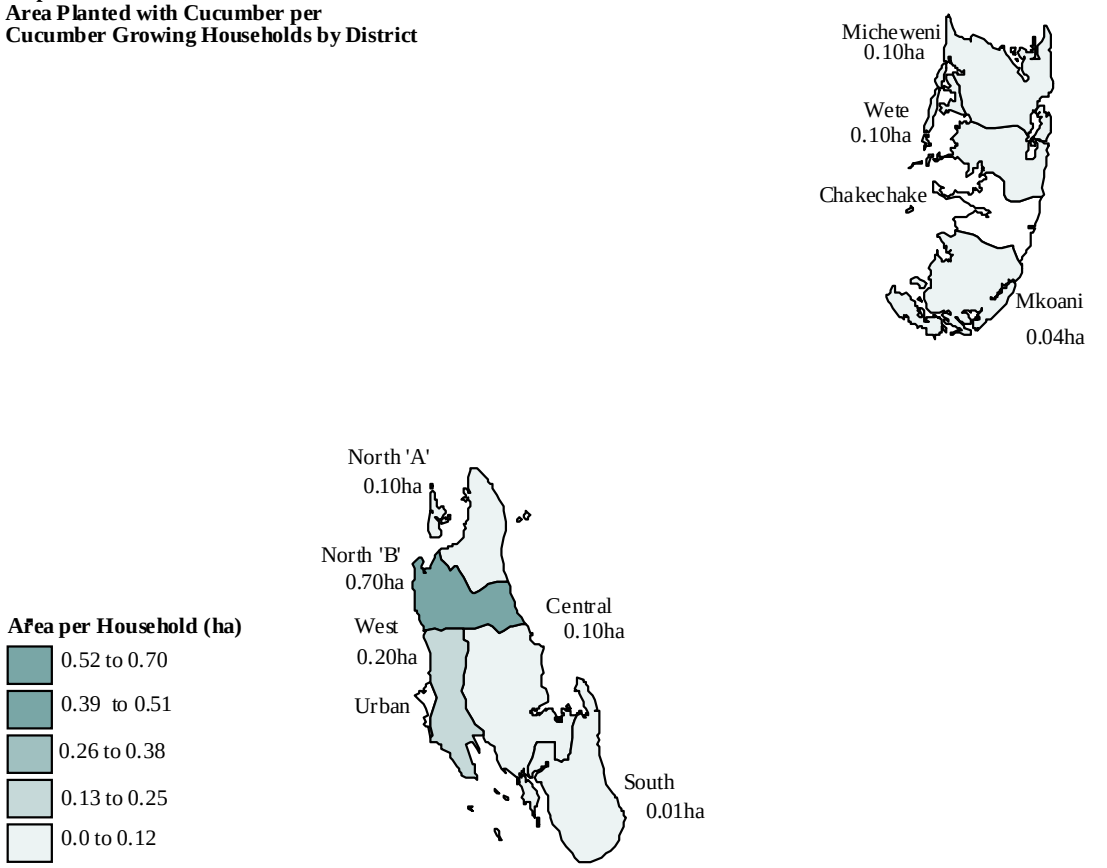
Map 2.37 Zanzibar,
Planted Area and
Yield of Cucumber by District



**Map 2.38 Zanzibar,
Cucumber Area Planted as
a Percentage of Total Land Area by District**



**Map 2.39 Zanzibar,
Area Planted with Cucumber per
Cucumber Growing Households by District**



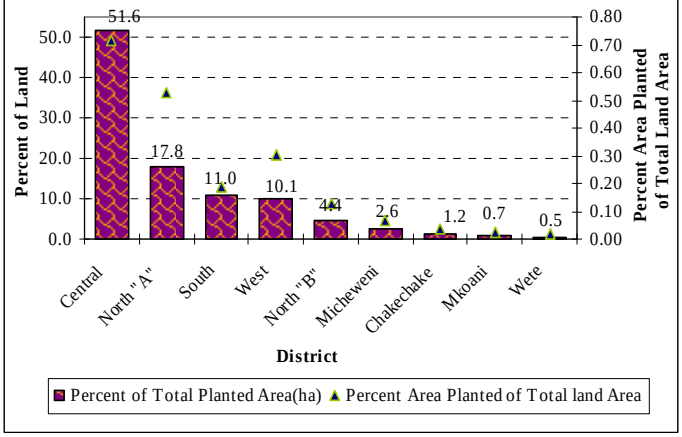
Egg plant

The number of households that planted egg plant during short rainy season was 2,303 households and 2,482 households planted in the long rainy season. These represented 8 and 3 percent of the households that cultivated annual crops in the respective seasons.

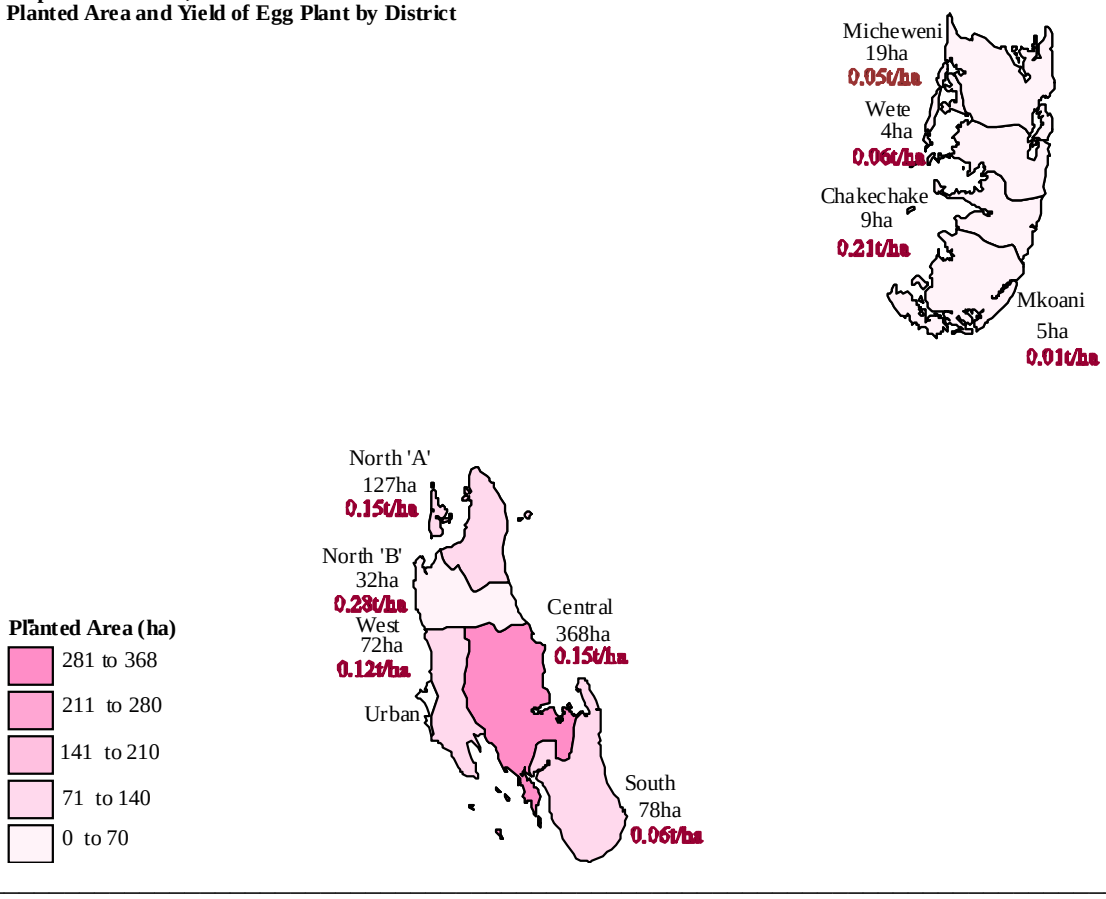
About 713 hectares were planted with the egg plant; 46 percent of the area in short rainy season and 54 percent in the long rainy season. The annual production was 1,508 tonnes; 48 percent produced in short rainy season and 52 percent in the long rainy season. The annual yield was 2.20 tonnes per hectare and highest in North 'B' District at 4.12 tonnes per hectare.

Central district had the largest area planted with the crop 368ha (52 percent of the total area planted with the crop) followed by North 'A' District 127ha (18 percent) of the area whereas the lowest area 4ha (0.5 percent of the planted area) was recorded in Wete District Central, District had 0.71 percent its total land area planted with the egg plant, followed by North 'A' (0.53 percent) and the lowest was 0.02 percent in Wete and Mkoani districts (Chart2.45 and Map 2.40 and 2.41).

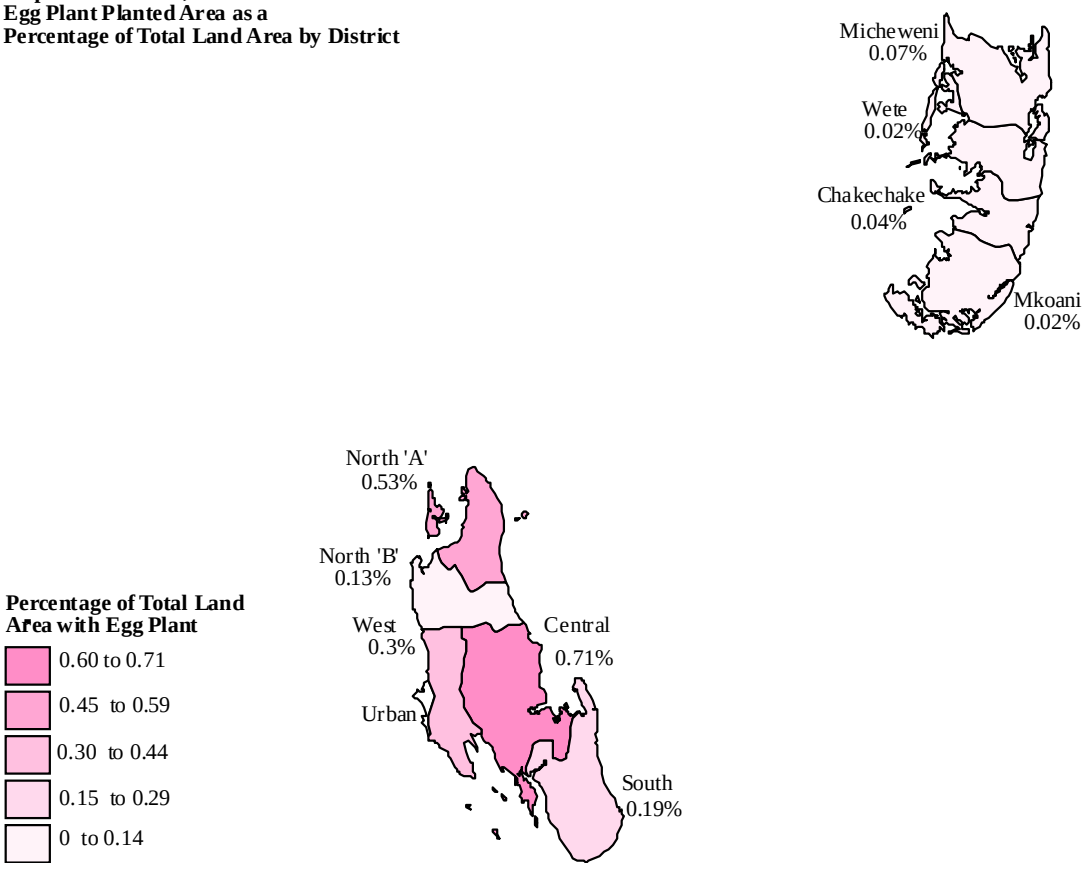
Chart 2.45 Percent of Egg Plant Planted Area and Percent of Total Land with Egg Plant by District



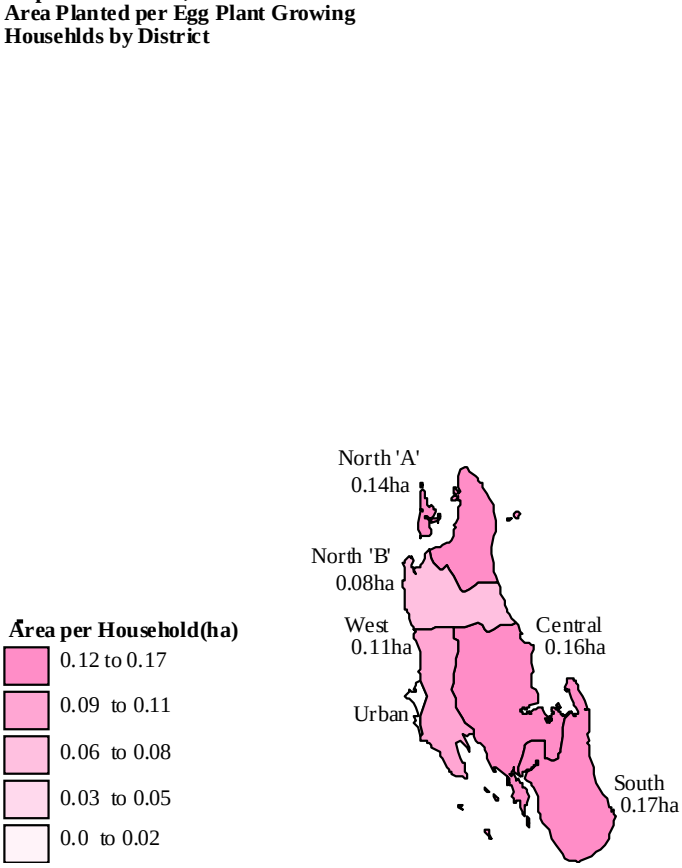
Map 2.40 Zanzibar,
Planted Area and Yield of Egg Plant by District



Map 2.41 Zanzibar,
Egg Plant Planted Area as a
Percentage of Total Land Area by District



**Map 2.42 Zanzibar,
Area Planted per Egg Plant Growing
Household by District**

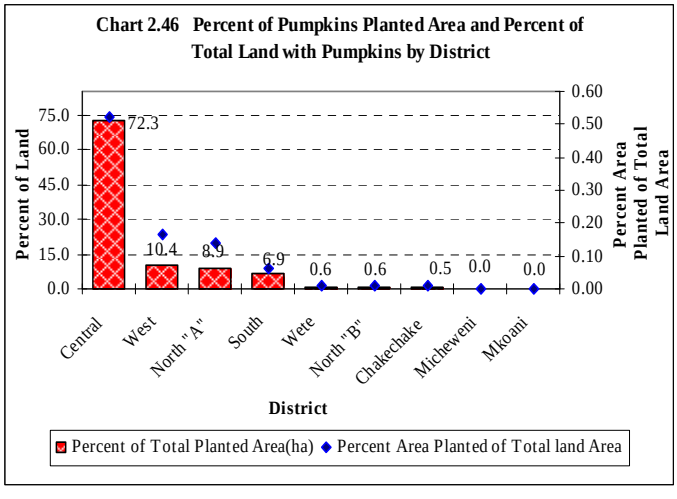


Pumpkins

Households that cultivated pumpkins considered the fruit as the primary product but there were a few households that planted the crop mostly for it's young green leaves.

About 1,285 households planted pumpkins during the short rainy season and 1,187 households planted it in the long rainy season. These represented 4 and 1 percent of the households that cultivated annual crops in the respective seasons. The pumpkins were planted on 374 hectares and 839 tonnes were produced resulting in a yield of 2.24 tonnes/ha.

Chart 2.46 Percent of Pumpkins Planted Area and Percent of Total Land with Pumpkins by District

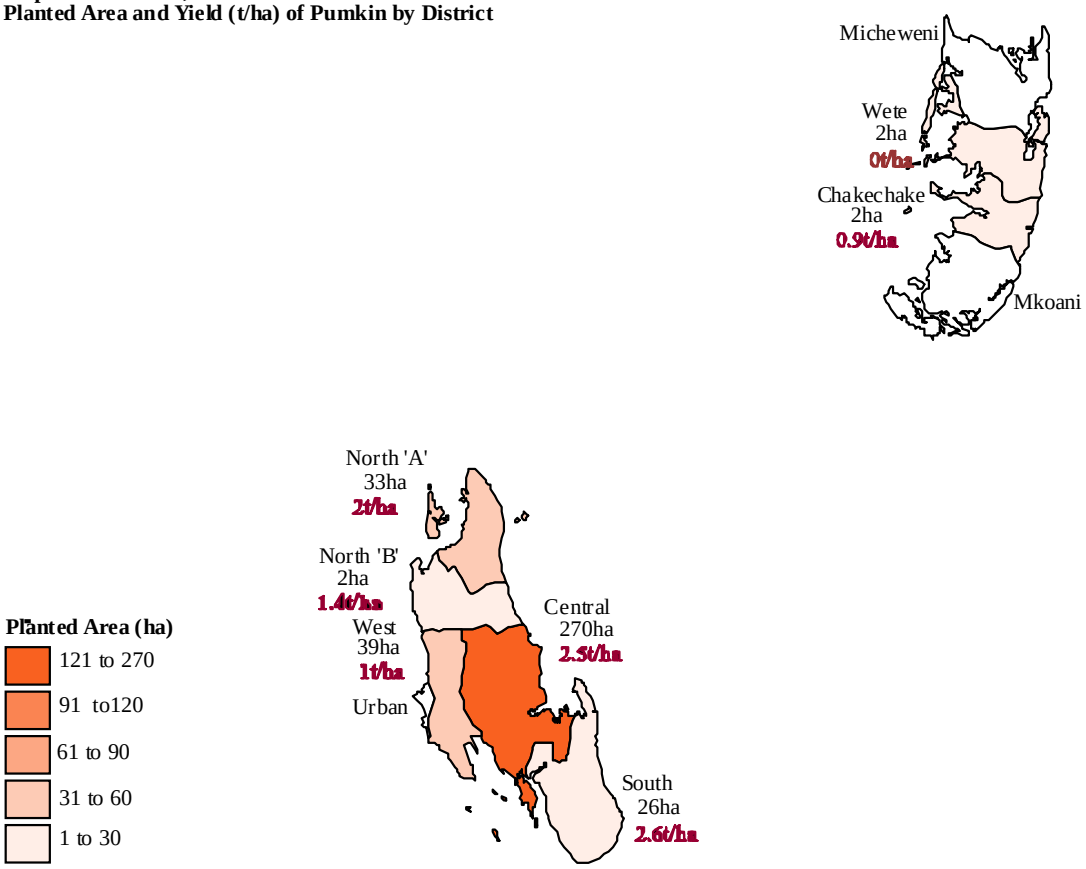


Central District accounted for 72 percent (270ha) of the area planted with the crop and 79 percent of the production followed by West District with 10 percent (39ha) of the area but ranked fourth in

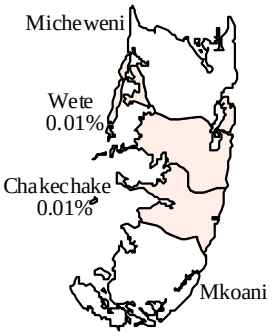
production with only five percent of the total production. The smallest area planted with pumpkin was found in Chakechake District with 0.5 percent (2ha) of the total area planted the crop. Pumpkins were not planted in Micheweni and Mkoani Districts (Chart 2.46 and Map 2.43).

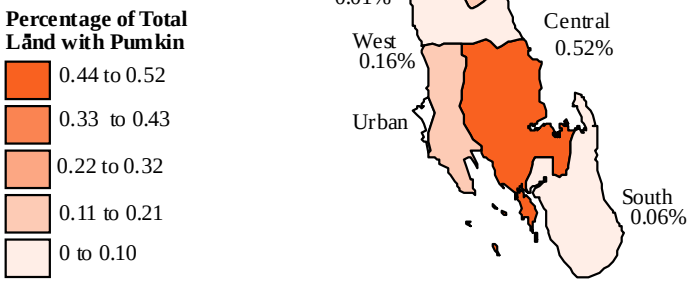
The district that had the highest proportion of it's total land area planted with pumpkins was Central District (0.52%) and others had much smaller proportions (Chart 2.46 and Map 2.44).

Map 2.43 Zanzibar,
Planted Area and Yield (t/ha) of Pumkin by District

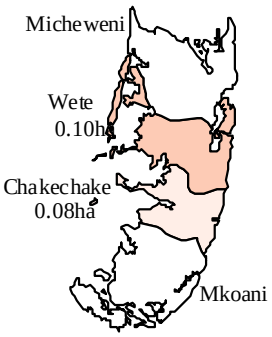


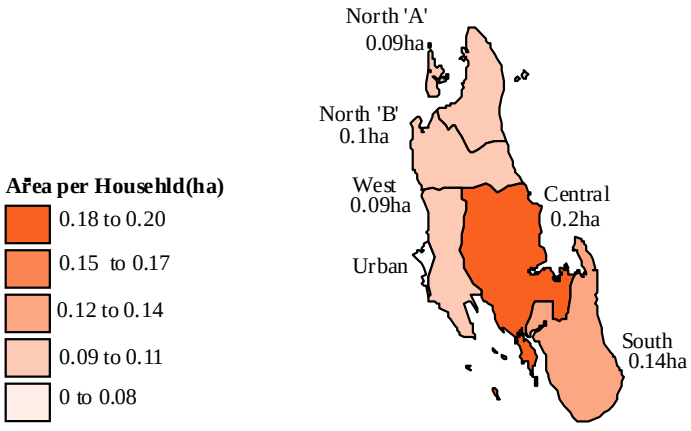
Map 2.44 Zanzibar,
Pumkin Area Planted as a
Percent of Total Land Area by District





Map 2.45 Zanzibar,
Area Planted with Pumkin per
Growing Household by District





2.3.9 Cash Crop Production

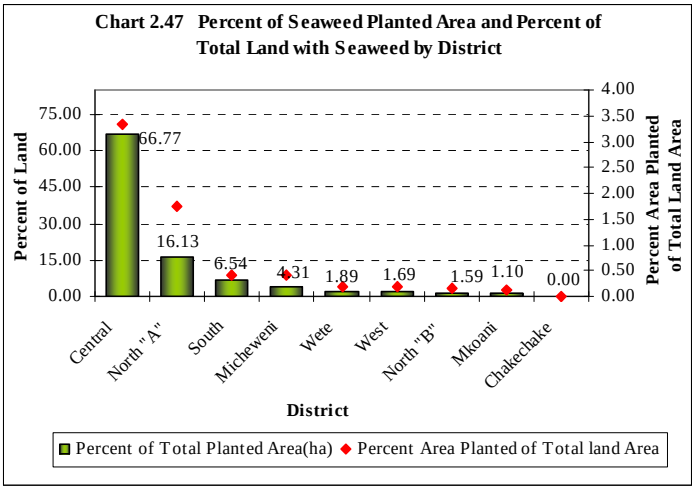
Cash crops are crops that are primarily cultivated for the market be it local or international and very little, (if any), of the crop is consumed by the farming household e.g. seaweed, tobacco, cloves, turmeric, ginger, chills etc. Fruits and vegetables are normally produced in excess of households consumption needs. The extra product is sold to generate cash income. However, fruits and vegetables aren't considered to be cash crops in this census.

Seaweed

The number of households that cultivated seaweeds was 4,146 during the short rainy season and 3,162 in the long rainy season. These represented 14 percent and 4 percent of the total households that planted crops in the respective seasons. The total area planted with seaweed was 2,579 hectares; 53 percent of the area was planted in short rainy season and 47 percent in long rainy season. The annual production was 5,528 tonnes; 49 percent produced in short rainy season and 51 percent in the long rainy season. The annual yield was 2.14 tonnes/ha; 1.96 tonnes/ha in short rainy season and 2.35 tonnes/ha in long rainy season.

Central District accounted for 36 percent of the annual production followed by North 'A' (28 percent). The seaweed was not common in Wete, Micheweni and Mkoani districts that jointly accounted for 14 percent of the production. Seaweed was not cultivated in Chakechake District. The yield in Mkoani which account 8 percent in total annual production was the highest (16.64 tonnes/ha.) followed by South District (6.49 tonnes/ha.) while in Central district (main producer) the yield was only 1.16 tonnes/ha (Map 2.46).

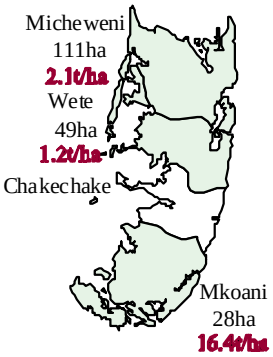
Chart 2.47 Percent of Seaweed Planted Area and Percent of Total Land with Seaweed by District

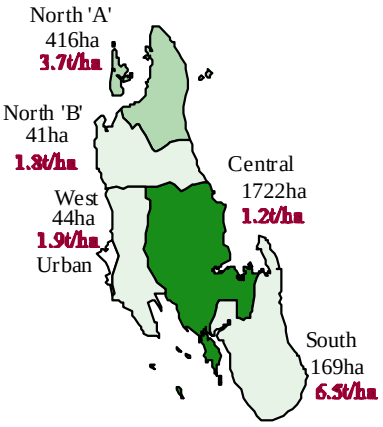


Central District accounted for 67 percent (1,722ha) of the area planted with seaweed followed by North 'A' 16 percent (415ha) while Mkoani District accounted for the smallest area planted with the crop (1 percent, 28ha) (Chart 2.47).

The highest proportion of the district land area planted with seaweed was 3.34 percent in Central District followed by 1.73 percent in North 'A' and the smallest was 0.12 percent in Mkoani (Chart 2.47).

**Map 2.46 Zanzibar,
Planted Area and Yield of
Seaweed (t/ha) by District**

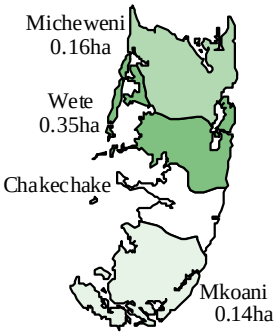


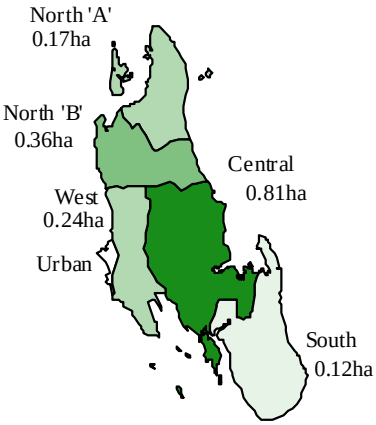


Planted Area(ha)

- 1,201 to 1,722
- 901 to1,200
- 601 to 900
- 301 to 600
- 0 to 300

**Map 2.47 Zanzibar,
Area Planted with Seaweed per
Growing Households by District**





Area per Household (ha)

- 0.60 to 0.81
- 0.45 to 0.59
- 0.30 to 0.44
- 0.15 to 0.29
- 0 to 0.14

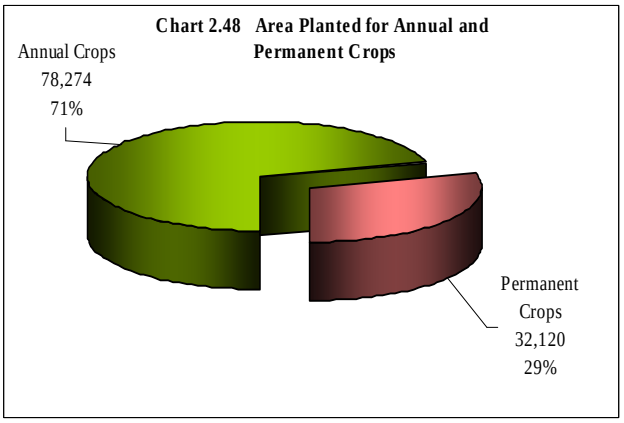
Other Cash Crops

About 45 tonnes of turmeric was produced in North 'A', Mkoani and West districts. The survey did not capture any data on turmeric production in Micheweni, Chakechake, Wete, North 'B' Central and South districts but it was understood that the crop was grown in some villages. Chillies was grown in North 'B', Central, West, South and Chakechake districts. Other cash crops such as cinnamon, cardamom, black pepper, vanilla, tobacco etc. were also grown in small quantities

2.4 PERMANENT CROPS

Perennial or permanent crops refers to crops that normally take over a year to mature and once mature can take a number of years being periodically harvested. Cassava, sugarcane and bananas are in a sort of transition between annual and perennial crops. Cassava has varieties that mature within a year and produce only one harvest, but there are some varieties that take more than 12 months before they are harvested. In this report, cassava is treated as an annual crop while Bananas and sugarcane treated as perennial crops. This part of the report present the results on production, yield and area planted of the most important perennial crops. About 68,756 households had permanent crops planted on 32,120 hectares and they represented 71 percent of the crop growing households.

Chart 2.48 Area Planted for Annual and Permanent Crops



In terms of planted area, the area planted with annual crops was about 2.5 more than area planted with permanent crops. However, the area planted with annual crops was not the actual physical land area as the annual crops planted area included land which had been planted more than once during the agriculture year, while the planted area for permanent crops was almost the same as physical land area. Therefore, the actual percentage of land area planted with annual crops was higher as indicated in chart 2.48

Chart 2.49 Area Planted with the Main Perennial Crops

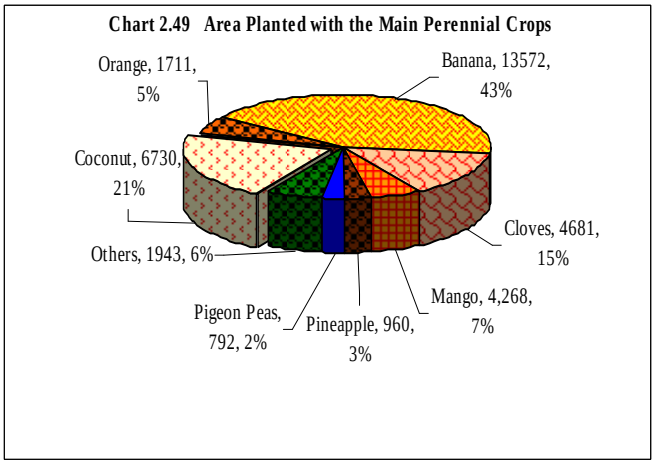
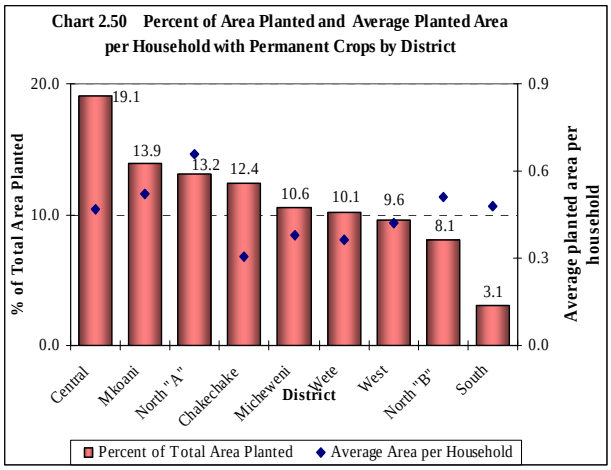


Chart 2.50 Percent of Area Planted and Average Planted Area per Household with Permanent Crops by District



Banana occupied a bigger area than any other permanent crop (43 percent of the area occupied by permanent crops) followed by coconut (21 percent), cloves (15 percent), mango (7 percent), orange (5 percent), pine apple (3 percent), pigeon peas (2 percent) and the other crops jointly occupied 4 percent (Chart 2.49).

Central District had the largest area under permanent crops (6,137ha, 19.1 %), followed by Mkoani (4,477ha, 13.9 %), North 'A' District (4,226ha, 13.2 %) whilst South District had the lowest area (980 ha 3.1 %) (Chart 2.50).

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

Crop	Area Planted (ha)	Area Harvested(ha)	Quantity Harvested (tonnes)	Yield(t/ha)
Banana	13572	10703	43792	3.23
Coconut	6730	4512	13938	2.07
Cloves	4681	3287	3721	0.80
Mango	1732	1372	6546	3.78
Orange	1711	1355	8283	4.84
Pineapple	960	779	3536	3.68
Pigeon Peas	792	720	313	0.40
Others	**1943**	1346		
Total	**32120**	**24075**		

In terms of area of permanent crops planted expressed as a percentage of the total area per district Mkoani had the highest (19 percent) followed by North 'A' (17.6 percent), Chakechake (17.3 percent) followed by West and Wete (13 percent each) and the lowest was South District (2.4 percent).

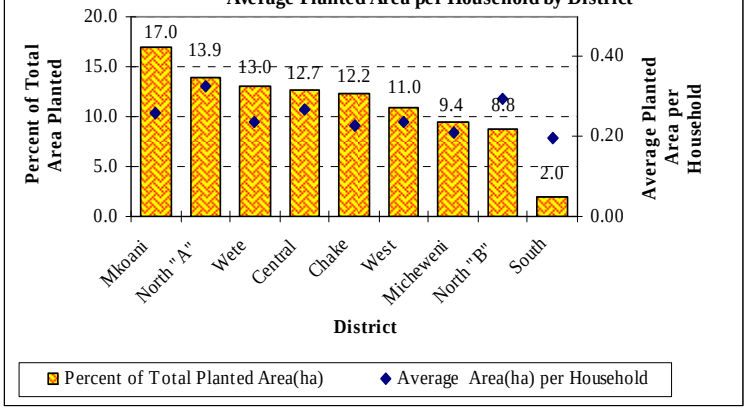
2.4.1 Banana

Banana is a food crop cultivated in all districts and occupied in area bigger than any other permanent crop.

The crop was grown by 53701 households which represented about 56 percent of crop growing households. The crop was cultivated from 13,572 hectares with a total production of 43,792tonnes.

The district with the highest production of banana was Mkoani which accounted for 18 percent of the annual production, followed by North 'B' and West districts producing 14 percent each, Chakechake 13 percent while South district produced the least amount (2 percent of the total production).

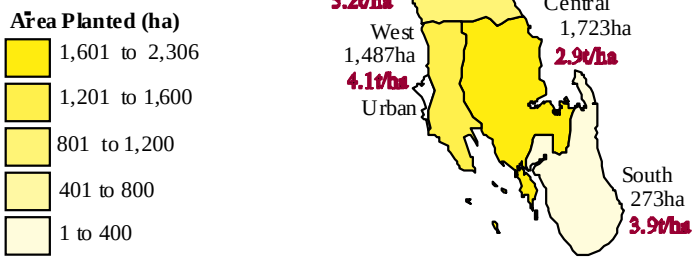
Chart 2.51 Percent of Area Planted with Banana and Average Planted Area per Household by District



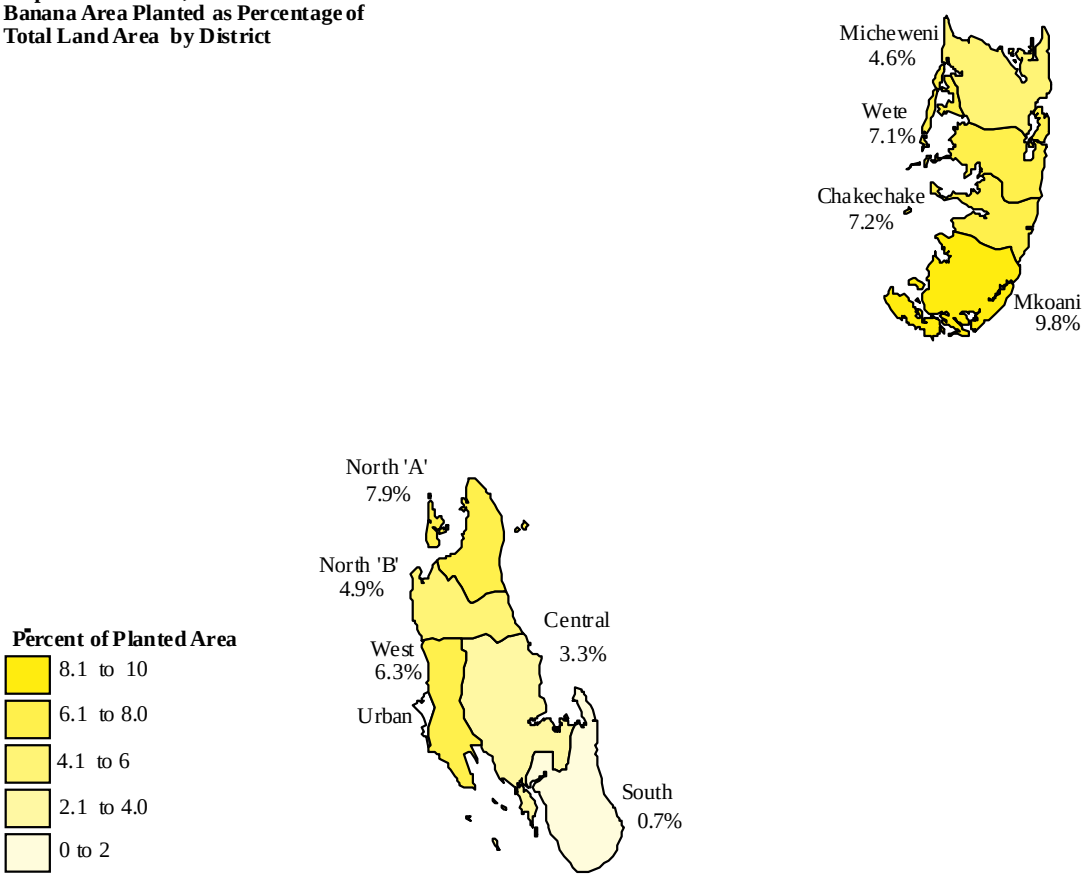
Banana was second to cassava as a crop cultivated by most households. Chakechake and Mkoani districts had 73 and 72 percents of the crop growing agriculture households within the districts cultivating banana followed by Wete District 62 percent, Central District 61 percent, North 'B' and Micheweni districts accounted 46 percent each whilst South District had the least proportion (33 percent) of households that had bananas (Chart 2.51).

Mkoani District account for 17 percent of the area planted with bananas, followed by North 'A' District (13.9 percent) and South District had the least planted area of bananas (2 percent). The average area planted with banana per banana growing household was 0.25 ha but there were some variations between districts ranging from 0.31 ha in North 'A' to 0.15 ha in South District.

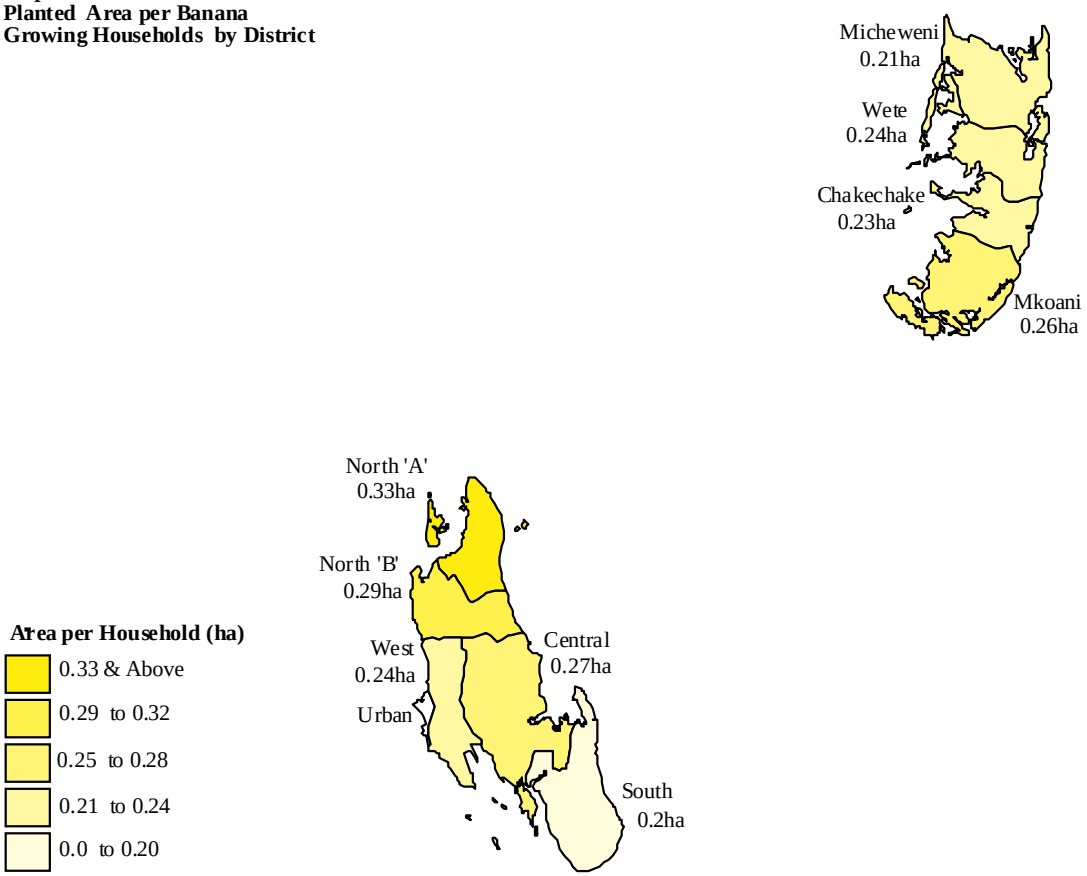
Map 2.48 Zanzibar, Planted Area and Yield of Banana (t/ha) by District



Map 2.49 Zanzibar,
Banana Area Planted as Percentage of
Total Land Area by District



Map 2.50 Zanzibar,
Planted Area per Banana
Growing Households by District

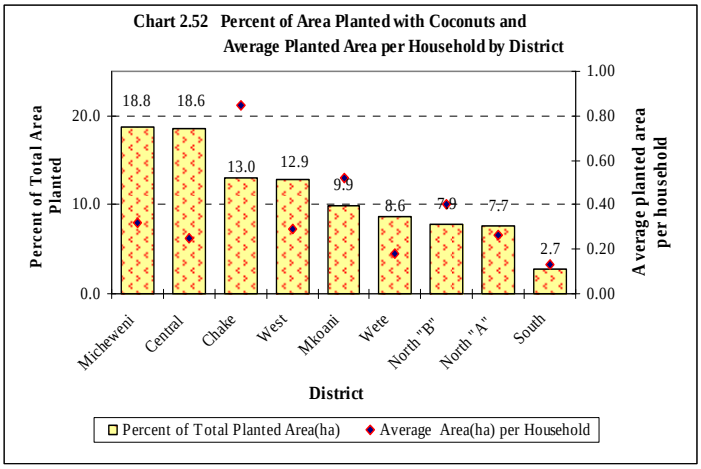


2.4.2 Coconuts

The number of households that had coconut trees was 22,012 which represented 23 percent of crop growing households. A total of 6,730 hectares were planted with coconut trees and the annual production was 13,938 tonnes.

Coconut trees were found in all districts of Zanzibar but Central district had the highest production (24 percent of total production) followed by West District (21 percent) whilst the least production was in South District which accounted for only 2 percent. The yield was 2.07 tonnes/ha but it varied with district e.g 2.65 tonnes/ha in Central District, 3.40 tonnes/ha in West District whilst in South District it was 1.80 tonnes/ha.

Micheweni and Central Districts had the highest area planted with coconut 19 percent of the area each (1,265ha and 1,252ha), followed by Chakechake and West Districts 13 percent each (873ha and 866ha) whilst South District Accounted the least area only 3 percent (181ha) of coconut planted area (Chart 2.52 and Map 2.51).

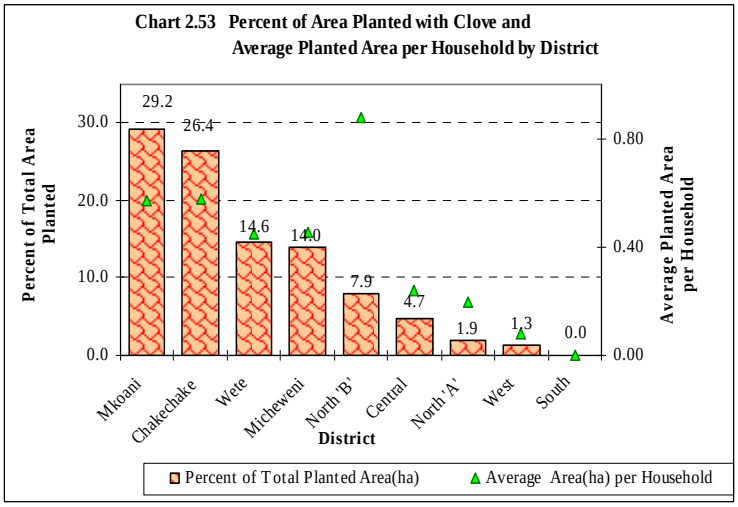


The average area planted with coconut per coconut growing household was 0.31 ha but it varied with district from 0.8ha in Chakechake District to 0.2ha in South District (Chart 2.52 and Map 2.53)

2.4.3 Cloves

Clove trees have been planted with a major purpose of generating cash, both local and foreign needed by the households and the government respectively.

About 10,106 households (10 percent of crop growing households) had clove trees from which they produced 3,721 tonnes of the product in 2002/03 agriculture year.



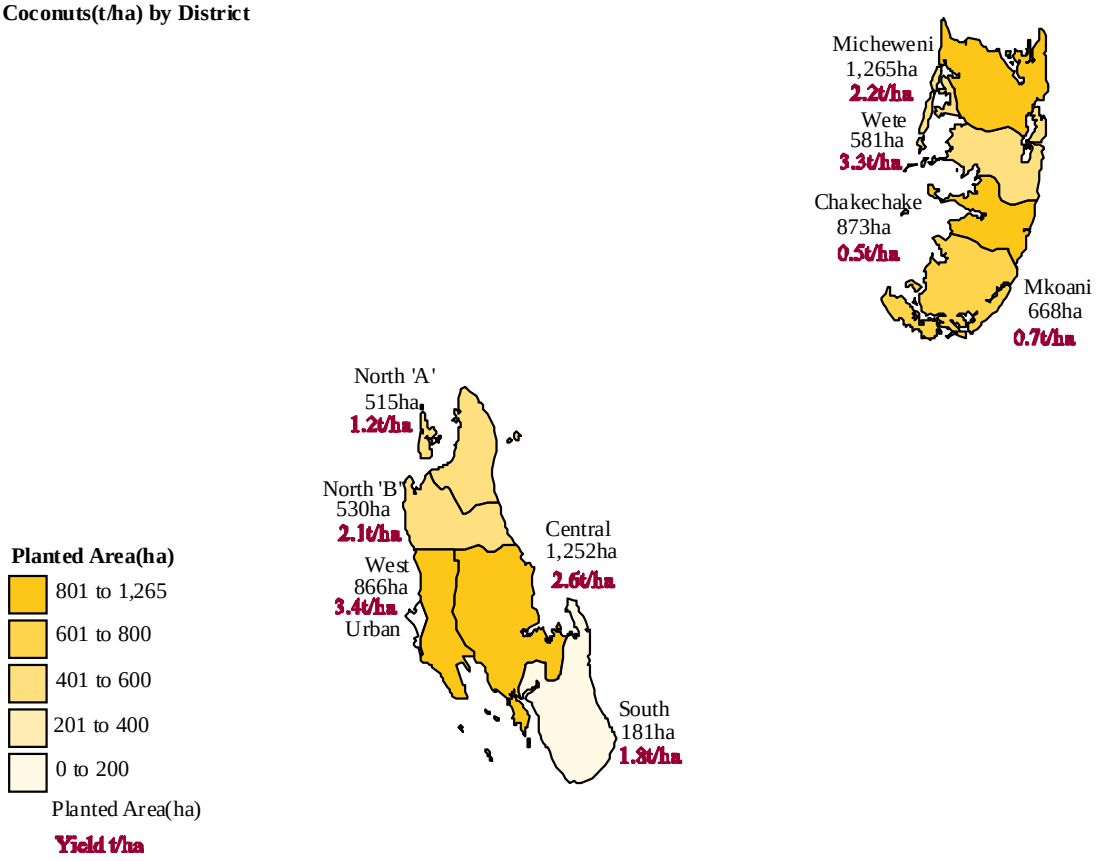
The total area planted with cloves was 4,681 hectares and production was mostly concentrated in Mkoani with 28 percent of total production, followed by Chakechake (25 percent), Micheweni (19 percent) and Wete (13 percent). North 'B' District accounted only four percent of the total production, while the crop was not grown in the South District.

Mkoani District accounted for 29 percent of

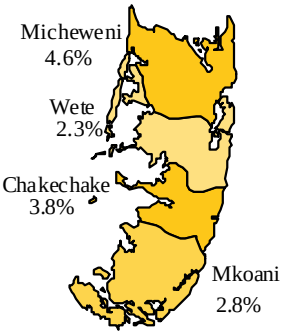
the area (1,367ha) planted with clove trees, followed by Chakechake (26 percent, 1,237ha of the area) whereas West District accounted for only 1 percent, (63ha) of the planted area (Table 2.53 and Map 2.54).

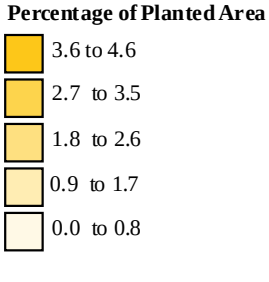
The average area planted with clove trees per clove growing household was 0.46 ha but it varied with districts being 0.88 ha in North 'B' District 0.58ha in Chakechake and 0.47ha in Mkoani. In Wete and Micheweni Districts the average area per household were 0.45ha ,While in West District it was 0.08ha (Chart 2.57 and Map 2.56).

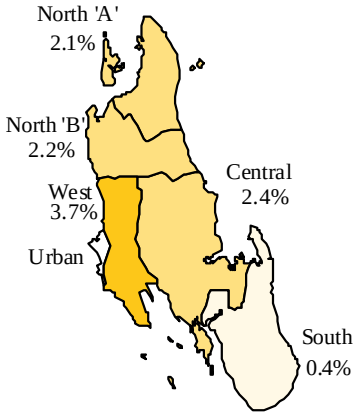
Map 2.51 Zanzibar, Planted Area and Yield of Coconuts(t/ha) by District



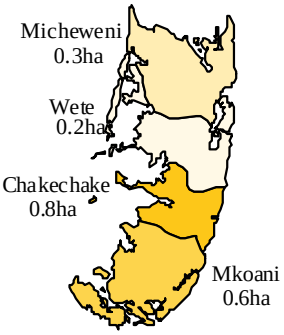
Map 2.52 Zanzibar, Coconuts Area Planted as a Percentage of Total Land Area by District

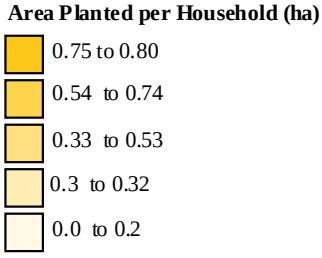


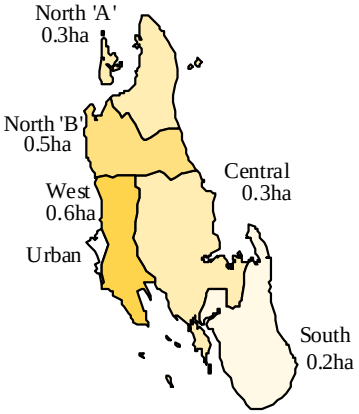




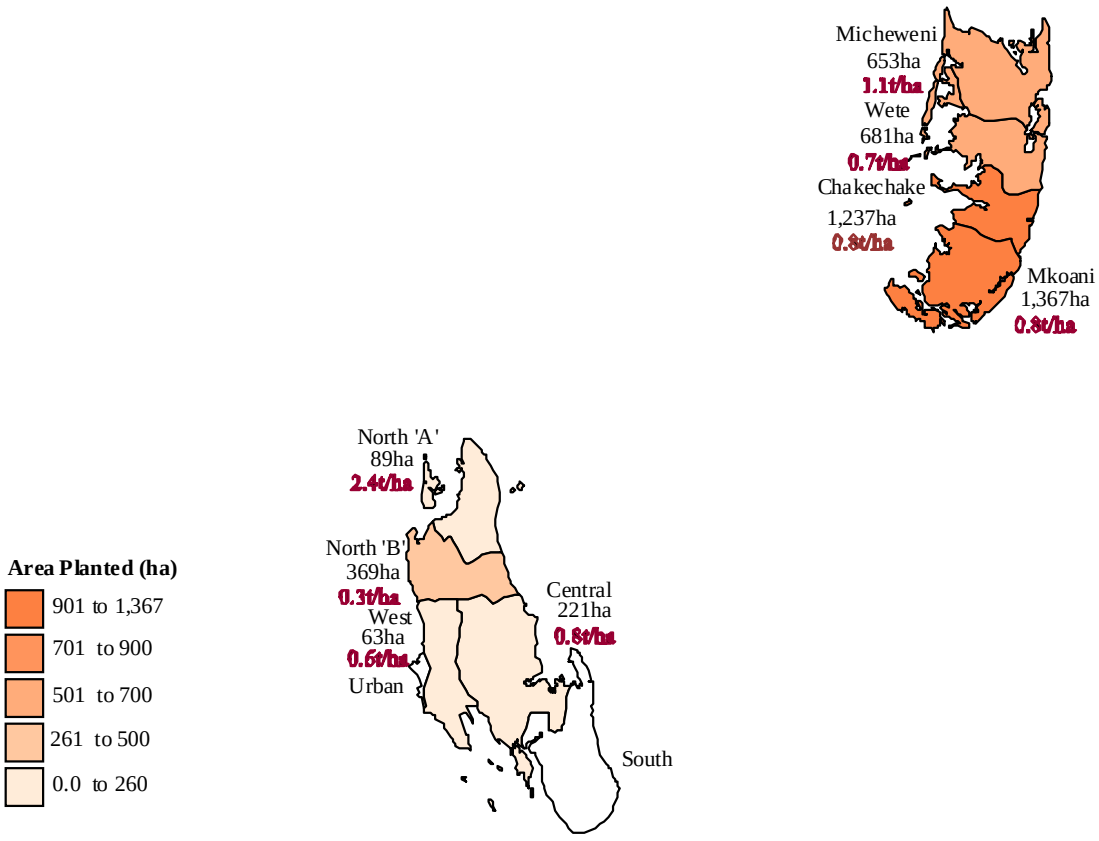
Map 2.53 Zanzibar, Area Planted with Coconut per Coconut Growing Households by District



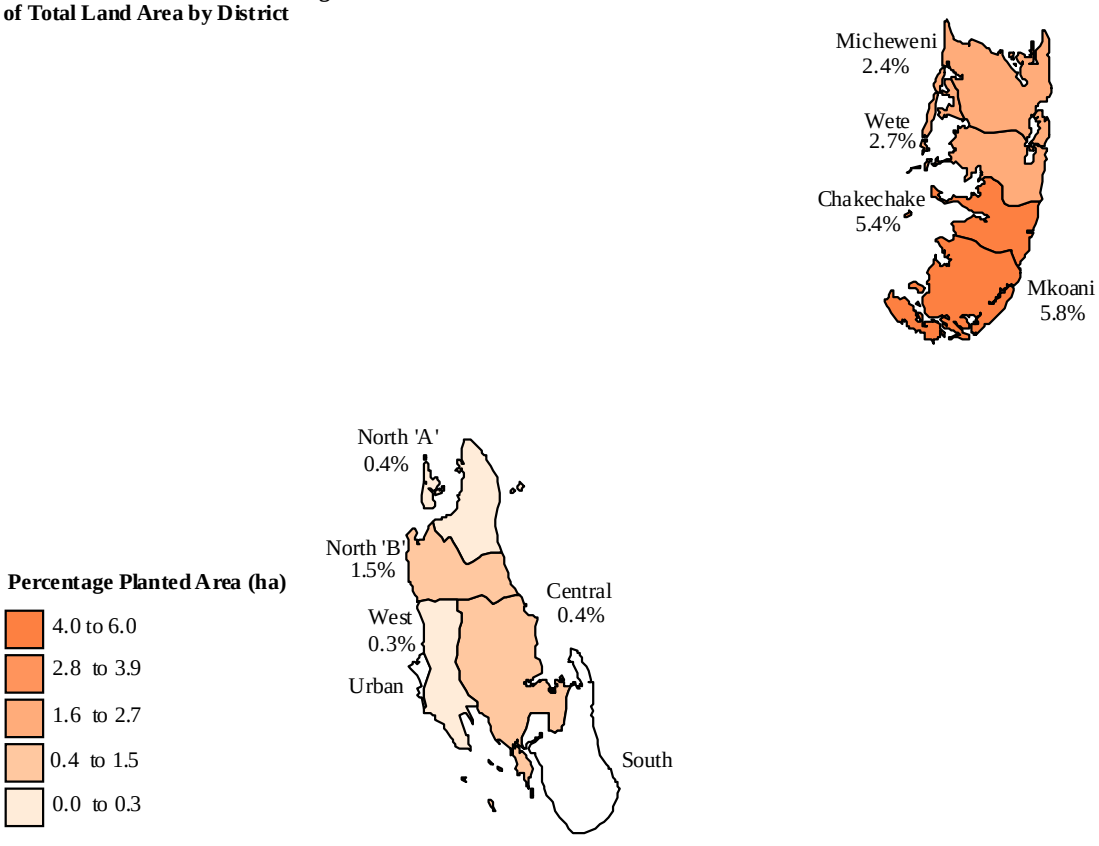




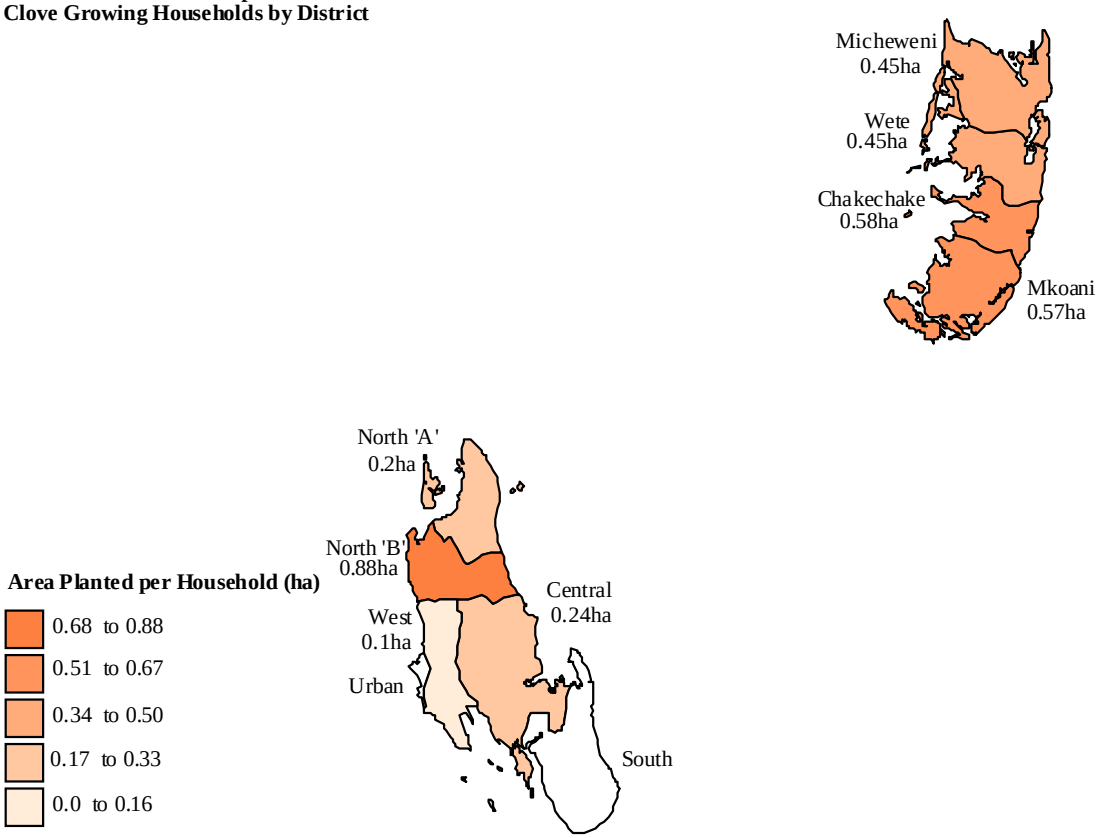
Map 2.54 Zanzibar,
Planted Area and Yield of Clove (t/ha) by District



Map 2.55 Zanzibar,
Clove Area Planted as a Percentage of Total Land Area by District



Map 2.56 Zanzibar,
Area Planted with Clove per
Clove Growing Households by District



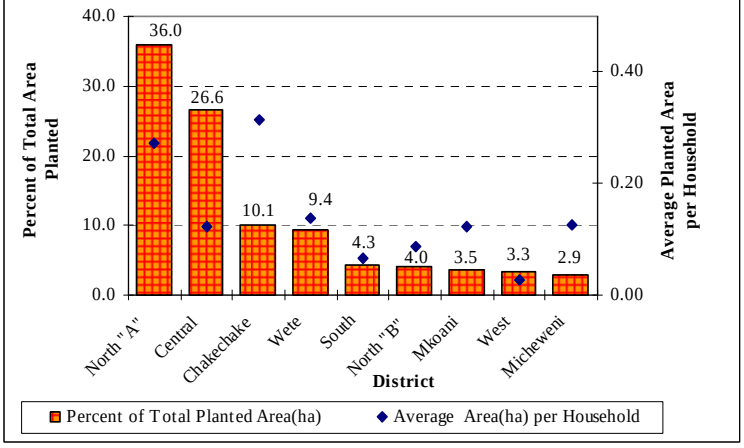
2.4.4 Mango

Mangoes are produced by smallholders in all districts of Zanzibar and 12,819 households (13 percent of crop growing households) owned at least one mango tree. In 2002/03 agricultural year, about 6,546 tonnes of mangoes were produced from 1,732 hectares occupied with mango trees.

Mango production was highest in Central District which accounted for 31 percent of the total production, North 'A' and Wete Districts each produced 15 percent of the product, North 'B' (12 percent) and Mkoani (9 percent) whilst the lowest production was in Micheweni District (3 percent of the total production).

North 'A' District accounted for 36 percent (623ha) of the area that was planted with mango, followed by Central District about 26.6 percent, (460ha), Chakechake 10.1 percent (175ha), whilst Micheweni District had the smallest area 2.9 percent (49ha) planted with mango trees (Chart 2.54 and Map 2.57).

Chart 2.54 Percent of Area Planted with Mangos and Average Planted Area per Household by District

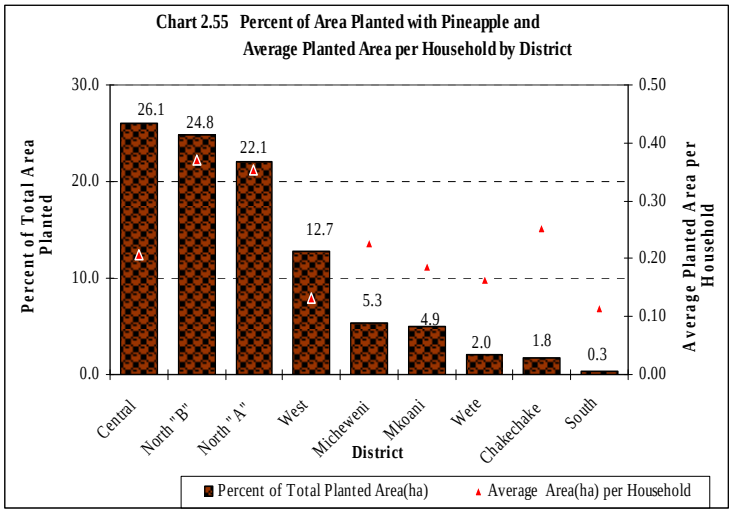


The average area planted with mango trees per mango growing household was 0.14ha but it varied with district e.g. 0.31ha in Chakechake District, 0.27ha in North 'A' District and less than 0.1 ha in West District (Map 2.59).

2.4.5 Pineapples

The total pineapple production was 3,536 tonnes harvested from 960 hectares and thus the average yield was 3.63 tonnes/ha but varied by district. Pineapple was grown by 4,068 households and these represented 4 percent of crop growing households.

Chart 2.55 Percent of Area Planted with Pineapple and Average Planted Area per Household by District



Pineapple production was more concentrated in North 'B' District which accounted for 54 percent of the total annual production, followed by North 'A' (19 percent) whilst Central District accounted for 15 percent. Other districts produced very little and there was almost no pineapple production in the South District. In terms of area planted there was not much difference between Central District (26 percent, 251ha), North 'B' (25 percent, 238ha), North 'A' District (22 percent, 212ha) (Map 2.60).

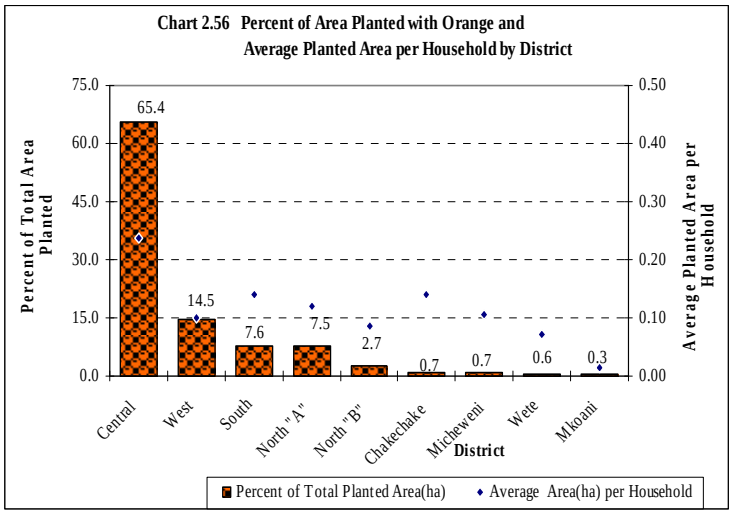
The average area planted with pineapple per pineapple growing household was 0.24 ha but varied between 0.37 ha in North 'B' to 0.11 ha in South District (Chart 2.55 and Map 2.62).

2.4.6 Oranges

The total production was 8,283 tonnes, harvested from 1,711 hectares resulting in the average yield of 4.84 tonnes/ha. A total of 10,384 households had orange trees and these represented 11 percent of crop growing households

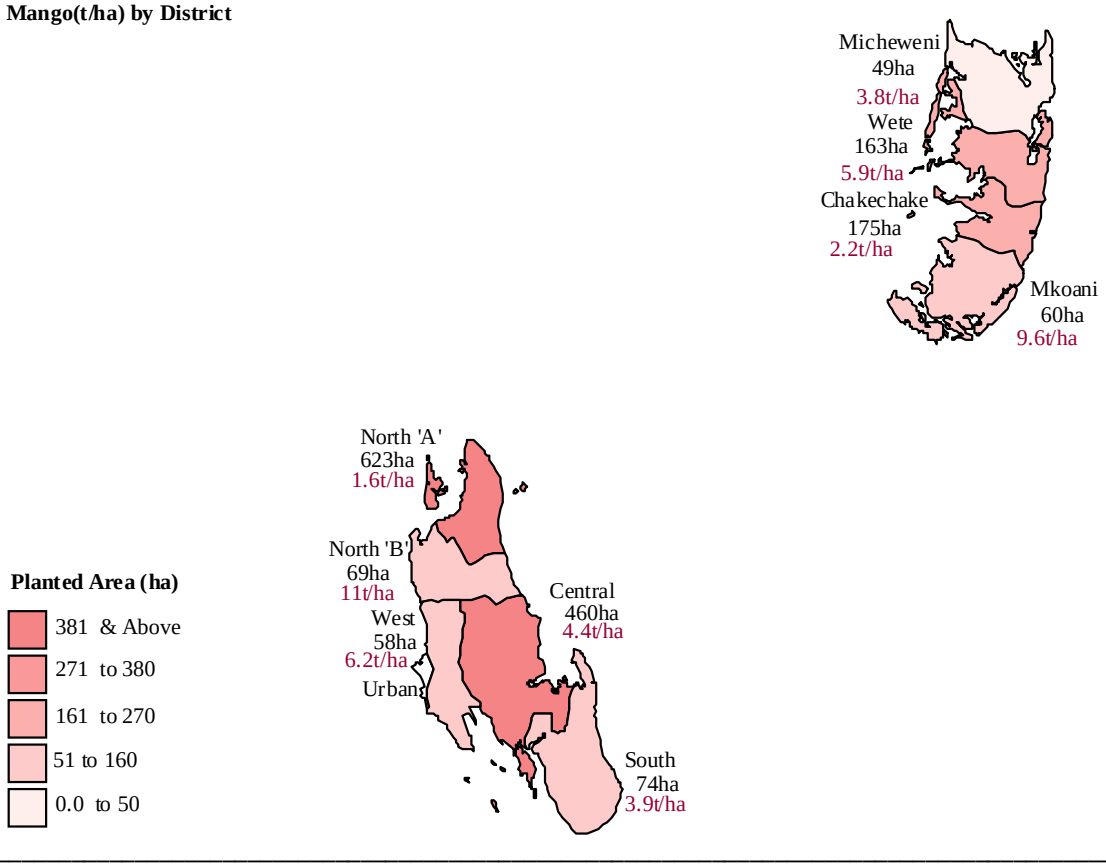
Oranges production was largely concentrated in the Central District which accounted for 59 percent of the annual production followed by West District (19 percent) and the lowest production was in Micheweni which accounted for 0.2 percent of the total annual production.

Chart 2.56 Percent of Area Planted with Orange and Average Planted Area per Household by District

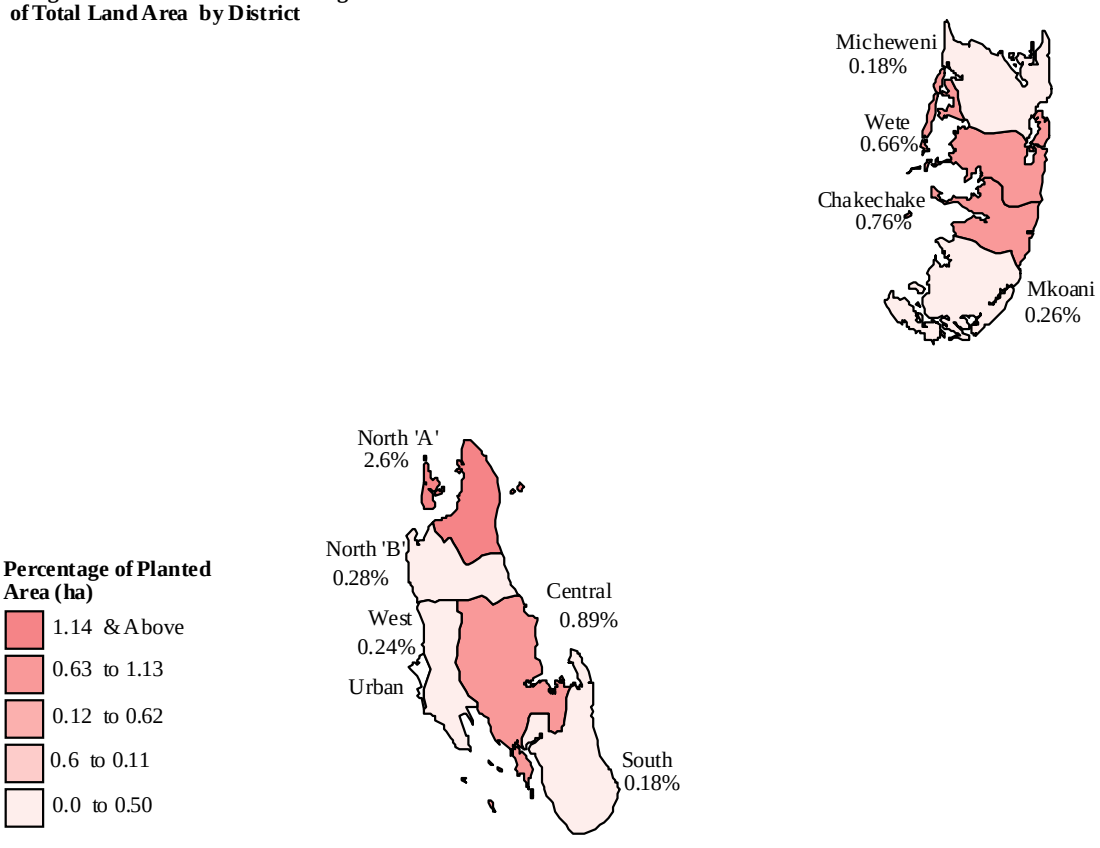


In terms of area planted with orange trees, Central District accounted for 65 percent followed by West District (15 percent) whilst the lowest area planted was in Mkoani with 0.03 percent of the area The average area planted with orange trees per orange growing household was 0.16 ha but varied from 0.24 ha in Central District to less than 0.1 ha in Wete and Mkoani districts (Chart 2.56).

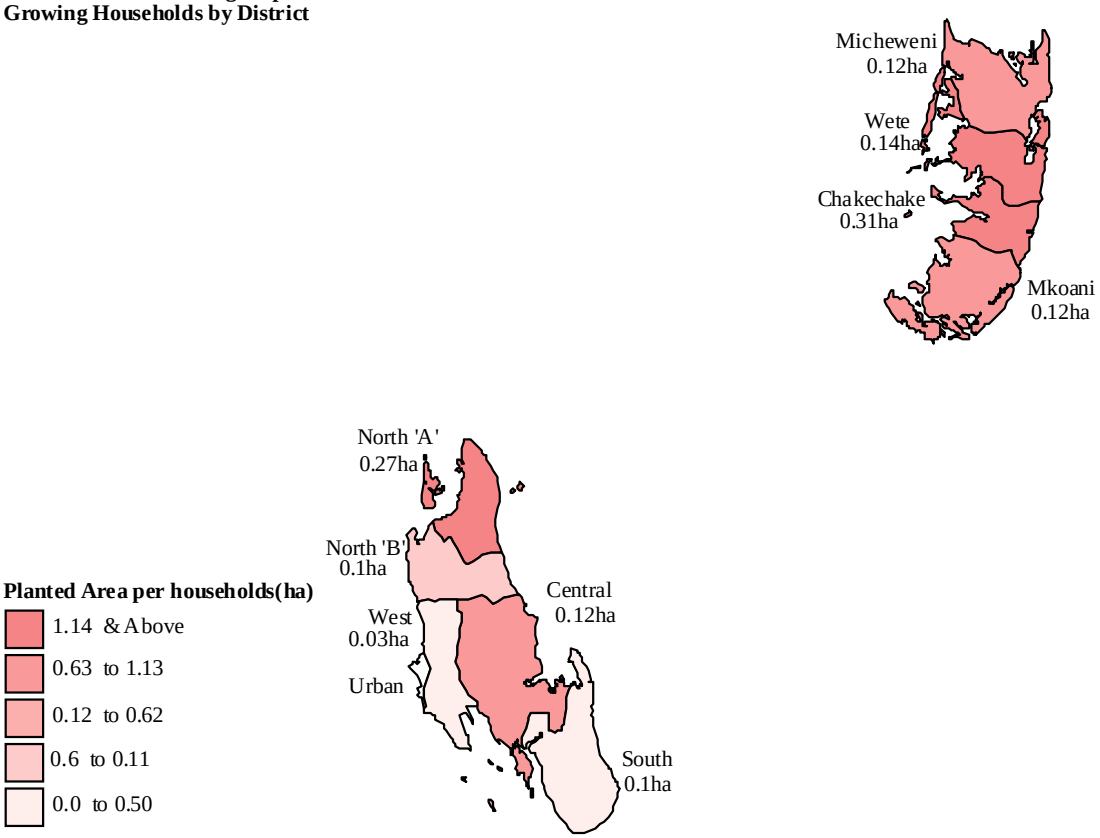
**Map 2.57 Zanzibar,
Planted Area and Yield of
Mango(t/ha) by District**



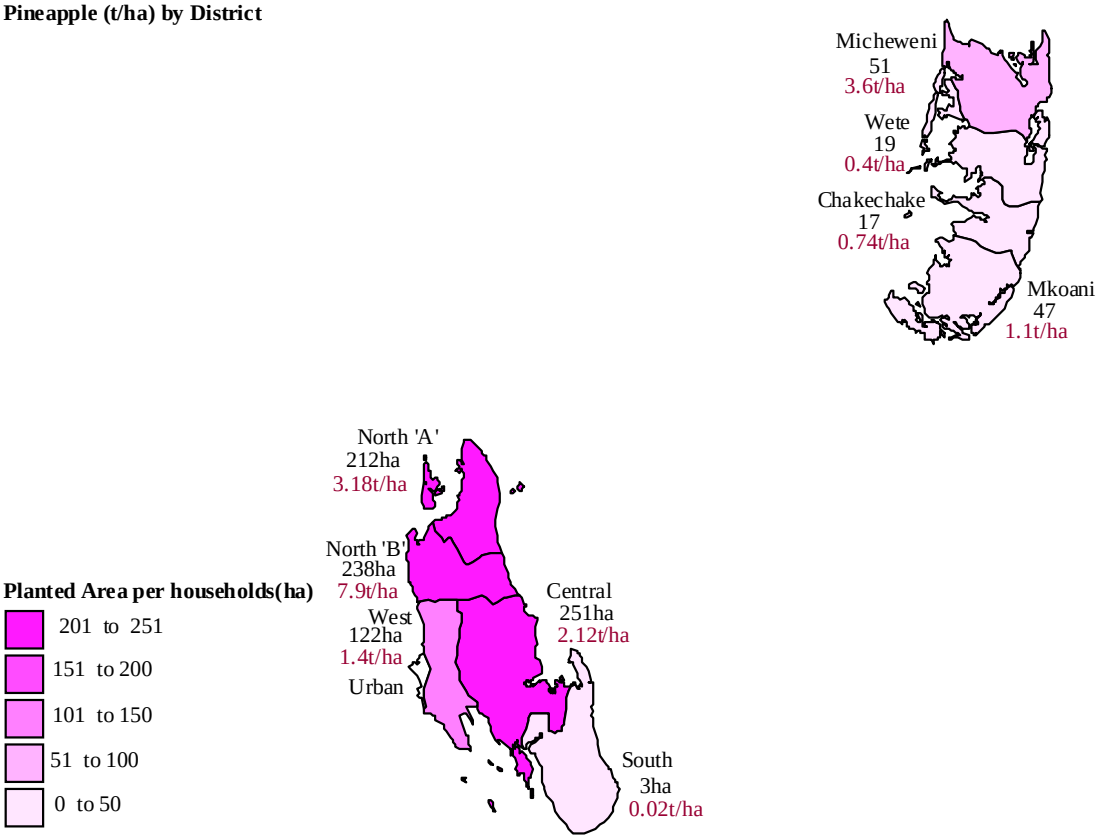
**Map 2.58 Zanzibar,
Mango Area Planted as a Percentage
of Total Land Area by District**



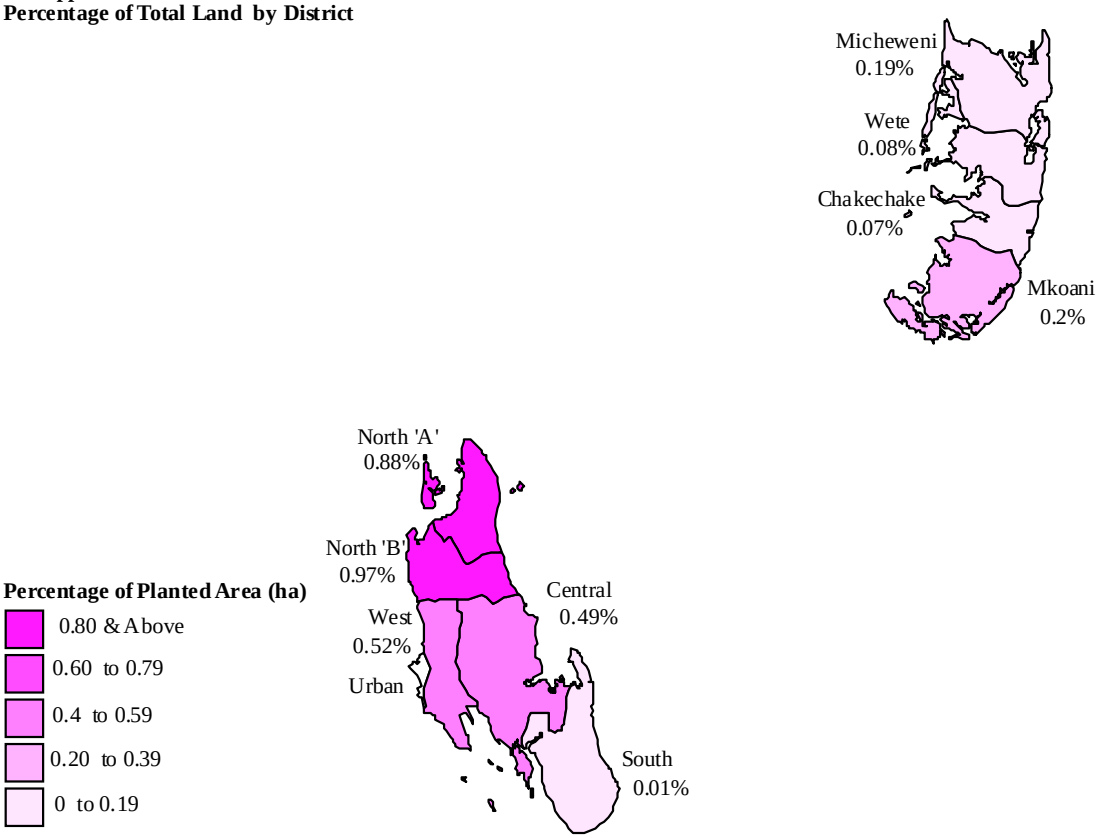
**Map 2.59 Zanzibar,
Area Planted with Mangoes per
Growing Households by District**



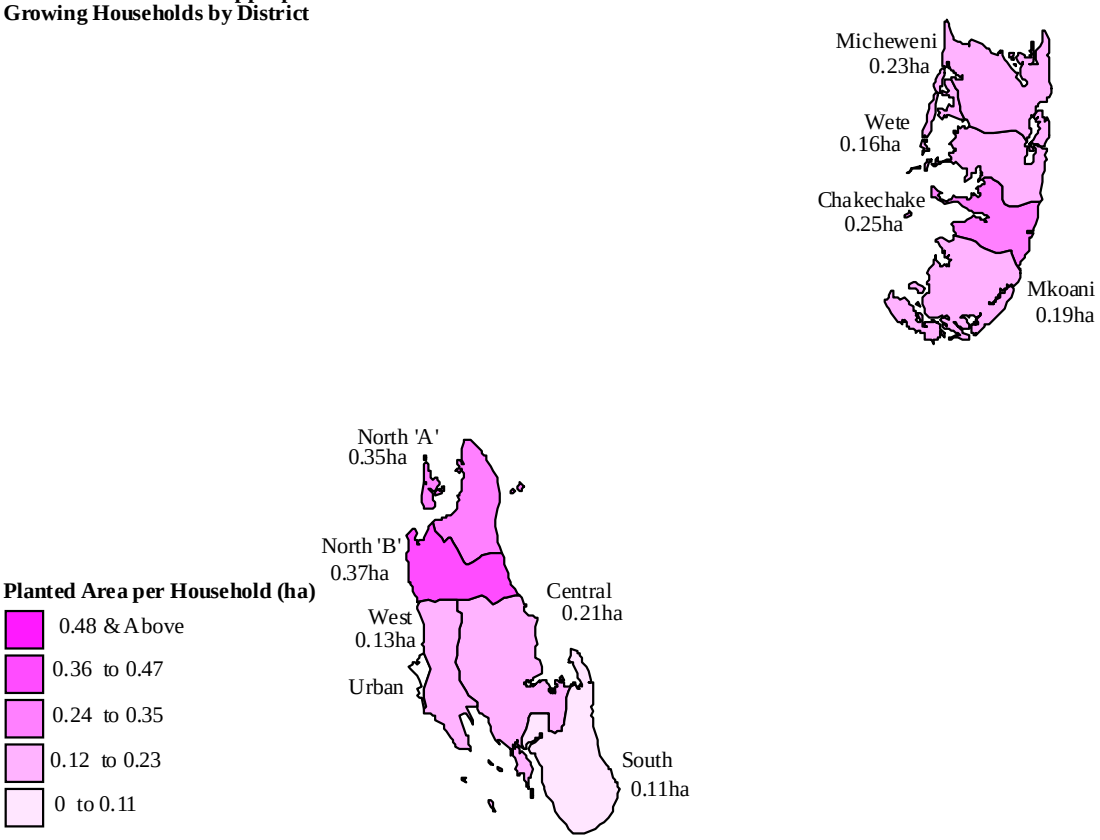
**Map 2.60 Zanzibar,
Planted Area and Yield of
Pineapple (t/ha) by District**



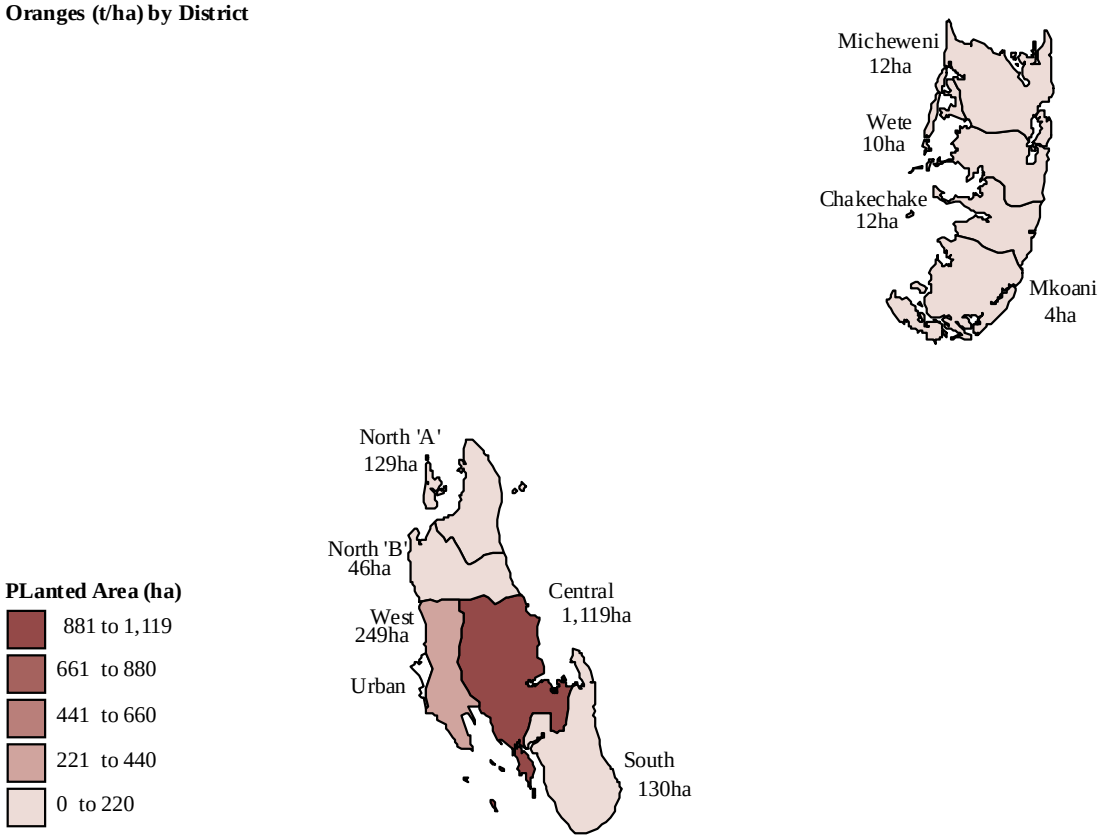
Map 2.61 Zanzibar,
Pineapple Area Planted as a
Percentage of Total Land by District



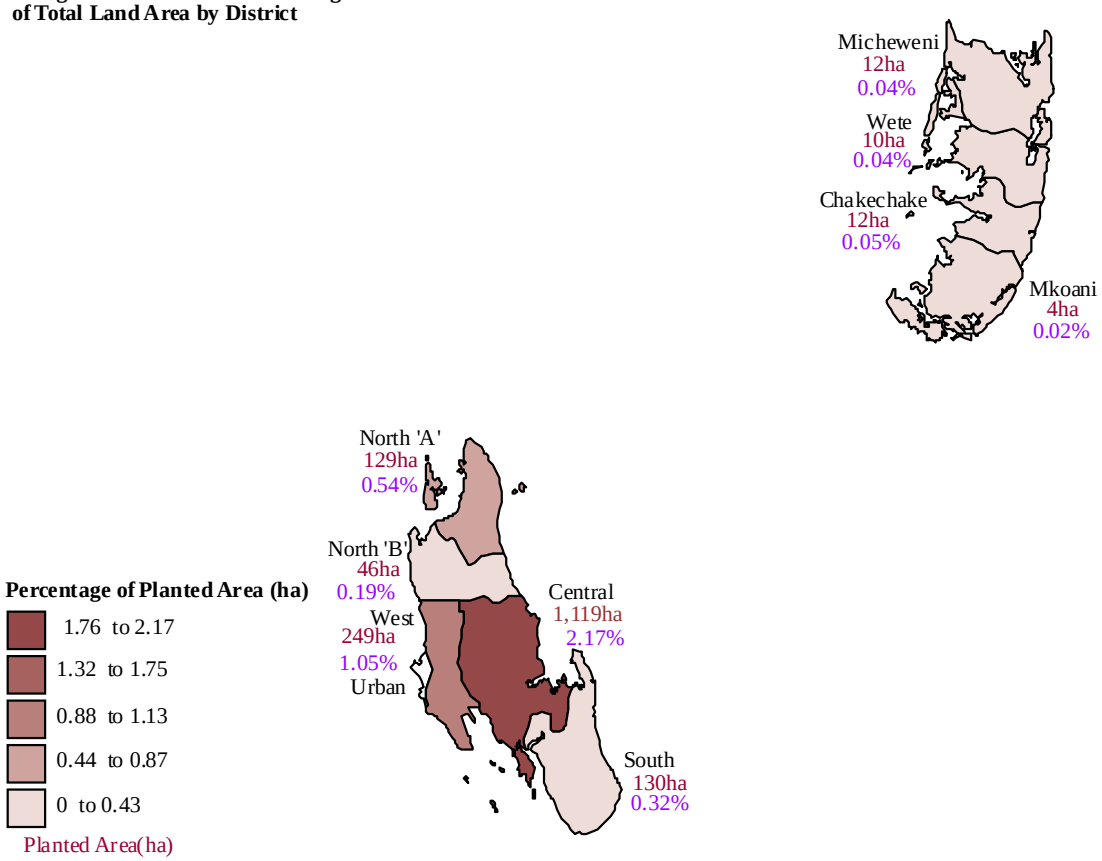
Map 2.62 Zanzibar,
Area Planted with Pineapple per
Growing Households by District



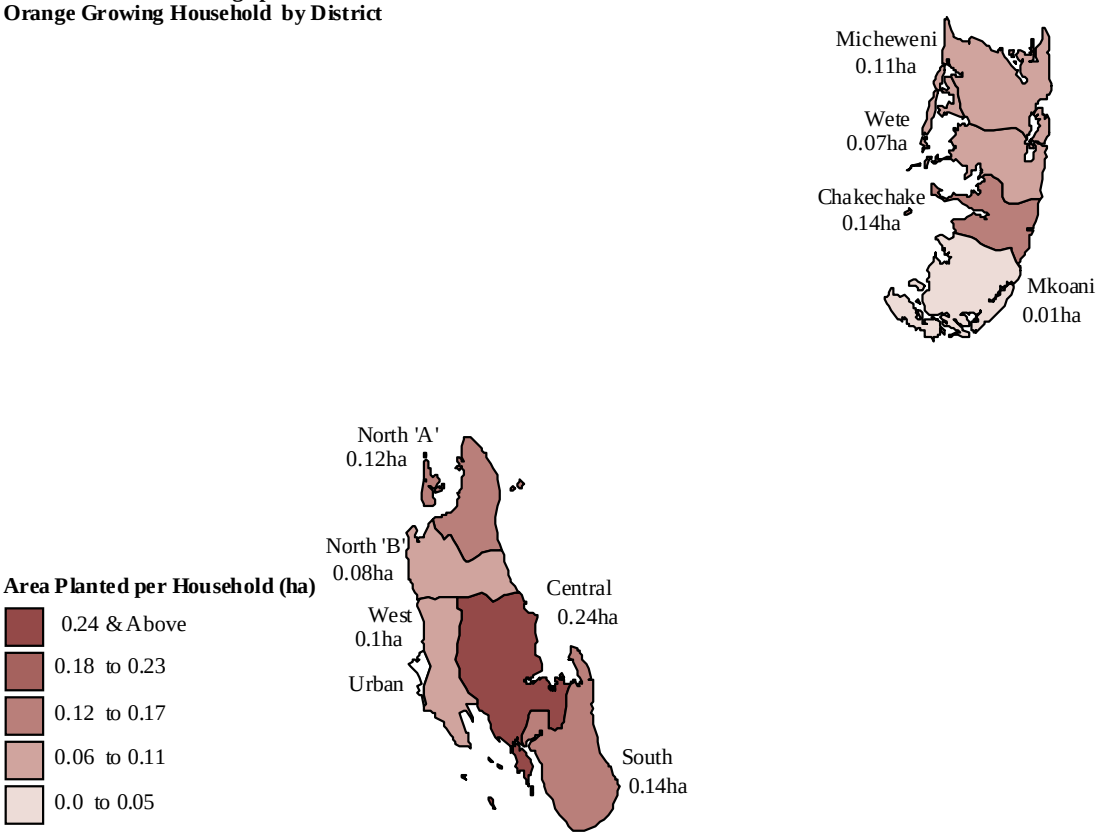
**Map 2.63 Zanzibar,
Planted Area and Yield of
Oranges (t/ha) by District**



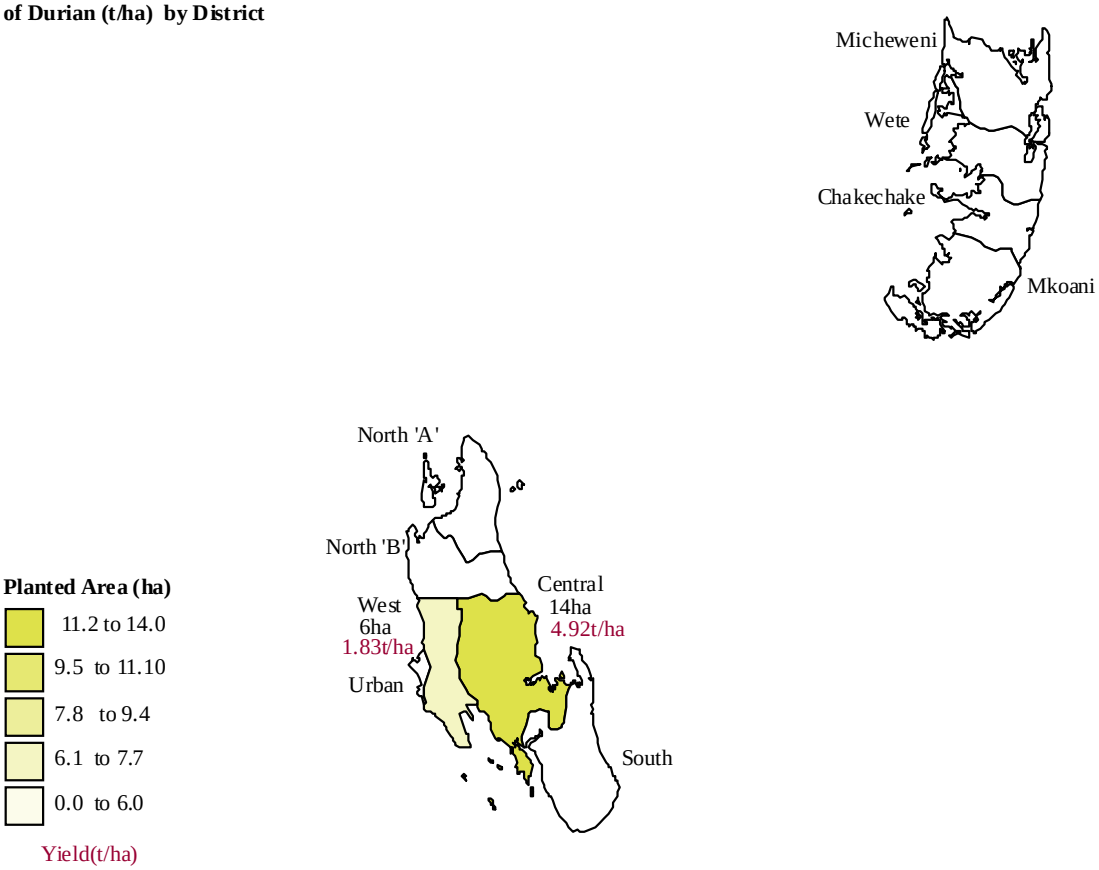
**Map 2.64 Zanzibar,
Orange Area Planted as Perccentage
of Total Land Area by District**



**Map 2.65 Zanzibar,
Area Planted with Orange per
Orange Growing Household by District**

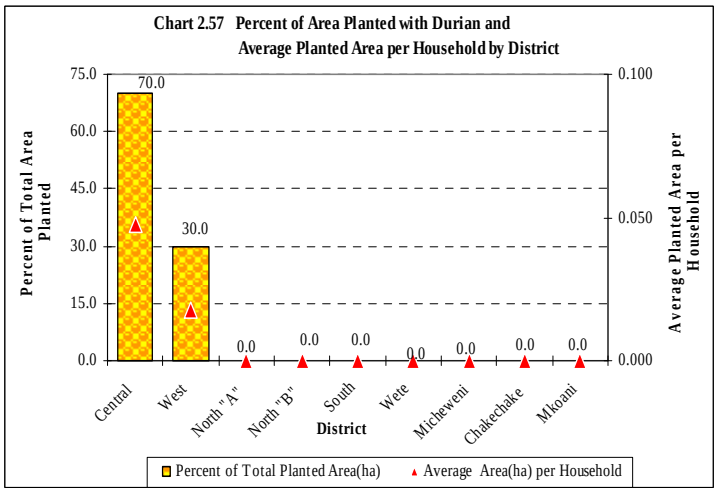


**Map 2.66 Zanzibar,
Planted Area and Yield
of Durian (t/ha) by District**



2.4.7 Durian

During 2002/03 agriculture census, durian trees were found planted only on Unguja Island and only in Central and West districts. However, it is commonly known that the crop is also grown in some districts. The number of households that planted durian trees was 646 and these represented less than one percent (0.66 percent) of crop growing households. The households produced only 80 tonnes of durian and yet, durian fruits were exported to other parts of East Africa and as fur as the Middle-East. The yield for durian was 4 tonnes/ha.



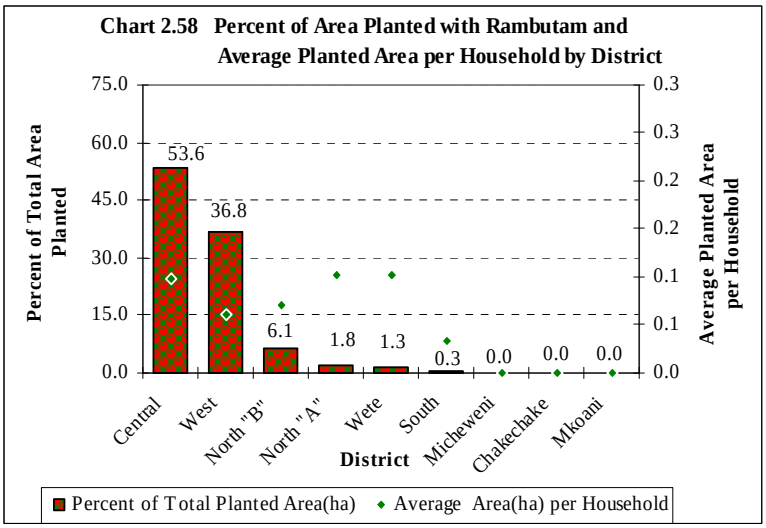
The area planted with durian was only 20 hectares and 70 percent of this area was in Central District and the remaining area was in West District. The average area planted with durian trees per durian growing households was only 0.03ha (Chart 2.57)

2.4.8 Rambutan

Rambutan was another crop that was mainly produced Zanzibar. Rambutan had a high demand and it was exported to other parts of East Africa and to Middle-East. About 1,908 households (2 percent of crop growing households) planted rambutan and their annual production was 504 tonnes.

Very little area was planted with the crop and the total area planted with rambutan was 150 hectares, mostly concentrated in Central district which accounted for 54 percent of the area planted with the crop followed by West district (37 percent) whilst North 'A', North 'B', South and Wete districts jointly accounted for the remaining 9 percent of the area.

West District was however, more important in the production of rambutan as the district accounted for 51 percent of the production followed by Central District (39 percent) whilst North 'B' and Wete jointly accounted for 10 percent. At the time of the census, rambutan was already planted in North 'A' and South Districts but was no production as yet. Rambutan was not reported in Micheweni, Chakechake and Mkoani districts. The average area planted with rambutan per rambutan

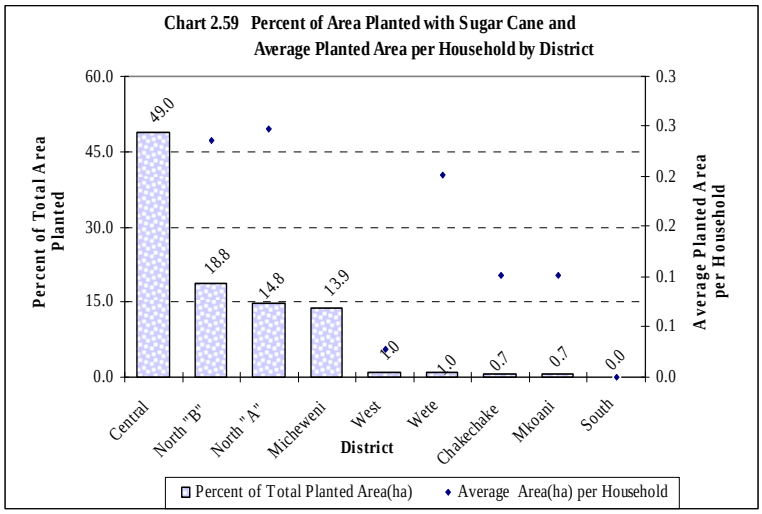


growing household was less than 0.1 ha but there were variations with districts from the highest 0.11 ha to the lowest 0.03 ha (Chart 2.58).

2.4.9 Sugarcane

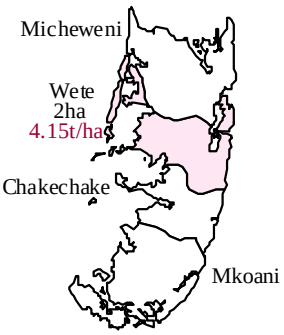
The total production of sugarcane by smallholders (excluding sugarcane produced by Mahonda Sugar Refinery farms) was 2,644 tonnes. About 975 households (one percent of crop growing households) were involved in sugarcane production and the yield was 8.04 tonnes/ha.

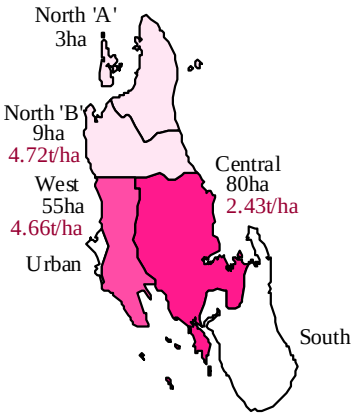
Chart 2.59 Percent of Area Planted with Sugar Cane and Average Planted Area per Household by District



About 329 hectares were planted with sugarcane but the highest area was in Central district which account 49 percent of the total area planted with the crop, followed by North 'B' (19 percent), North 'A' (15 percent) and Micheweni 14 percent. The crop was not grown in South District. The average planted area per sugarcane growing household was 0.34 ha. but varied with districts 0.70 ha in Central District and to than 0.1 ha in Mkoani District (Chart 2.59)

**Map 2.67 Zanzibar,
Planted Area and Yield
of Rambutan (t/ha) by District**





Planted Area (ha)

- 61 & Above
- 46 to 60
- 31 to 45
- 16 to 30
- 0.0 to 15

Yield(t/ha)

2.5 IRRIGATION

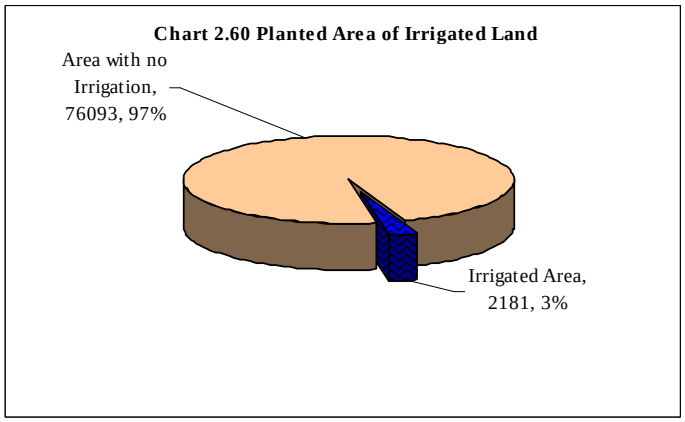
This section present the information on area under irrigation for different crops and the means by which water was extracted and applied to the crops.

Water was the most limiting factor to crop production and without it other inputs such as fertilizers, manure, improved seeds etc are not effective. Reliance on rain season was one of the major reasons that led to many households (77,467 households) to plant annual crops during the long rainy season compared to only 29,982 households that planted annual crops during the in short rainy season. Permanent crop seedlings are also planted during the long rainy season due to higher moisture content build up in the soil.

2.5.1 Area Planted with Annual Crops under Irrigation

The annual crops area that was irrigated was very small at 2,181 hectares (about 3 percent of the area planted with annual crops) (See chart 2.60). Of this, 1,283 hectares (62 percent of the irrigated area) were irrigated during the short rainy season and 38 percent during the long rainy season suggesting irrigation was mostly used to compliment rain water to ensure that the crops did not dry up due to water deficiency.

Chart 2.60 Planted Area of Irrigated Land



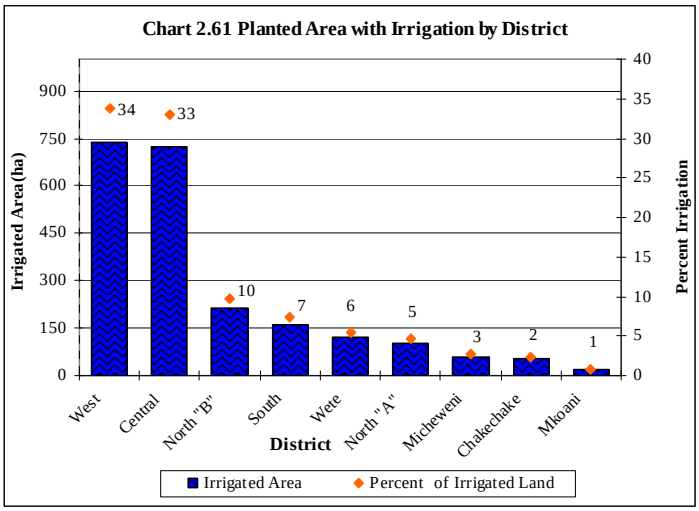
About 12 percent of the area planted with annual crops during short rainy season but during the long rainy season very little area (1 percent) planted with annual crops was irrigated (Table 2.8). About 79 percent of the area irrigated in the short rainy season was planted with fruits and vegetables and this type of annual crops accounted for 53 percent of the area irrigated during the long rainy season.

Table 2.9 Planted Area Under Irrigation by Season(Annual Crop Only)

Season	Area Under Irrigation(ha)	Area under Rainfed	Total Planted Area(ha)	Percent of Irrigated Area
Short Rainy	1,358	9,701	11,058	12.3
Long Rainy	824	66,394	67,218	1.2
Total	**2,181**	**76,095**	**78276**	**2.8**

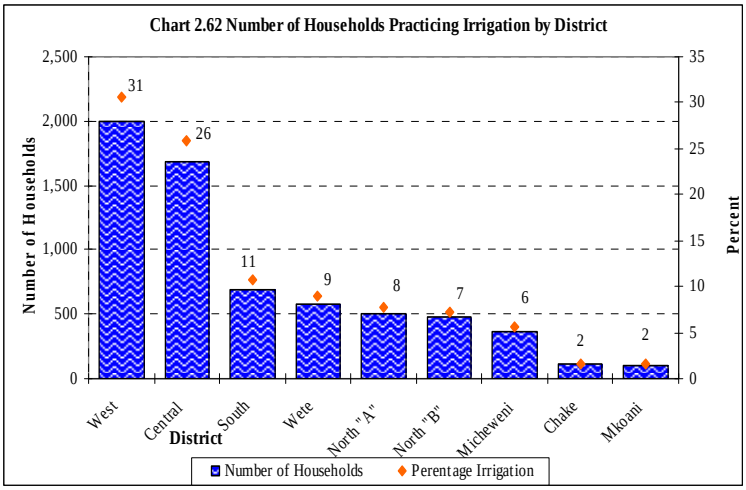
The districts with the largest land area of annual crops under irrigation were West District (736 ha, 34 percent of the irrigated area), followed by Central District (721 ha, 33 percent), North 'B' District (212 ha, 10 percent) and smallest area was in Mkoani District (18 ha, one percent) (Chart 2.61). When

Chart 2.61 Planted Area with Irrigation by District

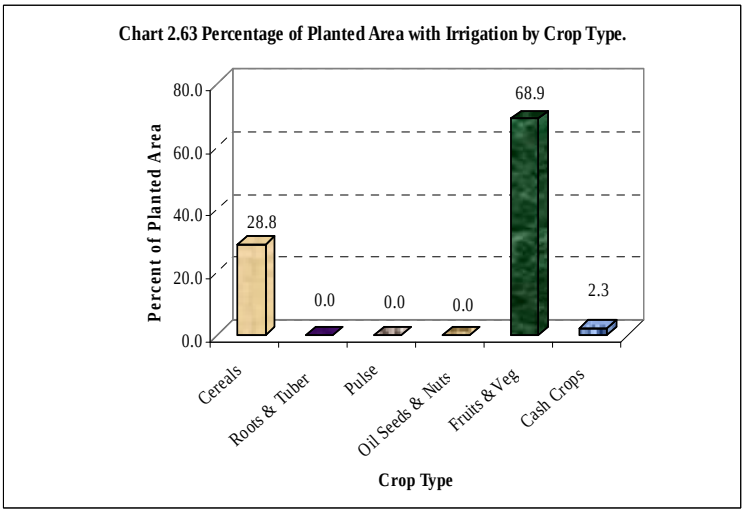


expressed as a percentage of the total irrigated area of annual crops to the total area planted with annual crops is expressed as percentage, West District had the highest percentage 12 percent of the area, followed by South District (9 percent) while Mkoani had the lowest percentage of only 0.2 percentage.

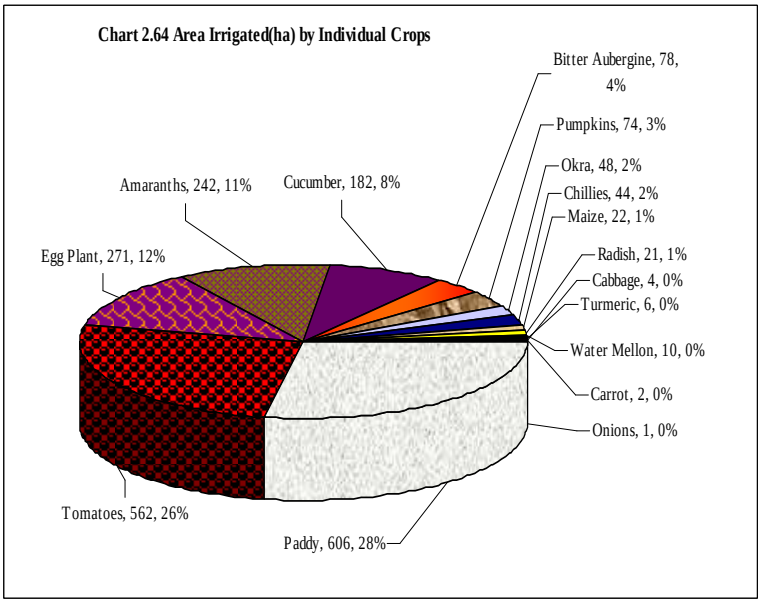
A total of 6,525 households (about 7 percent of crop growing households) practiced irrigation and most of these households were in West District (2,000 households, 31 percent) followed by Central District (1,687 households, 26 percent) whilst the districts with the lowest number of households that practiced irrigation were Mkoani and Chakechake with about 2 percent each (Chart 2.62).



Of all crop types fruits and vegetables had the highest percentage of area planted with irrigation. The area of fruits and vegetables under irrigation was 1503 hectares which represented 69 percent of the annual crops irrigated area and 32 percent of the area planted with fruits and vegetables, followed by cereals 628 hectares which represented 29 percent of the annual crop irrigated area and one percent of the area planted with annual crops. Root and tubers, pulses and oil seeds and nuts were not irrigated (Chart 2.63).



In terms of individual crops, paddy had the biggest irrigated area (606ha), followed by tomatoes (562ha), egg plant (271ha), amaranths (242ha.), cucumber (182ha.), bitter aubergine (78ha.) etc. (Chart 2.64)



2.5.2 Area Planted with Permanent Crops under Irrigation

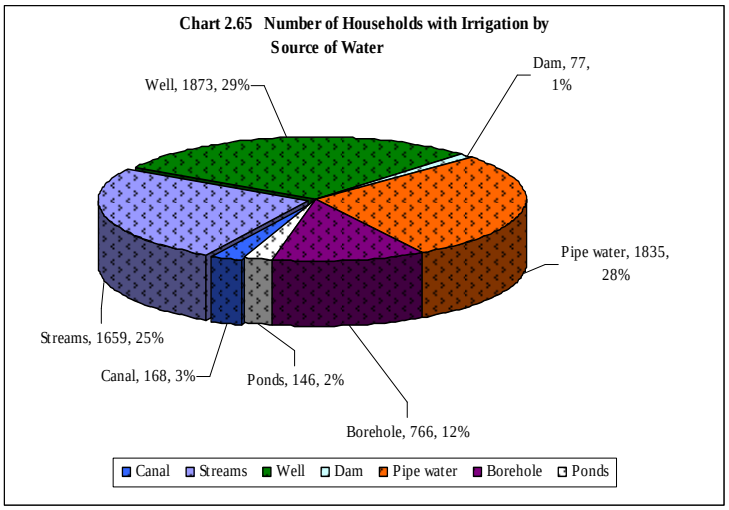
The planted area under irrigation for permanent crops was bigger then the irrigated

area for annual crops. The total planted area under irrigation for permanent crops was 4,072 hectares which represented about 13 percent of the area planted with annual crops. However, scantly irrigation was as it exercise was done on seedlings and once they developed root system to absorb moisture there was no further irrigation. Bananas had the largest irrigated area (1,705 hectares, 42 percent of the permanent crop irrigated area), followed by coconut (843 ha, 21 percent), cloves (580 ha., 14 percent) and oranges (220 ha, 5 percent)

2.5.3 Source of Water Used for Irrigation

The main source of water used for irrigation was wells (29 percent of the households with irrigation), followed very closely with pipe water (28 percent), streams (25 percent), boreholes (12 percent), from channels (3 percent) and ponds 2 percent (Chart 2.65).

Chart 2.65 Number of Households with Irrigation by Source of Water



Wells were the most common source of water for irrigation in Central, West and Wete districts, pipe water was very much used in West, Central and South Districts, Streams and bore holes were major sources of water for irrigation in West and Central districts (Chart 2.66).

Chart 2.66 Number of households with Irrigation by Source of Irrigation Water by District

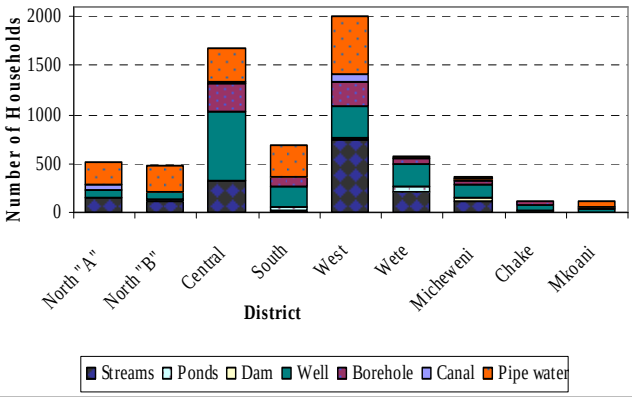
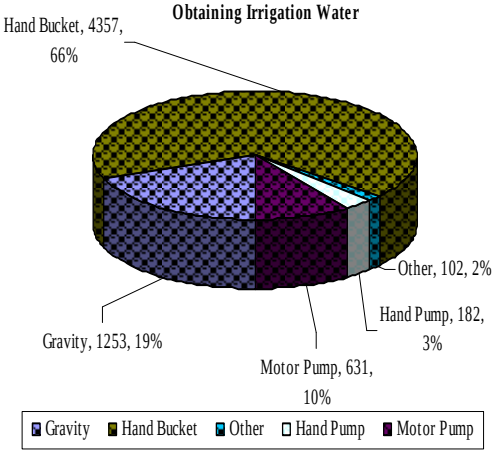


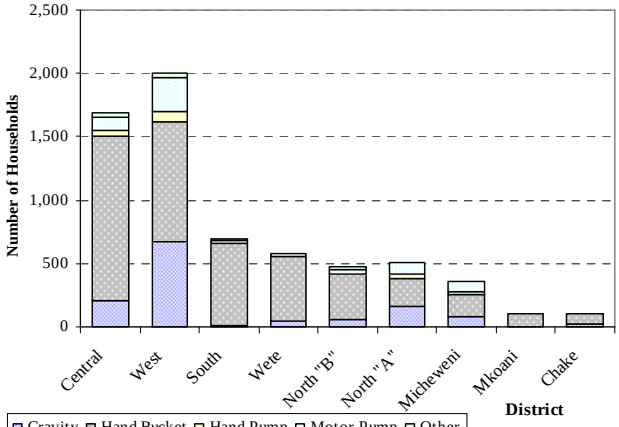
Chart 2.67 Number of Households by Method of Obtaining Irrigation Water



2.5.4 Methods of Obtaining Water for Irrigation

Hand bucket was the most common method of getting water for irrigation and 67 percent of the households with irrigation were using this method. The next method of obtaining water for irrigation was by gravity which was used by 19 percent of the households with irrigation, followed by motor

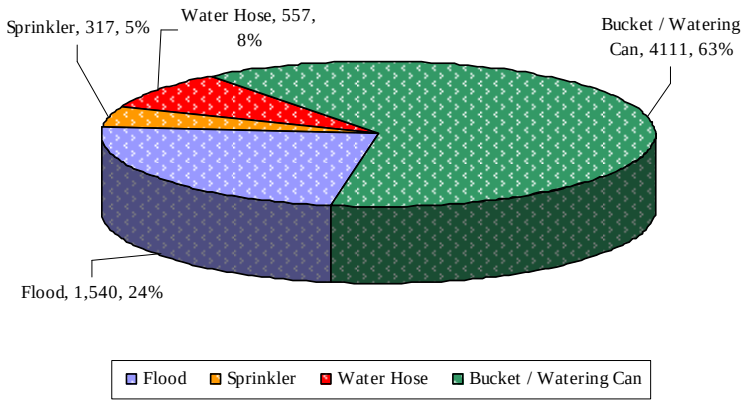
Chart 2.68 Number of Households with Irrigation by Method of Obtaining Irrigation Water by District



pump (10 percent) whilst hand pump (3 percent) and other methods (2 percent) were of minor importance (Chart 2.68)

In the West District, about 54 percent of the households with irrigation obtained the water for irrigation by gravity. The hand buckets was the only method of obtaining water for irrigation in Mkoani District, In South District 93 percent of the households obtaining water by this method, Chakechake (88 percent),Central District (76 percent) and the least use was recorded in North 'A' District (45 percent).(Chart 2.68).

Chart 2.69 Number of Households with Irrigation by Method of Field Application



2.5.5 Method of Water Application

The most common method of application for water for irrigation was the watering cans (used by 63 percent of irrigation households) and this was followed by use of flood irrigation (24 percent) and water hose (8 percent). Sprinklers were used by 5 percent of the irrigation households**.** (Chart 2.69)

In West District, the number of households using flood application was about the same as those using bucket/watering. The two methods were used by about 42 percent of households with irrigation within the district. In South, Central, Wete and West, districts households using watering cans were 92, 78, 68 and 42 percent respectively. Sprinklers were mostly used in Wete District, followed by North 'B', West, South and then Central districts. Sprinklers were not used in North 'A', Micheweni, Chakechake and Mkoani districts. (Chart 2.70)

Chart 2.70 Number of Households Applying Irrigation by Method of Application and District

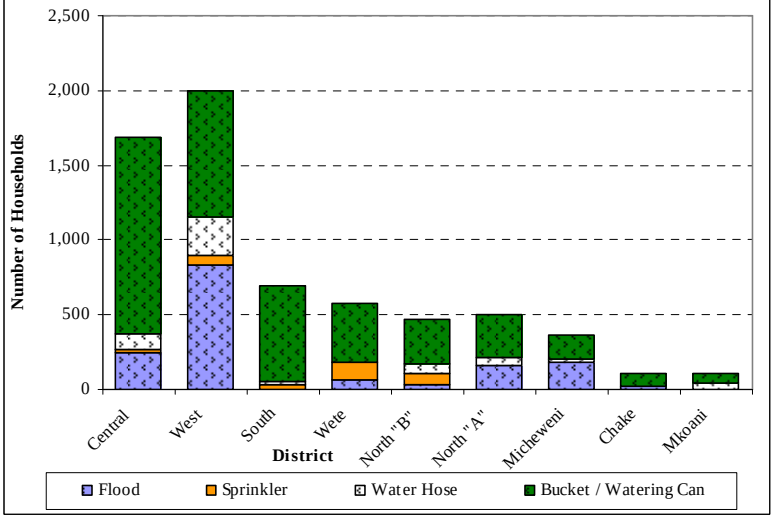
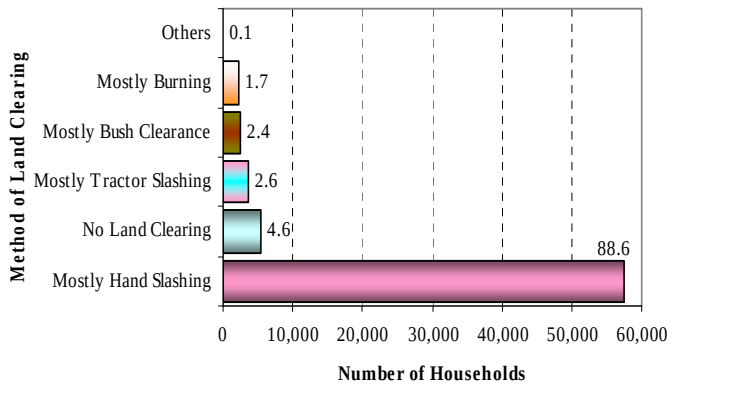


Chart 2.71 Number of Households by Method of Land Clearing



2.6 Husbandry practices/Input Use

This section present information on input use, but the subsections on land clearing, soil preparation and use of improved seeds do not include permanent crops as these variables were not collected for permanent crops and cassava.

2.6.1 Land Clearing

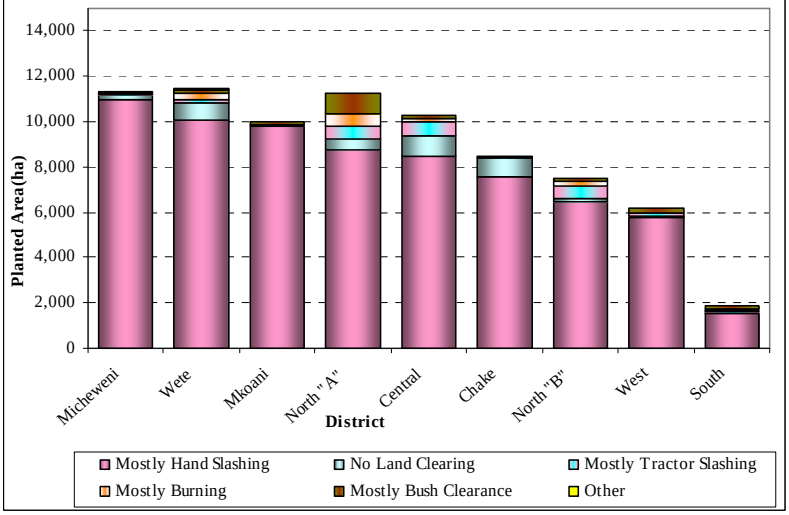
There are two categories of land clearing: bush clearing, which implies either expansion into areas that have not been cultivated before or areas that have been left fallow for a long period and regenerated natural vegetation and the other category includes burning, hand slashing and tractor slashing which are normal annual exercises to remove unwanted vegetation growth from the previous season.

Hand slashing was the most common method of land clearing and was used on 69,371 hectares which represented 89 percent of the area planted with annual crops. The other methods of land clearing were bush clearance, tractor slashing and burning which were used on 2.4, 2.6 and 1.7 percent of the land planted with annual crops respectively. About 5 percent of the land was planted without land clearance (Chart 2.71 and Table 2.10).

Table 2.10 Land Clearing Methods

Method of Land Clearing	Short Rainy Season			Long Rainy Season			Total		
	Number of Households	Area Planted		Number of Households	Area Planted		Number of Households	Area Planted	
		(ha)	%		(ha)	%		(ha)	%
Mostly Bush Clearance	1,382	680	6.1	2,547	1,196	1.8	3,929	1,876	2.4
Mostly Hand Slashing	24,361	8,864	80.2	57,405	60,507	90	81,766	69,371	88.6
Mostly Tractor Slashing	161	64	0.6	3,587	1,976	2.9	3,747	2,040	2.6
Mostly Burning	807	323	2.9	2,345	987	1.5	3,151	1,310	1.7
No land clearing	3,130	1,086	9.8	5,458	2,552	3.8	8,588	3,638	4.6
Other	142	42	0.4	0	0	0	142	42	0.1
Total		**11,058**	**100**		**67,216**	**100**		**78,274**	**100**

Chart 2.72 Planted Area by Type of Land Clearance and District



Crop planting without prior land clearing was common in Chakechake, Central and Wete districts which accounted for 24, 24.2 and 21 percent respectively. Central district accounted for 32 percent of the land cleared by tractors, followed by North 'B' 26 percent, North 'A' 25 percent whilst South and Chakechake districts accounted for less than one percent. Bush clearing was common in North 'A' District with 44 percent of such land, followed by West District (10 percent) whereas Micheweni and Chakechake had 2 percent.each. North 'A' district accounted for most of the land cleared by burning (42 percent of the land), followed by Wete (21 percent) and North 'B' (16 percent). This method of land clearing was not common in other districts and it was not reported in Chakechake District.

2.6.2 Methods of Soil Preparation

Hand cultivation was most common method of soil preparation with an area of 72,598 hectares which represented 93 percent of annual crops planted area. This was followed by tractor ploughing with 5,654 hectares (7 percent of the total planted area) whilst oxen ploughing with 0.03 percent of the planted area was almost non-existent (Chart 2.73)

Chart 2.73 Area Planted by Cultivation Method

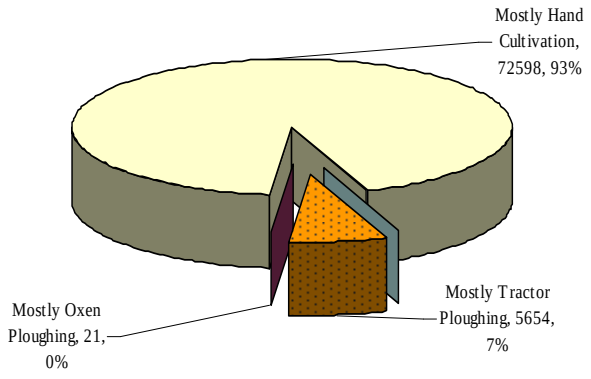
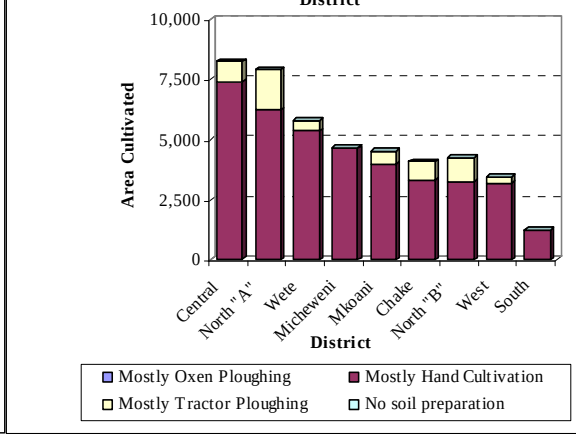
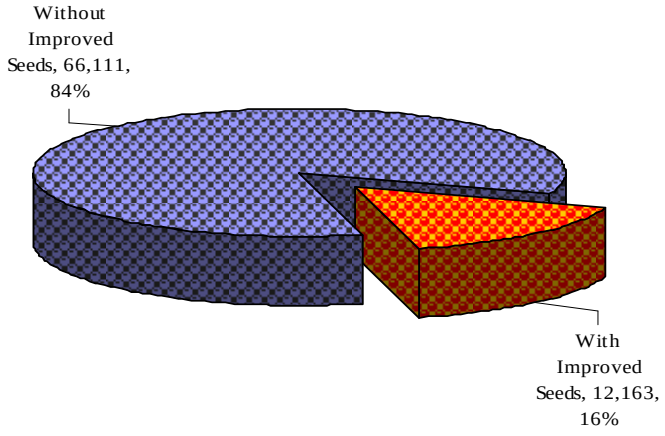


Chart 2.74 Planted Area (ha) by Method of Cultivation and District



Almost all planted area of annual crops excluding cassava in Micheweni District was cultivated by hand. The Central District had the largest proportion of the planted area that was cultivated by hand (8,260 hectares, 90 percent of the area planted with annual crops excluding cassava) and North 'B' was the district with the lowest proportion of the annual crop planted area that was prepared by hand (96 percent). The largest area prepared by tractor was in North 'A' District (1,688 hectares, 21 percent of the land planted with annual crops in the district). Other districts that had significant proportion of the land prepared by tractors were North 'B' (1,017 hectares, 14 percent) and Central (838 hectares, 8 percent) whilst South District had the lowest proportion (23 hectares, one percent). Tractors were hardly used in Micheweni District (Chart 2.74)

Chart 2.75 Planted Area of Improved Seeds(hectare)



2.6.3 Improved Seeds Use.

The number of households that used some annual crops improved seeds were 24,609 and represented about 26 percent of crop growing households. A total of 12,163 hectares (15 percent of the area planted with annual crops) were planted with improved seeds. A bigger proportion of improved seeds was used in the production of paddy which accounted for 63 percent of the area on which improved seeds were used in the long rainy season (Chart 2.75)

Cereals had the largest area planted with improved seeds (6979 hectares, 57 percent of the area planted with improved seeds, followed with cash crops (20 percent of the area), fruits and vegetables (14 percent), pulses (7 percent) and oil seeds 2 percent. Improved seeds were not used in establishing roots and tubers (Chart 2.76)

Proportionally the area planted with improved seed was very much highest in cash crops (86 percent of the area planted with the crops), followed by fruits and vegetables (37 percent), oil seeds (34 percent), cereals (28 percent) and pulses (26 percent) (Chart 2.77).

Chart 2.76 Planted Area with Improved Seed by Crop Type

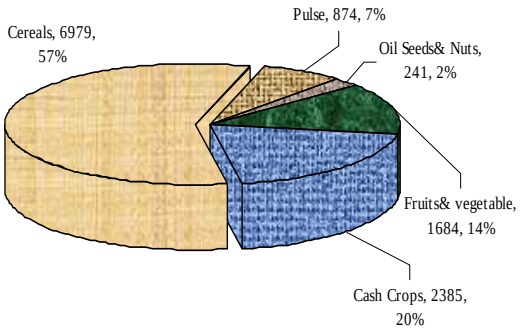
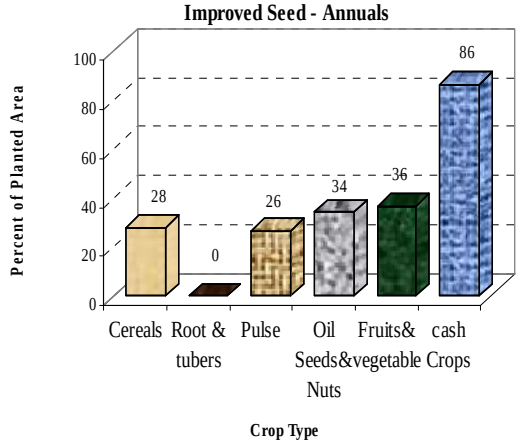


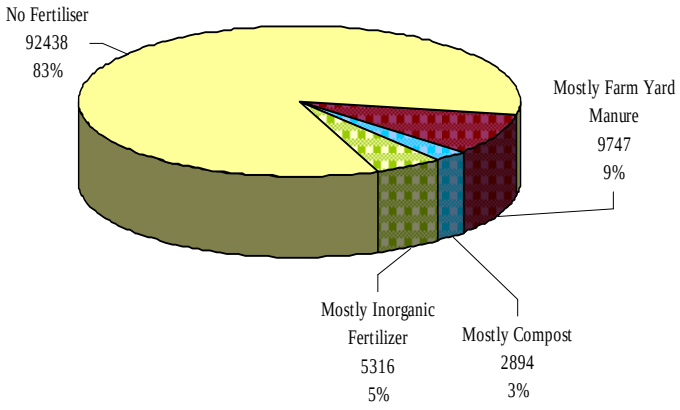
Chart 2.77 Percentage of Crop Type Planted Area with Improved Seed - Annuals



2.6.4 Fertiliser use

The results discussed in this section are based on use and area of application with fertilizer and not on quantity applied**.** Most annual crop growing households did not use any fertilizer and the proportion of crop growing households that used fertilizers were 11, 19 and 6 percent for inorganic fertilizers, farm-yard manure and compost respectively**.**

Chart 2.78 Area of fertiliser Application by Type of Fertiliser



The area planted without any type of fertilizers for annual and perennial crops was 92,438 hectares which represented 83 percent of the total planted area. The total area applied with fertilizers, for annual crops was 17,957 hectares (54 percent of the area applied with fertilizers). Nine percent of the total planted area was applied with farm-yard manure, followed by inorganic fertilizers (5 percent) and compost manure (3 percent) (Chart 2.78).

About 4,436 hectares (14 percent) of the area planted with permanent crops was applied with fertilizers. Farm-yard manure was the most common fertilizer in permanent crops

After being applied on 3,236 hectares (74 percent of the land with permanent crops), followed by compost (1,045ha, 23 percent) and inorganic fertilizers were applied on (155ha, 3 percent) (Table 2.11)

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

Type of Fertiliser	Number of Households	Type of crops	Area Applied	Percent of Total Planted Area
Mostly Farm Yard Manure	17,826	Annual Crop	6,511	8
		Permanent Crop	3,236	10
		Total	**9747**	**9**
Mostly Compost	5,486	Annual Crop	1,849	2
		Permanent Crop	1,045	3
		Total	**2,894**	**3**
Mostly Inorganic Fertilizer	10,261	Annual Crop	5,162	7
		Permanent Crop	155	1
		Total	**5,317**	**5**
Total Applied Area	33,573	Annual Crop	13,522	17
		Permanent Crop	4,436	14
		Total	**17,958**	**16**
No Fertiliser	62,949	Annual Crop	64,752	83
		Permanent Crop	27,684	86
		Total	**92,436**	**84**

Farm-yard Manure

The number of households that used farm-yard manure on annual crops during the short rainy season was 4,943 and 5,476 households used it during the long rainy season and these household together applied it on 6,511 ha planted with annual crops during 2002/03 agricultural year. This represented only 8 percent of the area planted with annual crops. The largest area of application was in regard to root and tuber crops (2,876 ha., 44 percent) followed by fruits and vegetables (1,951 ha., 30 percent), cereals (1,493 ha., 23 percent), pulses (138 ha., 2 percent), oil seed crops (44ha, 1 percent). Cash crops accounted for less than 1 percent of the area applied with farm-yard manure. However, the proportion of fruits and vegetables with farm-yard manure application was the highest 42 percent, followed by root and tuber crops (7 percent), cereals (6 percent), pulses (4 percent), oil seeds (1 percent) whilst for cash crops it was less than 0.5 percent (Chart 2.79).

Chart 2.79 Planted Area with Farm Yard Manure by Crop

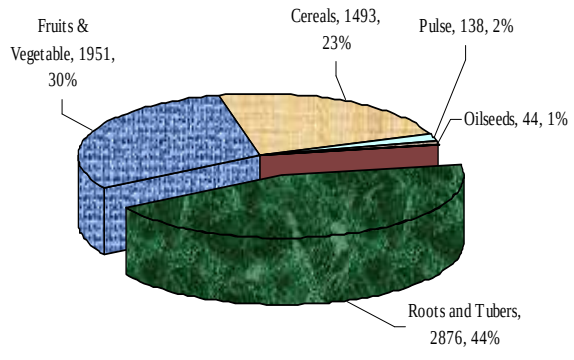
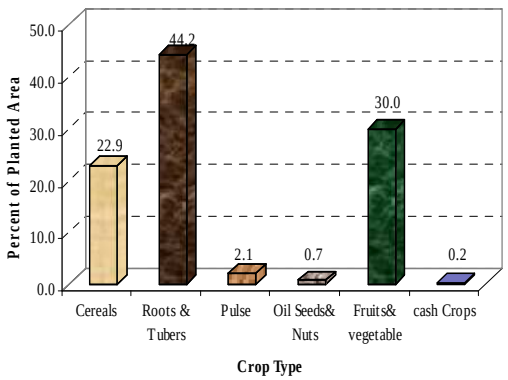


Chart 2.80 Percentage of Crop Type Planted Area with Farm Yard Manure-Annuals

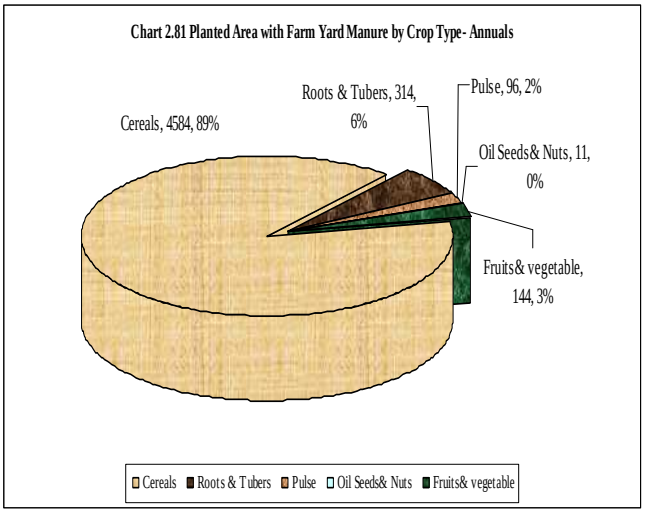


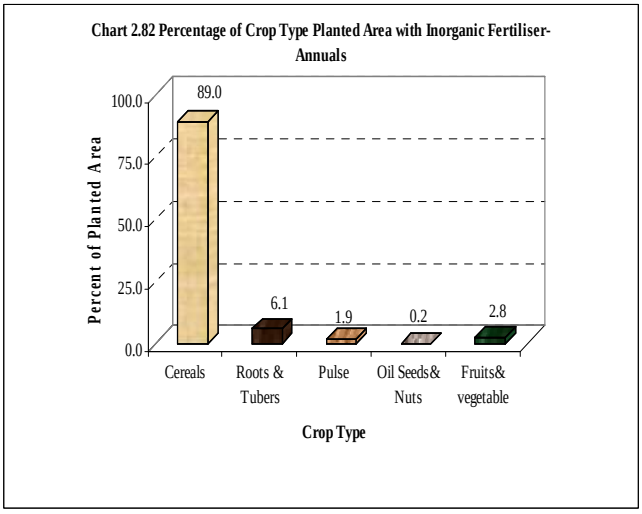
For permanent crops, most farm-yard manure was used in the production of bananas (60 percent of the area of permanent crops applied with farm-yard manure), followed by oranges (13 percent), coconuts (8 percent), pineapples (5 percent)

Inorganic Fertilisers

The number of households that used inorganic fertilizers on annual crops was 1,277 in short rainy season and 8,504 in the long rainy season and these applied it on 5,162ha planted with annual crops which represented about 7 percent of the area planted with annual crops. Cereals (especially paddy) accounted for most of the area applied with this input (4,584ha, 89 percent of the area). Other crop types had small areas of application. The proportion of the area of application with inorganic fertilizers to the total area planted with the crop type was highest in cereals (18 percent), followed by pulses and fruits and vegetables at 3 percent each, oilseeds (2 percent), root and tubers (1 percent) Inorganic fertilizers were not applied in cash crop production. (Charts2.81 and 2.82)

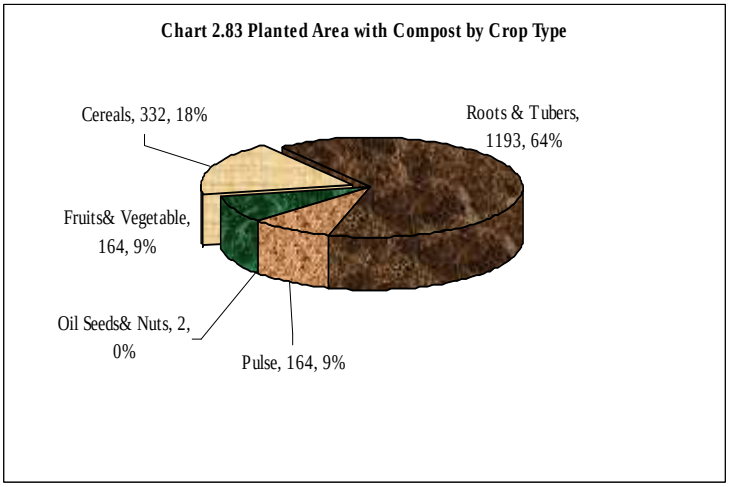
For permanent crop very small areas planted bananas and pineapple were applied with the input being 0.6 percent of the area planted with banana and 7.5 percent of the area planted with pineapples.





Compost

The number of households that applied compost on annual cops was 1,430 in the short rainy season and 1,375 in the long rainy season and the application was on 1,849 hectares representing 2 percent of the area planted with annual crops**.**



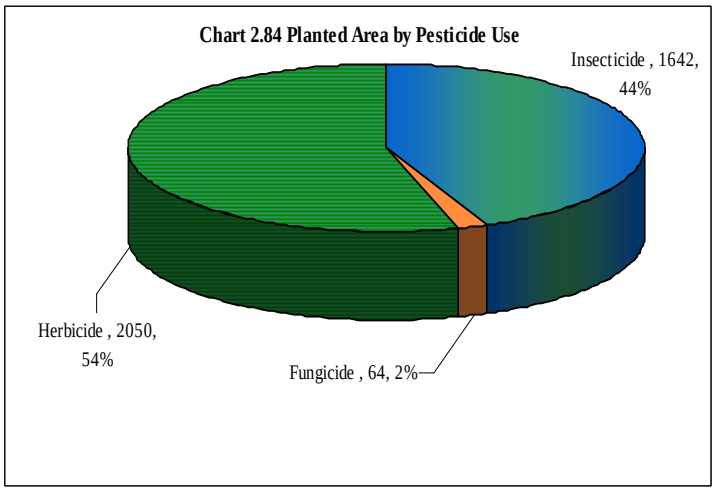
Root and tuber crops accounted for 1,193ha. (64 percent of the area applied with compost), followed by cereals (332ha, 18 percent) whereas pulses and fruit/vegetables each accounted for 9 percent of the area. A very small area of oilseeds was applied with the input and it was not applied on cash crops (Chart 2.83).

In permanent crops, compost was mostly used on banana (48 percent of the area of application in permanent crops), followed by coconut (16 percent), lime/lemon (8 percent) whilst clove, pine apple, pigeon peas and orange jointly accounted for 16 percent of the area. Compost was not reported to have been applied on other permanent crops.

2.6.5 Pesticide Use

Pesticides are chemicals which are used for controlling insects, diseases and weeds on crops. This section analyses the use of these chemicals.

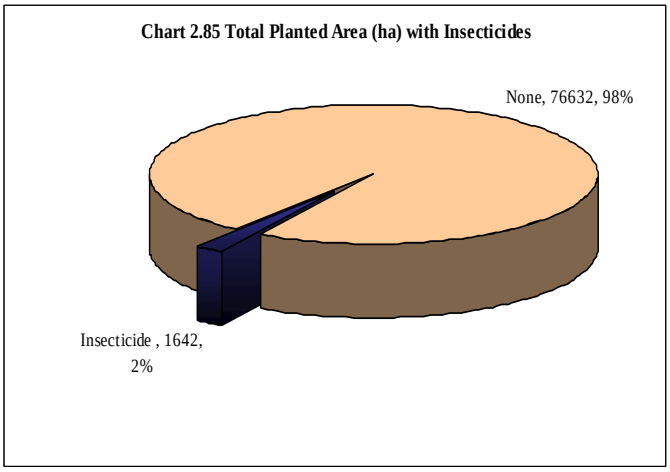
For annual crops, pesticides were applied on 3,756 hectares. (Note that this was application area. Sometimes all three chemicals were applied on the same crop, so the planted area with pesticides will be less than this figure)

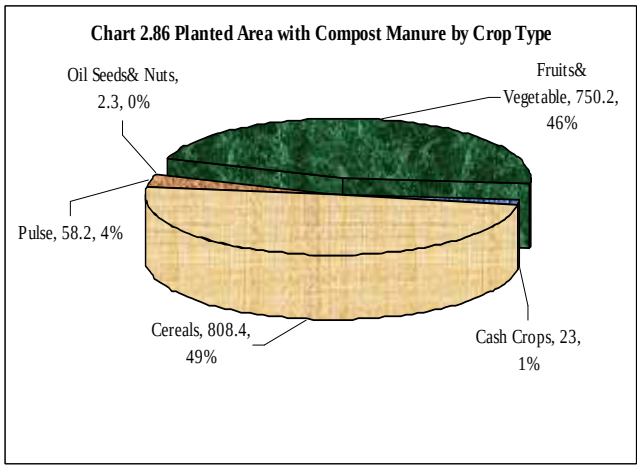


Herbicides were the most common pesticide used for annual crops in Zanzibar (54 percent of total applied area with pesticides. For Tanzania Mainland insecticides were the most common, followed by insecticide (44 percent of the area) and fungicide was used on only 2 percent of the area (Chart 2.84).

Insecticide

For annual crops insecticides were applied 1,642 hectares (2 percent of area planted with annual crops). In terms of planted area most of the insecticide was applied on cereal crops (808 ha, 49 percent) and this was followed by fruits and vegetable (750 ha, 46 percent), pulses (58 ha, 4 percent), cash crops (23 ha, 1 percent), for oilseeds only 2.3 ha (less than 0.5 percent) and the input was not used in the production of roots and tubers (Charts 2.85 and 2.86).

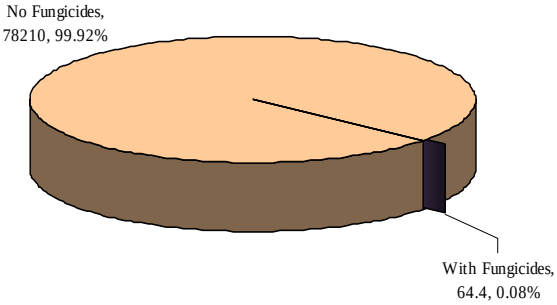




For insecticide use by crop type planted, fruit and vegetable had the highest proportion of the area applied with the input (16 percent of the area planted with fruits and vegetables), followed by cereals (3 percent), pulses (2 percent), cash crops (1 percent), less than 0.5 percent for oilseeds and insecticides were not applied on roots and tubers.

Central District had the largest area applied with insecticides (876 ha, 53 percent of the total applied area) followed by West District (18 percent), North 'B' (12 percent) whilst South and Micheweni Districts each accounted for 1 percent of the area.

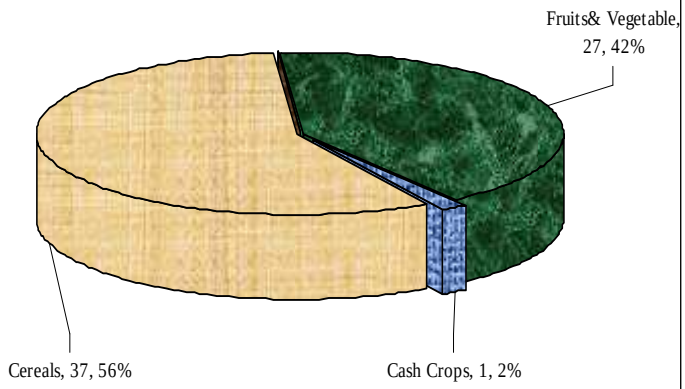
Chart 2.87 Total Planted Area (ha) With and Without Fungicides



Fungicide

Fungicides were rarely used on annual crops and they were applied on only 64.4 hectares (0.08 percent of the area planted with annual crops) (Chart 2.87).

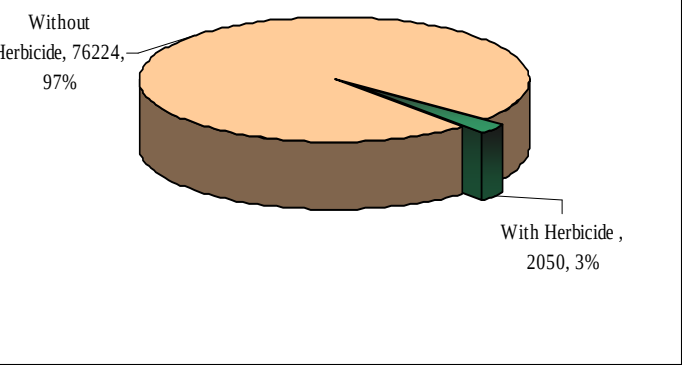
Chart 2.88 Planted Area with Fungicides by Crop Type- Annual



In terms of total planted area fungicides were mostly used on cereals (37ha, 56 percent of the area applied with fungicides), followed by vegetable (27 ha, 42 percent) and only one ha. (2 percent of the area) was accounted for by cash crops. Other crop types were not treated with fungicides (Chart 2.88).

The percent of planted area with fungicide application was very small (0.6 for fruit and vegetables and 0.1 for cereals).The district with the largest planted area with fungicides was Central (33 ha.), North 'B' (12 ha.), North 'A' (6 ha.), Wete, Micheweni, Mkoani (4 ha. each) and West (2 ha). Fungicide was not reported to be applied for any crop type in South and Chakechake Districts.

Chart 2.89 Total Planted Area (ha) With and Without Herbicides



Herbicide

Herbicides were applied on 2050 hectares (3 percent of the total annual crop planted area) (Chart 2.89).

All herbicides were used on cereals (98 percent of the area was paddy)

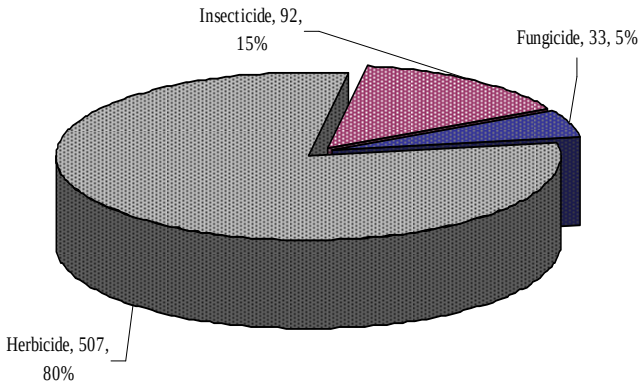
Of the total area planted with cereals, only 8 percent received herbicide application.

Pesticide Use on Permanent Crops

The use of pesticide (herbicides, fungicides and insecticides) on permanent crops was very small only 632ha (2 percent of the total area planted with permanent crops).

Herbicides were applied on 507ha, 80 percent of the area applied with pesticide), insecticide was applied on 92ha, 15 percent and only 33ha, 5 percent of the total area applied with pesticide (Chart 2.90). The pesticides were mostly applied on bananas.

Chart 2.90 Planted Area with Pesticide Application on Permanent Crops



2.7 Crop Storage

The crop growing households store crops either for household food security, as seeds to be planted in the following planting time or for few cases to sell at off season to sell for higher price. About 53,968 households (56 percent of crop growing households) stored some crops for a certain period of time during 2002/03 agricultural year**.**

The crops that were stored by a considerable number of households as of 1st October 2003 were paddy (42,629 households

stored 2,560 tonnes), coconut (4,637 household 1,076 tonnes), maize (4,392 households 270 tonnes), pulses (4,338 households 135 tonnes), sorghum and millet (2,382 households 44 tonnes), seaweed (1,795 households 467 tonnes), cloves (1,053 households 322 tonnes), oil seeds (909 households 30 tonnes) whilst 22 households stored 3 tonnes of tobacco. (Chart 2.91)

Chart 2.91 Number of Households and Quantity Stored by Crop Type

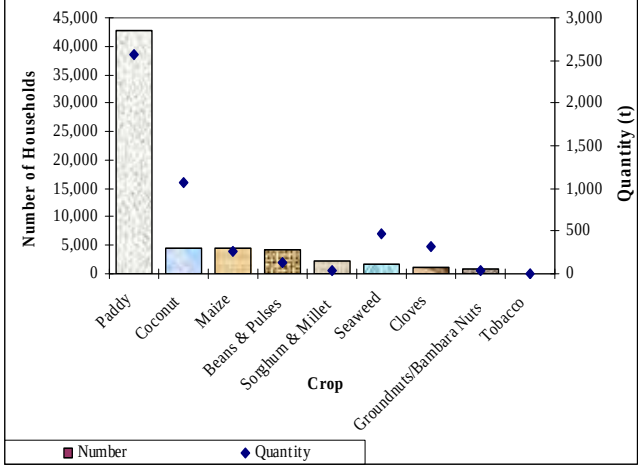
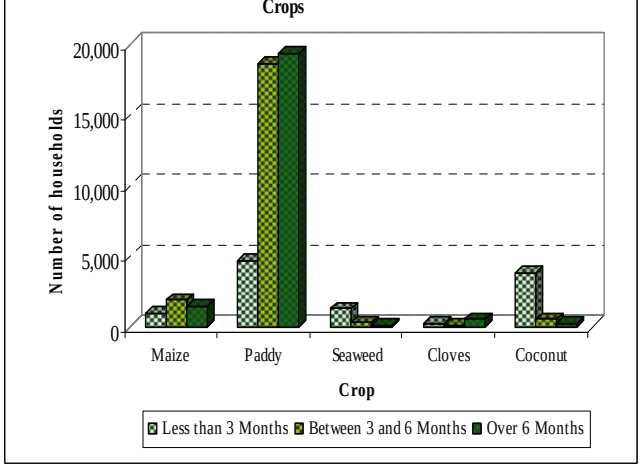


Chart 2.92 Length of Storage for Selected Crops



2.7.1 Storage Period

Out of the total households that stored crops, about 41 percent of the households stored the products for 3-6 months and other 41 percent of the households stored the products for over 6 months whilst the remaining 18 percent of the households stored the products for less than 3 months (Chart 2.92).

As at 1st October 2003, about 25 percent of paddy that was produced during 2002/03 agricultural year was still in stores. There was some relationship between quantity produced and the amount stored as the district that produced most of paddy (Mkoani 2,377 tonnes) had the biggest amount of paddy stored (23 percent of all stored paddy and 25 percent of paddy produced within the district). However, Central District accounted for only 9 percent of the total paddy in stores, yet, this was 42 percent of the district's total paddy production giving an indication that the quantity stored was mostly determined by food and seed requirement as paddy was mostly used for home consumption and in most cases the produced paddy could not even satisfy the household needs and so selling of paddy during "off-season" to get better price could not be the reason for storing of paddy. Storage period of other cereals and pulses seems to follow the same pattern as paddy (Chart 2.93).

Chart 2.93 Quantity of Paddy Produced (tonnes), Quantity Stored and Percent Stored by District

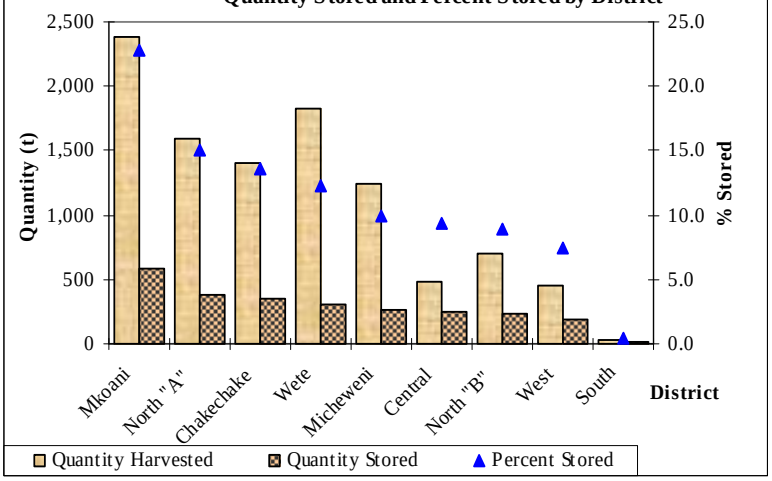


Chart 2.94 Number of Households by Method of Storage and District (based on the most important household crop)

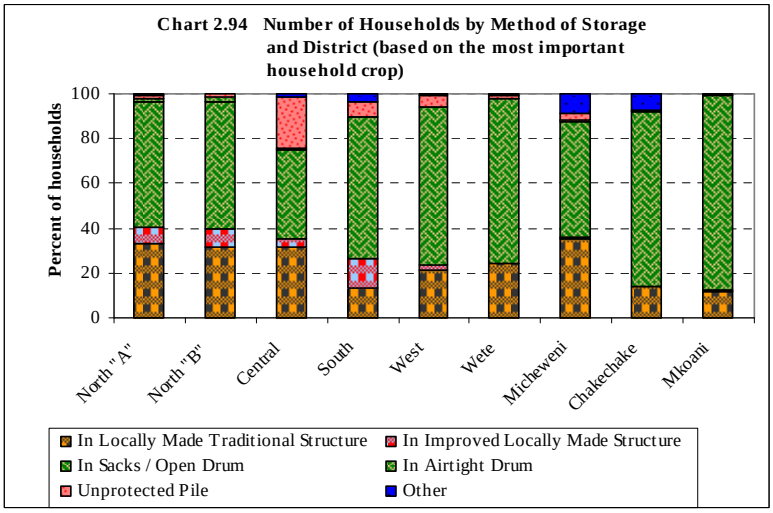
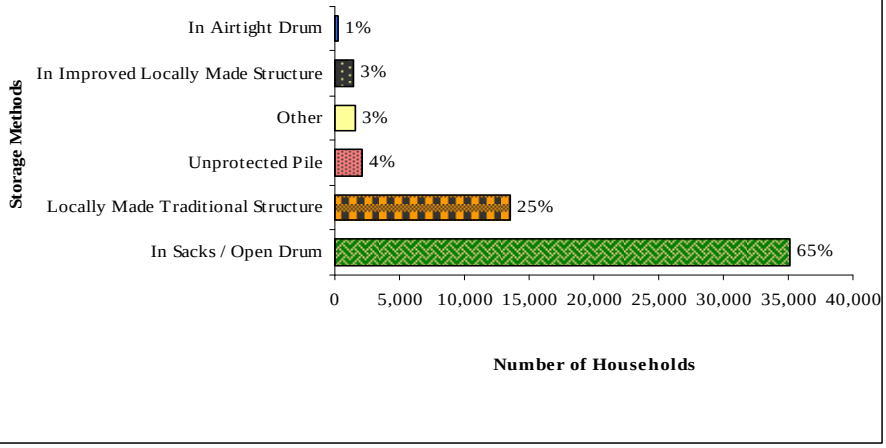


Chart 2.95 Percent of Households StorageCrops by Type of Storage Facility.



2.7.2 Methods of storage

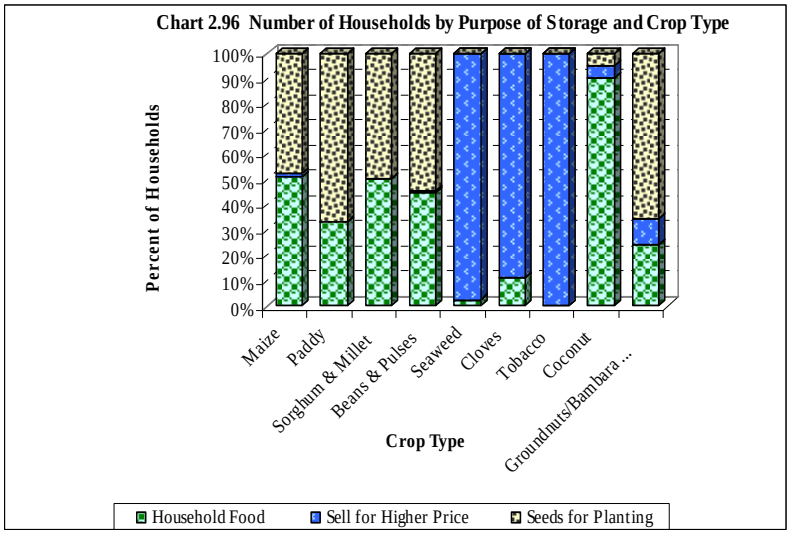
Most households stored crops in sacks or open drum (35,075 households, 65 percent of crop storing households), followed by those that stored in locally made traditional

structures (25 percent), unprotected piles (4 percent), improved locally made structures and Others (3 percent each) and in airtight drums (1 percent) (Chart 2.94 and 2.95).

Storing in sacks or open drums was the most common method for all districts but the second most important method was local made traditional structures in Micheweni and North 'A', improved locally made structures were important in North 'A', and North 'B' Air tight drums were important in North 'A' and North 'B' where 65 percent of households using this method were found, but unprotected piles were common in Central District where 60 percent of households using this method were found (Chart 2.94).

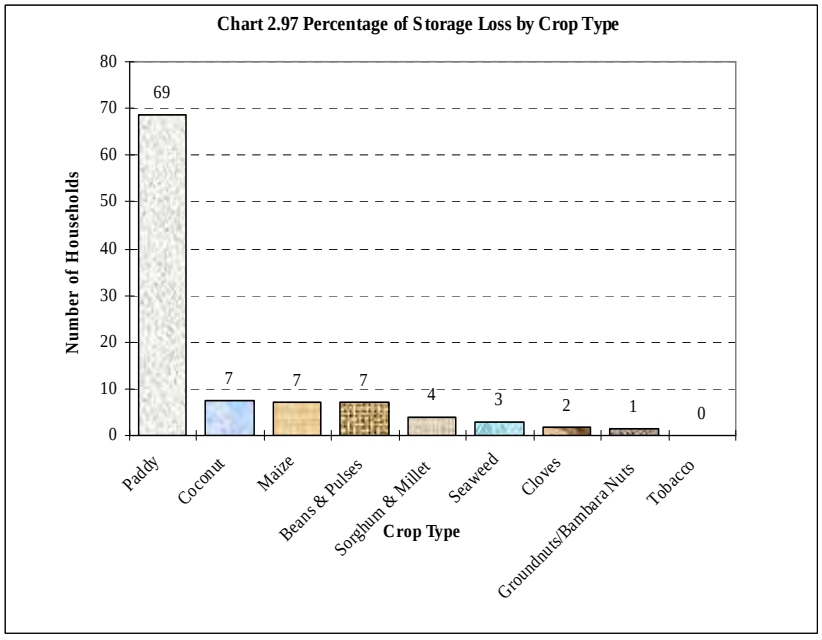
2.7.3 Purpose of Storage

Subsistence food crops (paddy, maize, sorghum/millet, pulses, oil seeds) were mainly stored as seeds for planting during the following season or as food for household consumption. About 59 percent of the households that stored common crops reported that they stored the crops for seeds, 37 percent stored as food and only 4 percent of the households stored in order to sell for a higher price. Households stored cash crops (seaweed, cloves and tobacco) for higher price and among the households that stored paddy, 66 percent stored as seeds, 33 percent for household food and only 0.3 percent stored to sell for higher prices. This indicated that paddy was purely subsistence crop (Chart 2.96).



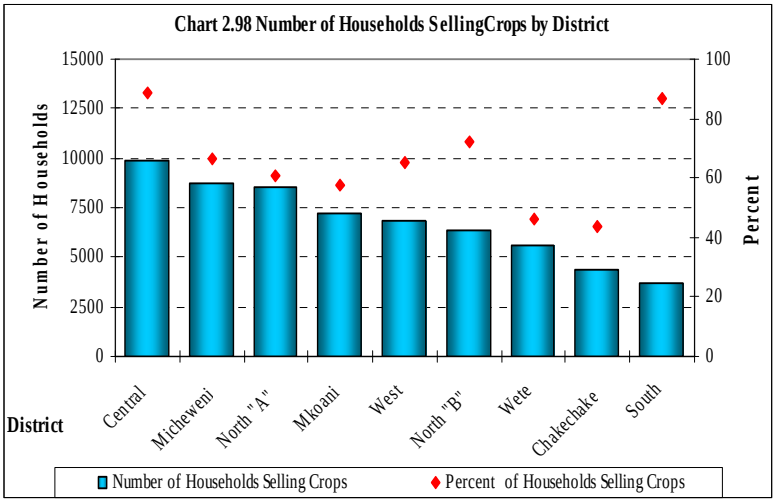
2.7.4 Storage Loss

Over 90 percent of the households that stored crops had little or no storage loss. Of the households that experienced storage loss, 74 percent had loss of up to a quarter of the total stored quantity, 14 percent lost between quarter and half while 12 percent reported losing more than half of the stored products.



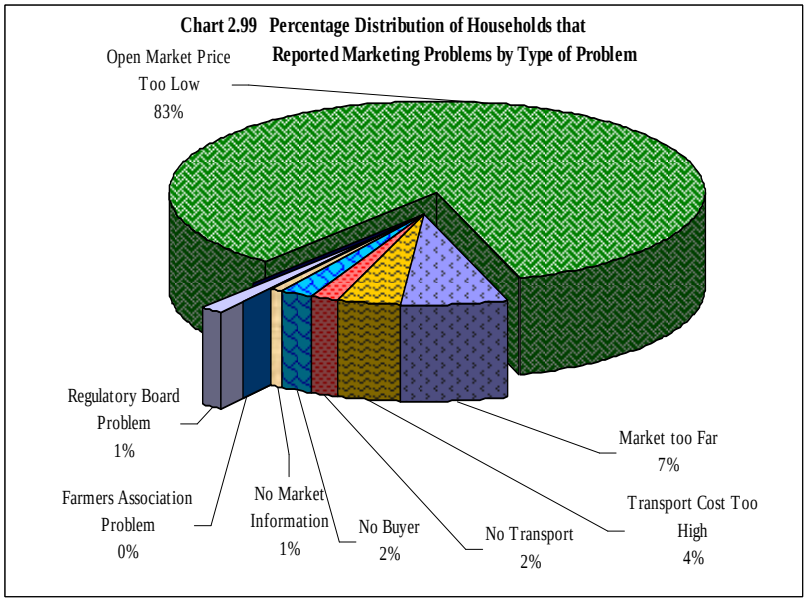
The highest percentage of storage loss was reported for paddy (69 percent), followed by coconut (8 percent), maize, beans &pulses (7 percent each), sorghum & millet (4 percent), and seaweed (3 percent) .Very little of other crops was lost (Chart 2.97).

2.8 CROP MARKETING



The number of households that reported selling crops was 61,246 which represented about 64 percent of crop growing households. Most of the households that sold crops were in Central district (9,882 households, 16 percent of the households selling crops) where 89 percent of agricultural households in the district sold crops. This was followed by Micheweni district (8,755 households, 14 percent of households selling crops) where 67 percent of the agricultural households within the district sold part of their farm products, whilst in South District only 3,674 households sold crops(about 6 percent of households selling crops) but these were 87 percent of agricultural households in the district. The highest proportion of households selling crops were in Central District (89 percent) and the lowest was in Chakechake District (43 percent of agricultural households in the district) (Chart 2.98).

2.8.1 Main Marketing Problems



The number of households reported not to encounter marketing problems were less the 1 percent of the households that sold crops. Low market price was the main marketing problem (identified by 83 percent of the agriculture households that sold crops). Other problems are associated with access to market places e.g. long distances to profitable market places (7 percent), high cost of transportation to market places (4 percent), few customers and lack of transportation means (2 percent each), government regulations (one percent) while other problems are minor. Only

0.8 percent of the households reported to have problem on market information (Chart 2.99).

2.8.2 Main Reasons for Not Marketing

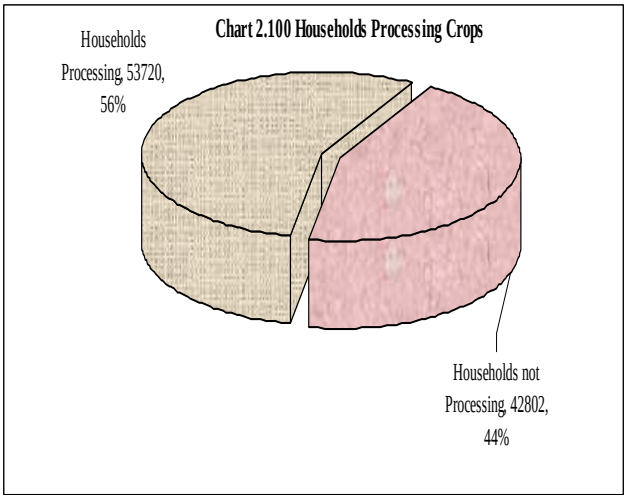
The majority of households that did not sell farm products reported that the main reason was "insufficient production to sell" which represented 90 percent of the households. This was followed by "other reasons" (5 percent) then "price too low" (4 percent). The remaining reasons for not selling were in very low proportions making it inappropriate to rank their importance (Table 2.12)

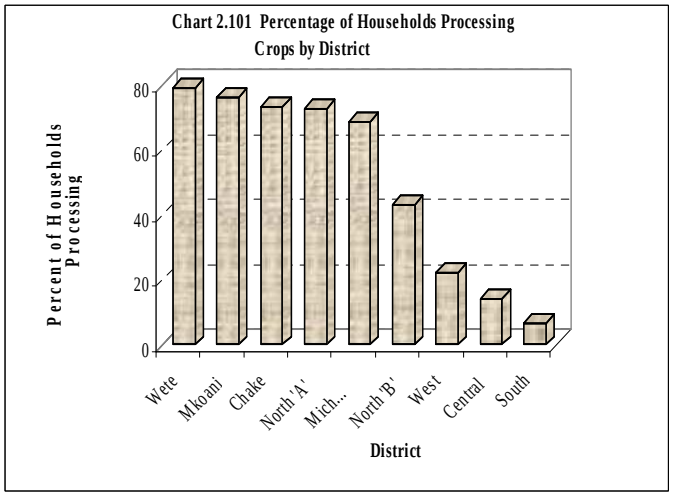
Table 2.12 Reasons for Not Marketing

Main Reasons	Number of Households	Percent
Production Insufficient to Sell	36,300	90.0
Other	1,864	4.6
Price Too Low	1,726	4.3
Market Too Far	282	0.7
Government Regulatory Board Problems	76	0.2
Co-operative Problems	59	0.1
Farmers Association Problems	25	0.1

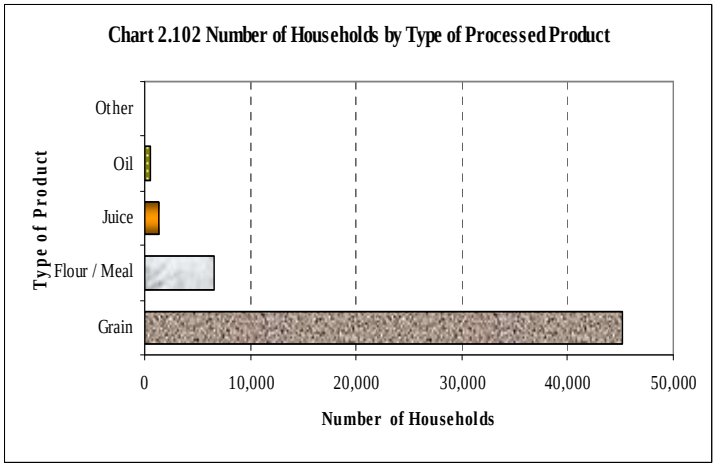
2.9 AGRO-PROCESSING

On-farm agro-processing is practiced to convert the farm product to consumable forms or increase the value of the harvested crop. The number of households that processed the agriculture products they produced was 53,720 which represent 56 percent of the agriculture households (Chart 1.100).





The average number of households that processed crops was 57 percent of the agriculture household but there were great variations between districts eg 79 percent in Wete, 69 percent in Micheweni and 7 percent in South District (Chart 2.101)



2.9.1 Main Agro-processing Products

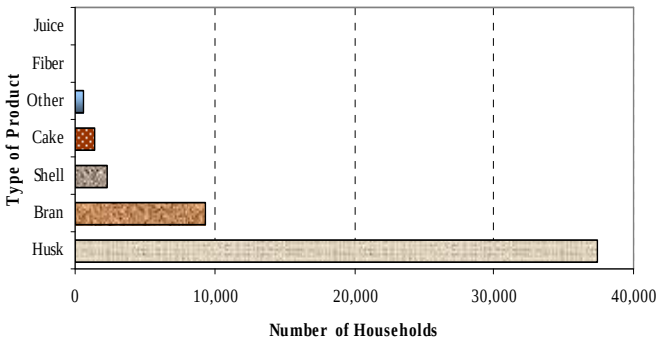
Two types of products are sometimes produced from agro-processing namely the main product and by-product. The main product is the major product after processing and the by-product is the secondary after processing. For example, the main

product after processing of paddy is rice grains and the by-product is normally the bran**.**

The main processed products produced by crop processing households were grains produced by 84 percent of the households (mostly produced rice grains) followed by flour/meal produced (12 percent of the households) mostly from maize and cassava and the remaining products were produced by a small number of households.

The number of households that produced useful by-products represented 95 percent of those that processed crops and the most common by-products were husk which were produced by 70 percent of the households mostly from paddy, followed by bran (17 percent of the households), shell (4 percent), cake (3 percent) and about 6 percent of the households did not produce only by-products (Chart 2.103)

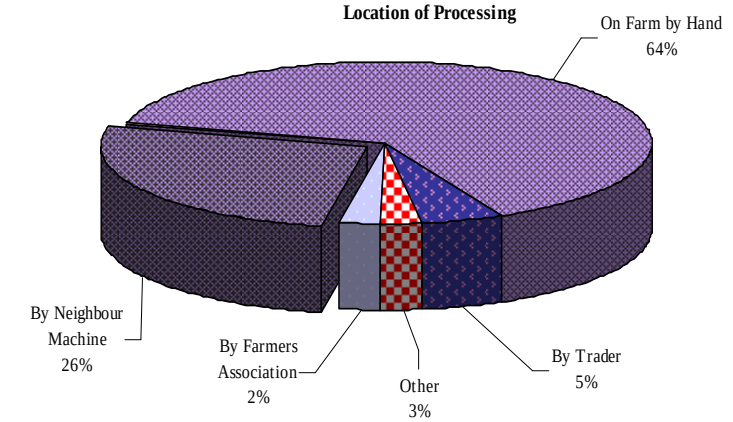
Chart 2.103 Number of Households by Type of By-Product



2.9.2 Crop Processing Methods

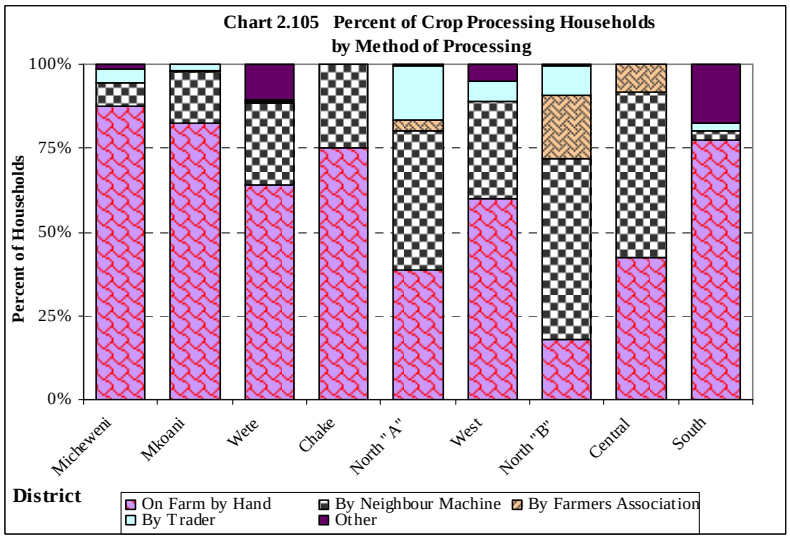
Most of the crop processing households (34,359 households, 64 percent) processed the crops "on farm by hands". This was followed by those that used neighbour's machine (13,953 households, 26 percent), by traders (2,732 households, 5 percent), others (1,385households, 3percent) and by farmers associations (1,292 households, 2 percent) (Chart 2.104).

Chart 2.104 Number of Households Processing Crops by Location of Processing



The majority of households that processed crops were in North 'A' District (10,236 households, 19 percent), followed closely by Wete (9,593 households, 18 percent) whilst South District accounted for only 289 households (0.5 percent). As regards to processing method, different districts had different common methods e.g. most of households that processed on-farm by

Chart 2.105 Percent of Crop Processing Households by Method of Processing

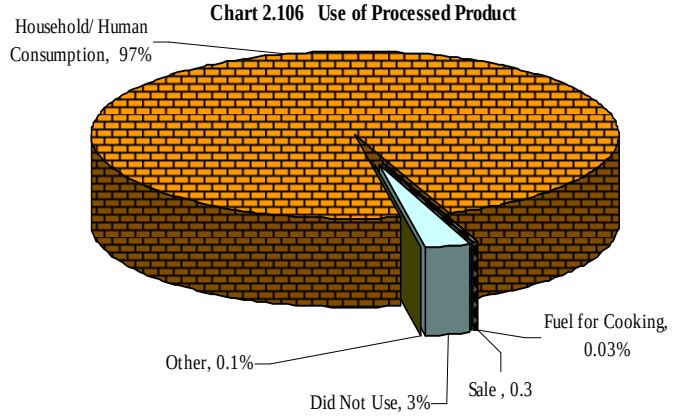


hands were found in Micheweni District (23 percent of those who processed by hand and 88 percent of the crop processing households within the district), those that used neighbours machine were mostly found in North 'A' (30 percent of the household that produced by neighbours machine and 42 percent of crop growing households within the district), those using farmers associations were mostly in North 'B' District (56 percent of those that used farmers associations and 19 percent of the crop growing households within the district), 60 percent of those who used traders were in North 'A' District (16 percent of the farmers who processed crops within the district)and 75 percent of the households that used other methods were in Wete District (11 percent of crop processing households within the district) (Chart 2.105)

2.9.3 Main Use of Processed Products

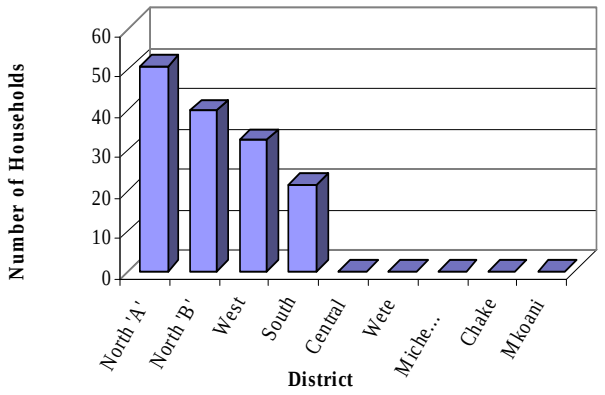
A large proportion of crop processing households (52,028 households, 97 percent) reported household/home consumption as the main use of processed products followed by "did not use" the processed products (1,493 households, 3 percent). Other uses applied to a small number of households (Chart 2.106).

Chart 2.106 Use of Processed Product



Out of the few households that sold processed products, 35 percent (50ha) were in North 'A', 27 percent (39ha) in North 'B', 23 percent (32ha) in West and 15 percent (21ha) were found in South District (Chart 2.107).

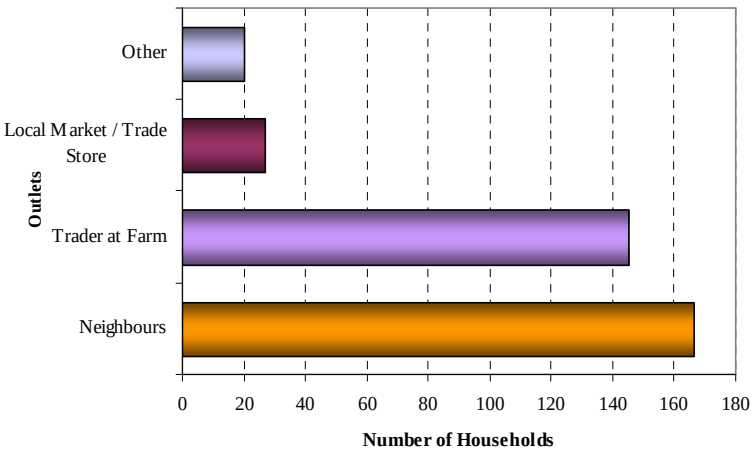
Chart 2.107 Number of Households Selling Processed Crops by District



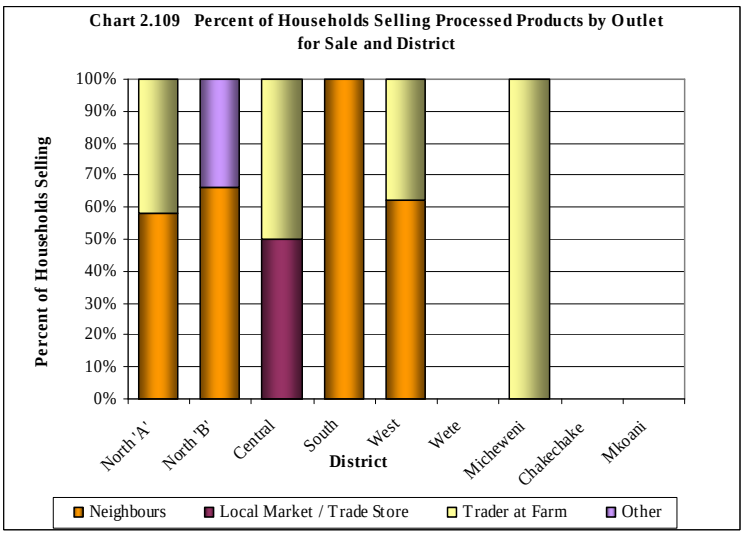
2.9.4 Outlets for Sale of Processed Products

The great proportion of the households selling their processed product (46 percent, 176 households) sold the products to their neighbours, 40 percent (145 households) sold to traders at the farm, 7 percent (27 households) sold to local market /trade store and the remaining 6 percent (20 households) sold to other sources (Chart 2.108).

Chart 2.108 Outlets for the Sale of Processed Products



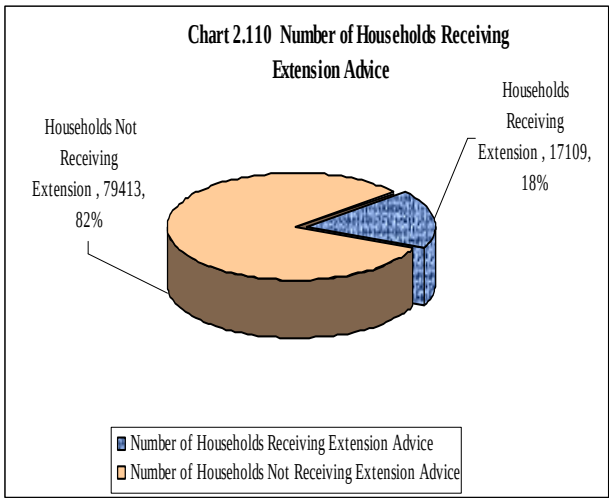
There were differences on outlest for the sold processed products. However, the majority of households that sold the processed products in one source were found in South district where (100 percent of the households processed product in the district sold to neighbour) and Micheweni district of which they sold to trader at farm. In North 'A' district 58 percent sold to neighbour and 42 percent to trader at farm, North 'B' 66 percent sold to neighbour and 34 percent to other source, Central District 50 percent of the households processed product sold to local market/trade store and the rest 50 percent to trader at farm. Sale of processed products was not reported in Wete, Chakechake and Mkoani districts (Chart 2.109).

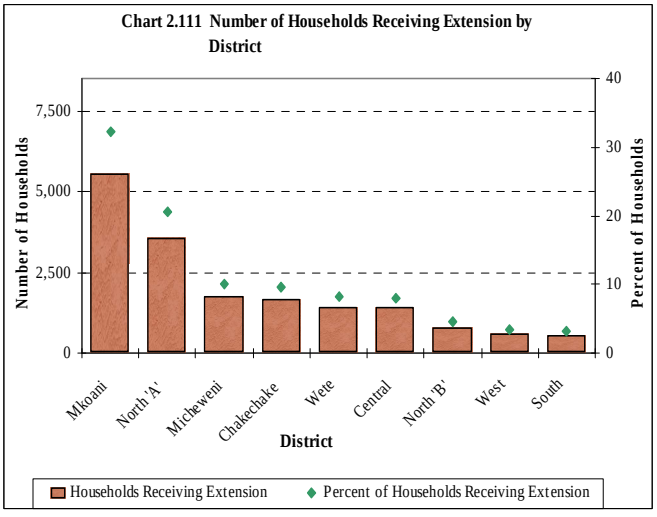


2.10 CROP EXTENSION SERVICES

2.10.1 Access to Extension Services

The number of households that received crop extension advice in Zanzibar was 17,109 which represented 18 percent of crop growing households (Chart 2.110). Mkoani District had the highest number of households that received the service (5,529 households, 32 percent of the households that got the services) followed by North 'A' (3,525 households, 21 percent), Micheweni (1,728 households, 10 percent) and the lowest number was in South District (531 households, 3 percent). There were some variations between districts with regards to access to the extension services (Chart 2.111)**.**





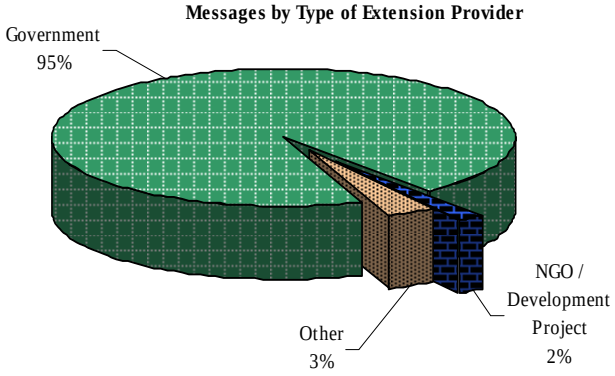
The proportion of agricultural households that received extension advice within Districts was highest in Mkoani (44 percent of agricultural households within the district followed by North 'A' District (25 percent of agricultural households within

the district), Chakechake (16 percent) and the least proportion was in West District where only 5 percent of the households within the district received extension advice.

2.10.2 Source of Extension

The Government provided the greatest proportion of crop extension advice to the households (16,170 households, 95 percent of the households that received the service). Institutions such as NGOs/Development projects and others jointly provided the services to the remaining 5 percent of the households (Chart 2.112). This general trend had only slight variations in the districts and in North 'B' District; the government was the only provider of the services.

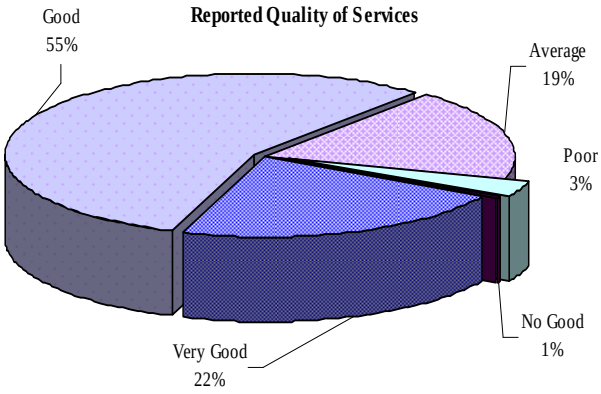
Chart 2.112 Number of Households Receiving Extension Messages by Type of Extension Provider



2.10.3 Quality of Extension

Most of the households reported that the quality of extension services was good (55 percent) and 22 percent reported it was very good, 19 percent average, 3 percent poor and one percent not good. (Chart 2.113).

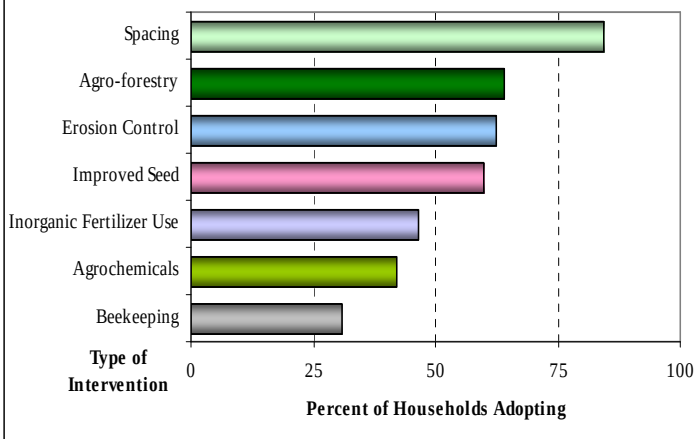
Chart 2.113 Percentage of Households receiving Extension Advice by Reported Quality of Services



2.10.4 Extension Adoption Rate

The overall adoption rate was 62 percent. There are some inconsistencies in this section when compared to users of the same in other sections due to the fact that one household may adopt more than one extension message (Chart 2.114).

Chart 2.114 Percent Adoption for Different Extension Intervention



2.11 CROP IMPLEMENTS

2.11.1 Access to Implements

The hand hoe was the most common agricultural implement and it was used by 95,563 households (99 percent of agriculture households). Hired tractor and tractor plough services were used by 11,233 households (12 percent of agriculture households) but 8,770 households (9 percent of agriculture households) used hired tractor harrow and the remaining 2,463 households that initially used tractors to plough used hand hoes to harrow the land. Ox ploughs were used by only 0.1

percent of agricultural households. Very few households used hand powered sprayers, oxen, ox cart and plough whilst thresher/sheller and ox seed planters were not used at all (Chart 2.115).

Hand hoe was the most common implement in all districts but ox ploughs were used only in Central and West Districts. Ox carts were more common in Central, West and Micheweni Districts. The tractor harrow was not used in Micheweni District (Chart 2.116).

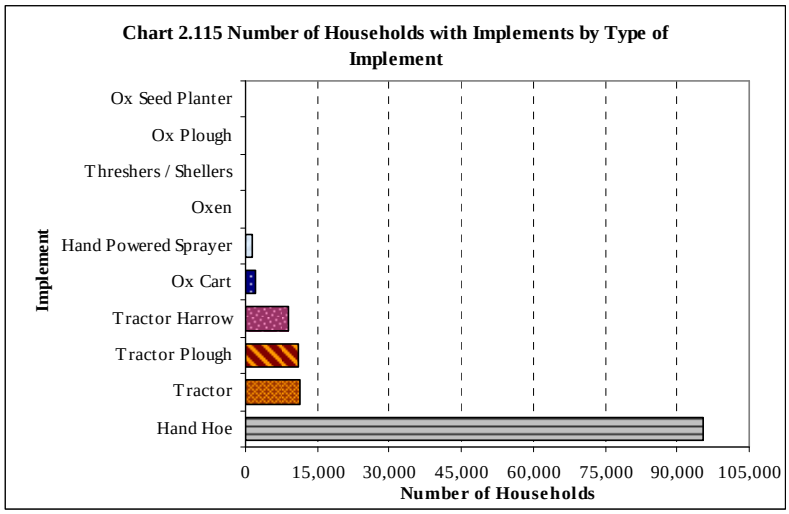


Chart 2.115 Number of Households with Implements by Type of Implement

2.11.2 Ownership of Implements

Of the all the implements owned by the households 98.43 percent (214,341) are hoes. The remaining implements that is Ox cart (2115), Ox plough (28), hand powered Sprayer (1275) jointly account less than 2 percent. Although some agricultural households used tractors and their implements, all of the tractors and their associated implements were hired from the government (Chart 2.117).

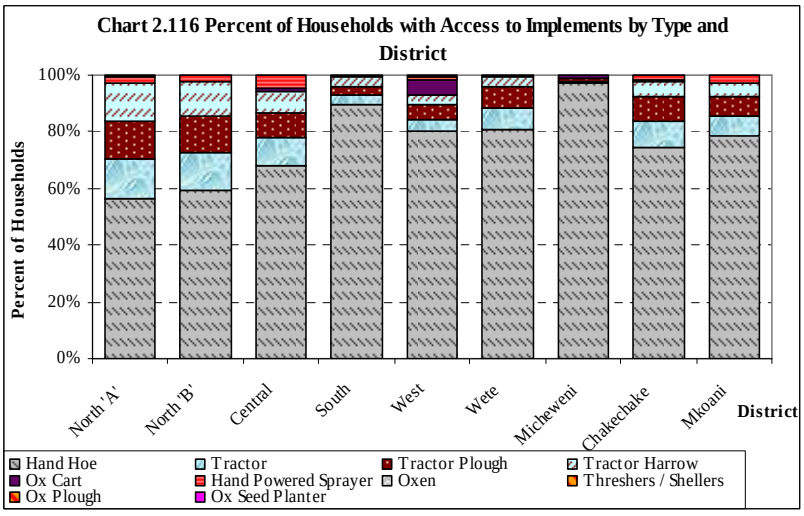


Chart 2.116 Percent of Households with Access to Implements by Type and District

2.11.3 Source of Finance for Purchasing Implements

Sale of farm products was the major source of funds for purchasing implements. However, there were some differences with respect to the source of finance to purchase different types of implements.

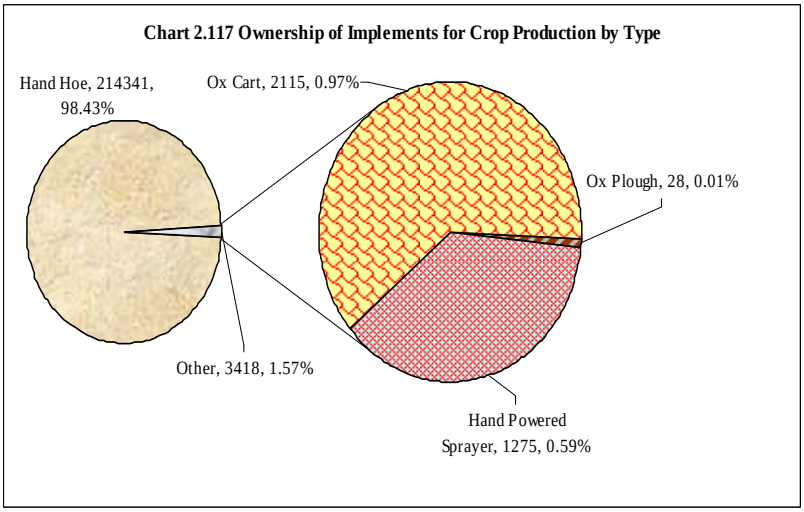


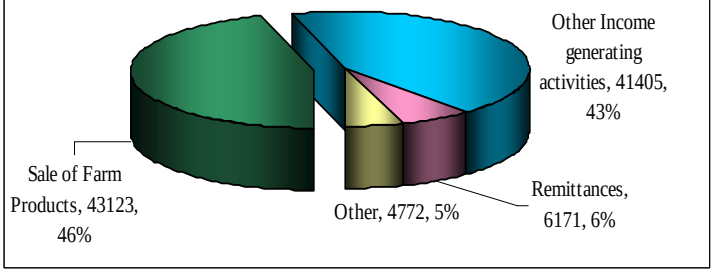
Chart 2.117 Ownership of Implements for Crop Production by Type

About 46 percent of the households purchased hand hoes from sale agricultural products, 43 percent from other income generating activities, 6 percent from remittances and 5 percent from other sources whilst those that used credit were less than one percent (Chart 2.118)

The source of finance for 69 percent of households that owned hand powered sprayers was the sale of farm products, 22 percent other income generating income, 2 percent remittances and 8 percent other sources.

Bank loans and credits were not important as sources of funds for the purchase of the implements.

Chart 2.118 Number of Households by Source of Finance of Purchasing Implements(Hand Hoes)



2.12 USE OF INPUTS

Access to inputs in this section refers to all households that grew crops, annuals and perennials. In previous sections the references were based on annual crops.

A very small proportion of the households used farm inputs especially those inputs that were not produced on farm i.e. improved seeds, fungicides, inorganic fertilizers, herbicides and insecticides.

Table 2.13 Use of Input

Type of Input	Households With Access to Input		Households Without Access to Input	
	Number	Percent	Number	Percent
Farm yard manure	17,826	18	78,696	82
Improved Seeds	21,833	23	74,689	77
Pestcide /Fungicide	2,691	3	93,831	97
Inorganic Fertiser	10,261	11	86,261	89
Compost	5,486	6	91,036	94
Herbicide	3,593	4	92,929	96

Improved seeds were used by 21,833 households (23 percent of the agriculture households) but this input was not required in perennial crops. Farm-yard manure was used by 17,826 households (18 percent of agricultural households), chemical fertilizers 10,261 households (11 percent), compost 5,486 households (6 percent), herbicides 3,593 (4 percent) and pesticide/fungicide 2,691 households (3 percent) (Table 2.13).

Chart 2.119 Number and percent of Households by Source of nputs

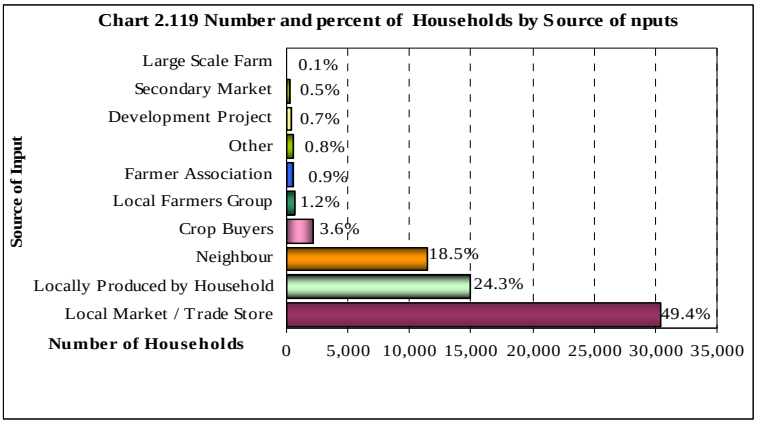
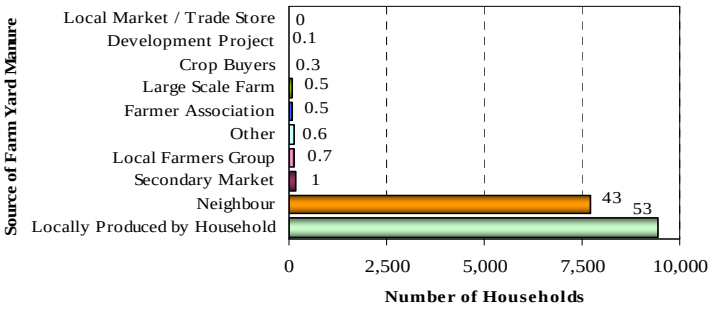


Chart 2.120 Number and Percent of Households by Source of Farm Yard Manure



2.12.1 Source of Inputs

Most crop inputs were bought from local markets/trade stores (49 percent of the households that used inputs) and this mostly applied to purchase of chemical fertilizers, pesticide/fungicide, herbicide and improved seeds. The next important source was local production by households 24 percent (mainly referring to farm-yard manure and compost and

to some extent local pesticides) and neighbours accounted for 19 percent of inputs (mostly farm-yard manure and improved seeds) (Chart 2.119).

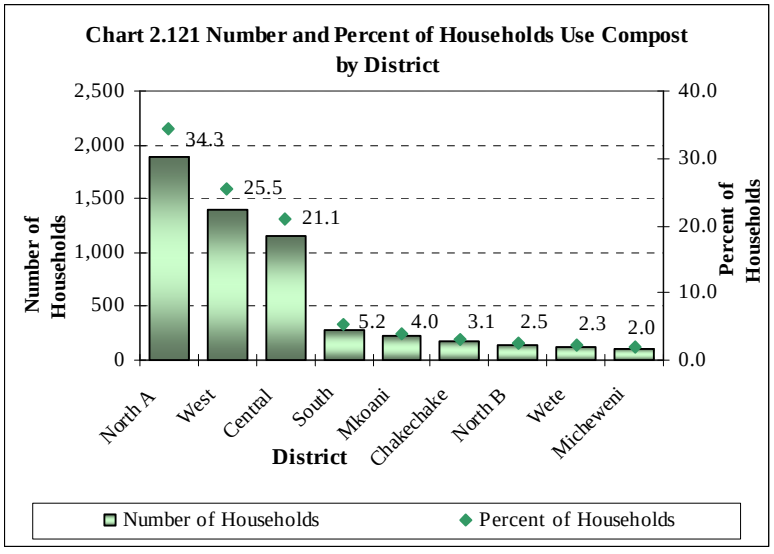
Farm Yard Manure

The main source of farm yard manure was the farmers own farms (9,434 households, 53 percent of the households that used the manure) followed by neighbour's farms (7,713 households, 43 percent) and 185 households got the manure from secondary markets. Other sources made very little contributions Chart 2.120).

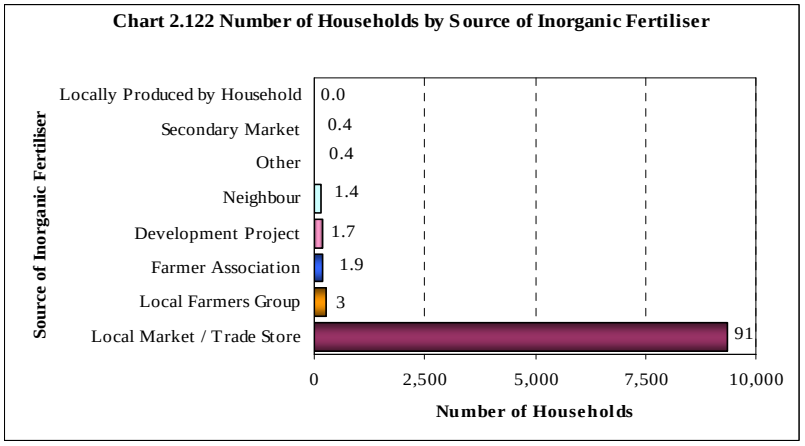
Most of the households that used farm-yard manure were in Central District (4,354 households, 24 percent of households that used the manure and 39 percent of the agriculture households in the district used the input). This district was followed by West District (3,782 households, 21 percent of the households and these were 36 percent of the agriculture households in the district whereas the proportion of households that used the input in South District was 37 percent of agricultural households within the district. Only 6 percent of the agricultural households used farm-yard manure in Wete District.

Compost

Most of the households that used compost produced it on their farms (5,477 households, nearly 100 percent of the households that used compost). Only 8 (0.14 percent) households were reported to get the input from other sources.



Most of the households that used compost were in North 'A' District (1,881 households, 34.3 percent of households that used compost and these were 13 percent of agricultural households in the district). West District followed with 1,396 households (25.5 percent of the households that used compost) and these were 13 percent of the agricultural households in the district) whilst the lowest number of households that used compost were found in Micheweni District (112 households, 2 percent of the households that used compost and were only 1 percent of agricultural households in the district) (Chart 2.121).



Inorganic Fertilizers

Most of the households that used inorganic fertilizers purchased it from local market/trade stores (9,372 households, 91 percent of the households that used chemical fertilizers) the contribution of other sources were insignificant (Chart 2.122).

A few households used inorganic fertilizers (about 11 percent of the agricultural households) and with only 24 percent of the households being at 10 and above kilometers to the source of the input (Chart 2.126), coupled with the small number of households responding to "not available" (16 percent) as the reason for not using the input, it may be assumed that access to inorganic fertilizers was not the main reason for many households not to using it. Most of the households (67 percent of the households that did not use fertilizers) responded that cost was the main reason for not using fertilizers. It may be assumed therefore that if the cost was affordable, the demand would be higher and many households would use it.

Chart 2.123 Percent of Households Reporting Distance to Source of Inorganic Fertiliser

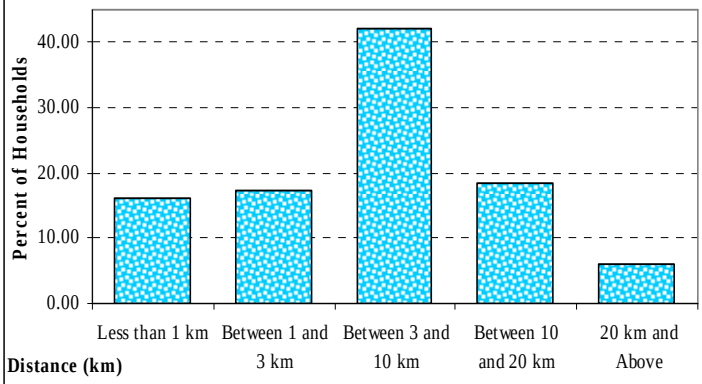
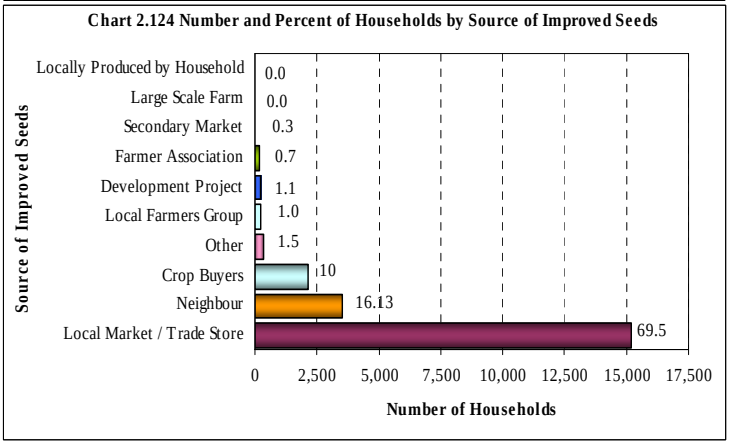


Chart 2.124 Number and Percent of Households by Source of Improved Seeds

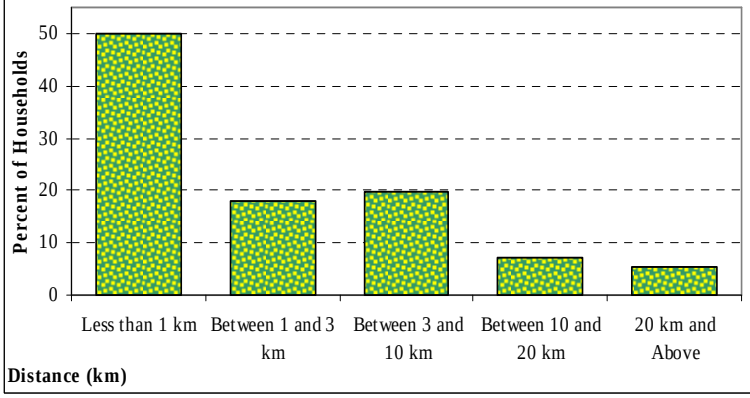


Most of the households that used inorganic fertilizers were in North 'A' District (2,363 households, 23 percent of households that used inorganic fertilizers and were 17 percent of the households in the district). Followed by Wete District (2,058 households, 20 percent of the households that used chemical fertilizers) but 17 percent of agricultural households in the district). The districts with the lowest number of households that used fertilizers were South and Micheweni Districts (79 and 206 households, which were less than 1 and 2 percent of the households that used chemical fertilizers and 1.9 and 1.6 percents of the agricultural households within the respective districts).

Improved Seeds

23 percent of the total agricultural households used improved seeds. Most of the households obtained improved seeds from local market/trade store (15,164 households, 70 percent of the households that used improved seeds). Other significant sources were neighbours and crop buyers

Chart 2.125 Percent of Households Reporting Distance to Source of Improved Seed



(16 and 10 percent of the households respectively) (Chart 2.124).

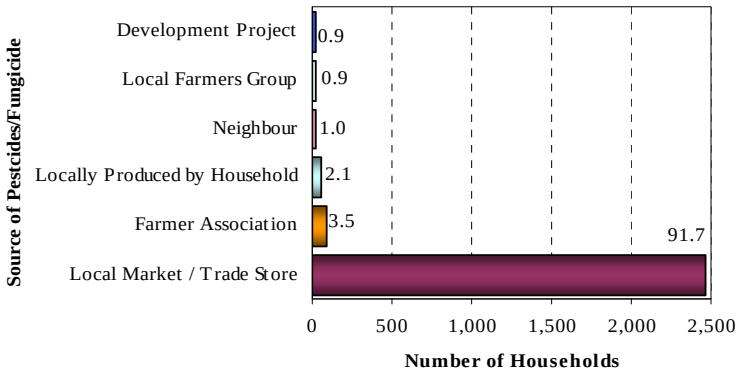
The access of improved seeds was better than chemical inputs (those that got the inputs at a distance of less than 1 km were 16 percent for chemical fertilizers, 18 percent for pesticides/fungicides, 6 percent for herbicides but 50 percent for improved seeds) (Chart 2.125).

The districts that used improved seeds most were Central with 23 percent of households that used improved seeds, followed by North 'A' (16 percent), West (15 percent) whilst Chakechake had only 4 percent of the households.

Insecticides and Fungicides

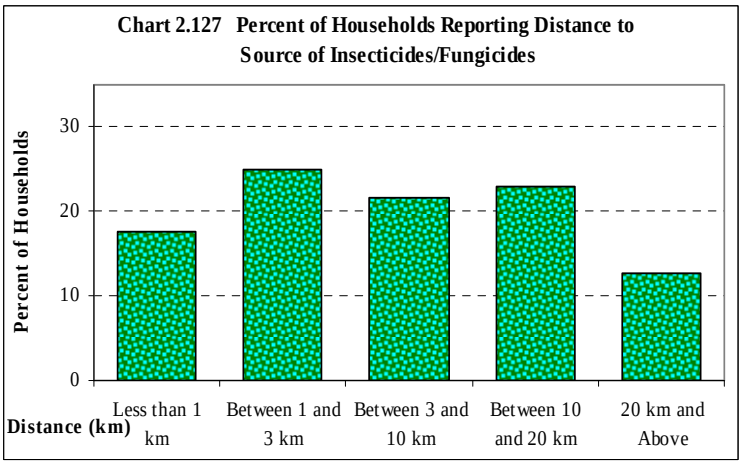
Most of the agricultural households that used insecticide/fungicide purchased the input from local Markey/trade store (2,468 households, 92 percent of households that used insecticide/fungicide). Households that got the inputs from farmers association were 94(3 percent) and 57 households (2 percent) produced their own local pesticides/fungicides. The rest of other sources were of very minor importance (Chart 2.126).

Chart 2.126 Number and Percent of Households by Source of Pesticide/Fungicide



About 60,237 households (64 percent of the households that did not use the inputs) reported that the high price was the major reason for not using the input whereas 11,007 households (12 percent) sited 'not available' as the reason for not using the input. As was the case with inorganic fertilizer. The small number of households using insecticides/fungicides coupled with the 12 percent responding 'non availability' as reason for not using them, It may be assumed that access was not the main reason for not using insecticides/fungicides. The main reason is assumed be the higher cost of the inputs.

Chart 2.127 Percent of Households Reporting Distance to Source of Insecticides/Fungicides



The few households that used the inputs were mostly found in Central District (1,373 households, 51 percent of the households that used the inputs) and 12 percent of the agricultural households in the district). North 'A' and North 'B' Districts had each 240 households using

insecticide/fungicide and these were about 2 and 3 percent of the households in the district respectively. The smallest number of households that used the input were in Micheweni District being only 0.3 percent of the households in the district used.

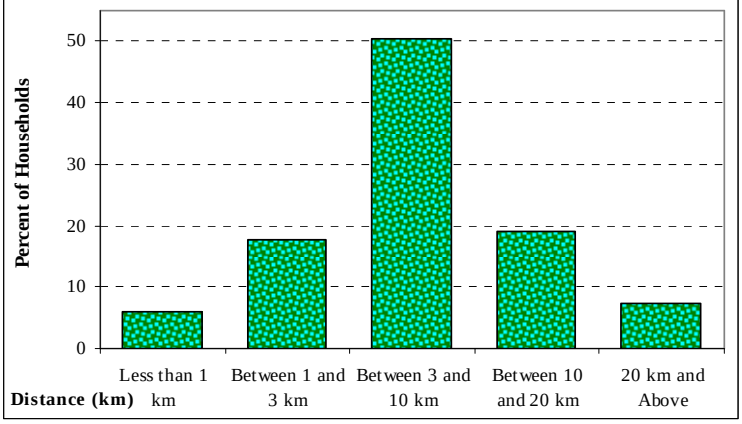
Regarding the working distance to get the input there was no distinct pattern of households, but for the majority of the households the distance ranged between 1 and 3 kilometer (Chart 2.127).

Herbicides

The number of households that used herbicides was about 3,593 which represented about 4 percent of the total agricultural households. Most of these households obtained the herbicides from the local market/trade store (3,410 households, 95 percent of the households that used herbicides) .

About 74 percent of the households that used herbicides were at a distance of not more than 10 km from the source of herbicides (Chart 2.127). As with other chemical inputs, it was not the accessibility that was the main reason for not using it but rather the higher cost and related factors as only 16 percent of the households that did not use herbicide responded "not available" against 66 percent responding to cost related issues as the main reason for not using herbicides.

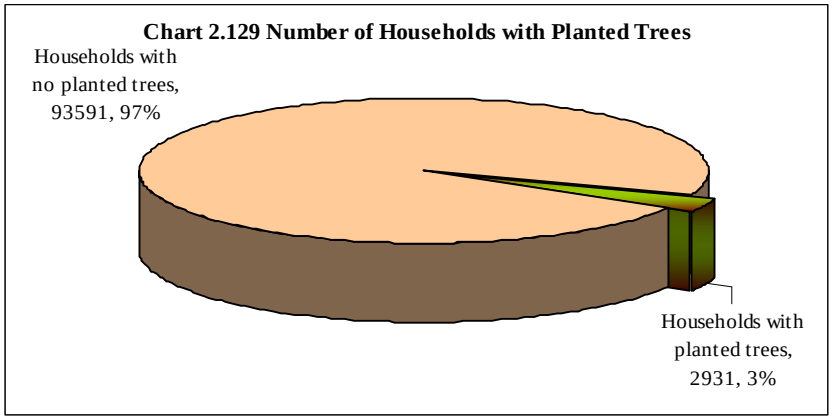
Chart 2.128 Percent of Households Reporting Distance to Source of Herbicides



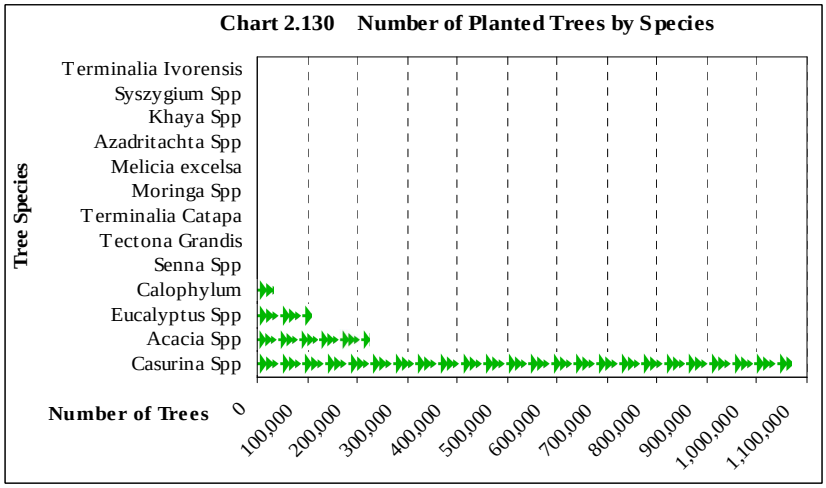
The amount of households which used herbicides were very small in all districts and the highest were in North 'A' and North 'B' where about 7 percent in each of the districts used the input and the lowest was in Micheweni with only 0.1 percent of the households in the district using herbicides**.**

2.13 Tree Planting

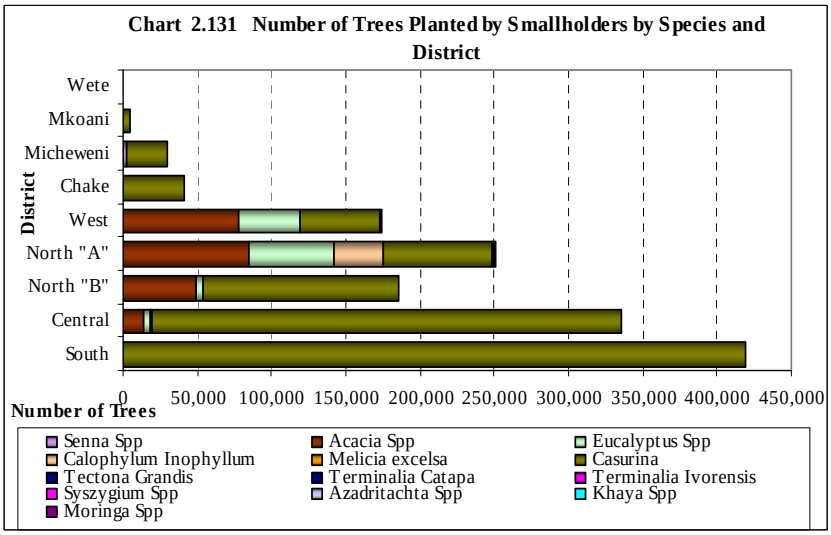
The number of households involved in tree farming was 2,931 which represented 3 percent of the total number of agriculture households (Chart 2.129).



The number of tree planted was 1,441,316 mainly *Casurina spp* (74 percent), *Acacia spp* (16 percent), *Eucalyptus spp* (8 percent) while other species were planted in small numbers (Chart 2.130).



The average number of trees planted per tree farming household (not considering species type) was 492 trees. Most of the trees (57 percent) were planted as small plantations or coppice stand, 32 were percent mostly scattered in the field and the remaining 11 percent were planted as field boundaries.



South District had more planted trees than others. South district had most trees (29 percent of the trees) dominated by *Casurina Spp*, followed by Central District (23 percent), then North 'A' District (17 percent) and the district with the least number of planted trees was Wete District with 0.1 percent of the planted trees.(Chart 2.131).

About 35 percent of the households had trees scatted in the field, 34 percent of the tree planting households planted the trees mostly as field boundaries and 31 percent planted them in small plantations or coppice stand (Chart 2.132).

About 53 percent of the households plated trees to produce poles, 19.4 percent planted trees for timber, 15.9 percent for wood fuel and 5.7 percent for charcoal, 3.6 percent for other reasons, 2 percent for shade and 0.4 percent of the households planted for medicine (Chart 2.133).

Chart 2.132 Number of Households Planted Trees by Location

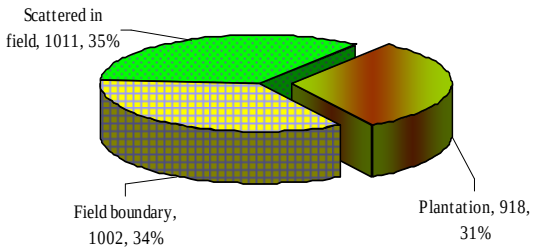
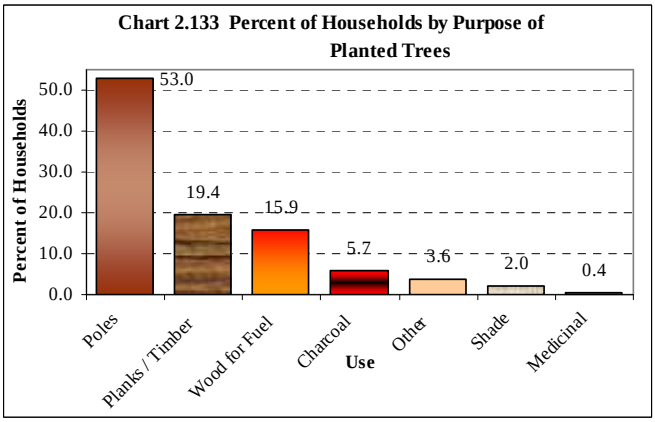


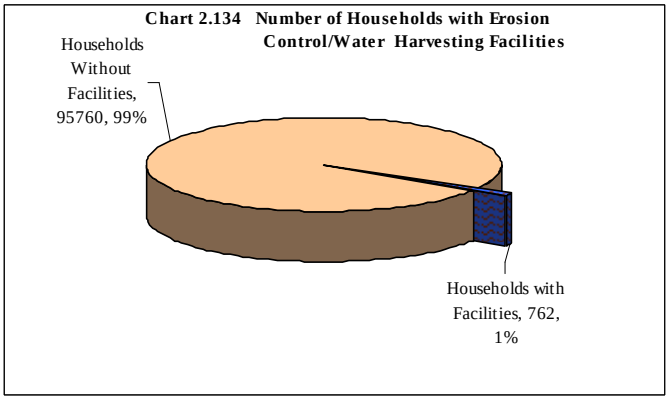
Chart 2.133 Percent of Households by Purpose of Planted Trees



2.13.1 Erosion Control and Water Harvesting Facilities

The number of households reported to have erosion control/water harvesting facilities were 762 which represented about one percent of the agricultural households (Chart 2.134).

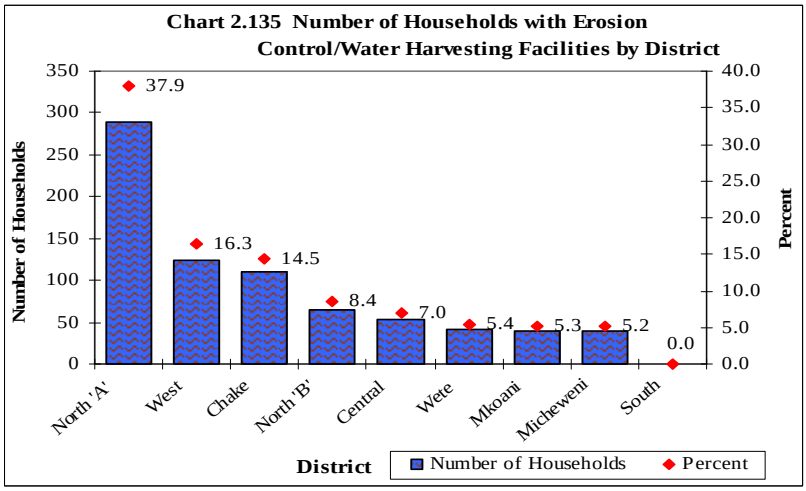
Chart 2.134 Number of Households with Erosion Control/Water Harvesting Facilities



North 'A' has the highest percentage of the households with the facilities (38 percent of the households with the facilities) followed by West District (16 percent), Chakechake District (14 percent) whereas no household was reported to have the facilities in South District (Chart 2.134).

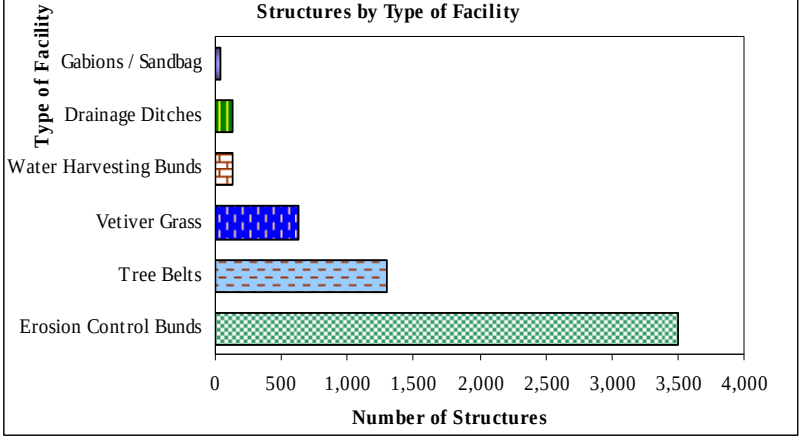
The proportion of households that had the facilities within the districts was very small with an average of one percent and the highest was 2 percent of the households in North 'A' District. For the South, Wete, Micheweni and Mkoani Districts, the proportions were almost zero.

Chart 2.135 Number of Households with Erosion Control/Water Harvesting Facilities by District



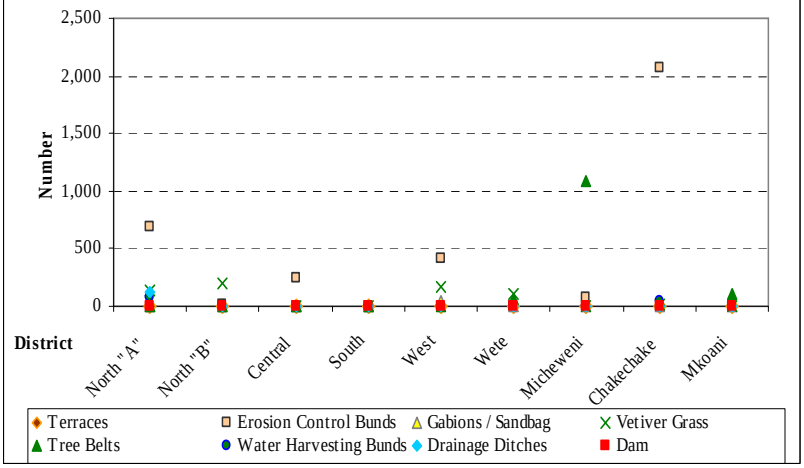
Erosion control bunds were the most common structures (3,503 structures or 61 percent of the total number of erosion control/water harvesting structures) and were almost 3 times more than the second important structures. Tree belts (1,302 structures, 23 percent of the structures) followed by vetiver grass (11 percent) and the other structures were of minor (Chart 2.136).

Chart 2.136 Number of Erosion Control/Water Harvesting Structures by Type of Facility



Chakechake District had the highest number of erosion control bunds (2,075) followed by North 'A' (685), West district (408), Gabions/sand bags were used only in West District, vetiver grass was more common in North 'B' followed by West then North 'A' District whilst tree belt were more common in Micheweni, water harvesting bunds were used in North 'A' and Chakechake and drainage ditches were only found in North 'A' District (Chart 2.137).

Chart 2.137 Number of Erosion Control/Water Harvesting Structure by Type of Structure and District



3.0 CONCLUSIONS AND RECOMMENDATIONS

The Agriculture Census collected a large amount of data on rural demographics, crop and livestock production regarding planted area, input use, agro-processing and storage, marketing, farmer access to support services, also natural resources and infrastructure, poverty and livelihood etc. This chapter mainly focuses on crop production, area under production and productivity.

The chapter has three sections: The first describes the current status of agriculture in Zanzibar, the second discusses the main findings of the agriculture sample census in relation to poverty reduction and household food security issues and the last section gives district production profile.

3.1 Current Status of Agriculture in Zanzibar

The crop sector plays an important role in Zanzibar's economy by providing jobs, sustenance and income to 92,221 households (representing about 99.7 percent of the agricultural households or 75 percent of the total rural households).

The total planted area was 110,397 hectares, 78,276 hectares planted with annual crops and 32,121 hectares were planted with permanent crops. There was a wide variety of grown crops (over 50 types). However, smallholder farmer crop production was very much dominated by cassava, paddy, bananas and coconuts. Other important food crops included sweet potatoes, oranges, mangoes, maize, cowpeas, green gram and tomatoes. The rest of other crops were grown in smaller amounts. However, some crops had significant importance in places where the climatic and soil type were suitable for their growth. The areas planted and numbers of households that grew important cash crops such as seaweed and cloves were small (e.g. cloves the main foreign exchange earner of Zanzibar, was planted by only 10 percent of the crop growing households and occupied only 15 percent of the area planted with permanent crops). However, cash crops were very important in certain places and many households were involved in their production e.g. 19 percent of the households in Mkoani District had clove trees but the trees were planted on only 9 percent of the area owned by the farmers in the district.

Cassava was the most important food crop and it was grown by about 66 percent of crop growing households and it was found in all districts of Zanzibar. There was virtually no investment in terms of irrigation and inputs used in the production of cassava.

Crop yields were low compared to the known standards. Chemical fertilizers and pesticides were almost not used except for small amounts in paddy and green vegetable. The average planted area was 0.8 ha per household for annual crops and this is a little area to support an average sized household even for subsistence existence especially inless productive areas such as the South District. Land pressure was very high especially in the more fertile areas. Land owned through formal titles/deeds was only 13 percent of the agriculture land. Trees were planted on only one percent (1,113ha) of the total land used for growing crops by the households. The trees were mainly planted in South, Central and North 'A' Districts.

Availability of adequate rainfall in the short rainy season could not be guaranteed, yet these rains are very important especially in the South District where bulrush millet, yams and cocoyam are common crops which are normally planted in

the short rainy season. The short rains are very important and to a large extent they determine the quantity of crops to be harvested in an agriculture year; the heavier and longer the short rains fall the more likely for bumper harvest.

Paddy was the most important cereal crop and it was planted by about 57 percent of the crop growing households and for permanent crops, banana was grown by the majority of the households followed by coconut. However, clove was the most important crop as it generated most of Zanzibar's foreign earnings. Other important crops included cowpeas, mangoes, oranges, seaweed, tomatoes and groundnuts.

Capital investment in small holder agriculture was virtually absent and only three percent of the area planted with annual crops was irrigated. Extension service had a relatively low coverage. The use of hand hoe was the most predominant means of cultivation and land cultivation by use of oxen driven implements was almost no existence.

There were practically no credit facilities for farmers and most households bought farming tools by selling their crop products. Crops were mostly stored in crude or traditional ways, yet, there was very little storage loss, possibly this was due to the short storage time as there was only small amounts of the products and these were consumed by the households within a short time after being harvested.

The price received by farmers from the sale of their farm products was low and transport costs were high. These were but only part of main marketing problems reported by the smallholder farmers. Agro-processing was mainly done on farm by hand and to less extent by neighbour's machines. Very little processing was done through farmer's association machines. About 64 percent of the farmers sold some of their farm products. Only 3 percent of the agriculture households planted trees.

Almost all heads of crop growing households were subsistence farmers and a great effort is needed to transform them into self supporting, profit making entities. The following are some of the key constraints hindering poverty alleviation efforts for smallholders in the crop production sector in Zanzibar.

3.2 Important Issues

This survey exercise has revealed many issues that have impact on poverty reduction, household food security and requirements for improvement of smallholder agriculture. This section discusses some of the findings in relation to these issues. However, the conclusions mentioned here do not necessarily represent the opinions of the Government or other stakeholders, so the main purpose here is to raise interest and stimulate discussion and come up with strategies to solve these important issues. These issues are in relation to:-

- Productivity and fertilizer use,
- Access to fertilizers and chemical inputs
- Access to land
- In crease in the number of smallholder households and land consolidation
- Irrigation
- Organic farming
- Tree farming as a substitute to food crop production
- Support of large scale farms to smallholder agriculture

- Distribution of support services.

3.2.1 Productivity and Fertiliser Use

In general the productivity of crops, especially cereals are low compared to standard yields for crops. There was a low level of fertiliser use among the households (only 11 percent of total agriculture households used chemical fertilizers, 18 percent used farm-yard manure and 6 percent used compost manure). It is also a doubtful that in the use of fertilizers were used in the appropriate proportions by those households reported to have used fertilizers.

Recommendations: Steps should be taken to encourage the use of fertilizers so as to increase the productivity in the crop production sector in the country. Failure to address this issue will result in continuing stagnation of productivity and poverty in the rural areas.

3.2.2 Access to Fertilisers and Chemical Input

Very little inputs (even those that could be obtained locally such as farm-yard and compost manure) were used. Of the improved inputs, improved seeds were the most used (23 percent of agriculture households) and most of the households bought the inputs from local market/trade store at a distance of about 1 kilometer. Most households did not use chemical fertilizers, pesticide, herbicide and fungicides due to higher price.Hoqwever, in the case of improved seeds, main reason for not using the input was availability problems of the input followed closely by high price factors. Thus, cost related constraints were the main reasons for not using improved inputs. As with improved seeds, it may be that if there was a high demand for the input there would be an associated high availability**.**

Few households responded that they did not know how to use inputs which suggests that limited extension services could not be the reason for not using the inputs and instead, the reason could be lack of other support to smallholders in the form of subsidy and credit, limiting the use of inputs and thus productivity.

*Recommendation**:*** Without chemicals, especially inorganic fertilizers, the transformation from subsistence to profit making production will not take place. Inorganic fertilizers must be made available to the smallholders at affordable prices and they should be subsidized to ensure that they are appropriately used to increase the productivity and profitability of smallholder farms.

3.2.3 Access to land

It is generally accepted that land for agriculture is scarce in Zanzibar and smallholder farmers do not have sufficient land to produce food crops for sale sell to the local and external market and also the agricultural land they own is not even sufficient for the production their household subsistence needs. This is evident as:

1. The average physical land per agricultural household was only 1.2ha but more importantly there were many households that accessed land that was much less than 1 hectare.
2. The percent of utilized land compared to available land is high and in some districts the planted land area was bigger than the available land suggesting the same piece of land was used to plant several crops in one agriculture year.

Recommendation: A discrete study is required to determine the minimum area of land that is required for a smallholder household to meet its subsistence needs and the area required to have self sustaining profit making farms. This should then be used to promote adequate size profit making farms and provide startup capital and credit for inputs

3.2.4 Increase in the number of Smallholder Households and Land Consolidation

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

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

3.2.5 Irrigation

Water is a limiting factor to crop production in many areas of Zanzibar and without irrigation and other interventions, food production and productivity will be limited in these areas.

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

3.2.6 Organic Farming

Whilst it is important to encourage the use of chemical inputs (especially fertilizers) in order to improve productivity, households in areas with high levels of livestock, suitable soils, water availability and access to markets should be encouraged to practice organic farming through use of farm-yard and compost manure.

Recommendation: Areas suitable for organic farming should be identified and officially registered as chemical input free. Farmers should be encouraged to adopt organic this farming system in those areas. Adaptive research to investigate the potential of the areas for this farming system should be initiated and extension officers urged to disseminate the packages for adaptation by farmers in the areas. Organic certification is required to ensure that the land is free from manufactured chemicals before the produce from the land can be sold as organically grown. Markets for the sale of these products should be identified to maximize farm gate price.

3.2.7 Tree Farming as a substitute of Food Crop Production

The value of trees is growing at an exponential rate, especially for the indigenous tropical species which are declining in numbers through deforestation activities. Promotion of tree planting by smallholders may lead to conservation of these valuable resources and maintain the genetic diversity of tree species in Zanzibar. Trees can totally substitute food crop production in certain areas of the districts. Although it may take some time for the trees to mature, the value of the end price is high and increasing. This scheme has many advantages in relation to soil erosion control, soil water retention, wood for fuel, availability of building materials, flora and fauna conservation, eco-tourism etc.

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

3.2.8 Support of Large Scale Farms to Smallholder Agriculture

There were very few large scale farms at the time of enumeration, and these farms had no major contribution as a market for small scale farmer crop and livestock products. Also these farms were not an important source of farm inputs, equipments and extension services. The large scale farms were not well distributed to cover appreciable parts of the Zanzibar and so they could not be a good source to support for many small scale holders. Thus, large scale farms could not solve the problems faced by the majority of smallholders.

3.2.9 Distribution of Support Service

Services to support smallholder crop production (e.g. credits etc) are at a very low level. Extension agents can only disseminate the improved technologies to farmers but these technologies often require other support services and policies for the farmers to adopt them eg. access to affordable fertilizer, credit, etc.

Recommendation: Inputs and services should be provided to smallholders at affordable rates. Subsidies/grants should be given to help smallholders change from a subsistence base to a profit making economic entities. In countries where agriculture has developed, it was made possible through such type of assistance and Zanzibar may be requiring the same.

3.2.10 Reinstating Frequent Surveys

Surveys which are undertaken at regular intervals are useful and can be used in trend analysis for many years. Questionnaires can be slightly modified to confine with what was required for analysis but should always remain simple for minimal analysis. An extensive analytical document can be prepared during the years of census.

Recommendation: Agriculture census should be repeated at regular predetermined intervals.

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

The census results has shown that the extension services have not resulted in a concomitant increase in productivity and indicate that the package system does not work efficiently especially when the package only come with the advise and not with the support to use the improved technology. With decentralization of extension services to the region and district

levels, the MANREC, especially the commission concerned with extension need to change from planning and supporting a package driven system to an advisory service. This advisory service would support extension agents, by providing specialist advice to crop production problems and in the dissemination of new interventions. To support this, the following information systems are required:

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

Many of these systems are available at different organizations e.g. FAO, CABI, USDA and other organizations or in the existing database. However, these tools should suit the needs of the extension services.

CABI has a comprehensive pest and disease database that was originally designed for scientists in the field of entomology. The applications need to be made suitable for the extension agents to use. With collaboration with other concerned organization in Tanzania a Subject Matter Specialist database can be developed within the country. FAO has comprehensive textual documents and market information system that can be accessed over the internet or on CDs but need to be assessed to determine their appropriateness.

Recommendation: Systems that can be developed in the country should be designed and developed. Off the shelf applications require evaluation to determine their suitability. Specialist applications of the system held by international organizations require modification to suit this initiative. Support should be requested from International Development Partners to realize the initiatives.

3.3 District Profiles

The following profiles give summaries of the status of crop production in the districts. Some districts are shown to have a higher planted area than the physical area for agriculture due to double cropping (long and short rainy seasons crops being planted on the same piece of land) as was in North 'A', North 'B', Chakechake and Central Districts.

3.3.1 North 'A'

North 'A' District had the second largest planted area with annual crops and it ranked third in areas planted with annual and permanent crops (15,446ha.). The average planted area per household was 1.1 ha and the district had the largest area planted with maize and mango but it had the fourth largest area planted with paddy and had a very small area established with pastures and natural bush.

Very little land was irrigated but 25 percent of the agricultural households of the district received extension advice. About 17 percent of the households used chemical fertilizers, 13 percent used compost but only 9 percent used farm-yard manure. Other chemical inputs were used at very negligible amounts.

Most of the households that stored crops were found in North 'A' district especially the households that used improved locally made structures and airtight drums although these were only about 9 percent of the households that stored crops in

the district. Most of the households that processed food products were found in this district and 41 percent of the households which processed food crops used neighbours machines. There was no use of animal draft for land preparation in this district.

3.3.2 North 'B'

North 'B' District ranked seventh in area planted with annual crops 8th with planted permanent crops (7471ha). The average planted area per household was 1.2 ha. and this land was intensively planted with crops and had the district with the lowest area left fallow but there was some little land with natural bush.

Only 5 percent of the households practiced some irrigation on 0.67 percent of the land in the district and 9 percent of agricultural households within the district received extension sdvice. 14 percent of the households used some chemical fertilizers,12 percent used farm-yard manure but only about 2 percent used compost fertilizer. Other chemical inputs were used at very negligible amounts.

About 43 percent of the households in the district stored some crops and the most common method of storage was the use of sacks/open drums and locally made traditional structures withfew households using improved locally made structures and airtight drums. About 54 percent of the households that processed food crops used neighbours machines and 19 percent of the households the crops through farmers associations. There was no use of animal draft for land preparation in this district.

3.3.3 Central

Central District had the largest area planted with crops (16,417 ha.-ranked 4th in area planted with annual crops and highest area planted with permanent crops). The average planted area per household was 1.5 ha. and the district had the largest area planted with many crops such cucumber, egg plant, tomatoes, pumpkin, seaweed, oranges, rambutan, durian and sugar cane but does not rank high in cereal production. The district had the second largest area under fallow and the biggest area under planted trees. There was almost no land under natural bush or with pasture.

Although very little area was under irrigation (656 ha., 31 percent of the area under irrigation), this district had the second biggest area under irrigation and only 12 percent of the households in the district received extension advice. The number of households that used chemical fertilizers were only about 9 percent of the households in the district but 39 percent used farm-yard manure, 10 percent used compost and 44 percent used improved seeds. Other chemical inputs were used at very small amounts.

About 49 percent of the households in the district stored crops and the most common storage methods were the use of sacks/open drum, locally made traditional structures and as unprotected piles. The number of households that processed food crops were 14 percent of the households in the district and most either processed by neighbours machine or on farm by hand. Some of the very few households that used draft animals for land preparation were in this district.

3.3.4 South

South District had the smallest area planted with crops (3,203 ha.) and this was only 3 percent of the total area planted with crops. The average planted area per household was 0.6 ha. and the district had among the lowest of agricultural production for many crops except for yams in which the district had the highest area with the crop (31 percent of the area planted with yams followed by North'A' 27 percent)

Only about 0.5 percent of the agricultural area in the district was irrigated and 13 percent of the households received extension advice. About 2 percent of the households used chemical fertilizers, 37 percent used farm-yard manure, 7percent used compost and 31 percent used improved seeds. Very few households used other chemical inputs eg only 0.6 percent of the agricultural households in the district used herbicides.

About 27 percent of the households stored crops and 63 percent of these stored the crops in sacks/open drum, only 7 percent of the households processed the crops mostly on farm by hand. Draft animals were not used to prepare land for agriculture

3.3.5 West

West District had the second smallest area planted with crops (7,694 ha.). The average planted area per household was 0.7 ha. The district had an average production of many crops and it is second to Central district in the production of permanent fruits e.g. orange, rambutan and durian. Small as it is, this district has most of the land occupied with natural bush (57 percent of the area with natural bush). The district also has highest proportion of the area occupied with improved pasture (53 percent of the area), area rented to other households (29 percent) and agricultural unusable area (26 percent). West district has the third largest area under fallow (17 percent).

This district has most of the irrigated area (752 ha; 35 percent of the total irrigated area) but only 5 percent of the households within the district received extension advice. About 10 percent of the households within the district used chemical fertilizers, 36 percent used farm-yard manure, 13 percent used compost and 31 percent used improved seeds. The number of households that used pesticides is very small. The average number of household using fungicide/inseticide 4 percent of the households in the district and 3 percent used herbicide (3 percent and 4 percent of the total crop growing households in Zanzibar respectively)

About 19 percent of the households stored crops and mostly in sacks/open drums. The number of households that processed crops were 2,367 (22 percent of the households within the district). The processing was mostly done on farm by hands. There were very few households that used draft animals to prepare land for cultivation.

.

3.3.6 Wete

Wete District ranks fourth in area are for crop production (12,108 ha. which is 13 percent of the area planted with crops). The average planted area per household was 1.2 ha. ; the district had the largest area planted with cereals (19 percent of land planted with cereals) and leads in area planted with paddy (20 percent of the total area planted with paddy) which covers 18 percent of the total land planted with crops. The district also has second largest area planted with cassava but has

very small area established with forestry trees (only 0.3 percent of the total area planted with trees). The district has no area planted with improved pasture species or occupied with natural bush and hasv the smallest area planted with forestry trees (only 38 ha. which is approximately 1 percent of the area planted with trees).
Wete district accounted for only 5 percent of the total area that was irrigated. About 12 percent of the households within the district received extension advises. About 17 percent of the households in the district used chemical fertilizers, 6 percent used farm-yard manure, only 1 percent used compost manure and 14 percent of the households used improved seeds. Only 1 percent of the district's crop growing households used herbicide/fungicide and 2 percent used herbicides.

About 76 percent of the households in the district stored crops and the most common storage methods is the use of sacks/open drum, locally made traditional structures and un-protected piles. Agro-processing was undertaken by 79 percent of the households in the district and most of the households processed the crops on-farm by hands (64 percent of the households) and 25 percent used neighbours. No households used draft animals for land preparation in this district.

3.3.7 Micheweni

Micheweni District had the third largest area planted with crops (14,688 ha.-ranked 1st in area planted with annual crops and 5th in area planted with permanent crops). The average planted area per household was 1.1 ha. and the district had the largest area planted with major crops that thrive in draught conditions e.g. cassava, sorghum and millet.

Only 63 ha. are reported to be irrigated (by 2.8 percent of crop growing households in the district). The proportion of households that used chemical fertilizers were about 2 percent of the total district crop growing and although Micheweni has the highest number of cattle, only 28 percent of crop growing households used farm-yard manure, 1 percent used compost, 10 percent used improved seeds and no household used chemical pesticides.

About 67 percent of the crop growing households stored crops and the most common storage methods were the use of sacks/open drum followed by use of locally made traditional structures. The number of households that processed food crops were 69 percent of the households and 89 percent of these households processed the crops in farm by hands. the district and most either processed by neighbours machine or on farm by hand. No household used draft animals for land preparation in this district.

3.3.8 Chakechake

A total of 12,482 ha. were planted with annual and permanent crops in Chakechake District and the average planted area per household was 1.2 ha. (68 percent of the land planted with annual crops, 31 percent with permanent crops while other land use types are used on very minute proportion of the land whereas there was no land established with improved pasture

Only 0.4 percent of the land utilized for agriculture was irrigated and this exercised by 1.1 percent of the farmers in the district. About 16.2 percent of the crop growing households within the district received extension advice. The number of households that used chemical fertilizers were only about 11 percent of the households in the district and only 7 percent used farm-yard manure, 2 percent used compost and this district had the lowest proportion of the households (9%) within the district using improved seeds. Other chemical inputs were used at very small amounts.

About 67 percent of the crop growing households in the district stored crops and the most common storage methods were the use of sacks/open drum, locally made traditional structures and as unprotected piles. The proportion of households that processed food crops were 73 percent of bthe households in the district and most either processed by neighbours machine or on farm by hand. The draft animals were not used for land preparation in the district.

3.3. 9 Mkoani

Mkoani District had the fifth largest area planted with crops (12,472 ha.-ranked 5th in area planted with annual crops and second in area planted with permanent crops). The average planted area per household was 1.2 ha. and the district is leading in the production of important crops such as cassava, paddy, bananas, cloves and mangoes. The district had the second lowest area, no land under pasture, natural bush and area rented to others.

Only 0.2 percent of the total utilized land was irrigated and only 0.9 percent of the crop growing households irrigated some of their crops. More or less 44 percent of agricultural households received extension advice. The number of households that used chemical fertilizers were about 10 percent of the households in the district, only 6 percent used farm-yard manure, 2 percent used compost and 15 percent used improved seeds. Other chemical inputs were used at very small amounts.

Storage of crops was done by about 66 percent of the crop growing households in the district and the most common storage methods were the use of sacks/open drum, locally made traditional structures and as unprotected piles. The number of households that processed food crops were 76 percent of the households in the district and most either processed by on farm by hand and no household processed crops on farm by machine. There were no households that used draft animals for land preparation were in this district.

4. APPENDICES

Appendix I Crop Tabulation List

Appendix II Crop Tables

Appendix III Questionnaires

APPENDIX 1: CROPS TABULATION LIST

APPENDIX 11: CROPS TABLES

2.1 TYPE OF RURAL HOUSEHOLD: Number of Rural Households by Type of Household District during 2002/03 Agriculture Year.

District	Rural Households Involved in Agriculture		Rural Households Not Involved in Agriculture		Total Rural Households
	Number	Percent	Number	Percent	Number
North 'A'	14,110	84.6	2570	15.4	16,680
North 'B'	8,778	86.8	1331	13.2	10,109
Central	11,145	87.9	1540	12.1	12,685
South	4,234	69.6	1851	30.4	6,085
West	10,527	37	17899	63	28,426
Wete	12,108	84	2308	16	14,416
Micheweni	13,117	91.1	1276	8.9	14,393
Chakechake	10,031	81.8	2236	18.2	12,267
Mkoani	12,472	90.2	1352	9.8	13,824
Total	**96,522**	**74.9**	**32363**	**25.1**	**128,885**

Data Source: Number of rural households involved in agriculture - Small holder questionnaire. Number of rural households not involved in a agriculture- households listing

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

District	Type of Agricultural Holding						Total		
	Crops Only		Livestock Only		Crops & Livestock				
	Number	Percent	Number	Percent	Number	Percent	Agricultural Households	Households Growing Crops	Households Rearing Livestock
North 'A'	11,121	18.5	31	10.0	2,959	8.2	14,110	14,080	2,989
North 'B'	5,784	9.6	20	7.0	2,974	8.2	8,778	8,758	2,994
Central	6,494	10.8	0	0.0	4,651	12.9	11,145	11,145	4,651
South	2,988	5.0	38	13.0	1,208	3.3	4,234	4,196	1,246
West	6,334	10.5	149	49.0	4,045	11.2	10,527	10,379	4,194
Wete	7,066	11.8	20	7.0	5,022	13.9	12,108	12,088	5,042
Micheweni	6,703	11.2	24	8.0	6,390	17.7	13,117	13,093	6,414
Chakechake	5,946	9.9	19	6.0	4,065	11.2	10,031	10,011	4,085
Mkoani	7,641	12.7	0	0.0	4,831	13.4	12,472	12,472	4,831
Total	**60,077**	**100.0**	**301**	**100.0**	**36,144**	**100.0**	**96,522**	**96,221**	**36,445**

2.3 TYPE OF AGRICULTURAL HOUSEHOLD: Ranking of Livelihood Activities of the Households by Order of Importance and District 2002/03 Agriculture Year

District	Source of Income Activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
North "A"	1	2	5	3	6	4	7
North "B"	2	1	5	3	6	7	4
Central	2	1	4	3	6	7	5
South	3	1	4	2	7	6	5
West	3	1	4	2	6	7	5
Wete	3	1	5	4	6	7	2
Micheweni	2	1	5	4	7	6	2
Chake	1	1	5	3	6	7	4
Mkoani	2	1	5	4	7	6	3
Total	**2**	**1**	**5**	**3**	**7**	**6**	**4**

4.1 LAND ACCESS/OWNERSHIP: Number of Agricultural Households by Type of Land Ownership/Tenure and District, 2002/03 Agriculture Year

District	Land Access					
	Households with Area Leased/Certificate of Ownership	Households with Area Owned Under Customary Law	Households with Area Bought From Others	Households with Area Rented From Others	Households with Area Borrowed From Others	Households with Area under Other Forms of Tenure
North 'A'	1,726	7,842	1,384	51	5,956	2,951
North 'B'	1,446	3,038	841	213	6,037	1,262
Central	2,639	3,655	2,266	315	5,879	3,198
South	263	2,485	834	9	1,274	883
West	2,528	3,003	1,272	183	6,287	1,455
Wete	1,001	6,976	2,320	160	5,872	2,046
Micheweni	1,741	6,625	1,357	189	7,534	2,581
Chakechake	1,244	5,242	1,157	0	6,050	1,968
Mkoani	2,962	6,223	1,391	499	6,517	810
Total	**15,550**	**45,089**	**12,822**	**1,619**	**51,406**	**17,154**

4.2 LAND ACCESS/OWNERSHIP: Area of Land by Type of Ownership/Tenure (ha) and District, 2002/03 Agriculture Year

District	Land Access/ Ownership (ha)						
	Area Leased/Certificate of Ownership	Area Owned Under Customary Law	Area Bought From Others	Area Rented From Others	Area Borrowed From Others	Area under Other Forms of Tenure	Total
North 'A'	1,755	5,978	874	25	4,720	2,051	15,404
North 'B'	1,406	2,096	374	310	5,132	816	10,134
Central	2,783	3,794	2,133	354	4,980	2,445	16,489
South	210	1,840	427	16	538	351	3,381
West	2,371	2,183	677	125	4,191	976	10,523
Wete	1,146	6,250	1,536	103	4,343	1,427	14,804
Micheweni	1,204	5,232	903	145	5,688	1,775	14,947
Chakechake	1,280	4,426	594	.0	3,925	1,491	11,716
Mkoani	2,519	5,290	1,125	196	4,900	510	14,539
Total	**14,674**	**37,089**	**8642**	**1,273**	**38,418**	**11,842**	**111,939**

4.3 LAND SUFFICIENCY: Number of Agricultural Households by Whether All Land Available to the Household Was Used by District, during 2002/03 Agriculture Year

District	Was all Land Available to the Hh Used During 2002/03?				
	Yes		No		Total
	Number	Percent	Number	Percent	Number
North 'A'	13,034	92	1,077	8	14,110
North 'B'	8,020	91	758	9	8,778
Central	9,967	89	1,177	11	11,145
South	3,910	92	325	8	4,234
West	8,902	85	1,625	15	10,527
Wete	10,680	88	1,428	12	12,108
Micheweni	10,777	82	2,340	18	13,117
Chakechake	8,679	87	1,351	13	10,031
Mkoani	11,462	92	1,010	8	12,472
Total	**85,431**	**89**	**11,091**	**11**	**96,522**

4.4 LAND SUFFICIENCY: Number of Agricultural Households by Whether they Consider Having Sufficient Land for the Household and District, during 2002/03 Agriculture Year

District	Do you Consider That You Have Sufficient Land for the Hh?				
	Yes		No		Total
	Number	Percent	Number	Percent	Number
North 'A'	8,254	58	5,857	42	14,110
North 'B'	4,668	53	4,110	47	8,778
Central	7,094	64	4,050	36	11,145
South	3,489	82	745	18	4,234
West	6,148	58	4,380	42	10,527
Wete	6,971	58	5,137	42	12,108
Micheweni	7,289	56	5,828	44	13,117
Chakechake	5,729	57	4,302	43	10,031
Mkoani	8,132	65	4,339	35	12,472
Total	**57,774**	**60**	**38,748**	**40**	**96,522**

4.5 LAND SUFFICIENCY: Number of Agricultural Households by Whether Female Members of the Household Own or Have Customary Right to Land by District, 2002/03 Agriculture Year

District	Do any Female Members of the Household Own or have Customary Right to Land?				
	Yes		No		Total
	Number	Percent	Number	Percent	Number
North 'A'	13,439	95	672	5	14,110
North 'B'	8,295	94	483	6	8,778
Central	10,749	96	396	4	11,145
South	3,273	77	961	23	4,234
West	8,303	79	2224	21	10,527
Wete	10,504	87	1604	13	12,108
Micheweni	11,994	91	1124	9	13,117
Chakechake	9,895	99	136	1	10,031
Mkoani	11,236	90	1236	10	12,472
Total	**87,688**	**91**	**8835**	**9**	**96,522**

LAND USE

5.1 LAND USE: Number of Agricultural Households by Type of Land Use and District, 2002/03 Agriculture Year

District	Land Use: Households with Land											
	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
North 'A'	10,740	3,283	7,302	4,359	3,176	0	423	0	701	50	97	489
North 'B'	6,639	887	5,442	2,585	1,281	42	145	21	287	33	21	357
Central	6,562	3,550	3,289	6,441	2,582	0	809	0	741	49	111	391
South	2,009	808	1,416	1,840	1,453	0	208	0	291	6	14	170
West	4,907	1,063	4,903	4,123	3,380	52	760	88	380	117	334	532
Wete	10,131	694	7,745	4,630	756	0	373	0	38	41	219	896
Micheweni	9,649	711	8,137	4,554	3,700	0	1,003	23	154	63	301	872
Chakechake	7,963	517	6,992	3,865	130	0	655	22	132	42	44	522
Mkoani	10,617	430	9,058	4,346	258	0	203	0	42	0	162	670
Total	**69,217**	**11,945**	**54,283**	**36,744**	**16,715**	**94**	**4,578**	**154**	**2,765**	**402**	**1,302**	**4,899**

5.2 LAND USE: Area of Land (ha) by Type of Land Use and District, 2002/03 Agriculture Year

District	Land Use												
	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
North 'A'	5,343	1,372	3,558	2,823	1,588	0	207	0	210	51	45	208	15,405
North 'B'	3,533	396	3,254	1,727	871	37	52	8	109	5	13	129	10,134
Central	3,585	2,165	1,914	5,994	1,930	0	394	0	284	29	25	169	16,489
South	364	279	492	964	837	0	114	0	252	4	1	74	3,381
West	2,096	490	2,009	3,073	1,919	18	289	21	132	63	157	256	10,523
Wete	5,004	299	5,188	3,304	358	0	159	0	3	34	88	367	14,804
Micheweni	3,383	291	4,950	2,919	2,290	0	405	14	42	35	163	456	14,948
Chakechake	3,441	262	4,632	2,564	120	0	222	4	41	102	22	306	11,716
Mkoani	4,257	315	6,314	2,981	127	0	59	0	21	0	148	317	14,539
Total	**31,006**	**5,869**	**32,312**	**26,349**	**10,040**	**55**	**1,902**	**48**	**1,094**	**322**	**661**	**2282**	**111,939**

TOTAL ANNUAL CROP & VEGETABLE PRODUCTION – LONG RAINY AND SHORT RAINY SEASONS

7.0.1 TOTAL ANNUAL CROP AND VEGETALE PRODUCTION: Number of Agricultural Households and Area(ha) Planted with Annual Crops by Season and District, 2002/03 Agriculture Year - Long and Short Rainy Seasons

District	Short Rain			Long Rain			Total Planted Area(ha)	Percent Area Planted in Short Rainy Season
	Number of Households	Planted Area(ha)	Percent of Total Planted Area	Number of Households	Planted Area(ha)	Percent of Total Planted Area		
North 'A'	7,176	2,400	22	11,611	8,820	13	11,220	21
North 'B'	1,879	801	7	7,498	6,670	10	7,471	11
Central	4,750	2,949	27	8,086	7,330	11	10,279	29
South	2,478	857	8	2,089	995	1	1,852	46
West	4,493	1,523	14	6,170	4,671	7	6,194	25
Wete	3,312	968	9	10,746	10,477	16	11,445	8
Micheweni	2,347	479	4	11,706	10,819	16	11,298	4
Chakechake	2,026	608	5	8,593	7,890	12	8,498	7
Mkoani	1,521	472	4	10,968	9,543	14	10,015	5
Total	**29,982**	**11,058**	**100**	**77,467**	**67,216**	**100**	**78,274**	**14**

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

District	Short Rainy Season			Long Rainy Season			Total Number of Crop Growing Households
	Number of Households Growing Crops	Number of Households NOT Growing Crops	Percent of households growing Crops	Number of Households Growing Crops	Number of Households NOT Growing Crops	Percent of Households Growing Crops	
North "A"	7,176	6,934	51	10,596	3,515	75	14,080
North "B"	1,879	6,899	21	6,709	2,069	77	8,758
Central	4,750	6,395	43	7,887	3,257	71	11,145
South	2,478	1,756	59	1,642	2,592	39	4,196
West	4,493	6,034	43	5,074	5,454	49	10,379
Wete	3,312	8,796	27	10,201	1,907	84	12,088
Micheweni	2,347	10,770	18	10,630	2,487	81	13,093
Chakechake	2,026	8,004	20	8,152	1,878	81	10,011
Mkoani	1,521	10,951	12	10,449	2,023	84	12,472
Total	**29,982**	**66,540**	**31**	**71,341**	**25,181**	**74**	**96,221**

7.0.3 ANNUAL CROP AND VEGETABLE PRODUCTION: Area Planted(ha) Quantity Harvested (tonnes) and Yield(t/ha) by Season and Crop during 2002/03 Agriculture Year

Crop	Short Rainy Season			Long Rainy Season			Total	
	Area Planted (ha)	Quantity Harvested (tons)	Yield in t/ha	Area Planted (ha)	Quantity Harvested (tons)	Yield in t/ha	Area Planted (ha)	Quantity Harvested (tons)
Maize	997.8	1,207.5	1.2	1,642	1,937.5	1.2	2,639	3,145.0
Paddy	240.2	231.9	1.0	21,374	10,126.6	0.5	21,614	10,358.5
Sorghum	92.5	41.2	0.4	450	241.3	0.5	542	282.5
Bulrush Millet	191.9	63.4	0.3	120	88.3	0.7	312	151.7
CEREALS	**1,522.4**	**1,544.1**		**23,585**	**12,393.6**		**25,107**	**13,937.7**
Cassava	0	0	0	34,002	67,958.0	2.0	34,002	67,958.0
Sweet Potatoes	1,487.5	2,308.8	1.6	3,743	5,957.6	1.6	5,231	8,266.5
Yams	1,035.6	1,415.8	1.4	467	608.8	1.3	1,503	2,024.6
Cocoyam	502.4	403.8	0.8	526	407.4	0.8	1,028	811.2
ROOTS& TUBERS	**3,025.5**	**4,128.4**		**38,738**	**74,931.8**		**41,764**	**79,060.2**
Mung Beans	15.0	6.8	0.5	61	9.8	0.2	76	16.6
Beans	14.4	1.8	0.1	14	2.4	0.2	29	4.2
Cowpeas	2,032.9	367.0	0.2	493	134.5	0.3	2,526	501.4
Green Gram	491.9	133.8	0.3	187	37.1	0.2	679	171.0
Bambaranuts	0	0	0	7	5.9	0.8	7	5.9
PULSES	**2,554.3**	**509.5**		**761**	**189.6**		**3,316**	**699.1**
Simsim	1.7	0.8	0.5	-	-	-	2	0.8
Groundnuts	277.0	183.6	0.7	426	202.8	0.5	703	386.4
OIL SEEDS & OIL NUTS	**278.7**	**184.4**		**426**	**202.8**		**705**	**387.2**
Okra	72.3	71.6	1.0	27	35.8	1.3	100	107.4
Radish	18.2	110.5	6.1	2	0.9	0.3	21	111.4
Bitter Aubergine	113.1	177.0	1.6	65	223.8	3.4	178	400.9
Onions	1.4	0.9	0.6	5	0	0	7	0.9
Ginger	0	0	0	2	1.0	0.5	2	1.0
Cabbage	2.6	6.0	2.3	1	9.1	7.1	4	15.0
Tomatoes	1,043.1	2,196.7	2.1	1,327	3,183.8	2.4	2,370	5,380.6
Spinnach	0.1	0.4	6.2	9	7.5	0.9	9	8.0
Carrot	2.3	2.1	1.0	0	0	0	2	2.1
Amaranths	227.2	589.7	2.6	180	285.4	1.6	407	875.1
Pumpkins	173.8	333.4	1.9	200	505.4	2.5	373	838.8
Cucumber	214.9	526.1	2.4	175	410.4	2.3	390	936.5
Egg Plant	325.1	717.3	2.2	388	790.8	2.0	713	1,508.2
Water Mellon	28.8	45.0	1.6	12	33.3	2.8	40	78.3
FRUITS & VEGETABLES	**2,222.8**	**4,823.0**		**2,394**	**5,571.0**		**4,617**	**10,394.0**
Turmeric	14.3	21.4	1.5	20	23.3	1.2	34	44.7
Chillies	62.1	24.6	0.4	61	60.5	1.0	123	85.1
Seaweed	1,377.0	2,697.9	2.0	1,202	2,830.2	2.4	2,579	5,528.2
Tobacco	1.3	1.0	0.8	31	17.9	0.6	32	18.9
CASH CROPS	**1,454.6**	**2,745.0**		**1,314**	**2,932.0**		**2,768**	**5,676.9**
Total	**11,058**			**67,216**			**78,274**	

*Total area planted includes the sum of planted area for both long and short rain seasons and is an over estimation of the actual area due to crops being produced on the same land during the two seasons.

7.0.4 ANNUAL CROP AND VEGETABLE PRODUCTION: Area planted with Annual Crop (ha) by Season and Crop, during 2002/03 Agriculture Year

Crop	Short Rainy Season		Long Rainy Season		Total Area Planted Short&Long Rainy Season(ha)	% Area Planted in Short Rainy Season
	Number of Households	Planted Area(ha)	Number of Households	Planted Area(ha)		
Maize	4958	998	7218	1642	2,639	37.8
Paddy	870	240	53680	21374	21,614	1.1
Sorghum	663	93	2097	450	542	17.1
Bulrush Millet	1005	192	657	120	312	61.5
CEREALS		**1522**		**23585**	**25,107**	**6.1**
Cassava	**0**	**0**		34002	34,002	**0.0**
Sweet Potatoes	6672	1488	15253	3743	5,231	28.4
Yams	4375	1036	2205	467	1,503	68.9
Cocoyam	2489	502	3022	526	1,028	48.9
ROOTS& TUBERS		**3026**		**38738**	**41,764**	**7.2**
Mung Beans	204	15	312	61	76	19.9
Beans	67	14	107	14	29	50.5
Cowpeas	9787	2033	2714	493	2,526	80.5
Green Gram	3281	492	1522	187	679	72.5
Bambaranuts	0	0	37	7	0	0.0
Field Peas	0	0	0	0	0	0.0
PULSES		**2554**		**761**	**3,316**	**77.0**
Simsim	28	2	0	0	0	0.0
Groundnuts	903	277	1410	426	703	39.4
OIL SEEDS & OIL NUTS		**279**		**426**	**705**	**39.5**
Okra	654	72	389	27	**100**	72.5
Radish	118	18	24	2	**21**	88.1
Bitter Aubergine	795	113	525	65	**178**	63.4
Onions	17	1	27	5	**7**	20.8
Ginger	0	0	20	2	**2**	0.0
Cabbage	42	3	24	1	**4**	67.4
Tomatoes	4884	1043	5846	1327	**2,370**	44.0
Spinnach	17	0	78	9	**9**	0.8
Carrot	29	2	0	0	**2**	0.0
Amaranths	2025	227	1369	180	**407**	55.8
Pumpkins	1285	174	1187	200	**374**	46.5
Cucumber	1133	215	1021	175	**390**	55.1
Egg Plant	2303	325	2483	388	**713**	45.6
Water Mellon	174	29	106	12	**40**	71.1
FRUITS & VEGETABLES		**2223**		**2395**	**4,618**	**48.1**
Turmeric	113	14	118	20	34	42.0
Chillies	550	62	595	61	123	50.5
Seaweed	4146	1377	3162	1202	2,579	53.4
Tobacco	22	1	99	31	32	4.1
CASH CROPS		**1455**		**1314**	**2,768**	**52.5**
Total		**11058**		**67219**	**78,274**	

7.0.5 ANNUAL CROPS AND VEGETABLE PRODUCTION: Planted Area with Irrigation by Season and Crop during 2002/03 Agriculture Year

Crop	Short Rainy Season						Long Rainy Season					Total Area Planted Masika + Vuli				
	Area under Irrigation (ha)	Percent	Rainfed Area (ha)	Percent	Total Area (ha)	Percent	Area under Irrigation (ha)	Percent	Rainfed Area (ha)	Percent	Total Area (ha)	Total Irrigated Area (ha)	Percent	Total Rainfed Area (ha)	Percent	Total Area (ha)
Maize	22	1.61	976	10.06	998	9.02	0	0.00	1642	2.47	1642	22	1.01	2618	3.44	2639
Paddy	231	17.01	9	0.09	240	2.17	375	41.91	20999	31.74	21374	606	27.77	21008	27.71	21614
Sorghum	0	0.00	93	0.95	93	0.84	0	0.00	450	0.68	450	0	0.00	542	0.71	542
Bulrush Millet	0	0.00	192	1.98	192	1.74	0	0.00	120	0.18	120	0	0.00	312	0.41	312
CEREALS	**253**	**18.62**	**1270**	**13.09**	**1522**	**13.77**	**375**	**41.91**	**23210**	**34.93**	**23585**	**628**	**28.77**	**24480**	**32.15**	**25107**
Cassava	0	0.00	0	0.00	0	0.00	0	0.00	34002	51.17	34002	0	0.00	34002	44.65	34002
Sweet Potatoes	0	0.00	1488	15.33	1488	13.45	0	0.00	3743	5.63	3743	0	0.00	5231	6.87	5231
Yams	0	0.00	1036	10.68	1036	9.37	0	0.00	467	0.70	467	0	0.00	1503	1.97	1503
Cocoyam	0	0.00	502	5.18	502	4.54	0	0.00	526	0.79	526	0	0.00	1028	1.35	1028
ROOTS & TUBERS	**0**	**0.00**	**3026**	**31.19**	**3026**	**27.36**	**0**	**0.00**	**38738**	**58.30**	**38738**	**0**	**0.00**	**41764**	**54.84**	**41764**
Mung Beans	0	0.00	15	0.15	15	0.14	0	0.00	61	0.09	61	0	0.00	76	0.10	76
Beans	0	0.00	14	0.15	14	0.13	0	0.00	14	0.02	14	0	0.00	29	0.04	29
Cowpeas	0	0.00	2033	20.96	2033	18.38	0	0.00	493	0.74	493	0	0.00	2526	3.32	2526
Green Gram	0	0.00	492	5.07	492	4.45	0	0.00	187	0.28	187	0	0.00	679	0.89	679
Bambaranuts	0	0.00	0	0.00	0	0.00	0	0.00	7	0.01	7	0	0.00	7	0.01	7
PULSES	**0**	**0.00**	**2554**	**26.33**	**2554**	**23.10**	**0**	**0.00**	**761**	**1.15**	**761**	**0**	**0.00**	**3316**	**4.35**	**3316**
Simsim	0	0.00	2	0.02	2	0.02	0	0.00	**0**	0.00	0	0	0.00	2	0.00	2
Groundnuts	0	0.00	277	2.86	277	2.51	0	0.00	426	0.64	426	0	0.00	703	0.92	703
OIL SEEDS & OIL NUTS	**0**	**0.00**	**279**	**2.87**	**279**	**2.52**	**0**	**0.00**	**426**	**0.64**	**426**	**0**	**0.00**	**705**	**0.93**	**705**
Okra	42	3.12	30	0.31	72	0.65	6	0.83	22	0.03	27	48	2.20	52	0.07	100
Radish	18	1.34	0	0.00	18	0.16	2	0.36	0	0.00	2	21	0.95	0	0.00	21
Bitter Aubergine	58	4.27	55	0.57	113	1.02	20	2.91	46	0.07	65	78	3.56	101	0.13	178
Onions	1	0.10	0	0.00	1	0.01	0	0.00	5	0.01	5	1	0.06	5	0.01	7
Ginger		0.00		0.00	0	0.00	0	0.00	2	0.00	2	0	0.00	2	0.00	2
Cabbage	3	0.19	0	0.00	3	0.02	1	0.19	0	0.00	1	4	0.18	0	0.00	4
Tomatoes	406	29.89	637	6.57	1043	9.43	156	20.70	1171	1.79	1327	562	25.78	1808	2.40	2370
Spinnach	0	0.01	0	0.00	0	0.00	9	1.27	0	0.00	9	9	0.40	0	0.00	9
Carrot	2	0.17	0	0.00	2	0.02	0	0.00	0	0.00	0	2	0.10	0	0.00	2

Continue… **7.0.5 ANNUAL CROPS AND VEGETABLE PRODUCTION: Planted Area with Irrigation by Season and Crop during 2002/03 Agriculture Year**

Amaranths	176	12.95	51	0.53	227	2.05	66	8.51	114	0.18	180	242	11.08	165	0.23	407
Pumpkins	37	2.71	137	1.41	174	1.57	37	3.81	163	0.26	200	74	3.38	300	0.41	374
Cucumber	126	9.24	89	0.92	215	1.94	56	8.05	119	0.18	175	182	8.33	208	0.28	390
Egg Plant	189	13.91	136	1.40	325	2.94	82	10.19	306	0.48	388	271	12.43	442	0.60	713
Water Mellon	10	0.74	19	0.19	29	0.26	0	0.03	12	0.02	12	10	0.47	30	0.04	40
FRUITS&VEGETABLES	**1068**	**78.63**	**1155**	**11.91**	**2223**	**20.10**	**435**	**56.86**	**1959**	**3.02**	**2395**	**1503**	**68.92**	**3114**	**4.16**	**4618**
Turmeric	2	0.18	12	0.12	14	0.13	4	0.14	16	0.03	20	6	0.29	28	0.04	34
Chillies	35	2.54	28	0.28	62	0.56	10	1.07	51	0.08	61	44	2.02	79	0.11	123
Seaweed	0	0.00	1377	14.19	1377	12.45	0	0.00	1202	1.81	1202	0	0.00	2579	3.39	2579
Tobacco	0	0.00	1	0.01	1	0.01	0	0.00	31	0.05	31	0	0.00	32	0.04	32
CASH CROPS	**37**	**2.72**	**1418**	**14.61**	**1455**	**13.15**	**14**	**1.22**	**1300**	**1.96**	**1314**	**50**	**2.31**	**2718**	**3.58**	**2768**
Total	**1358**	**100.0**	**9701**	**100.00**	**11058**	**100.00**	**824**	**100.0**	**66396**	**100.00**	**67219**	**2181**	**100.0**	**76096**	**100.00**	**78278**

7.0.6 ANNUAL CROPS AND VEGETABLE PRODUCTION: Number of Agricultural Households, Area Planted (ha), Quantity Harvested (tonnes) and Yield (t/ha) by District, during 2002/03 Agriculture Year Long and Short Rainy Seasons

District	Maize				Paddy				Sorghum				Bulrush Millet			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	5,671	738	1,055	0.7	6,294	1,595	2,856	0.56	963	60	146	0.4	44	0	2.3	0
North "B"	601	289	172	1.68	5,614	705	2,558	0.28	21	1	2	0.6	0	0	0	0
Central	2,736	1,348	756	1.78	2,927	568	1,296	0.44	85	6	19	0.3	0	0	0	0
South	403	84	65	1.3	240	28	43	0.65	10	3	1	3	0	0	0	0
West	1,243	405	242	1.67	3,383	605	1,207	0.5	16	0	0	0	0	0	0	0
Wete	720	111	178	0.62	10,008	1,833	4,385	0.42	223	39	41	0.9	183	23.4	23.7	1
Micheweni	44	16	9	1.79	7,706	1,237	2,361	0.52	1,352	168	320	0.5	1,357	122.5	258.9	0.5
Chakechake	478	88	83	1.07	8,023	1,411	3,009	0.47	90	5	12	0.4	0	0	0	0
Mkoani	279	65	79	0.82	10,356	2,377	3,899	0.61	0	0	0	0	77	5.8	27	0.2
Total	**12,177**	**3,145**	**2,639**	**1.19**	**54,550**	**10,359**	**21,614**	**0.48**	**2,760**	**283**	**542**	**0.5**	**1,661**	**151.7**	**311.9**	**0.5**

Continue….

District	Cassava				Sweet Potatoes				Yams				Cocoyam			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes /ha)
North "A"	8,323	4,810	3,294	1.5	4,747	1,017	1,053	1.0	1,957	334	412	0.8	681	38	90	0.4
North "B"	6,068	7,910	3,196	2.5	2,157	1,784	913	2.0	116	53	28	1.9	550	91	135	0.7
Central	5,600	4,812	2,019	2.4	3,987	2,187	1,040	2.1	1,093	357	249	1.4	1,920	380	417	0.9
South	1,326	1,733	607	2.9	357	47	64	0.7	2,007	868	465	1.9	243	60	50	1.2
West	4,493	5,868	2,723	2.2	3,777	1,350	669	2.0	1,140	358	302	1.2	1,539	221	238	0.9
Wete	9,796	9,109	5,626	1.6	1,169	228	185	1.2	96	10	20	0.5	59	3	9	0.3
Micheweni	10,517	10,360	6,652	1.6	5,189	1,522	1,214	1.3	131	1	21	0.0	262	5	48	0.1
Chakechake	7,859	8,244	4,414	1.9	259	69	53	1.3	0	0	0	0.0	22	1	2	0.5
Mkoani	9,803	15,112	5,471	2.8	283	62	39	1.6	39	44	6	7.1	234	13	39	0.3
Total	**63,785**	**67,958**	**34,002**	**2.0**	**21,925**	**8,266**	**5,231**	**1.6**	**6,580**	**2,025**	**1,503**	**1.3**	**5,510**	**811**	**1,029**	**0.8**

District	Mung Beans				Beans				Cowpeas				Green Gram			
	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	324	9	35	0.3	27	1	11	0.1	4,516	121	692	0.2	3,097	64	370	0.2
North "B"	0	0	0	0.0	0	0	0	0.0	220	15	32	0.5	43	3	3	0.8
Central	167	7	39	0.2	54	2	8	0.2	772	52	122	0.4	538	65	111	0.6
South	25	1	1	0.7	0	0	0	0.0	203	10	30	0.3	385	24	63	0.4
West	0	0	0	0.0	26	1	3	0.2	103	7	27	0.3	24	0	10	0.0
Wete	0	0	0	0.0	0	0	0	0.0	2,814	91	650	0.1	429	6	69	0.1
Micheweni	0	0	0	0.0	66	1	7	0.1	688	17	140	0.1	42	0	1	0.1
Chakechake	0	0	0	0.0	0	0	0	0.0	1,910	65	493	0.1	225	10	50	0.2
Mkoani	0	0	0	0.0	0	0	0	0.0	1,275	123	341	0.4	41	0	2	0.0
Total	**516**	**17**	**76**	**0.2**	**174**	**4**	**29**	**0.1**	**12,501**	**501**	**2,526**	**0.2**	**4,824**	**171**	**679**	0.3

Continue…

District	Bambaranuts				Simsim				Groundnuts				Okra			
	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (t/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (t/ha)
North "A"	0	0	0	0.0	28	1	2	0.5	105	111	86	1.3	56	1	7	0.1
North "B"	0	0	0	0.0	0	0	0	0.0	102	2	21	0.1	22	0	0	1.2
Central	21	3	4	0.6	0	0	0	0.0	427	64	147	0.4	616	58	59	1.0
South	0	0	0	0.0	0	0	0	0.0	12	0	1	0.0	39	2	3	0.8
West	0	0	0	0.0	0	0	0	0.0	441	42	118	0.4	265	41	27	1.5
Wete	0	0	0	0.0	0	0	0	0.0	67	3	8	0.4	0	0	0	0.0
Micheweni	16	3	3	1.2	0	0	0	0.0	45	47	15	3.1	0	0	0	0.0
Chakechake	0	0	0	0.0	0	0	0	0.0	1069	114	301	0.4	45	5	3	1.4
Mkoani	0	0	0	0.0	0	0	0	0.0	44	1	6	0.2	0	0	0	0.0
Total	**37**	**6**	**7**	0.8	**28**	**1**	**2**	0.5	**2313**	**386**	**703**	0.5	**1043**	**107**	**100**	**1.1**

Continue…

Continue…

District	Turmeric				Bitter Aubergine				Onions				Ginger			
	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tones)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes /ha)
North "A"	188	41.9	28	1.5	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0
North "B"	0	0.0	0	0.0	90	84	9	9.3	0	0	0	0.0	0	0	0	0.0
Central	0	0.0	0	0.0	858	228	125	1.8	27	0	5	0.0	0	0	0	0.0
South	0	0.0	0	0.0	50	1	2	0.6	0	0	0	0.0	0	0	0	0.0
West	24	0.7	2	0.3	284	85	39	2.2	17	1	1	0.6	0	0	0	0.0
Wete	0	0.0	0	0.0	18	1	1	1.0	0	0	0	0.0	0	0	0	0.0
Micheweni	0	0.0	0	0.0	20	1	1	1.0	0	0	0	0.0	0	0	0	0.0
Chakechake	0	0.0	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0
Mkoani	20	2.1	4	0.5	0	0	0	0.0	0	0	0	0.0	20	1	2	0.5
Total	**232**	**45**	**34**	**1.3**	**1,320**	**401**	**178**	**2.2**	**44**	**1**	**7**	**0.1**	**20**	**1**	**2**	**0.5**

Continue…

District	Cabbage				Tomatoes				Spinnach				Carrot			
	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tonnes)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0	0	0.0	2,446	633	442	1.4	0	0	0	0.0	0	0	0	0.0
North "B"	0	0	0	0.0	624	321	133	2.4	22	4	2	2.0	0	0	0	0.0
Central	25	1	1	0.6	4,280	3,370	1,131	3.0	56	3	6	0.5	0	0	0	0.0
South	0	0	0	0.0	861	254	162	1.6	0	0	0	0.0	0	0	0	0.0
West	42	14	3	5.3	1,049	259	217	1.2	17	0	0	6.2	29	2	2	1.0
Wete	0	0	0	0.0	845	191	170	1.1	0	0	0	0.0	0	0	0	0.0
Micheweni	0	0	0	0.0	327	145	65	2.2	0	0	0	0.0	0	0	0	0.0
Chakechake	0	0	0	0.0	198	92	20	4.6	0	0	0	0.0	0	0	0	0.0
Mkoani	0	0	0	0.0	99	115	30	3.8	0	0	0	0.0	0	0	0	0.0
Total	**67**	**15**	**4**	3.9	**10,730**	**5,381**	**2,370**	2.3	**95**	**8**	**9**	0.9	**29**	**2**	**2**	1.0

Continue…

District	Chillies				Amaranths				Pumpkins				Cucumber			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0	0	0.0	200	22	25	0.9	481	67	33	2.0	222	18	24	0.8
North "B"	64	3	13	0.2	368	127	46	2.8	21	3	2	1.4	186	527	123	4.3
Central	820	61	76	0.8	985	152	99	1.5	1468	661	270	2.5	1281	322	183	1.8
South	70	4	10	0.4	159	11	13	0.9	171	66	26	2.6	26	1	0	2.2
West	146	10	21	0.5	952	408	116	3.5	288	40	39	1.0	270	63	50	1.3
Wete	0	0	0	0.0	163	18	21	0.8	22	0	2	0.0	21	0	2	0.2
Micheweni	0	0	0	0.0	344	40	34	1.2	0	0	0	0.0	131	3	8	0.4
Chakechake	45	8	3	2.5	112	38	17	2.2	22	2	2	0.9	0	0	0	0.0
Mkoani	0	0	0	0.0	110	59	36	1.7	0	0	0	0.0	18	2	1	2.7
Total	**1145**	**85**	**123**	**0.7**	**3394**	**875**	**407**	**2.2**	**2472**	**839**	**373**	**2.2**	**2154**	**936**	**390**	**2.4**

District	Egg Plant				Water Mellon				Seaweed				Tobacco			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	659	278	127	2.2	0	0	0	0.0	2456	1520	416	3.7	56	2	13	0.1
North "B"	329	132	32	4.2	20	0	4	0.0	114	75	41	1.8	21	14	8	1.6
Central	2232	844	368	2.3	24	2	2	0.7	2132	2003	1722	1.2	0	0	0	0.0
South	475	75	78	1.0	0	0	0	0.0	1401	1090	169	6.5	0	0	0	0.0
West	671	129	72	1.8	58	7	6	1.1	182	84	44	1.9	0	0	0	0.0
Wete	81	4	4	0.9	0	0	0	0.0	137	59	49	1.2	0	0	0	0.0
Micheweni	207	14	19	0.7	0	0	0	0.0	685	231	111	2.1	44	4	10	0.4
Chakechake	89	28	9	3.2	157	61	27	2.2	0	0	0	0.0	0	0	0	0.0
Mkoani	43	5	5	1.0	22	9	0	32.9	200	466	28	16.4	0	0	0	0.0
Total	**4786**	**1508**	**713**	**2.1**	**280**	**78**	**40**	**1.9**	**7308**	**5528**	**2579**	**2.1**	**121**	**19**	**32**	**0.6**

Note: Number of households is an over estimated due to the double counting of households growing crops in both long and short rainy seasons.

7.0 7 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area with Annual Crops (ha) by Means of Soil Preparation and District, 2002/03 Agriculture Year-LONG and SHORT Rainy Seasons

District	Soil Preparation								Planted Area (ha) with no Soil Preparation
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total		
	Number of Households	Planted Area(ha)	Number of Households	Planted Area(ha)	Number of Households	Planted Area(ha)	Crop Growing Household	Planted Area(ha)	
North "A"	3,424	1,687	29	6	14,319	6,233	14,080	7,926	3,294
North "B"	1,762	1,017	0	0	6,826	3,259	8,758	4,276	3,196
Central	1,468	838	28	11	11,142	7,412	11,145	8,261	2,019
South	146	23	0	0	3,975	1,222	4,196	1,246	607
West	522	304	20	4	9,026	3,163	10,379	3,472	2,723
Wete	971	462	0	0	12,542	5,357	12,088	5,819	5,626
Micheweni	69	19	0	0	12,908	4,628	13,093	4,647	6,652
Chakechake	1,409	768	0	0	8,769	3,317	10,011	4,084	4,414
Mkoani	1,126	537	0	0	10,844	4,008	12,472	4,545	5,470
Total		**5,654**	**77**	**21**		**38,599**	**96,221**	**44,274**	**34,002**

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

7.0.8 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Type of Fertilizer Use and District, during 2002/03 Agriculture Year-LONG and Short Rainy Season

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area(ha)	Number of Households	Planted Area(ha)	Number of Households	Planted Area(ha)	Number of Households	Planted Area(ha)	Crop Growing Household	Planted Area(ha)
North "A"	577	285	1,292	355	1,921	1,371	13,982	9,210	14,080	11,220
North "B"	412	243	86	37	1,039	725	7,051	6,467	8,758	7,471
Central	2,784	1,677	540	299	1,003	528	8,310	7,776	11,145	10,279
South	1,091	314	60	71	93	24	2,877	1,443	4,196	1,852
West	2,078	737	636	292	1,020	494	5,834	4,671	10,379	6,194
Wete	376	172	19	4	2,332	963	10,786	10,306	12,088	11,445
Micheweni	2,703	1,043	24	9	206	74	10,044	10,172	13,093	11,298
Chakechake	268	178	61	62	1,093	522	8,757	7,736	10,011	8,498
Mkoani	129	50	88	29	1,075	448	10,678	9,487	12,472	10,015
Total		**4,699**		**1,159**		**5,149**		**67,269**	**96,221**	**78,274**

Note: Number of households can only be used as a guide as it is based on a per crop basis and includes both long and short rainy season so some double counting exists.

7.0.9 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with annual Crops (ha) by Irrigation Use and District During 2002/03 Agriculture Year LONG and SHORT Rainy Season

District	Irrigation Use						Percentage of Area Planted Under Irrigation
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Household	Planted Area(ha)	Number of Household	Planted Area(ha)	Crop Growing Household	Planted Area(ha)	
North "A"	267	103	17,505	7,824	14,080	11,220	0.9
North "B"	344	212	8,244	4,064	8,758	7,471	2.8
Central	1,567	721	11,070	7,540	11,145	10,279	7.0
South	456	159	3,665	1,086	4,196	1,852	8.6
West	2,116	736	7,451	2,736	10,379	6,194	11.9
Wete	415	120	13,098	5,698	12,088	11,445	1.1
Micheweni	307	61	12,670	4,586	13,093	11,298	0.5
Chakechake	83	51	10,095	4,033	10,011	8,498	0.6
Mkoani	43	18	11,926	4,527	12,472	10,015	0.2
Total	**5,598**	**2,181**		**42,093**	**96,221**	**78,274**	**2.8**

7.0.10 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Herbicide Use and District, during 2002/03 Agriculture Year LONG and SHORT Rainy Seasons

District	Herbicide Use						Percent Planted Area Using Herbicide
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Household	Planted Area(ha)	Number of Households	Planted Area(ha)	Crop Growing Household	Planted Area(ha)	
North "A"	1,000	634	16,772	10,586	14,080	11,220	6
North "B"	541	389	8,046	7,083	8,758	7,472	5
Central	445	253	12,192	10,026	11,145	10,279	2
South	13	8	4,107	1,845	4,196	1,853	0
West	251	167	9,316	6,027	10,379	6,194	3
Wete	331	168	13,182	11,277	12,088	11,445	1
Micheweni	18	4	12,959	11,295	13,093	11,299	0
Chakechake	440	283	9,739	8,215	10,011	8,498	3
Mkoani	313	144	11,657	9,870	12,472	10,014	1
Total		**2,050**		**76,224**	**96,221**	**78,274**	**3**

Note: Number of households is an over estimated due to the double counting of households growing crops in both long and short rainy Seasons.

7.0.11 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Fungicide Use and District, 2002/03 Agriculture Year LONG and SHORT Rainy Seasons.

District	Fungicide Use						Percent Planted Area Using Fungicide
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Household	Planted Area(ha)	Number of Household	Planted Area(ha)	Crop Growing Household	Planted Area(ha)	
North "A"	28	6	17,744	11,215	14,080	11,220	0.05
North "B"	40	12	8,548	7,460	8,758	7,472	0.16
Central	105	33	12,532	10,247	11,145	10,280	0.32
South	0	0	4,121	1,853	4,196	1,853	0.00
West	25	2	9,542	6,193	10,379	6,195	0.03
Wete	21	4	13,492	11,440	12,088	11,445	0.04
Micheweni	18	4	12,959	11,295	13,093	11,299	0.03
Chakechake	0	0	10,179	8,498	10,011	8,498	0.00
Mkoani	20	4	11,950	10,011	12,472	10,015	0.04
Total	**258**	**64**		**78,211**	**96,221**	**78,276**	**0.08**

Note: Number of households is an over estimated due to the double counting of households growing crops in both long and short rainy Seasons.

7.0.12 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops (ha) by Pesticide Use and District, 2002/03 Agriculture Year in LONG and SHORT Rainy Season

District	Pesticide Use						Percent Planted Area Using Pesticide
	Households Using Pesticide		Households Not Using Pesticide		Total		
	Number of Household	Planted Area(ha)	Number of Household	Planted Area(ha)	Crop Growing Household	Planted Area(ha)	
North "A"	234	74	17,537	11,146	14,080	11,220	0.66
North "B"	241	190	8,347	7,282	8,758	7,472	2.54
Central	1,289	876	11,349	9,404	11,145	10,280	8.52
South	109	22	4,012	1,831	4,196	1,853	1.17
West	425	288	9,142	5,906	10,379	6,195	4.66
Wete	125	33	13,389	11,411	12,088	11,445	0.29
Micheweni	40	21	12,937	11,277	13,093	11,299	0.19
Chakechake	203	96	9,975	8,402	10,011	8,498	1.13
Mkoani	143	41	11,827	9,973	12,472	10,015	0.41
Total		**1,642**		**76,633**	**96,221**	**78,276**	**2.10**

Note: Number of households is an over estimated due to the double counting of households growing crops in both long and short rainy Seasons.

7.0.13 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted with Annual Crops by Improved Seed Use and District, 2002/03 Agriculture Year - LONG and SHORT Rainy Seasons

District	Improved Seed Use						Planted Area (ha) with no Improved Seed Use Record
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Household	Planted Area(ha)	Number of Household	Planted Area(ha)	Crop Growing Household	Planted Area(ha)	
North "A"	3,843	1,815	13,928	6,111	14,080	7,926	3,294
North "B"	2,453	1,463	6,135	2,813	8,758	4,276	3,196
Central	5,791	4,104	6,847	4,157	11,145	8,261	2,019
South	1,319	329	2,802	916	4,196	1,246	607
West	2,514	1,006	7,053	2,466	10,379	3,472	2,723
Wete	3,149	1,452	10,364	4,366	12,088	5,819	5,626
Micheweni	1,711	411	11,266	4,236	13,093	4,647	6,652
Chakechake	1,035	519	9,143	3,565	10,011	4,084	4,414
Mkoani	2,794	1,064	9,176	3,481	12,472	4,545	5,471
Total		**12,163**		**32,112**	**96,221**	**44,274**	**34,002**

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

ANNUAL CROP& VEGETABLE PRODUCTION – SHORT RAINY SEASON

7.1.1 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Households, Area Planted (ha) and Quantity Harvested (tonnes) during Short Rainy Season and District, 2002/03 Agriculture Year

District	Maize				Paddy				Sorghum			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	2,049	264.3	368.9	0.7	53	4.1	18.8	0.2	535	30.1	75.4	0.4
North "B"	272	87.6	64.1	1.4	22	0.0	9.1	0.0	0	0.0	0.0	0.0
Central	1,028	395.9	245.2	1.6	228	79.2	84.3	0.9	22	1.2	2.2	0.5
South	198	45.0	27.6	1.6	0	0.0	0.0	0.0	10	3.0	1.0	3.0
West	829	282.4	183.2	1.5	567	148.7	128.0	1.2	16	0.0	0.3	0.0
Wete	192	39.4	35.0	1.1	0	0.0	0.0	0.0	19	1.5	1.0	1.5
Micheweni	22	3.2	2.2	1.4	0	0.0	0.0	0.0	62	5.4	12.3	0.4
Chakechake	182	28.8	31.9	0.9	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Mkoani	188	61.0	39.6	1.5	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**4,958**	**1207.5**	**997.8**	**1.2**	**870**	**231.9**	**240.2**	**1.0**	**663**	**41.2**	**92.3**	**0.4**

Continue…

District	Bulrush Millet				Sweet Potatoes				Yams			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	44	0.0	2.3	0.0	1,460	278	344	0.8	1,343	263	302.9	0.9
North "B"	0	0.0	0.0	0.0	1,027	551	415	1.3	18	28	3.2	8.6
Central	0	0.0	0.0	0.0	954	546	180	3.0	721	253	152.3	1.7
South	0	0.0	0.0	0.0	192	30	38	0.8	1,599	652	380.2	1.7
West	0	0.0	0.0	0.0	1,883	648	318	2.0	694	220	197.0	1.1
Wete	19	0.9	0.9	1.0	541	126	89	1.4	0	0.0	0.0	0.0
Micheweni	883	58.5	168.8	0.3	376	77	77	1.0	0	0.0	0.0	0.0
Chakechake	0	0.0	0.0	0.0	43	7	3	2.1	0	0.0	0.0	0.0
Mkoani	59	4.0	19.8	0.2	195	46	23	2.0	0	0.0	0.0	0.0
Total	**1005**	**63.4**	**191.9**	**0.3**	**6,672**	**2,309**	**1,488**	**1.6**	**4,375**	**1,416**	**1,036**	**1.4**

Continue…

District	Cocoyam				Mung Beans				Beans			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	319	22.6	35.0	0.6	79	1.7	5.9	0.3	27	1.2	11.0	0.1
North "B"	368	22.8	76.7	0.3	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Central	737	204.5	190.4	1.1	108	4.6	8.6	0.5	26	0.3	2.1	0.1
South	189	50.2	35.5	1.4	18	0.5	0.5	1.1	0	0.0	0.0	0.0
West	792	101.1	150.9	0.7	0	0.0	0.0	0.0	13	0.4	1.3	0.3
Wete	19	1.3	3.1	0.4	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Micheweni	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Chakechake	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Mkoani	65	1.3	10.8	0.1	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**2,489**	**403.8**	**502.4**	**0.8**	**204**	**6.8**	**15.0**	**0.5**	**67**	**1.8**	**14.4**	**0.1**

Continue…

District	Cowpeas				Green Gram				Simsim			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	2,986	62.5	418	0.1	1,848	41.0	227.0	0.2	28	0.8	1.7	0.5
North "B"	112	3.5	16	0.2	22	0.0	1.1	0.0	0	0.0	0.0	0.0
Central	361	19.4	56	0.3	448	63.3	95.2	0.7	0	0.0	0.0	0.0
South	150	4.0	18	0.2	307	16.1	47.7	0.3	0	0.0	0.0	0.0
West	83	6.5	23	0.3	24	0.2	9.8	0.0	0	0.0	0.0	0.0
Wete	2,655	88.5	618	0.1	409	5.9	64.8	0.1	0	0.0	0.0	0.0
Micheweni	421	10.1	92	0.1	22	0.1	0.9	0.1	0	0.0	0.0	0.0
Chakechake	1,796	50.9	463	0.1	181	7.2	43.5	0.2	0	0.0	0.0	0.0
Mkoani	1,221	121.5	329	0.4	41	0.0	2.1	0.0	0	0.0	0.0	0.0
Total	**9,787**	**367.0**	**2,033**	**0.2**	**3,302**	**133.8**	**491.9**	**0.3**	**28**	**0.8**	**1.7**	**0.5**

Continue…

District	Groundnuts				Okra				Radish			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	105	111.1	85.5	1.3	56	1.1	7.5	0.1	0	0.0	0.0	0.0
North "B"	42	0.8	8.6	0.1	22	0.1	0.1	1.2	0	0.0	0.0	0.0
Central	125	19.5	50.5	0.4	357	40.4	41.0	1.0	52	108.2	5.2	20.6
South	12	0.1	1.2	0.0	39	2.1	2.7	0.8	0	0.0	0.0	0.0
West	292	30.8	75.3	0.4	179	27.9	21.1	1.3	66	2.4	12.9	0.2
Wete	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Micheweni	23	0.7	4.6	0.1	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Chakechake	259	19.3	45.4	0.4	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Mkoani	44	1.3	5.9	0.2	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**903**	**183.6**	**277.0**	**0.7**	**654**	**71.6**	**72.3**	**1.0**	**118**	**110.5**	**18.2**	**6.1**

Continue…

District	Turmeric				Bitter Aubergine				Onions			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	89	20.7	11.8	1.8	0	0.0	0.0	0.0	0	0.0	0.0	0.0
North "B"	0	0.0	0.0	0.0	45	36.5	4.2	8.7	0	0.0	0.0	0.0
Central	0	0.0	0.0	0.0	506	89.4	78.9	1.1	0	0.0	0.0	0.0
South	0	0.0	0.0	0.0	50	1.4	2.5	0.6	0	0.0	0.0	0.0
West	24	0.7	2.5	0.3	176	48.3	26.1	1.9	17	0.9	1.4	0.6
Wete	0	0.0	0.0	0.0	18	1.5	1.5	1.0	0	0.0	0.0	0.0
Micheweni	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Chakechake	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Mkoani	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**113**	**21.4**	**14.3**	**1.5**	**795**	**177.0**	**113.1**	**1.6**	**17**	**0.9**	**1.4**	**0.6**

Continue…

District	Cabbage				Tomatoes				Spinnach			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0.0	0.0	0.0	916	175	166	1.1	0	0.0	0.0	0.0
North "B"	0	0.0	0.0	0.0	251	146	56	2.6	0	0.0	0.0	0.0
Central	25	0.8	1.2	0.6	1,812	1,281	465	2.8	0	0.0	0.0	0.0
South	0	0.0	0.0	0.0	579	190	108	1.8	0	0.0	0.0	0.0
West	17	5.2	1.4	3.7	682	169	125	1.4	17	0.4	0.1	6.2
Wete	0	0.0	0.0	0.0	479	110	87	1.3	0	0.0	0.0	0.0
Micheweni	0	0.0	0.0	0.0	23	3	2	1.4	0	0.0	0.0	0.0
Chakechake	0	0.0	0.0	0.0	42	7	3	2.2	0	0.0	0.0	0.0
Mkoani	0	0.0	0.0	0.0	99	115	30	3.8	0	0.0	0.0	0.0
Total	**42**	**6.0**	**2.6**	**2.3**	**4,884**	**2,197**	**1,043**	**2.1**	**17**	**0.4**	**0.1**	**6.2**

Continue…

District	Carrot				Chillies				Amaranths			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0.0	0.0	0.0	0	0.0	0.0	0.0	53	6.1	4.8	1.3
North "B"	0	0.0	0.0	0.0	0	0.0	0.0	0.0	251	115.6	34.1	3.4
Central	0	0.0	0.0	0.0	362	13.1	35.0	0.4	515	58.3	51.7	1.1
South	0	0.0	0.0	0.0	41	1.9	6.2	0.3	159	10.9	12.6	0.9
West	29	29.3	2.3	13.0	146	9.7	20.8	0.5	610	318.7	77.5	4.1
Wete	0	0.0	0.0	0.0	0	0.0	0.0	0.0	123	15.8	18.4	0.9
Micheweni	0	0.0	0.0	0.0	0	0.0	0.0	0.0	250	36.2	23.9	1.5
Chakechake	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Mkoani	0	0.0	0.0	0.0	0	0.0	0.0	0.0	65	28.2	4.3	6.6
Total	**29**	**29.3**	**2.3**	**13.0**	**550**	**24.6**	**62.1**	**0.4**	**2025**	**589.7**	**227.2**	**2.6**

Continue…

District	Pumpkins				Cucumber				Egg Plant			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	376	46.1	23.9	1.9	152	5.9	18.2	0.3	101	59.3	14.4	4.1
North "B"	0	0.0	0.0	0.0	143	306.8	64.8	4.7	141	74.7	11.8	6.3
Central	637	211.4	104.5	2.0	648	184.1	108.5	1.7	1,059	401.2	169.0	2.4
South	119	56.7	18.7	3.0	26	0.7	0.3	2.2	379	48.0	64.4	0.7
West	152	19.2	26.7	0.7	147	26.5	22.2	1.2	443	119.4	48.9	2.4
Wete	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Micheweni	0	0.0	0.0	0.0	0	0.0	0.0	0.0	138	9.3	11.4	0.8
Chakechake	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Mkoani	0	0.0	0.0	0.0	18	2.2	0.8	2.7	43	5.3	5.1	1.0
Total	**1,285**	**333.4**	**173.8**	**1.9**	**1,133**	**526.1**	**214.9**	**2.4**	**2,303**	**717.3**	**325.1**	**2.2**

Continue…

District	Water Mellon				Seaweed				Tobacco			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0.0	0.0	0.0	1,474	757.6	257.9	2.9	0	0.0	0.0	0.00
North "B"	20	0.0	4.0	0.0	93	67.1	32.7	2.1	0	0.0	0.0	0.00
Central	0	0.0	0.0	0.0	1,000	871.6	821.9	1.1	0	0.0	0.0	0.00
South	0	0.0	0.0	0.0	734	729.8	92.3	7.9	0	0.0	0.0	0.00
West	43	6.8	6.3	1.1	158	55.0	41.1	1.3	0	0.0	0.0	0.00
Wete	0	0.0	0.0	0.0	137	58.9	48.7	1.2	0	0.0	0.0	0.00
Micheweni	0	0.0	0.0	0.0	549	157.9	82.4	1.9	22	1.0	1.3	0.76
Chakechake	90	29.3	18.1	1.6	0	0.0	0.0	0.0	0	0.0	0.0	0.00
Mkoani	22	8.9	0.3	32.9	0	0.0	0.0	0.0	0	0.0	0.0	0.00
Total	**174**	**45.0**	**28.8**	**1.6**	**4,146**	**2,698**	**1377.0**	**2.0**	**22**	**1.0**	**1.3**	**0.76**

7.1.2 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Means Used for Soil Preparation and District, 2002/03 Agriculture Year-SHORT RAINY SEASON

District	Soil Preparation					
	Mostly Tractor Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
North "A"	167	34	7,009	2,367	7,176	2,400
North "B"	0	0	1,879	801	1,879	801
Central	85	32	4,665	2,917	4,750	2,949
South	0	0	2,478	857	2,478	857
West	52	47	4,441	1,477	4,493	1,523
Wete	64	25	3,248	943	3,312	968
Micheweni	0	0	2,347	479	2,347	479
Chakechake	408	165	1,618	443	2,026	608
Mkoani	129	57	1,392	415	1,521	472
Total	**904**	**360**	**29,079**	**10,698**	**29,982**	**11,058**

7.1.3 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Fertilizer Use and District, 2002/03 Agriculture Year-SHORT RAINY SEASON

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
North "A"	211	75	790	231	214	111	5,960	1,984	7,176	2,400
North "B"	206	121	22	2	65	17	1,586	661	1,879	801
Central	1,630	796	172	86	184	75	2,764	1,992	4,750	2,949
South	812	228	60	46	12	3	1,594	580	2,478	857
West	1,187	452	386	145	315	102	2,606	824	4,493	1,523
Wete	166	42	0	0	443	136	2,703	790	3,312	968
Micheweni	644	156	0	0	0	0	1,703	323	2,347	479
Chakechake	45	32	0	0	43	14	1,938	562	2,026	608
Mkoani	44	17	0	0	0	0	1,477	454	1,521	472
Total	**4,943**	**1,919**	**1,430**	**511**	**1,277**	**459**	**22,332**	**8,170**	**29,982**	**11,058**

7.1.4 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area(ha) by Irrigation Use and District, 2002/03 Agriculture Year SHORT RAINY SEASON

District	Irrigation Use					
	Households Using Irrigation		Households Not Using Irrigation		Total	
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area
North "A"	165	57	7,011	2,344	7,176	2,400
North "B"	185	118	1,694	683	1,879	801
Central	1,096	492	3,654	2,457	4,750	2,949
South	334	131	2,144	726	2,478	857
West	1,201	439	3,292	1,084	4,493	1,523
Wete	351	92	2,961	876	3,312	968
Micheweni	112	12	2,235	467	2,347	479
Chakechake	19	2	2,007	606	2,026	608
Mkoani	43	14	1,477	458	1,521	472
Total	**3,508**	**1,358**	**26,474**	**9,701**	**29,982**	**11,058**

7.1.5 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area(ha) by Improved Seed Use and District, 2002/03 Agriculture Year - SHORT RAINY SEASON

District	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
North "A"	1,302	508	5,873	1,893	7,176	2,400
North "B"	402	187	1,477	615	1,879	801
Central	1,940	1,465	2,810	1,484	4,750	2,949
South	552	188	1,926	670	2,478	857
West	1,118	432	3,375	1,091	4,493	1,523
Wete	855	293	2,457	675	3,312	968
Micheweni	568	88	1,779	391	2,347	479
Chakechake	275	90	1,751	518	2,026	608
Mkoani	208	71	1,313	401	1,521	472
Total	**7,220**	**3,321**	**22,762**	**7,737**	**29,982**	**11,058**

7.1.6 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area by Herbicide Use and District, 2002/03 Agriculture Year SHORT RAINY SEASON

District	Herbicide Use					
	Households Using Herbicide		Households Not Using Herbicide		Total	
	Number	Planted Area	Number	Planted Area	Number	Planted Area
North "A"	23	14	7,153	2,387	7,176	2,400
North "B"	0	0	1,879	801	1,879	801
Central	0	4	4,754	2,945	4,750	2,949
South	0	0	2,478	857	2,478	857
West	16	3	4,477	1,520	4,493	1,523
Wet	0	0	3,312	968	3,312	968
Micheweni	0	0	2,347	479	2,347	479
Chakechake	0	0	2,026	608	2,026	608
Mkoani	0	0	1,521	472	1,521	472
Total	**39**	**21**	**29,948**	**11,037**	**29,982**	**11,058**

7.1.7 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area(ha) by Pesticide Use and District, 2002/03 Agriculture Year in SHORT RAINY SEASON

District	Pesticide Use					
	Households Using Pesticide		Households Not Using Pesticide		Total	
	Number	Planted Area	Number	Planted Area	Number	Planted Area
North "A"	51	19	7,125	2,381	7,176	2,400
North "B"	59	42	1,820	759	1,879	801
Central	642	339	4,107	2,610	4,750	2,949
South	83	18	2,395	839	2,478	857
West	186	156	4,307	1,367	4,493	1,523
Wete	42	11	3,270	957	3,312	968
Micheweni	0	.	2,347	479	2,347	479
Chakechake	113	41	1,913	567	2,026	608
Mkoani	22	1	1,499	470	1,521	472
Total	**1,199**	**628**	**28,783**	**10,431**	**29,982**	**11,058**

7.1.8 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area by Fungicide Use and District, 2002/03 Agriculture Year SHORT RAINY SEASON

	Fungicide Use					
	Households Using Fungicide		Households Not Using Fungicide		Total	
District	Number	Planted Area	Number	Planted Area	Number	Planted Area
North "A"	0	0	7,176	2,400	7,176	2,400
North "B"	20	4	1,859	797	1,879	801
Central	25	8	4,725	2,942	4,750	2,949
South	0	0	2,478	857	2,478	857
West	0	0	4,493	1,523	4,493	1,523
Wete	0	0	3,312	968	3,312	968
Micheweni	0	0	2,347	479	2,347	479
Chakechake	0	0	2,026	608	2,026	608
Mkoani	0	0	1,521	472	1,521	472
Total	**45**	**12**	**29,937**	**11,047**	**29,982**	**11,058**

ANNUAL CROP & VEGETABLE PRODUCTION – LONG RAINY SEASON

7.2.1 TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households Planting Crops in the Long Rainy Season by District, during 2002/03 Agriculture Year

District	Long Rainy Season				
	Households Growing Crops		Crops Growing Households NOT Growing Crops		Total Number of Crop Growing Crops
	Number	%	Number	%	Number
North 'A'	10,596	75	3,515	25	14,110
North 'B'	6,709	76	2,069	24	8,778
Central	7,887	71	3,257	29	11,145
South	1,642	39	2,592	61	4,234
West	5,074	48	5,454	52	10,527
Wete	10,201	84	1,907	16	12,108
Micheweni	10,630	81	2,487	19	13,117
Chakechake	8,152	81	1,878	19	10,031
Mkoani	10,449	84	2,023	16	12,472
Total	**71,341**	**74**	**25,181**	**26**	**96,522**

7.2.2 ANNUAL CROP AND VEGETABLE PRODUCTION: Area Planted (ha) in the Long Rainy Season by District, 2002/03 Agriculture Year

District	Long Rainy Season		Total Planted Area(ha)
	Planted Area(ha)		
	Hectare	%	
North 'A'	8,820	79	11,220
North 'B'	6,670	89	7,471
Central	7,330	71	10,279
South	995	54	1,852
West	4,671	75	6,194
Wete	10,477	92	11,445
Micheweni	10,819	96	11,298
Chakechake	7,890	93	8,498
Mkoani	9,543	95	10,015
Total	**67,216**	**86**	**78,274**

7.2.3 ANNUAL CROP & VEGETABLE PRODUCTION: Number of Households, Area Planted (ha) and Quantity Harvested (tonnes) during Long Rainy Season and District, 2002/03 Agriculture Year

District	Maize				Paddy				Sorghum			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	3,622	473.8	686.0	0.7	6,241	1590.4	2,838	0.6	428	30.3	71.0	0.4
North "B"	329	201.7	107.8	1.9	5,592	705.4	2,549	0.3	21	1.3	2.1	0.6
Central	1,709	952.2	511.2	1.9	2,699	488.6	1,211	0.4	63	4.6	17.3	0.3
South	205	39.0	37.1	1.1	240	28.1	43	0.7	0	0.0	0.0	0.0
West	415	122.2	59.1	2.1	2,816	456.7	1,079	0.4	0	0.0	0.0	0.0
Wete	529	71.8	143.3	0.5	10,008	1832.9	4,385	0.4	205	37.2	40.4	0.9
Micheweni	22	12.9	6.8	1.9	7,706	1237.1	2,361	0.5	1,290	162.7	307.3	0.5
Chakechake	296	59.7	50.8	1.2	8,023	1410.7	3,009	0.5	90	5.2	11.6	0.4
Mkoani	91	4.3	39.5	0.1	10,356	2376.6	3,899	0.6	0	0.0	0.0	0.0
Total	**7,218**	**1,938**	**1,642**	**1.2**	**53,680**	**10,127**	**21,374**	**0.5**	**2,097**	**241**	**450**	**0.5**

Continue...

District	Bulrush Millet				Sweet Potatoes				Yams			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0.0	29.5	0.0	3,286	739	710	1.0	614	70.6	109.4	0.6
North "B"	0	0.0	0.0	0.0	1,130	1,233	498	2.5	98	24.8	24.3	1.0
Central	0	0.0	30.8	0.0	3,033	1,641	859	1.9	372	104.3	96.3	1.1
South	0	0.0	0.2	0.0	165	17	26	0.6	408	215.6	84.7	2.5
West	0	0.0	0.0	0.0	1,894	702	351	2.0	446	138.5	105.2	1.3
Wete	164	22.5	0.0	0.0	628	103	96	1.1	96	10.1	19.6	0.5
Micheweni	475	64.0	0.0	0.0	4,813	1,445	1138	1.3	131	0.6	21.3	0.0
Chakechake	0	0.0	0.0	0.0	216	62	50	1.2	0	0.0	0.0	0.0
Mkoani	18	1.8	0.0	0.0	88	16	16	1.0	39	44.1	6.2	7.1
Total	**657**	**88**	**61**	**1.5**	**15,253**	**5,958**	**3,743**	**1.6**	**2,205**	**609**	**467**	**1.3**

Continue...

District	Cocoyam				Mung Beans				Beans			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	361	15.4	55.3	0.3	244.6	7.8	29.5	0.3	0	0.0	0.0	0.0
North "B"	183	68.1	58.0	1.2	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Central	1,184	175.1	227.1	0.8	59.8	2.0	30.8	0.1	28	1.4	5.7	0.2
South	54	9.7	14.6	0.7	7.6	0.0	0.2	0.0	0	0.0	0.0	0.0
West	747	120.0	87.1	1.4	0.0	0.0	0.0	0.0	13	0.2	1.3	0.2
Wete	40	1.3	6.1	0.2	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Micheweni	262	4.9	47.7	0.1	0.0	0.0	0.0	0.0	66	0.7	7.2	0.1
Chakechake	22	1.0	1.9	0.5	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Mkoani	170	11.9	28.6	0.4	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**3,022**	**407**	**526**	**0.8**	**312**	**10**	**61**	**0.2**	**107**	**2**	**14**	**0.2**

Continue…

District	Cowpeas				Green Gram				Bambaranuts			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	1,530	59.0	274	0.2	1,249	22.7	142.8	0.2	0	0.0	0.0	0.0
North "B"	107	11.7	16	0.7	21	2.5	2.1	1.2	0	0.0	0.0	0.0
Central	411	32.5	65	0.5	90	1.3	15.4	0.1	21	2.6	4.3	0.6
South	53	5.9	12	0.5	78	8.1	15.1	0.5	0	0.0	0.0	0.0
West	20	0.6	4	0.2	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Wete	158	2.8	32	0.1	20	0.0	4.0	0.0	0	0.0	0.0	0.0
Micheweni	267	6.8	47	0.1	20	0.1	0.6	0.2	16	3.2	2.6	1.2
Chakechake	114	13.8	30	0.5	45	2.4	6.8	0.4	0	0.0	0.0	0.0
Mkoani	54	1.3	12	0.1	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**2,714**	**134**	**493**	**0.3**	**1,522**	**37**	**187**	**0.2**	**37**	**6**	**7**	**0.8**

Continue..

District	Groundnuts				Okra				Radish			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
North "B"	59	1.6	12.0	0.1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Central	302	44.7	96.7	0.5	258.6	18.0	17.8	1.0	0	0.0	0.0	0.0
South	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
West	149	11.6	42.5	0.3	86.4	12.9	6.2	2.1	24	0.9	2.5	0.3
Wete	67	3.4	8.3	0.4	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Micheweni	22	46.8	10.7	4.4	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Chakechake	811	94.7	255.9	0.4	44.5	4.9	3.4	1.4	0	0.0	0.0	0.0
Mkoani	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**1,410**	**203**	**426**	**0.5**	**389**	**36**	**27**	**1.3**	**24**	**1**	**2**	**0.3**

Continue…

District	Turmeric				Bitter Aubergine				Onions			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	99	21.2	15.9	1.3	0	0.0	0.0	0.0	0.0	0.00	0.0	0.0
North "B"	0	0.0	0.0	0.0	45	47.4	4.8	9.8	0.0	0.00	0.0	0.0
Central	0	0.0	0.0	0.0	352	139.0	46.2	3.0	26.5	0.00	5.4	0.0
South	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.00	0.0	0.0
West	0	0.0	0.0	0.0	108	36.4	13.3	2.7	0.0	0.00	0.0	0.0
Wete	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.00	0.0	0.0
Micheweni	0	0.0	0.0	0.0	20	1.0	1.0	1.0	0.0	0.00	0.0	0.0
Chakechake	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.00	0.0	0.0
Mkoani	20	2.1	3.9	0.5	0	0.0	0.0	0.0	0.0	0.00	0.0	0.0
Total	**118**	**23**	**20**	**1.2**	**525**	**224**	**65**	**3.4**	**27**	**0.00**	**5**	**0.0**

Continue…

District	Ginger				Cabbage				Tomato			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,530	459	276	1.7
North "B"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	373	175	77	2.3
Central	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,469	2,089	665	3.1
South	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	281	64	54	1.2
West	0.0	0.0	0.0	0.0	24.2	9.1	1.3	7.1	367	90	92	1.0
Wete	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	366	80	83	1.0
Micheweni	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	304	141	63	2.2
Chakechake	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	156	86	17	5.0
Mkoani	19.7	1.0	2.0	0.5	0.0	0.0	0.0	0.0	0	0	0	0.0
Total	**20**	**1**	**2**	**0.5**	**24**	**9**	**1**	**7.1**	**5,846**	**3,184**	**1,327**	**2.4**

Continue…

District	Spinnach				Chillies				Amaranths			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0	0.0	0.0	0.0	0	0.0	0.0	0.0	147	15.6	19.8	0.8
North "B"	22	4.5	2.3	2.0	64	2.7	12.8	0.2	117	11.9	11.9	1.0
Central	56	3.1	6.3	0.5	457	48.1	40.9	1.2	471	93.4	47.7	2.0
South	0	0.0	0.0	0.0	29	1.9	3.9	0.5	0	0.0	0.0	0.0
West	0	0.0	0.0	0.0	0	0.0	0.0	0.0	342	89.7	38.9	2.3
Wete	0	0.0	0.0	0.0	0	0.0	0.0	0.0	41	1.7	2.9	0.6
Micheweni	0	0.0	0.0	0.0	0	0.0	0.0	0.0	95	4.1	10.2	0.4
Chakechake	0	0.0	0.0	0.0	45	7.8	3.2	2.5	112	38.0	16.9	2.2
Mkoani	0	0.0	0.0	0.0	0	0.0	0.0	0.0	44	31.0	31.3	1.0
Total	**78**	**8**	**9**	**0.9**	**595**	**61**	**61**	**1.0**	**1,369**	**285**	**180**	**1.6**

Continue..

District	Pumpkins				Cucumber				Egg Plant			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	105	21.2	9.2	2.3	70	12.6	6.0	2.1	558	218.7	112.5	1.9
North "B"	21	2.9	2.1	1.4	43	220.0	58.0	3.8	188	57.3	19.8	2.9
Central	831	449.2	165.0	2.7	633	138.0	74.4	1.9	1173	442.6	198.9	2.2
South	52	9.5	7.0	1.3	0	0.0	0.0	0.0	96	27.0	13.8	2.0
West	136	21.0	12.3	1.7	124	36.5	27.7	1.3	228	9.5	22.9	0.4
Wete	22	0.0	2.2	0.0	21	0.4	1.7	0.2	81	3.6	3.8	0.9
Micheweni	0	0.0	0.0	0.0	131	3.0	7.7	0.4	69	4.4	7.4	0.6
Chakechake	22	1.6	1.8	0.9	0	0.0	0.0	0.0	89	27.7	8.7	3.2
Mkoani	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	**1,187**	**505**	**200**	**2.5**	**1,021**	**410**	**175**	**2.3**	**2,483**	**791**	**388**	**2.0**

Continue..

District	Water Mellon				Seaweed				Tobacco			
	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)	Number of Households	Quantity Harvested (tons)	Area Planted (ha)	Yield (tonnes/ha)
North "A"	0.0	0.0	0.0	0.0	982	762.5	158.1	4.8	56.4	1.7	13.5	0.1
North "B"	0.0	0.0	0.0	0.0	21	7.8	8.4	0.9	20.9	13.6	8.4	1.6
Central	23.7	1.7	2.4	0.7	1131	1131.3	900.1	1.3	0.0	0.0	0.0	0.0
South	0.0	0.0	0.0	0.0	667	360.5	76.3	4.7	0.0	0.0	0.0	0.0
West	15.0	0.0	0.2	0.0	24	28.7	2.4	11.9	0.0	0.0	0.0	0.0
Wete	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Micheweni	0.0	0.0	0.0	0.0	136	73.0	28.8	2.5	21.8	2.7	8.8	0.3
Chakechake	67.3	31.6	9.1	3.5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mkoani	0.0	0.0	0.0	0.0	200	466.5	28.4	16.4	0.0	0.0	0.0	0.0
Total	**106**	**33**	**12**	**2.8**	**3,162**	**2,830**	**1,202**	**2.4**	**99**	**18**	**31**	**0.6**

7.2.4 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Means Used for Soil Preparation and District, during 2002/03 Agriculture Year-LONG RAINY SEASON

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
North 'A'	3,258	1,654	0	0	7,338	3,873	10,596	5,526
North 'B'	1,762	1,017	0	0	4,946	2,458	6,709	3,474
Central	1,383	806	28	20.7	6,477	4,494	7,887	5,311
South	146	23	0	0	1,497	365	1,642	388
West	470	258	20	12.1	4,584	1,687	5,074	1,948
Wete	907	436	0	0	9,294	4,414	10,201	4,851
Micheweni	69	19	0	0	10,561	4,149	10,630	4,167
Chakechake	1,001	602	0	0	7,151	2,874	8,152	3,476
Mkoani	997	480	0	0	9,452	3,593	10,449	4,073
Total	**9,993**	**5,294**	**48**	**32.9**	**61,301**	**27,906**	**71,341**	**33,216**

7.2.5 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Fertilizer Use and District, during 2002/03 Agriculture Year-LONG RAINY SEASON

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
North 'A'	366	209	502	124	1,707	1,260	8,021	3,932	10,596	5,526
North 'B'	206	121	64	35	974	708	5,465	2,610	6,709	3,474
Central	1,155	880	368	213	819	453	5,545	3,765	7,887	5,311
South	279	86	0	24	81	21	1,283	256	1,642	388
West	891	285	250	147	704	392	3,228	1,124	5,074	1,948
Wete	211	131	19	4	1,889	826	8,083	3,890	10,201	4,851
Micheweni	2,060	887	24	9	206	74	8,340	3,197	10,630	4,167
Chakechake	223	147	61	62	1,050	507	6,819	2,761	8,152	3,476
Mkoani	85	33	88	29	1,075	448	9,201	3,563	10,449	4,073
Total	**5,476**	**2,780**	**1,375**	**648**	**8,504**	**4,691**	**55,986**	**25,098**	**71,341**	**33,216**

7.2.6 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Irrigation Use and District, during 2002/03 Agriculture Year LONG RAINY SEASON

District	Irrigation Use						% of Area Planted Under Irrigation in Long Rainy Season
	Number of Households Using Irrigation	Planted Area (ha) with Irrigation	Number of Households NOT Using Irrigation	Planted Area (ha) with No Irrigation	Number of Household	Planted Area	
North 'A'	102	46	10,493	8,774	10,596	8,820	0.5
North 'B'	159	94	6,550	6,576	6,709	6,670	1.4
Central	471	229	7,417	7,101	7,887	7,330	3.1
South	121	28	1,521	967	1,642	995	2.8
West	914	297	4,159	4,374	5,074	4,671	6.4
Wete	64	29	10,138	10,448	10,201	10,477	0.3
Micheweni	195	48	10,436	10,771	10,630	10,819	0.4
Chakechake	64	49	8,089	7,841	8,152	7,890	0.6
Mkoani	0	4	10,449	9,539	10,449	9,543	0.0
Total	**2,090**	**824**	**69,251**	**66,392**	**71,341**	**67,216**	**1.2**

7.2.7 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Improved Seed Use and District, during 2002/03 Crop Year - LONG RAINY SEASON

District	Improved Seed						% of Area Planted Using Improved Seed
	Number of Households Using Improved Seed	Planted Area (ha) with Proved Seed	Number of Households NOT Using Improved Seed	Planted Area (ha) with NO Proved Seed	Total Number of Households Planting in MASIKA	Total Planted Area (ha) in MASIKA	
North 'A'	2,541	1,308	8,055	7,512	10,596	8,820	14.8
North 'B'	2,051	1,276	4,658	5,394	6,709	6,670	19.1
Central	3,851	2,638	4,037	4,692	7,887	7,330	36.0
South	766	142	876	853	1,642	995	14.2
West	1,396	574	3,677	4,097	5,074	4,671	12.3
Wete	2,294	1,159	7,907	9,318	10,201	10,477	11.1
Micheweni	1,144	323	9,486	10,496	10,630	10,819	3.0
Chakechake	760	429	7,392	7,461	8,152	7,890	5.4
Mkoani	2,585	993	7,864	8,550	10,449	9,543	10.4
Total	**17,389**	**8,842**	**53,952**	**58,374**	**71,341**	**67,216**	**13.2**

7.2.8 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Herbicide Use and District, during 2002/03 Agriculture Year LONG RAINY SEASON

District	Herbicide Use					
	Households Using Herbicide		Households Not Using Herbicide		Total	
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area
North 'A'	977	620	9,619	8,200	10,596	8,820
North 'B'	541	389	6,167	6,281	6,709	6,670
Central	445	249	7,442	7,081	7,887	7,330
South	13	8	1,629	987	1,642	995
West	235	164	4,838	4,507	5,074	4,671
Wete	331	168	9,870	10,309	10,201	10,477
Micheweni	18	4	10,612	10,815	10,630	10,819
Chakechake	440	283	7,713	7,607	8,152	7,890
Mkoani	313	144	10,136	9,399	10,449	9,543
Total	**3,315**	**2,029**	**68,026**	**65,187**	**71,341**	**67,216**

7.2.9 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Pesticide Use and District, during 2002/03 Agriculture Year LONG RAINY SEASON

District	Pesticide Use					
	Households Using Pesticide		Households Not Using Pesticide		Total	
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area
North 'A'	183	55	10,412	8,765	10,596	8,820
North 'B'	182	148	6,527	6,522	6,709	6,670
Central	646	537	7,241	6,793	7,887	7,330
South	25	3	1,617	992	1,642	995
West	239	132	4,835	4,539	5,074	4,671
Wete	82	22	10,119	10,455	10,201	10,477
Micheweni	40	21	10,590	10,798	10,630	10,819
Chakechake	91	56	8,062	7,834	8,152	7,890
Mkoani	121	40	10,328	9,503	10,449	9,543
Total	**1,609**	**1,014**	**69,732**	**66,202**	**71,341**	**67,216**

7.2.10 ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) by Fungicide Use and District During 2002/03 Agriculture Year LONG RAINY SEASON

District	Fungicide Use					
	Households Using Fungicide		Households Not Using Fungicide		Total	
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area
North 'A'	28	6	10,568	8,814	10,596	8,820
North 'B'	20	8	6,689	6,662	6,709	6,670
Central	80	25	7,807	7,305	7,887	7,330
South	0	0	1,642	995	1,642	995
West	25	2	5,048	4,669	5,074	4,671
Wete	21	4	10,180	10,473	10,201	10,477
Micheweni	18	4	10,612	10,815	10,630	10,819
Chakechake	0	0	8,152	7,890	8,152	7,890
Mkoani	20	4	10,429	9,539	10,449	9,543
Total	**213**	**53**	**71,128**	**67,163**	**71,341**	**67,216**

PERMANENT CROP PRODUCTION

7.3.1 PERMANENT CROPS: Number of Households Planting Permanent Crops by District, during 2002/03 Agriculture Year

District	Does your Household have any Permanent / Perennial Crops or Fruit Trees				
	Have Permanent Crops/Fruits Trees		Household With No Permanent Crops/Fruits Trees		Total
	Number	%	Number	%	Number
North "A"	12,616	89	1,494	11	14,110
North "B"	8,284	94	494	6	8,778
Central	10,218	92	926	8	11,145
South	4,058	96	177	4	4,234
West	9,958	95	569	5	10,527
Wete	11,880	98	228	2	12,108
Micheweni	13,026	99	91	1	13,117
Chakechake	9,764	97	266	3	10,031
Mkoani	12,019	96	453	4	12,472
Total	**91,824**	**95**	**4,699**	**5**	**96,522**

7.3.2 PERMANENT CROPS: Number of Households, Area Planted, Quantity Harvested by Type of Crop and District, during 2002/03 Agriculture Year

Crop	Total Area Planted (ha) Mono + Mixed Area		Quantity Harvested (tons)	Yield (t/ha)	Yield (kg/ha)
	Number of Households	Planted Area(ha)			
Sour Soup	107	3	8	2.97	2,972
Black Pepper	352	29	22	0.78	783
Pigeon Peas	3,570	792	313	0.40	396
Malay Apple	528	26	139	5.45	5,452
Star Fruit	1,130	179	558	3.12	3,125
Coconut	18,739	6,730	13,938	2.07	2,071
Cashewnut	28	1	6	4.32	4,323
Kapok	215	6	4	0.72	717
Sugarcane	919	329	2,644	8.05	8,047
Tamarin	39	1	1	2.07	2,067
Cinamon	110	7	4	0.47	472
Nutmeg	26	2	0	0.00	0
Cloves	10,106	4,681	3,721	0.80	795
Mshelisheli	1,377	84	1,864	22.25	22,246
Pomelo	131	6	12	2.00	2,002
Jack Fruit	3,242	185	2,438	13.15	13,147
Mpesheni	302	36	81	2.26	2,259
Banana	53,701	13,572	43,792	3.23	3,227
Avocado	166	13	16	1.20	1,197
Mango	9,763	1,732	6,546	3.78	3,781
Pawpaw	1,903	142	1,913	13.49	13,494
Pineapple	3,655	960	3,536	3.68	3,683
Orange	7,541	1,711	8,283	4.84	4,841
Grape Fruit	114	3	10	3.99	3,990
Mandarine/Tangerine	2,026	199	972	4.89	4,890
Guava	85	14	138	10.10	10,105
Lime/Lemon	3,606	496	1,619	3.26	3,261
Durian	474	20	80	3.97	3,973
Bilimbi	267	15	111	7.54	7,540
Rambutan	1,534	150	504	3.36	3,362
Total	**125,756**	**32,120**	**93,274**	**138**	**138,219**

7.3.3 PERMANENT CROPS: Mono and Mixed Crops by Area Planted, Area Harvested and Quantity Harvested by Type of Crop and District, during 2002/03 Agriculture Year

Crop	District	Area of Plants/Trees/Bushes in Mono Crop (ha)		Area Covered by Permanent Crops in a Mixed Crop (ha)		Quantity Harvested (tons)
		Number of Households	Planted Area	Number of Households	Planted Area	Quantity(t/ha)
Black Pepper	North "A"	0	0.0	25	0.1	2.1
	North "B"	0	0.0	0	0.0	0.0
	Central	0	0.0	184	3.9	11.9
	South	0	0.0	0	0.0	0.0
	West	19	7.7	101	15.8	7.2
	Wete	0	0.0	0	0.0	1.2
	Micheweni	0	0.0	0	0.0	0.0
	Chakechake	0	0.0	0	0.0	0.0
	Mkoani	22	1.2	0	0.0	0.0
	Total	**41.3**	**8.9**	**310.3**	**19.8**	**22.4**
Pigeon Peas	North "A"	1326	384.3	678	147	130.0
	North "B"	40	10.2	16	0	4.3
	Central	27	10.9	400	60	57.7
	South	176	29.6	657	118	111.4
	West	63	11.5	164	16	7.0
	Wete	0	0.0	0	0	0.0
	Micheweni	0	0.0	23	5	3.0
	Chakechake	0	0.0	0	0	0.0
	Mkoani	0	0.0	0	0	0.0
	Total	**1,631.9**	**446.5**	**1,938.1**	**345.3**	**313.4**
Coconut	North "A"	120	27.6	1,637	487	634
	North "B"	293	125.9	733	404	1,091
	Central	223	210.3	3,972	1,041	3,313
	South	80	17.4	1,046	164	327
	West	176	49.2	1,227	816	2,940
	Wete	1,122	218.3	1,994	363	1,920
	Micheweni	1,699	715.3	2,328	549	2,783
	Chakechake	406	596.5	624	276	472
	Mkoani	632	601.1	427	67	458
	Total	**4,751.0**	**2,561.6**	**13,987.8**	**4,168.6**	**13,938.1**

7.3.4 PERMANENT CROPS: Mono and Mixed Crops by Area Planted, Area Harvested and Quantity Harvested by Type of Crop and District, during 2002/03 Agriculture Year

Crop	District	Area of Plants/Trees/Bushes in Mono Crop (ha)		Area Covered by Permanent Crops in a Mixed Crop (ha)		Quantity Harvested (tons)
		Number of Households	Planted Area	Number of Households	Planted Area	Quantity(t/ha)
Sugarcane	North "A"	49	12.7	148	35.9	221
	North "B"	45	18.4	196	43.5	859
	Central	109	138.4	147	22.8	1342
	South	0	0.0	0	0.0	0
	West	32	2.6	19	0.7	179
	Wete	16	3.3	0	0.0	10
	Micheweni	91	45.6	23	0.0	27
	Chakechake	24	2.4	0	0.0	0
	Mkoani	21	2.2	0	0.0	6
	Total	**387**	**225.6**	**532**	**102.9**	**2,644**
Cloves	North "A"	26	8.0	431	81.4	216
	North "B"	178	61.1	222	307.5	125
	Central	27	32.6	862	188.1	174
	South	0	0.0	0	0.0	0
	West	38	0.0	442	62.8	36
	Wete	893	406.9	582	274.4	465
	Micheweni	775	421.0	666	232.5	706
	Chake	1,656	926.3	448	310.9	940
	Mkoani	1,843	1178.9	570	188.3	1059
	Total	**5,437**	**3035**	**4,222.2**	**1,645.8**	**3,721.2**
Orange	North "A"	45	4.6	871	124.4	417
	North "B"	45	6.9	370	38.7	166
	Central	89	35.6	3884	1083.6	4872
	South	26	6.9	714	122.9	273
	West	116	5.4	1024	243.5	1589
	Wete	0	0.0	100	9.6	51
	Micheweni	24	7.2	44	4.8	16
	Chakechake	46	9.3	42	3.2	270
	Mkoani	20	2.0	80	2.4	629
	Total	**411**	**77.8**	**7,129.7**	**1,633.2**	**8,282.9**
Banana	North "A"	2,945	783	2,872	1,110	4,974
	North "B"	2,030	560	2,034	637	6,169
	Central	1,402	601	5,044	1,121	4,958
	South	436	158	955	115	1,053
	West	2,517	562	3,760	925	6,166
	Wete	3,433	914	4,027	845	4,637
	Micheweni	2,072	396	3,969	878	2,323
	Chakechake	3,978	1,075	3,300	586	5,698
	Mkoani	5,432	1,468	3,497	838	7,814
	Total	**24,244**	**6,516.2**	**29,457.2**	**7,056**	**43,792**

7.3.5 PERMANENT CROPS: Mono and Mixed Crops by Area Planted, Area Harvested and Quantity Harvested by Type of Crop and District, during 2002/03 Agriculture Year

Crop	**District**	Area of Plants/Trees/Bushes in Mono Crop (ha)		Area Covered by Permanent Crops in a Mixed Crop (ha)		Quantity Harvested (tons)
		Number of Households	Planted Area	Number of Households	Planted Area	Quantity(t/ha)
Mango	North "A"	81	7.6	1,846	615.6	1,007
	North "B"	66	6.1	535	62.7	753
	Central	26	0.0	3,150	460.2	2,046
	South	0	0.0	838	73.8	286
	West	75	4.4	881	53.5	359
	Wete	121	22.9	947	140.0	955
	Micheweni	24	4.9	349	44.6	186
	Chake	185	37.8	328	137.3	379
	Mkoani	38	2.6	272	57.5	575
	Total	**617**	**86.3**	**9,146**	**1,645.2**	**6,546.3**
Orange	North "A"	45	4.6	871	124.4	417
	North "B"	45	6.9	370	38.7	166
	Central	89	35.6	3884	1083.6	4,872
	South	26	6.9	714	122.9	273
	West	116	5.4	1024	243.5	1,589
	Wete	0	0.0	100	9.6	51
	Micheweni	24	7.2	44	4.8	16
	Chake	46	9.3	42	3.2	270
	Mkoani	20	2.0	80	2.4	629
	Total	**411**	**77.8**	**7,129.7**	**1,633.2**	**8,283**

SECONDARY PRODUCTS

7.4.1 SECONDARY PRODUCTS: Number of Crop Growing Households Utilising Secondary Products and District, , 2002/03 Agriculture Year

District	Households Using Secondary Products		Households that do not Using Secondary Products		Total
	Number	%	Number	%	
North "A"	1,025	7	13,055	93	14,080
North "B"	235	3	8,523	97	8,758
Central	1,018	9	10,127	91	11,145
South	524	12	3,672	88	4,196
West	1,314	13	9,065	87	10,379
Wete	2,058	17	10,030	83	12,088
Micheweni	6,119	47	6,974	53	13,093
Chakechake	2,322	23	7,689	77	10,011
Mkoani	330	3	12,142	97	12,472
Total	**14,945**	**16**	**81,276**	**84**	**96,221**

7.4.2 SECONDARY PRODUCTS: Number of Crop Growing Households by Main Secondary Product and District, 2002/03 Agriculture Year

District	Green Leaves & Stem	Straw, Dry Stems	Root/ Tuber	Other	Total
North "A"	568	452	0	5	1,025
North "B"	86	22	82	45	235
Central	513	184	27	294	1,018
South	218	84	209	14	524
West	912	37	306	59	1,314
Wete	1,791	39	128	100	2,058
Micheweni	4,548	232	847	493	6,119
Chakechake	1,998	23	214	87	2,322
Mkoani	330	0	0	0	330
Total	**10,964**	**1,074**	**1,812**	**1,096**	**14,945**

7.4.3 SECONDARY PRODUCTS: Number of Crop Growing Households by Main Secondary Product Use and District, 2002/03 Agriculture Year

District	Type of Main Secondary Product Use					
	Feeding to Livestock	Building Material	Fuel for Cooking	Consumed by Household	Sold	Total
North "A"	264	0	216	545	0	1,025
North "B"	190	0	22	0	22	235
Central	348	0	391	278	0	1,018
South	266	0	88	162	8	524
West	570	0	64	665	16	1,314
Wete	417	0	119	1,503	19	2,058
Micheweni	1,511	79	600	3,929	0	6,119
Chakechake	581	0	46	1,608	87	2,322
Mkoani	0	0	0	330	0	330
Total	**4,147**	**79**	**1,546**	**9,021**	**152**	**14,945**

7.4.4 SECONDARY PRODUCTS: Number of Crop Growing Households by Main Secondary Product Use and District, 2002/03 Agriculture Year

District	Type of Main Secondary Product Use					
	Feeding to Livestock	Building Material	Fuel for Cooking	Used by Household	Sold	Total
North "A"	264	0	216	545	0	1,025
North "B"	190	0	22	0	22	235
Central	348	0	391	278	0	1,018
South	266	0	88	162	8	524
West	570	0	64	665	16	1,314
Wete	417	0	119	1,503	19	2,058
Micheweni	1,511	79	600	3,929	0	6,119
Chakechake	581	0	46	1,608	87	2,322
Mkoani	0	0	0	330	0	330
Total	**4,147**	**79**	**1,546**	**9,021**	**152**	**14,945**

AGRO PROCESSING

8.1 AGRO PROCESSING: Number of Crop Growing Households Reporting Processing Crops by District, 2002/03 Agriculture Year

District	Households Processing Crops		Households Not Processing Crops		Total
	Number	Percent	Number	Percent	
North "A"	10,236	73	3,844	27	14,080
North "B"	3,785	43	4,973	57	8,758
Central	1,583	14	9,562	86	11,145
South	289	7	3,907	93	4,196
West	2,367	22	8,012	78	10,379
Wete	9,593	79	2,495	21	12,088
Micheweni	9,022	69	4,071	31	13,093
Chakechake	7,337	73	2,674	27	10,011
Mkoani	9,508	76	2,964	24	12,472
Total	**53,720**	**56**	**42,501**	**44**	**96,221**

8.2 AGRO PROCESSING: Number of Crop Growing Households by Method of Processing and District, 2002/03 Agriculture Year

District	Method of Processing						
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Farmers Association	By Trader	Other	Total
North "A"	3,978	0	4,212	370	1,651	25	10,236
North "B"	678	0	2,039	726	319	23	3,785
Central	673	0	779	131	0	0	1,583
South	224	0	8	0	8	50	289
West	1,418	0	691	0	140	117	2,367
Wete	6,134	0	2,363	21	42	1,033	9,593
Micheweni	7,907	0	602	0	377	137	9,022
Chakechake	5,514	0	1,823	0	0	0	7,337
Mkoani	7,832	0	1,436	44	196	0	9,508
Total	**34,359**	**0**	**13,953**	**1,292**	**2,732**	**1,385**	**53,720**

Based on main crop in a household.

8.3 AGRO PROCESSING: Number of Crop Growing Households by Main Product and District, 2002/03 Agriculture Year

District	Main Product					
	Flour / Meal	Grain	Oil	Juice	Other	Total
North "A"	2,768	7,446	0	23	0	10,236
North "B"	292	3,425	23	23	22	3,785
Central	250	1,333	0	0	0	1,583
South	91	167	31	0	0	289
West	549	1,169	335	217	97	2,367
Wete	643	8,892	19	39	0	9,593
Micheweni	1,461	6,943	109	510	0	9,022
Chakechake	227	6,861	0	249	0	7,337
Mkoani	280	8,944	0	284	0	9,508
Total	**6,561**	**45,178**	**517**	**1345**	**120**	**53,720**

Based on main crop in a household.

8.4 AGRO PROCESSING: Number of Crop Growing Households by Use of Primary Processed

Product and District, 2002/03 Agriculture Year

District	Primary Product Use					
	Household / Human Consumption	Fuel for Cooking	Sale Only	Did Not Use	Other	Total
North "A"	9,984	0	50	202	0	10,236
North "B"	3,716	0	39	30	0	3,785
Central	1,559	0	0	23	0	1,583
South	268	0	21	0	0	289
West	2,219	17	32	80	17	2,367
Wete	9,391	0	0	181	21	9,593
Micheweni	8,322	0	0	700	0	9,022
Chakechake	7,204	0	0	133	0	7,337
Mkoani	9,366	0	0	142	0	9,508
Total	**52,028**	**17**	**143**	**1493**	**39**	**53,720**

Based on main crop in a household.

8.5 AGRO PROCESSING: Number of Crop Growing Households by Where Product Sold and District, 2002/03 Agriculture Year

District	Where Sold					
	Neighbours	Local Market / Trade Store	Trader at Farm	Other	Did not Sell	Total
North "A"	78	0	56	0	10,103	10,236
North "B"	39	0	0	20	3,725	3,785
Central	0	27	27	0	1,529	1,583
South	21	0	0	0	268	289
West	28	0	17	0	2,321	2,367
Wete	0	0	0	0	9,593	9,593
Micheweni	0	0	45	0	8,977	9,022
Chakechake	0	0	0	0	7,337	7,337
Mkoani	0	0	0	0	9,508	9,508
Total	**167**	**27**	**145**	**20**	**53,362**	**53,720**

Based on main crop in a household.

8.6 AGRO PROCESSING: Number of Crop Growing Households by By-Products and District, 2002/03 Agriculture Year

District	By Product								
	Bran	Cake	Husk	Juice	Fiber	Shell	No by-product	Other	Total
North "A"	2,658	23	4,994	0	0	1,934	628	0	10,236
North "B"	677	22	2,721	0	0	40	257	68	3,785
Central	173	0	1,250	0	0	54	106	0	1,583
South	29	31	80	0	0	73	76	0	289
West	357	285	924	0	75	28	314	383	2,367
Wete	1,204	79	8,229	0	21	0	60	0	9,593
Micheweni	1,609	485	5,641	0	23	153	999	111	9,022
Chakechake	1,837	225	5,251	0	0	0	24	0	7,337
Mkoani	813	246	8,373	20	18	38	0	0	9,508
Total	**9,358**	**1,396**	**37,463**	**20**	**137**	**2,320**	**2,463**	**563**	**53,720**

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

Crop	Location of Processing					
	On farm-hand	Neighbours	Farmer Association	Traders	Others	Total
Paddy	27,219	12,518	1,292	2,318	1,201	44,548
Maize	1,452	2,088	0	452	89	4,081
Sorghum	2,044	357	0	83	0	2,484
Bulrush Millet	1,169	0	0	0	0	1,169
Cassava	783	489	0	23	44	1,338
Beans	27	0	0	0	0	27
Cowpeas	2,949	77	0	0	0	3,027
Green Gram	2,130	51	0	0	0	2,181
Pigeon Peas	1,388	18	0	0	0	1,405
Simsim	28	0	0	0	0	28
Groundnut	15	26	0	0	0	41
Coconut	3,247	0	0	0	140	3,388
Mango	20	0	0	0	29	41
Oranges	12	0	1,201	0	19	31

8.8 AGROPROCESSING: Number of Households by Main Use of Processed Products for the 2002/03 Agriculture Year

Crop	Used for						
	Household/Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did not Use	Others	Total
Paddy	43,268	0	0	0	1,259	21	44,548
Maize	4,060	0	0	0	21	0	4,081
Sorghum	2,373	0	0	0	112	0	2,484
Bulrush Millet	1,124	0	0	0	45	0	1,169
Cassava	1,121	0	136	0	80	0	1,338
Beans	27	0	0	0	0	0	27
Cowpeas	2,935	0	0	0	91	0	3,027
Green Gram	2,181	0	21	0	0	0	2,181
Pigeon Peas	1,340	0	0	0	44	0	1,405
Simsim	28	0	0	0	0	0	28
Groundnut	26	17	15	0	0	17	41
Coconut	3,326	0	27	0	0	0	3,388
Mango	41	0	0	0	0	0	41
Oranges	12	0	19	0	0	0	31

8.9 AGROPROCESSING: Number of Crop Growing Households by Sale Location of Processed Products for the 2002/03 Agricultural Year

Crop	Where Sold						
	Neighbours	Local Market/Trade Store	Secondary Market	Trader at Farm	Others	Did not sell	Total
Paddy	0	0	0	0	0	44,548	44,548
Maize	22	27	0	56	0	3,976	4,081
Sorghum	0	0	0	29	0	2,456	2,485
Bulrush Millet	0	0	0	0	0	1,169	1,169
Cassava	140	0	0	44	0	1,153	1,337
Beans	0	0	0	27	0	0	27
Cowpeas	13	0	0	0	0	3,013	3,026
Green Gram	0	0	0	0	0	2,181	2,181
Pigeon Peas	75	0	0	0	20	1,310	1,405
Simsim	0	0	0	0	0	28	28
Groundnut	15	0	0	0	0	26	41
Coconut	74	0	0	69	17	3,229	3,389
Mango	0	0	0	0	0	41	41
Oranges	0	0	19	0	0	12	31

STORAGE

9.1 CROP STORAGE: Number of Crop Growing Households Storing Crops by Type of Crop Stored, 2002/03 Agriculture Year

Crop	Household Storing		Household Not Storing		Total Household
	Number	%	Number	%	
Paddy	42,629	86.7	6,567	13.3	49,196
Maize	4,392	15.8	23,337	84.2	27,729
Sorghum& Millet	2,382	9.0	24,080	91.0	26,462
Beans&Pulses	4,338	15.8	23,037	84.2	27,375
Seaweeds	1,795	6.9	24,045	93.1	25,840
Cloves	1,053	4.1	24,406	95.9	25,459
Cashewnut	0	0.0	25,111	100.0	25,111
Tobacco	22	0.1	25,111	99.9	25,133
Coconut	4,637	17.5	21,831	82.5	26,468
Groundnut	909	3.5	24,964	96.5	25,873

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

District	Crop Name									
	Maize	Paddy	Sorghum& Millet	Beans & Pulses	Seaweed	Cloves	Tobacco	Coconut	Groundnut	Total
North "A"	84	385	13.7	42.8	22.4	41.6	0	55.5	5.8	650
North "B"	6	229	0	0.1	23.1	39.4	0	17.1	0	315
Central	113	241	4.9	68.1	306.8	28.8	0	571.8	3.8	1,338
South	5	11	0	2.2	66.9	.	0	71.5	0	157
West	17	190	0	0.4	1.6	3.4	0	139.4	8.1	360
Wete	23	313	2.2	4.6	3.4	45.5	0	78.4	0.6	470
Micheweni	4	256	22.0	1.9	14.1	31.5	2.7	91.3	1.2	425
Chakechake	13	349	0.3	5.2	28.7	44.2	0	43.6	10.4	495
Mkoani	5	585	1.2	9.4	0	87.7	0	7.6	0.2	696
Total	**270**	**2,560**	**44.2**	**134.7**	**466.9**	**322.0**	**2.7**	**1,076.2**	**30.1**	**4,906**

9.3 CROP STORAGE: Number of Households Storing Crop by Estimated Storage Loss and Type, 2002/03 Agriculture Year

Crop	Little or No Loss		Up to 1/4 Loss		Between 1/4- 1/2 loss		Over 1/2 Loss		Total
	Number of Household	%	Number of Household	%	Number of Household	%	Number of Household	%	
Paddy	39,176	91.9	2,565	6.0	392	0.9	497	1.2	42,630
Maize	3,504	79.8	702	16.0	161	3.7	25	0.6	4,392
Sorghum& Millet	2,260	94.9	122	5.1	0	0	0	0.0	2,382
Beans&Pulses	3,915	90.2	398	9.2	0	0	25	0.6	4,338
Seaweeds	1,697	94.5	31	1.7	42	2.3	25	1.4	1,795
Cloves	891	84.5	51	4.8	112	10.6	0	0	1,054
Cashewnut	0	0.0	0	0.0	0	0	0	0	0
Tobacco	22	100.0	0	0.0	0	0	0	0	22
Coconut	4,489	96.8	122	2.6	25	0.5	0	0	4,636
Groundnut	845	93.0	48	5.3	16	1.8	0	0	909

9.4 CROP STORAGE: Number of Crop growing Households by Type of Crop, 2002/03 Agriculture Year

Crop	Main Purpose						Total
	Food for the Household		To Sell for Higher Price		Seeds for Planting		
	Number	%	Number	%	Number	%	
Paddy	14,138	33.2	144	0.3	28,347	66.5	42,629
Maize	2,245	51.1	55	1.3	2,093	47.6	4,393
Sorghum& Millet	1,195	50.2	0	0.0	1,187	49.8	2,382
Beans&Pulses	1,932	44.5	48	1.1	2,358	54.4	4,338
Seaweeds	46	2.6	1,749	97.4	0	0.0	1,795
Cloves	119	11.3	934	88.7	0	0.0	1,053
Cashewnut	0	0.0	0	0.0	0	0.0	0
Tobacco	0	0.0	22	100.0	0	0.0	22
Coconut	4,179	90.1	219	4.7	239	5.2	4,637
Groundnut	221	24.3	93	10.2	595	65.5	909

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

Crop	Normal length of Storage						Total
	Less than 3 Months		Between 3 and 6 Months		Over 6 Months		
	Number	%	Number	%	Number	%	
Paddy	4,672	11.0	18,616	43.7	19,341	45.4	42,629
Maize	1,004	22.9	1,921	43.7	1,467	33.4	4,392
Sorghum& Millet	538	22.6	738	31.0	1,106	46.4	2,382
Beans&Pulses	1,030	23.7	1,969	45.4	1,339	30.9	4,338
Seaweeds	1,314	73.2	319	17.8	162	9.0	1,795
Cloves	312	29.6	172	16.3	570	54.1	1,054
Cashewnut	0	0.0	0	0.0	0	0.0	0
Tobacco	0	0.0	22	100.0	0	0.0	22
Coconut	3,822	82.4	572	12.3	243	5.2	4,637
Groundnut	204	22.4	327	35.9	379	41.6	910

9.6 CROP STORAGE: Number of Households Storing Crops by Type of Crop and Stored, 2002/03 Agriculturer Year

District	Method of Storage						
	In Locally Made Traditional Structure	In Improved Locally Made Structure	In Sacks / Open Drum	In Airtight Drum	Unprotected Pile	Other	Total
North "A"	2,861	630	4,876	114	132	56	8,670
North "B"	1,180	303	2,146	88	45	0	3,762
Central	1,703	203	2,174	50	1,221	96	5,448
South	156	150	725	0	80	39	1,150
West	417	54	1,381	0	105	16	1,972
Wete	2,216	19	6,755	0	142	42	9,173
Micheweni	3,096	45	4,594	16	297	754	8,802
Chakechake	948	0	5,229	0	23	507	6,707
Mkoani	1,002	20	7,197	44	0	22	8,284
Total	**13,579**	**1,423**	**35,075**	**312**	**2,046**	**1,532**	**53,968**

9.7 CROP STORAGE: Number of Households Storing Crops by Duration of Storage and District during 2002/03 Agricultural Year

District	Less than 3 Months		Between 3 and 6 Months		Over 6 Months	
	Number	%	Number	%	Number	%
North "A"	912	11	4,292	50	3,466	40
North "B"	439	12	1,961	52	1,363	36
Central	3,428	63	1,327	24	693	13
South	771	67	169	15	211	18
West	402	20	881	45	689	35
Wete	1,008	11	3,231	35	4,934	54
Micheweni	1,830	21	3,205	36	3,767	43
Chakechake	533	8	3,667	55	2,507	37
Mkoani	529	6	3,398	41	4,357	53
Total	**9,851**	**18**	**22,130**	**41**	**21,987**	**41**

9.8 CROP STORAGE: Number of Households Storing Crops by Main Purpose of Storage and District during 2002/03 Agricultural Year

District	Main Purpose			
	Food for the Household	To Sell for Higher Price	Seeds for Planting	Total
North "A"	3,774	76	4,820	8,670
North "B"	1,389	76	2,297	3,762
Central	3,595	758	1,095	5,448
South	494	472	184	1,150
West	1,101	43	828	1,972
Wete	2,096	189	6,888	9,173
Micheweni	2,517	385	5,899	8,802
Chakechake	2,286	176	4,245	6,707
Mkoani	2,831	103	5,349	8,284
Total	**20,085**	**2,278**	**31,605**	**53,968**

9.9 CROP STORAGE: Number of Households Storing Crops by Estimated Storage Loss and District during 2002/03 Agricultural Year

District	Little or no Loss	Up to 1/4 Loss	Between 1/4 and 1/2 Loss	Over 1/2 Loss
North "A"	7,343	1100	123	103
North "B"	3,220	352	106	84
Central	5,281	140	27	0
South	1,122	14	13	0
West	1,265	564	114	29
Wete	8,606	482	63	22
Micheweni	8,289	423	43	47
Chakechake	6,470	67	64	106
Mkoani	7,890	183	81	131
Total	**49,486**	**3325**	**635**	**523**

MARKETING

10.1 MARETING: Number of Crop Producing Households Reporting Selling Agricultural Products by District during 2002/03 Agricultural Year

District	Selling Crops				
	Number of Households that Sold		Number of Households that Did not Sell		Total
	Number	Percent	Number	Percent	
North "A"	8,529	60	5,581	40	14,110
North "B"	6,356	72	2,422	28	8,778
Central	9,882	89	1,262	11	11,145
South	3,674	87	560	13	4,234
West	6,849	65	3,678	35	10,527
Wete	5,616	46	6,492	54	12,108
Micheweni	8,755	67	4,362	33	13,117
Chakechake	4,362	43	5,668	57	10,031
Mkoani	7,222	58	5,250	42	12,472
Total	**61,246**	**63**	**35,277**	**37**	**96,522**

10.2 MARKETING PROBLEMS: Ranking of Households by Main Reason for Not Marketing their Crop Produce and District, 2002/03 Agricultural Year

District	Open Market Price Too Low	No Transport	Transport Cost Too High	No Buyer	Market too Far	Farmers Association Problems	Government Regulatory Board Problems	Lack of Market Information	Other
North "A"	1	5	3	6	2	8	7	4	8
North "B"	1	3	4	5	2	9	8	7	6
Central	1	5	2	6	3	8	4	8	7
South	1	8	5	4	3	9	2	7	6
West	1	4	3	5	2	9	7	6	8
Wete	1	6	3	5	2	7	4	8	8
Micheweni	1	4	5	3	2	8	7	6	8
Chakechake	1	6	5	2	4	8	3	7	8
Mkoani	1	6	5	3	2	8	4	7	8
Total	**1**	**6**	**3**	**4**	**2**	**9**	**5**	**7**	**8**

10.3. MARKETING PROBLEMS: Number of Agriculture Households Reporting their Main Marketing Problem by District during 2002/03 Agriculture Year

District	Main Problem								
	Open Market Price Too Low	No Transport	Transport Cost Too High	No Buyer	Market too Far	Farmers Association Problems	Government Regulatory Board Problems	Lack of Market Information	Other
North "A"	6,882	227	459	151	500	0	23	287	0
North "B"	4,948	179	85	79	943	0	20	31	55
Central	8,346	137	597	76	551	0	148	0	28
South	3,053	11	67	78	178	0	221	19	24
West	5,130	210	550	122	665	0	15	91	12
Wete	4,748	44	226	83	242	21	115	0	0
Micheweni	7,453	153	127	247	690	0	41	44	0
Chakechake	3,828	23	44	189	116	0	116	23	0
Mkoani	6,664	60	80	102	168	0	84	21	0
Total	**51,054**	**1,043**	**2,234**	**1127**	**4,051**	**21**	**783**	**515**	**119**

10.5 Number of Households Selling Reporting Biggest Marketing Problem by Type of Problem and District during 2002/03 Agriculture Year

Crop Marketing Problem	1st Problem									
	North "A"	North "B"	Central	South	West	Wete	Micheweni	Chakechake	Mkoani	Total
Open Market Price Too Low	6,882	4,948	8,346	3,053	5,130	4,748	7,453	3,828	6,664	51,054
No Transport	227	179	137	11	210	44	153	23	60	1,043
Transport Cost Too High	227	179	137	11	210	44	153	23	60	1,043
No Buyer	151	79	76	78	122	83	247	189	102	1,127
Market too Far	500	943	551	178	665	242	690	116	168	4,051
Farmers Association Problems	0	0	0	0	0	21	0	0	0	21
Government Regulatory Board Problems	23	20	148	221	15	115	41	116	84	783
Lack of Market Information	287	31	0	19	91	0	44	23	21	515
Other	0	55	28	24	12	0	0	0	0	119
Not applicable	0	55	28	24	12	0	0	0	0	119
Total	**8,529**	**6,356**	**9,882**	**3,674**	**6,849**	**5,616**	**8,755**	**4,362**	**7,222**	**61,246**

10.6 Number of Households Selling Crops Reporting Second Marketing Problem by Type of Problem and District during 2002/03 Agriculture Year

Crop Marketing Problem	2nd Problem									
	North "A"	North "B"	Central	South	West	Wete	Micheweni	Chakechake	Mkoani	Total
Open Market Price Too Low	729	740	760	203	654	300	817	467	356	5,026
No Transport	1,067	752	525	23	500	738	1,777	232	953	6,568
Transport Cost Too High	1,810	1,414	3,443	493	2,209	1,091	1,121	536	805	12,923
No Buyer	592	453	628	442	108	1,251	1,540	1,012	1,417	7,443
Market too Far	2,136	1,899	2,188	390	1,531	907	1,524	820	1,419	12,816
Farmers Association Problems	276	40	0	0	49	21	23	0	43	453
Government Regulatory Board Problems	21	62	161	364	20	178	137	617	326	1,887
Lack of Market Information	573	530	551	335	310	119	219	69	124	2,829
Other	0	63	0	212	12	21	150	0	0	459
Not applicable	1,324	419	1,627	1,202	1,456	988	1,446	609	1,778	10,849
Total	**8,529**	**6,373**	**9,882**	**3,674**	**6,849**	**5,616**	**8,755**	**4,362**	**7,222**	**61,262**

10.7 Number of Households Selling Crops Reporting Third Marketing Problem by Type of Problem and District during 2002/03 Agriculture Year

Crop Marketing Problem	3rd Problem									
	North "A"	North "B"	Central	South	West	Wete	Micheweni	Chakechake	Mkoani	Total
Open Market Price Too Low	308	209	266	51	262	98	170	0	38	1,400
No Transport	447	467	419	9	242	291	986	281	610	3,752
Transport Cost Too High	1,488	1,361	1,132	360	1,105	852	2,013	823	1,595	10,729
No Buyer	639	625	316	126	986	786	654	810	1,059	6,002
Market too Far	639	625	316	126	986	786	654	810	1,059	6,002
Farmers Association Problems	639	625	316	126	986	786	654	810	1,059	6,002
Government Regulatory Board Problems	119	233	254	173	12	444	232	308	167	1,941
Lack of Market Information	119	233	254	173	12	444	232	308	167	1,941
Other	119	233	254	173	12	444	232	308	167	1,941
Not applicable	2,203	1,338	4,359	2,377	2,453	1,644	2,735	881	2,366	20,355
Total	**8,529**	**6,356**	**9,882**	**3,674**	**6,849**	**5,616**	**8,755**	**4,362**	**7,222**	**61,246**

10.8 Number of Households Selling Crops Reporting Fourth Marketing Problem by Type of Problem and District during 2002/03 Agriculture Year

Crop Marketing Problem	4th Problem									
	North "A"	North "B"	Central	South	West	Wete	Micheweni	Chakechake	Mkoani	Total
Open Market Price Too Low	259	87	28	-	127	123	67	24	39	754
No Transport	384	415	377	28	149	220	882	346	121	2,922
Transport Cost Too High	815	816	389	139	417	533	1,020	820	1,039	5,987
No Buyer	858	871	453	91	620	712	951	643	922	6,121
Market too Far	701	659	404	67	841	664	739	581	1,318	5,973
Farmers Association Problems	629	84	229	0	101	121	448	0	64	1,676
Government Regulatory Board Problems	330	126	151	139	13	195	259	45	264	1,523
Lack of Market Information	1,268	1,350	1,267	132	876	668	629	513	584	7,286
Other	23	153	106	33	0	17	0	23	0	354
Not applicable	3,262	1,795	6,479	3,046	3,705	2,364	3,759	1,367	2,871	28,648
Total	**8,529**	**6,356**	**9,882**	**3,674**	**6,849**	**5,616**	**8,755**	**4,362**	**7,222**	**61,246**

10.9 Number of Households Selling Crops Reporting Fifth Marketing Problem by Type of Problem and District during 2002/03 Agriculture Year

Crop Marketing Problem	5th Problem									
	North "A"	North "B"	Central	South	West	Wete	Micheweni	Chakechake	Mkoani	Total
Open Market Price Too Low	51	106	109	-	23	57	20	-	82	447
No Transport	700	640	298	6	171	265	430	232	931	3,672
Transport Cost Too High	561	410	149	54	95	381	802	572	620	3,644
No Buyer	875	953	722	8	633	433	1,024	413	386	5,447
Market too Far	354	303	59	23	181	276	648	357	522	2,722
Farmers Association Problems	222	116	79	8	110	22	23	22	101	703
Government Regulatory Board Problems	254	312	112	12	-	369	414	69	392	1,934
Lack of Market Information	731	831	392	69	1,235	638	496	690	911	5,992
Other	115	129	11	0	0	18	93	162	22	550
Not applicable	4,668	2,558	7,952	3,493	4,401	3,157	4,806	1,845	3,256	36,136
Total	**8,529**	**6,357**	**9,882**	**3,674**	**6,849**	**5,616**	**8,755**	**4,362**	**7,222**	**61,246**

EROSION CONTROL/IRRIGATION

11.1: EROSION CONTROL: Number of Households With Erosion Control/Water Harvesting Facilities on their Land by District during 2002/03 Agriculture Year

District	Presence of Erosion Control/Water Harvesting Facilities				
	Yes	%	No	%	
North "A"	289	2	13,821	98	14,110
North "B"	64	1	8,714	99	8,778
Central	53	0	11,092	100	11,145
South	0	0	4,234	100	4,234
West	124	1	10,403	99	10,527
Wete	41	0	12,067	100	12,108
Micheweni	40	0	13,077	100	13,117
Chakechake	110	1	9,920	99	10,031
Mkoani	40	0	12,432	100	12,472
Total	**762**	**1**	**95,760**	**99**	**96,522**

11.2 EROSION CONTROL: Number of Erosion Control Harvesting Structures By Type and District During 2002/03 Agriculture Year

Districts	Type of Erosion Control Structure								
	Terraces	Erosion Control Bunds	Gabion/Sandbag	Vertiver Grass	Tree Belt	Water Harvesting Bunds	Drainage Ditches	Dam	Total No. of Structures
North "A"	0	685	0	133	-	83	126	0	1,028
North "B"	0	22	0	206	0	0	0'	0	229
Central	0	241	0	0	0	0	0	0	241
South	0	0	0	0	0	0	0	0	0
West	0	408	45	172	0	0	0	0	625
Wete	0	0	0	101	62	0	0	0	163
Micheweni	0	72	0	0	1,089	0	0	0	1,161
Chakechake	0	2,075	0	22	39	44	0	0	2,181
Mkoani	0	0	0	0	112	0	0	0	112
Total	**0**	**3,503**	**45**	**635**	**1,302**	**128**	**126**	**0**	**5,739**

Table 11.3 IRRIGATION: Number and Percent of Crop Growing Households Reporting of Practicing Irrigation by District During 2002/03 Agriculture Year

District	Household Practicing Irrigation		Household Not Practicing Irrigation		Crop Growing Households
	Number	%	Number	%	
North "A"	507	3.6	13,573	96.4	14,080
North "B"	475	5.4	8,283	94.6	8,758
Central	1,687	15.1	9,458	84.9	11,145
South	696	16.6	3,500	83.4	4,196
West	2,000	19.3	8,379	80.7	10,379
Wete	582	4.8	11,506	95.2	12,088
Micheweni	364	2.8	12,729	97.2	13,093
Chakechake	107	1.1	9,904	98.9	10,011
Mkoani	106	0.9	12,366	99.1	12,472
Total	**6,525**	**6.8**	**89,696**	**93.2**	**96,221**

11.4 IRRIGATION: Area (ha) of Irrigatable Land and Irrigated Land by District during 2002/03 Agriculture Year

District	Irrigatable Area (ha)	Irrigated Land	% of Irrigatable Land Used	Total Area (ha) of Land Utilised	%
North "A"	125	110	88	15,446	0.8
North "B"	183	163	89	10,067	1.8
Central	774	656	85	16,417	4.7
South	222	206	93	2,832	7.8
West	838	752	90	9,275	9.0
Wete	129	115	89	14,698	0.9
Micheweni	78	63	80	14,688	0.5
Chakechake	50	39	78	12,482	0.4
Mkoani	33	33	100	14,429	0.2
Total	**2,432**	**2,135**	**88**	**110,395**	**2.2**

11.5 IRRIGATION: Number of Agriculture Households Using Irrigation by Source of Irrigation Water and District during 2002/03 Agricultural Year

District	Source of Irrigation Water							
	River/Stream	Lake/Ponds	Dam	Well	Borehole	Canal	Pipe water	Total
North "A"	159	0	0	74	0	44	230	507
North "B"	119	16	0	80	0	0	259	475
Central	323	0	0	716	273	27	348	1,687
South	13	52	0	211	86	9	325	696
West	735	36	0	319	253	72	585	2,000
Wete	203	62	0	233	62	0	21	582
Micheweni	106	38	0	135	47	16	23	364
Chakechake	0	19	0	64	24	0	0	107
Mkoani	0	0	0	41	22	0	43	106
Total	**1,659**	**223**	**0**	**1,873**	**766**	**168**	**1,835**	**6,525**

11.6: IRRIGATION: Number of Agricultural Households Using Irrigation by Method Used to Obtain Water and District during 2002/03 Agriculture Year

District	Method of Obtaining Water					
	Gravity	Hand Bucket	Hand Pump	Motor Pump	Other	Total
North "A"	159	226	27	95	0	507
North "B"	61	352	0	40	22	475
Central	210	1,289	49	111	28	1,687
South	10	647	8	13	17	696
West	673	953	78	262	35	2,000
Wete	42	519	0	21	0	582
Micheweni	79	177	20	88	0	364
Chakechake	19	88	0	0	0	107
Mkoani	0	106	0	0	0	106
Total	**1,253**	**4,357**	**182**	**631**	**102**	**6,525**
%	**19**	**67**	**2.8**	**9.7**	**1.6**	**100**

11.7 IRRIGATION: Number of Agriculture Households Using Irrigation by Method of Field Application of Irrigation Water and District during 2002/03 Agriculture Year

District	Method of Field Application				
	Flood	Sprinkler	Water Hose	Bucket / Watering Can	Total
North "A"	159	0	55	293	507
North "B"	37	67	63	308	475
Central	242	28	104	1,314	1,687
South	0	36	17	642	696
West	834	63	257	846	2,000
Wete	63	123	0	396	582
Micheweni	187	0	16	161	364
Chakechake	19	0	0	88	107
Mkoani	0	0	43	63	106
Total	**1,540**	**317**	**557**	**4,111**	**6,525**
%	**24**	**5**	**9**	**63**	**100**

ACCESS TO FARM INPUTS & IMPLEMENTS

12.1 ACCESS TO INPUTS: Number of Crop Growing Households Using Chemical Fertilizer by District during 2002/03 Agriculture Year

District	Using Chemical Fertiliser		NOT Using Chemical Fertiliser		Total Number of Households
	Number of Household	%	Number of Household	%	
North A	2,362	17	11,748	83	14,080
North B	1,247	14	7,531	86	8,758
Central	973	9	10,172	91	11,145
South	79	2	4,155	98	4,196
West	1,048	10	9,479	90	10,379
Wete	2,058	17	10,050	83	12,088
Micheweni	206	2	12,911	98	13,093
Chakechake	1,095	11	8,936	89	10,011
Mkoani	1,193	10	11,278	90	12,472
Total	10,261	11	**86,261**	89	**96,221**

12.2 ACCESS TO INPUTS: Number of Crop Growing Households Using Farm-yard Manure by District, 2002/03 Agriculture Year

District	Using Farm-yard Manure		NOT Using Farm-yard Manure		Total Number of Household
	Number of Household	%	Number of Household	%	
North A	1,310	9	12,800	91	14,080
North B	1,008	12	7,770	88	8,758
Central	4,333	39	6,812	61	11,145
South	1,551	37	2,683	63	4,196
West	3,781	36	6,746	64	10,379
Wete	730	6	11,378	94	12,088
Micheweni	3,615	28	9,502	72	13,093
Chakechake	703	7	9,328	93	10,011
Mkoani	794	6	11,678	94	12,472
Total	**17,826**	19	**78,696**	81	**96,221**

12.3 ACCESS TO INPUTS: Number of Crop Growing Households Using Compost Manure by District during 2002/03 Agriculture Year

District	Using Compost Manure		NOT Using Compost Manure		Total Number of Household
	Number of Household	%	Number of Household	%	
North A	1,881	13	12,229	87	14,080
North B	137	2	8,641	98	8,758
Central	1,157	10	9,987	90	11,145
South	286	7	3,949	93	4,196
West	1,397	13	9,130	87	10,379
Wete	128	1	11,980	99	12,088
Micheweni	112	1	13,005	99	13,093
Chakechake	168	2	9,862	98	10,011
Mkoani	219	2	12,253	98	12,472
Total	**5,486**	6	**91,036**	94	**96,221**

12.4 ACCESS TO INPUTS: Number of Crop Growing Households Using Insecticide/Fungicide by District During 2002/03 Agriculture Year

District	Using Insecticide/Fungicide		NOT Using Insecticide/Fungicide		Total Number of Household
	Number of Household	%	Number of Household	%	
North A	240	2	13,870	98	14,080
North B	240	3	8,538	97	8,758
Central	1,373	12	9,772	88	11,145
South	111	3	4,123	97	4,196
West	406	4	10,121	96	10,379
Wete	62	1	12,046	99	12,088
Micheweni	40	0	13,077	100	13,093
Chakechake	158	2	9,873	98	10,011
Mkoani	61	0	12,411	100	12,472
Total	**2,691**	3	**93,831**	97	**96,221**

12.5 ACCESS TO INPUTS: Number of Crop Growing Households Using Herbicide by District During 2002/03 Agriculture Year

District	Using Herbicide		NOT Using Herbicide		Total Number of Household
	Number of Household	%	Number of Household	%	
North A	1,058	8	13,052	92	14,080
North B	576	7	8,202	93	8,758
Central	518	5	10,627	95	11,145
South	26	1	4,208	99	4,196
West	272	3	10,256	97	10,379
Wete	288	2	11,820	98	12,088
Micheweni	18	0	13,099	100	13,093
Chakechake	485	5	9,546	95	10,011
Mkoani	353	3	12,119	97	12,472
Total	**3,593**	4	**92,929**	96	**96,221**

12.6 ACCESS TO INPUTS: Number of Crop Growing Households Using Improved Seeds by District during 2002/03 Agriculture Year

District	Using Improved Seeds		NOT Using Improved Seeds		Total Number of Household
	No.of Household	%	No. of Household	%	
North A	3,584	25	10,526	75	14,080
North B	2,959	34	5,819	66	8,758
Central	4,926	44	6,219	56	11,145
South	1,325	32	2,909	68	4,196
West	3,251	31	7,276	69	10,379
Wete	1,742	14	10,366	86	12,088
Micheweni	1,337	10	11,780	90	13,093
Chakechake	891	9	9,139	91	10,011
Mkoani	1,818	15	10,654	85	12,472
Total	**21,833**	23	**74,689**	77	**96,221**

12.7 ACCESS TO INPUTS: Number of Crop Growing Households Using Inputs by Source of Inputs and District During 2002/03 Agriculture Year

District	Source of Inputs									
	Farmer Association	Local Farmer Group	Local Market / Trade Store	Secondary Market	Development Project	Crop Buyers	Large Scale Farm	Locally Produced by household	Neighbour	Other
North 'A'	148	27	7,654	48	16	535	27	523	1,459	0
North 'B'	85	104	4,504	0	0	92	0	415	925	22
Central	276	117	6,824	129	258	794	23	2,515	2,318	47
South	30	13	1,079	0	9	155	6	617	1,433	15
West	17	436	4,682	70	173	47	25	1,976	2,682	47
Wete	20	0	3,977	37	0	137	0	260	514	63
Micheweni	0	0	1,176	0	0	413	0	2,340	1,356	43
Chakechake	0	0	2,657	23	22	0	0	393	311	94
Mkoani	0	22	3,339	0	0	18	0	453	428	178
Total	**577**	**720**	**35,891**	**306**	**477**	**2,192**	**80**	**9,490**	**11,426**	**510**

12.8 ACCESS TO INPUTS: Number of Crop Growing Households Using Inputs by Finance Source and District During 2002/03 Agriculture Year

District	Source of Finance for Input				
	Sale of farm Products	Other Income Generating Activities	Remittance	Produced on Farm	Others
North 'A'	3,404	5,618	477	0	937
North 'B'	3,579	2,025	282	0	281
Central	7,290	2,056	646	0	3,534
South	1,504	924	83	0	867
West	4,777	2,215	152	24	2,987
Wete	2,228	2,198	330	0	252
Micheweni	3,032	1,076	382	0	839
Chakechake	1,070	1,618	365	0	447
Mkoani	1,810	1,677	230	0	720
Total	**28,694**	**19,406**	**2,702**	**24**	**10,864**

12.9 ACCESS TO IMPLEMENTS: Number of Crop Growing Households that Used Farm Implements/Assets by Type of Implement and District during 2002/03 Agriculture Year

District	Used Implements								
	Hand Hoe	Hand Powered Sprayer	Oxen	Ox Plough	Ox Cart	Tractor	Tractor Plough	Tractor Harrow	Threshers / Shellers
North A	14,080	738	24	0	148	3,401	3,401	3,220	0
North B	8,758	425	0	0	213	1,893	1,893	1,760	0
Central	11,118	1,287	55	28	710	1,575	1,575	1,236	0
South	4,216	69	0	0	13	173	173	146	0
West	10,433	428	40	40	1,245	573	573	424	0
Wete	12,108	80	39	0	81	1,144	1,144	581	0
Micheweni	13,117	23	0	0	454	116	116	0	0
Chakechake	10,011	312	0	0	116	1,257	1,257	725	0
Mkoani	12,396	509	0	0	66	1,102	1,102	679	0
Total	**96237**	**3871**	**158**	**68**	**3046**	**11,234**	**11234**	**8770**	**0**
%	**99.7**	**4.0**	**0.2**	**0.1**	**3.2**	**11.6**	**11.6**	**9.1**	**0.0**

12.10 ACCESS TO IMPLEMENTS: Number of Implements Owned by Type of Implement and District during 2002/03 Agriculture Year

District	Type of Farm Implement Owned								
	Hand Hoe	Hand Powered Sprayer	Oxen	Ox Plough	Ox Seed Planter	Tractor	Tractor plough	Tractor Harrow	Thresher /Shellers
North A	33,889	105	0	0	0	0	0	0	0
North B	19,851	108	0	0	0	0	0	0	0
Central	25,548	515	112	28	0	0	0	0	0
South	8,432	43	0	0	0	0	0	0	0
West	22,442	310	0	0	0	0	0	0	0
Wete	27,075	16	39	0	0	0	0	0	0
Micheweni	27,921	23	0	0	0	0	0	0	0
Chakechake	22,422	68	0	0	0	0	0	0	0
Mkoani	26,761	87	0	0	0	0	0	0	0
Total	**214,341**	**1,275**	**151**	**28**	**0**	**0**	**0**	**0**	**0**

12.11 ACCESS TO FARM INPUTS: Number of Agriculture Households Reporting the Main Reason for NOT Using Inputs and District During 2002/03 Agriculture Year

District	Main Reasons of Not Using Inputs							
	Not Available	Price too high	No money to buy	Too much Labour	Don't Know How to Use	Input is of No Use	Locally Produced by Household	Others
North A	22,425	26,462	7,404	1,182	10,490	6,059	0	203
North B	13,371	20,293	2,856	629	6,666	2,461	85	184
Central	8,880	23,963	7,674	628	3,169	9,036	202	136
South	3,883	3,262	1,501	71	822	12,437	0	53
West	10,281	17,064	3,683	773	4,101	16,028	102	1,030
Wete	14,608	35,116	8,134	1,219	4,728	3,612	69	188
Micheweni	20,854	33,174	5,983	1,058	6,533	5,270	135	431
Chakechake	17,065	25,007	5,085	637	3,382	5,063	42	423
Mkoani	21,839	34,321	7,394	423	2,385	3,873	0	157
Total	**133,207**	**218,662**	**49,715**	**6,620**	**42,275**	**63,838**	**635**	**2,805**

12.12 ACCESS TO FARM INPUTS: Number of Agriculture Households Reporting the Quality of Inputs by District during 2002/03 Agriculture Year

District	Quality of Inputs				
	Excellent	Good	Average	Poor	Does not Work
North A	1,228	7,310	1,875	23	0
North B	1,115	4,320	650	60	22
Central	6,540	5,885	827	28	0
South	1,292	1,905	182	0	0
West	3,881	4,806	1,387	74	6
Wete	1,826	2,814	367	0	0
Micheweni	772	3,581	960	16	0
Chakechake	1,514	1,831	113	0	42
Mkoani	992	2,674	712	22	37
Total	**19,162**	**35,126**	**7,073**	**224**	**107**

12.13 ACCESS TO INPUTS: Number of Crop Growing Households by Source of Chemical Fertiliser by District During 2002/03 Agriculture Year

District	Chemical fertiliser																				
	Farmer Association		Local Farmers Group		Local Market/Trade Store		Secondary Market		Development Project		Crop Buyer		Large Scale Farm		Locally Produced by Household		Neighbour		Other		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
North A	23	0.2	0	0.0	2,312	16.4	0	0	0	0	0	0	0	0	0	0	28	0.2	0	0	11717	83.2	14,080
North B	41	0.5	0	0.0	1,166	8.3	0	0	0	0	0	0	0	0	0	0	20	0.2	0	0	7531	86.0	8,758
Central	131	1.2	27	0.2	697	5.0	0	0	94	0.7	0	0	0	0	0	0	0	0.0	24	0.2	10172	91.3	11,145
South	0	0.0	0	0.0	53	0.4	0	0	0	0	0	0	0	0	0	0	27	0.6	0	0	4116	98.1	4,196
West	0	0.0	247	2.4	716	5.1	0	0	60	0.4	0	0	0	0	0	0	24	0.2	0	0	9331	89.9	10,379
Wete	0	0.0	0	0.0	1,978	14.0	37	0.3	0	0	0	0	0	0	0	0	22	0.2	21	0.2	10030	83.0	12,088
Micheweni	0	0.0	0	0.0	206	1.5	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	12887	98.4	13,093
Chakechake	0	0.0	0	0.0	1,073	7.6	0	0	22	0.2	0	0	0	0	0	0	0	0.0	0	0	8916	89.1	10,011
Mkoani	0	0.0	0	0.0	1,171	8.3	0	0	0	0	0	0	0	0	0	0	22	0.2	0	0	11279	90.4	12,472
Total	**195**	0.2	**274**	0.3	**9,372**	9.7	**37**	0.0	**176**	0.2	**0**	0	**0**	0	**0**	0	**143**	0.1	**45**	0.0	85979	89.4	**96,221**

12.14 ACCESS TO INPUTS: Number of Agriculture Households by Source of Farm-Yard Manure and District during 2002/03 Agriculture Year

District	Source of Farm-Yard Manure																					
	Farmer Association		Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Crop Buyers		Large Scale Farm		Locally Produced by Household		Neighbour		Other		Not applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
North A	74	0.5	27	0.2	0	0.0	25	0.2	0	0.0	51	0.37	27	0.2	513	3.6	593	4.2	0	0.0	12,770	90.7	14,080
North B	0	0.0	83	0.9	0	0.0	0	0.0	0	0.0	0	0.00	0	0.0	415	4.7	511	5.8	0	0.0	7,750	88.5	8,758
Central	0	0.0	0	0.0	0	0.0	102	0.9	11	0.1	0	0.00	23	0.2	2,490	22.3	1,728	15.5	0	0.0	6,791	60.9	11,145
South	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.00	6	0.0	617	14.7	901	21.5	8	0.2	2,666	63.5	4,196
West	0	0.0	0	0.0	0	0.0	35	0.3	13	0.1	0	0.00	25	0.2	1,976	19.0	1,712	16.5	20	0.2	6,597	63.6	10,379
Wete	20	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.00	0	0.0	260	2.1	408	3.4	42	0.4	11,358	94.0	12,088
Micheweni	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.00	0	0.0	2,340	17.9	1,232	9.4	43	0.3	9,478	72.4	13,093
Chakechake	0	0.0	0	0.0	0	0.0	23	0.2	0	0.0	0	0.00	0	0.0	393	3.9	288	2.9	0	0.0	9,308	93.0	10,011
Mkoani	0	0.0	22	0.2	0	0.0	0	0.0	0	0.0	0	0.00	0	0.0	431	3.5	341	2.7	0	0.0	11,678	93.6	12,472
Total	**94**	**0.1**	**132**	**0.1**	**0**	**0.0**	**185**	**0.2**	**24**	**0.0**	**51**	**0.1**	**80**	**0.1**	**9,434**	**9.8**	**7,713**	**8.0**	**113**	**0.1**	**78,394**	**81.5**	**96,221**

12.15 ACCESS TO INPUTS: Number of Agriculture Households by Source of Compost and District During 2002/03 Agriculture Year

District	Source of Compost								
	Farmer	Local Farmer	Development	Large Scale	Locally	Neighbour	Other	Not applicable	Total

	Association		Group		Project		Farm		Produced by Household								
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
North A	0	0	0	0	0	0	0	0	1,881	13.4	0	0	0	0.0	12,199	86.6	14,080
North B	0	0	0	0	0	0	0	0	137	1.6	0	0	0	0.0	8,621	98.4	8,758
Central	0	0	0	0	0	0	0	0	1,157	10.4	0	0	0	0.0	9,988	89.6	11,145
South	0	0	0	0	0	0	0	0	278	6.6	0	0	8	0.2	3,910	93.2	4,196
West	0	0	0	0	0	0	0	0	1,396	13.5	0	0	0	0.0	8,983	86.5	10,379
Wete	0	0	0	0	0	0	0	0	129	1.1	0	0	0	0.0	11,959	98.9	12,088
Micheweni	0	0	0	0	0	0	0	0	112	0.9	0	0	0	0.0	12,981	99.1	13,093
Chakechake	0	0	0	0	0	0	0	0	168	1.7	0	0	0	0.0	9,843	98.3	10,011
Mkoani	0	0	0	0	0	0	0	0	219	1.8	0	0	0	0.0	12,253	98.2	12,472
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5,477**	**5.7**	**0**	**0**	**8**		**90,736**	**94.3**	**96,221**

12.16 ACCESS TO INPUTS: Number of Agriculture Households by Source of Insecticide/Fungicide and District During 2002/03 Agriculture Year

	Source of Insecticide/Fungicide																
	Farmer Association		Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Locally Produced by Household		Neighbour		Not applicable		Total
District	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
North A	0	0.0	0	0.0	205	1.5	0	0.0	0	0.0	10	0.1	26	0.2	13,840	98.3	14,080
North B	0	0.0	0	0.0	240	1.7	0	0.0	0	0.0	0	0.0	0	0.0	8,518	60.5	8,758
Central	94	0.7	0	0.0	1254	8.9	0	0.0	0	0.0	25	0.2	0	0.0	9,772	69.4	11,145
South	0	0.0	0	0.0	111	0.8	0	0.0	0	0.0	0	0.0	0	0.0	4,085	29.0	4,196
West	0	0.0	23	0.2	360	2.6	0	0.0	23	0.2	0	0.0	0	0.0	9,973	70.8	10,379
Wete	0	0.0	0	0.0	62	0.4	0	0.0	0	0.0	0	0.0	0	0.0	12,026	85.4	12,088
Micheweni	0	0.0	0	0.0	40	0.3	0	0.0	0	0.0	0	0.0	0	0.0	13,053	92.7	13,093
Chakechake	0	0.0	0	0.0	158	1.1	0	0.0	0	0.0	0	0.0	0	0.0	9,853	70.0	10,011
Mkoani	0	0.0	0	0.0	39	0.3	0	0.0	0	0.0	22	0.2	0	0.0	12,411	88.1	12,472
Total	**94**	**0.1**	**23**	**0.0**	**2468**	**2.6**	**0**	**0.0**	**23**	**0.0**	**57**	**0.1**	**26**	**0.0**	**93,530**	**97.2**	**96,221**

12.17 ACCESS TO INPUTS : Number of Agricultural Households by Source of Herbicides and District during 2002/03 Agriculture Year

District	Source of Herbicide								
	Farmer	Local Farmers	Local Market /	Secondary	Development	Neighbour	Other	Not applicable	Total

	Association		Group		Trade Store		Market		Project								
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
North A	23	0.2	0	0	1035	7.3	0	0	0	0.0	0	0	0	0	13,022	92.5	14,080
North B	0	0.0	0	0	554	3.9	0	0	0	0.0	0	0	22	0.2	8,182	93.4	8,758
Central	25	0.2	27	0.2	467	3.3	0	0	0	0.0	0	0	0	0	10,627	95.4	11,145
South	0	0.0	0	0	26	0.2	0	0	0	0.0	0	0	0	0	4,170	99.4	4,196
West	0	0.0	23	0.2	185	1.3	17	0.1	23	0.2	23	0.2	0	0	10,107	97.4	10,379
Wete	0	0.0	0	0	288	2.0	0	0	0	0.0	0	0	0	0	11,800	97.6	12,088
Micheweni	0	0.0	0	0	18	0.1	0	0	0	0.0	0	0	0	0	13,075	99.9	13,093
Chakechake	0	0.0	0	0	485	3.4	0	0	0	0.0	0	0	0	0	9,526	95.2	10,011
Mkoani	0	0.0	0	0	353	2.5	0	0	0	0.0	0	0	0	0	12,119	97.2	12,472
Total	**48**	**0.0**	**50**	**0.1**	**3410**	**3.5**	**17**	**0.0**	**23**	**0.0**	**23**	**0.0**	**22**	**0.0**	**92,628**	**96.3**	**96,221**

12.18 ACCESS TO INPUTS: Number of Agricultural Households by Source of Improved Seeds and District During 2002/03 Agriculture Year

District	Source of Improved Seeds																			
	Farmer Association		Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Crop Buyer		Locally Produced by Household		Neighbour		Other		Not Applicable		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
North A	29	0.2	0	0.0	2,220	15.8	23	0.2	16	0.1	484	3.4	0	0	812	5.8	0	0	10,496	74.5	14,080
North B	43	0.3	21	0.1	2,407	17.1	0	0.0	0	0.0	92	0.7	0	0	395	2.8	0	0	5,799	41.2	8,758
Central	26	0.2	64	0.5	3,248	23.1	27	0.2	153	1.1	794	5.6	0	0	589	4.2	23	0.2	6,219	44.2	11,145
South	30	0.2	13	0.1	612	4.3	0	0.0	9	0.1	155	1.1	0	0	506	3.6	0	0	2,871	20.4	4,196
West	17	0.1	143	1.0	2,024	14.4	17	0.1	53	0.4	47	0.3	0	0	923	6.6	27	0.2	7,127	50.6	10,379
Wete	0	0.0	0	0.0	1,520	10.8	0	0.0	0	0.0	137	1.0	0	0	85	0.6	0	0	10,346	73.5	12,088
Micheweni	0	0.0	0	0.0	800	5.7	0	0.0	0	0.0	413	2.9	0	0	124	0.9	0	0	11,756	83.5	13,093
Chakechake	0	0.0	0	0.0	773	5.5	0	0.0	0	0.0	0	0.0	0	0	24	0.2	94	0.7	9,120	64.8	10,011
Mkoani	0	0.0	0	0.0	1,557	11.1	0	0.0	0	0.0	18	0.1	0	0	65	0.5	178	1.3	10,654	75.7	12,472
Total	**146**	0.2	**241**	0.3	**15,164**	15.8	**67**	0.1	**231**	0.2	**2141**	2.2	**0**	0.0	**3,522**	3.7	**322**	0.3	74,388	77.3	**96,221**

Table 12.19 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Chemical Fertilizer by District, during 2002/03 Agriculture Year

District	Distance to Source of Chemical Fertiliser										
	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
North A	273	11.6	783	33.1	1070	45.3	128	5.4	109	4.6	2,363
North B	130	10.4	391	31.4	508	40.8	130	10.4	88	7.1	1,247
Central	380	39.1	125	12.8	257	26.4	104	10.6	107	11.0	973
South	13	16.5	53	66.5	13	17.0	0	0.0	0	0.0	79
West	521	49.7	174	16.6	197	18.8	133	12.7	23	2.2	1,048
Wete	162	7.9	123	6.0	887	43.1	791	38.4	96	4.7	2,058
Micheweni	22	10.6	79	38.1	44	21.3	42	20.3	20	9.7	206
Chakechake	21	1.9	21	2.0	846	77.3	184	16.8	23	2.1	1,095
Mkoani	150	12.6	22	1.9	499	41.8	374	31.3	148	12.4	1,193
Total	**1,671**	**16.3**	**1770**	**17.3**	**4321**	**42.1**	**1,884**	**18.4**	**615**	**6.0**	**10,261**

Table 12.20 ACCESS TO INPUTS: Number of Agricultural Households by Distance to Source of Farm-Yard Manure and District during 2002/03 Agricultural Year

District	Distance to Source of Farm-Yard Manure										
	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
North A	863	65.9	189	14.4	94	7.2	0	0.0	164	12.5	1,310
North B	600	59.5	216	21.4	104	10.3	20	2.0	68	6.8	1,008
Central	3,862	89.1	313	7.2	158	3.6	0	0.0	0	0.0	4,333
South	1,387	89.4	98	6.3	41	2.6	0	0.0	25	1.6	1,552
West	3,216	85.0	439	11.6	97	2.6	29	0.8	0	0.0	3,781
Wete	649	88.9	20	2.7	41	5.6	21	2.8	0	0.0	730
Micheweni	3,413	94.4	179	5.0	0	0.0	0	0.0	23	0.6	3,615
Chakechake	599	85.3	81	11.5	23	3.2	0	0.0	0	0.0	703
Mkoani	688	86.6	106	13.4	0	0.0	0	0.0	0	0.0	794
Total	**15,277**	**85.7**	**1,642**	**9.2**	**557**	**3.1**	**70**	**0.4**	**281**	**1.6**	**17,826**

12.21 ACCESS TO INPUTS: Number of Agriculture Households and Distance to Source of Compost Manure by District During 2002/03 Agriculture Year

District	Distance to Source of Compost								
	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	
North A	1,588	84.4	293	15.6	0	0.0	0	0.0	1,881
North B	118	86.6	0	0.0	18	13.4	0	0.0	137
Central	1,157	100.0	0	0.0	0	0.0	0	0.0	1,157
South	255	89.4	0	0.0	23	8.0	8	2.7	286
West	1,330	95.2	52	3.7	15	1.1	0	0.0	1,397
Wete	128	100.0	0	0.0	0	0.0	0	0.0	128
Micheweni	112	100.0	0	0.0	0	0.0	0	0.0	112
Chakechake	168	100.0	0	0.0	0	0.0	0	0.0	168
Mkoani	197	89.8	22	10.2	0	0.0	0	0.0	219
Total	**5,055**	**92.1**	**367**	**6.7**	**56.1**	**1.0**	**8**	**0.1**	**5,486**

Table 12.22 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Insecticide/Fungicides by District, 2002/03 Agricultural Year

District	Distance to Source of Insecticide/Fungicides										
	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	%	
North A	58	24	107	44	23	10	26	11	26	11	240
North B	0	0	81	34	79	33	0	0	79	33	240
Central	265	19	399	29	225	16	326	24	158	12	1,373
South	13	12	12	11	35	32	0	0	50	45	111
West	97	24	54	13	111	27	118	29	25	6	406
Wete	0	0	0	0	0	0	62	100	0	0	62
Micheweni	18	45	22	55	0	0	0	0	0	0	40
Chakechake	0	0	0	0	110	70	47	30	0	0	158
Mkoani	22	36	0	0	0	0	39	64	0	0	61
Total	**473**	**18**	**675**	**25**	**584**	**22**	**619**	**23**	**340**	**13**	**2,691**

Table 12.23 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Herbicides by District, 2002/03 Agricultural Year

District	Distance to Source of Herbicides										
	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	%	
North A	78	7.4	262	24.7	555	52.5	83	7.8	80	7.6	1,058
North B	43	7.5	257	44.6	159	27.7	64	11.1	53	9.2	576
Central	25	4.9	48	9.3	258	49.8	80	15.4	107	20.7	518
South	0	0.0	26	100.0	0	0.0	0	0.0	0	0.0	26
West	46	16.9	40	14.8	98	36.0	88	32.3	0	0.0	272
Wete	0	0.0	0	0.0	191	66.4	97	33.6	0	0.0	288
Micheweni	18	100.0	0	0.0	0	0.0	0	0.0	0	0.0	18
Chakechake	0	0.0	0	0.0	439	90.6	46	9.4	0	0.0	485
Mkoani	0	0.0	0	0.0	106	30.1	224	63.6	22	6.3	353
Total	**211**	**5.9**	**633**	**17.6**	**1807**	**50.3**	**680**	**18.9**	**262**	**7.3**	**3,593**

Table 12.24 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Improved Seeds by District During 2002/03 Agricultural Year

District	Distance to Source of Improved Seeds										
	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	%	
North A	1,483	41.4	719	20.1	836	23.3	141	3.9	406	11.3	3,584
North B	1,352	45.7	814	27.5	623	21.0	84	2.8	86	2.9	2,959
Central	2,663	54.1	752	15.3	613	12.4	537	10.9	361	7.3	4,926
South	1,100	83.0	96	7.3	26	2.0	6	0.4	97	7.3	1,325
West	1,618	49.8	420	12.9	865	26.6	296	9.1	51	1.6	3,251
Wete	611	35.1	180	10.3	704	40.4	227	13.0	21	1.2	1,742
Micheweni	571	42.7	447	33.4	69	5.1	136	10.1	115	8.6	1,337
Chakechake	164	18.4	205	23.0	432	48.5	71	8.0	19	2.2	891
Mkoani	1,316	72.4	273	15.0	125	6.9	83	4.6	20	1.1	1,818
Total	**10,877**	**49.8**	**3,907**	**17.9**	**4292**	**19.7**	**1,581**	**7.2**	**1176**	**5.4**	**21,833**

12.25 ACCESS TO INPUTS: Number of Agricultural Households Reporting on Quality of Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Quality of Chemical Fertilisers										Total
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
North A	309	13.1	1689	71.5	364	15.4	0	0.0	0	0.0	2,363
North B	187	15.0	806	64.6	231	18.5	23	1.8	0	0.0	1,247
Central	480	49.4	424	43.6	68	7.0	0	0.0	0	0.0	973
South	39	48.9	41	51.2	0	0.0	0	0.0	0	0.0	79
West	365	34.8	515	49.1	148	14.2	20	1.9	0	0.0	1,048
Wete	766	37.2	1026	49.9	266	12.9	0	0.0	0	0.0	2,058
Micheweni	0	0.0	186	90.3	20	9.7	0	0.0	0	0.0	206
Chakechake	495	45.2	535	48.9	45	4.1	0	0.0	21	1.9	1,095
Mkoani	513	43.0	556	46.6	83	7.0	22	1.9	19	1.6	1,193
Total	**3,154**	**30.7**	**5778**	**56.3**	**1224**	**11.9**	**65**	**0.6**	**40**	**0.4**	**10,261**

12.26 ACCESS TO INPUTS: Number of Agricultural Households Reporting the Quality of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Quality of Farm-Yard Manure										Total
	Excellent		Good		Average		Poor		Does not Work		
	Number	%	Number	%	Number	%	Number	%	Number	%	
North A	336	25.7	818	62.4	156	11.9	0	0.0	0	0.0	1,310
North B	301	29.9	564	56.0	143	14.1	0	0.0	0	0.0	1,008
Central	2,285	52.7	1,844	42.6	175	4.0	28	0.6	0	0.0	4,333
South	551	35.5	900	58.0	101	6.5	0	0.0	0	0.0	1,552
West	1,783	47.2	1,760	46.5	215	5.7	17	0.5	6	0.2	3,781
Wete	221	30.3	447	61.2	61	8.4	0	0.0	0	0.0	730
Micheweni	588	16.3	2,439	67.5	589	16.3	0	0.0	0	0.0	3,615
Chakechake	320	45.6	337	48.0	45	6.4	0	0.0	0	0.0	703
Mkoani	109	13.8	464	58.4	221	27.8	0	0.0	0	0.0	794
Total	**6,496**	**36.4**	**9,573**	**53.7**	**1707**	**9.6**	**45**	**0.3**	**6**	**0.0**	**17,826**

12.27 ACCESS TO INPUTS: Number of Agricultural Households Reporting the Quality of Compost Manure by District, 2002/03 Agriculture Year

District	Quality of Compost Manure								Total Number
	Excellent		Good		Average		Poor		
	Number	%	Number	%	Number	%	Number	%	
North A	94	5.0	1,447	76.9	318	16.9	23	1.2	1,881
North B	44	32.5	92	67.5	0	0.0	0	0.0	137
Central	335	28.9	731	63.2	91	7.9	0	0.0	1,157
South	143	50.2	114	39.7	29	10.1	0	0.0	286
West	340	24.3	462	33.1	595	42.6	0	0.0	1,397
Wete	37	29.0	73	56.5	18	14.5	0	0.0	128
Micheweni	0	0.0	90	80.7	22	19.3	0	0.0	112
Chakechake	124	73.8	44	26.2	0	0.0	0	0.0	168
Mkoani	133	60.7	86	39.3	0	0.0	0	0.0	219
Total	**1,250**	**22.8**	**3,139**	**57.2**	**1,074**	**19.6**	**23**	**0.4**	**5,486**

12.28 ACCESS TO INPUTS: Number of Agricultural Households Reporting on Quality of Insecticide/Fungicide by District During 2002/03 Agriculture year

District	Quality of Insecticide/Fungicide						
	Excellent		Good		Average		Total Number
	Number	%	Number	%	Number	%	
North A	54	22.5	105	43.9	81	33.7	240
North B	18	7.7	161	67.1	60	25.2	240
Central	563	41.0	654	47.6	156	11.4	1,373
South	38	33.9	74	66.4	0	0.0	111
West	208	51.2	161	39.6	37	9.2	406
Wete	19	30.0	43	69.9	0	0.0	62
Micheweni	0	0.0	40	100.0	0	0.0	40
Chakechake	86	54.5	72	45.5	0	0.0	158
Mkoani	25	41.0	36	59.0	0	0.0	61
Total	**1,011**	**37.6**	**1,346**	**50.0**	**335**	**12.4**	**2,691**

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

District	Quality of Herbicide										
	Excellent		Good		Average		Poor		Does not Work		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
North A	109	10.3	720	68.1	229	21.6	0	0.0	0	0.0	1,058
North B	101	17.6	420	72.9	18	3.2	15	2.6	22	3.8	576
Central	337	65.0	181	35.0	0	0.0	0	0.0	0	0.0	518
South	12	47.5	14	52.5	0	0.0	0	0.0	0	0.0	26
West	158	58.2	39	14.4	75	27.4	0	0.0	0	0.0	272
Wete	184	64.0	104	36.0	0	0.0	0	0.0	0	0.0	288
Micheweni	0	0.0	18	100.0	0	0.0	0	0.0	0	0.0	18
Chakechake	218	45.0	223	45.9	23	4.7	0	0.0	21	4.4	485
Mkoani	151	42.8	182	51.8	19	5.4	0	0.0	0	0.0	353
Total	**1,270**	**35.4**	**1,901**	**52.9**	**364**	**10.1**	**15**	**0.4**	**43**	**1.2**	**3,593**

12.30 ACCESS TO INPUTS: Number of Agricultural Households Reporting on Quality of Improved Seeds During 2002/03 Agriculture Year

District	Quality of Improved Seeds										
	Excellent		Good		Average		Poor		Does not Work		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
North A	326	9.1	2,531	70.6	727	20.3	0	0.0	0	0.0	3,584
North B	463	15.6	2,276	76.9	197	6.7	22	0.8	0	0.0	2,959
Central	2,540	51.6	2,049	41.6	337	6.8	0	0.0	0	0.0	4,926
South	509	38.4	764	57.6	52	4.0	0	0.0	0	0.0	1,325
West	1,027	31.6	1,870	57.5	317	9.7	37	1.1	0	0.0	3,251
Wete	599	34.4	1,121	64.3	22	1.3	0	0.0	0	0.0	1,742
Micheweni	184	13.8	808	60.4	330	24.6	16	1.2	0	0.0	1,337
Chakechake	271	30.4	621	69.6	0	0.0	0	0.0	0	0.0	891
Mkoani	60	3.3	1,350	74.3	389	21.4	0	0.0	18	1.0	1,818
Total	**5,979**	**27.4**	**13,390**	**61.3**	**2,371**	**10.9**	**75**	**0.3**	**18**	**0.1**	**21,833**

12.31: Number of Agriculture Households with Plan to Use Chemical Fertiliser Next Year by District, 2002/03 Agriculture Year

District	Plan to Use Next Year				
	Number of Agriculture Households With Plan to Use Next Year		Number of Agriculture Households With NO Plan to Use Next Year		Total Number
	Number	%	Number	%	
North A	8,210	58.2	5,900	41.8	14,110
North B	3,770	42.9	5,008	57.1	8,778
Central	2,666	23.9	8,478	76.1	11,145
South	416	9.8	3,819	90.2	4,234
West	3,147	29.9	7,380	70.1	10,527
Wete	9,077	75.0	3,031	25.0	12,108
Micheweni	7,082	54.0	6,036	46.0	13,117
Chakechake	6,607	65.9	3,424	34.1	10,031
Mkoani	8,474	67.9	3,998	32.1	12,472
Total	**49,449**	**51.2**	**47,073**	**48.8**	**96,522**

12.32 ACCESS TO INPUTS: Number of Agriculture Households with Plan to Use Farm-Yard Manure Next Year by District,2002/03 Agriculture Year

District	Plan to Use Farm-yard Manure				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next Year		Total
	Number	%	Number	%	Number
North A	7,191	51.0	6,919	49.0	14,110
North B	3,184	36.3	5,594	63.7	8,778
Central	7,072	63.5	4,073	36.5	11,145
South	2,169	51.2	2,065	48.8	4,234
West	7,002	66.5	3,525	33.5	10,527
Wete	3,984	32.9	8,124	67.1	12,108
Micheweni	8,631	65.8	4,486	34.2	13,117
Chakechake	3,520	35.1	6,510	64.9	10,031
Mkoani	5,717	45.8	6,755	54.2	12,472
Total	**48,471**	**50.2**	**48,051**	**49.8**	**96,522**

12.33 ACCESS TO INPUTS: Number of Agriculture Households with Plan to Use Compost Next Year by District, 2002/02 Agricultural Year

District	Plan to Use Compost Next Year				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next Year		Total
	Number	%	Number	%	Number
North A	6,401	45.4	7,709	54.6	14,110
North B	1,878	21.4	6,900	78.6	8,778
Central	2,977	26.7	8,167	73.3	11,145
South	841	19.9	3,393	80.1	4,234
West	4,128	39.2	6,399	60.8	10,527
Wete	1,695	14.0	10,413	86.0	12,108
Micheweni	4,242	32.3	8,875	67.7	13,117
Chakechake	1,605	16.0	8,426	84.0	10,031
Mkoani	4,081	32.7	8,390	67.3	12,472
Total	**27,849**	**28.9**	**68,673**	**71.1**	**96,522**

12.34 ACCESS TO INPUTS: Number of Agricultural Households with Plan to Use Insecticide/Fungicide Next Year by District, 2002/03 Agricultural Year

District	Plan to Use Insecticide/Fungicide				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next Year		Total
	Number	%	Number	%	Number
North A	4,874	34.5	9,236	65.5	14,110
North B	1,490	17.0	7,288	83.0	8,778
Central	2,454	22.0	8,691	78.0	11,145
South	398	9.4	3,836	90.6	4,234
West	2,306	21.9	8,221	78.1	10,527
Wete	4,768	39.4	7,340	60.6	12,108
Micheweni	3,908	29.8	9,209	70.2	13,117
Chakechake	2,783	27.7	7,247	72.3	10,031
Mkoani	6,181	49.6	6,291	50.4	12,472
Total	**29,163**	**30.2**	**67,359**	**69.8**	**96,522**

12.35 ACCESS TO INPUTS: Number of Agricultural Households With Plan to Use Herbicides Next Year, 2002/03 Agricultural Year

District	Plan to Use Herbicide Next Year				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next Year		Total Number
	Number	%	Number	%	
North A	5,490	38.9	8,620	61.1	14,110
North B	2,059	23.5	6,719	76.5	8,778
Central	1,325	11.9	9,820	88.1	11,145
South	270	6.4	3,964	93.6	4,234
West	2,026	19.2	8,502	80.8	10,527
Wete	6,726	55.5	5,382	44.5	12,108
Micheweni	3,485	26.6	9,632	73.4	13,117
Chakechake	3,813	38.0	6,217	62.0	10,031
Mkoani	7,348	58.9	5,123	41.1	12,472
Total	**32,543**	**33.7**	**63,979**	**66.3**	**96,522**

12.36 ACCESS TO INPUTS: Number of Agricultural Households with Plan to Use Improved Seeds Next Year by District, 2002/03 Agriculture Year

District	Plan to Use Improved Seeds Next Year				
	Number of Agricultural Households With Plan to use Next Year		Number of Agricultural Households With NO Plan to use Next Year		Total
	Number	%	Number	%	
North A	9,293	65.9	4,817	34.1	14,110
North B	4,609	52.5	4,169	47.5	8,778
Central	6,737	60.4	4,408	39.6	11,145
South	2,268	53.6	1,966	46.4	4,234
West	5,719	54.3	4,808	45.7	10,527
Wete	10,035	82.9	2,073	17.1	12,108
Micheweni	7,333	55.9	5,784	44.1	13,117
Chakechake	3,915	39.0	6,116	61.0	10,031
Mkoani	8,380	67.2	4,092	32.8	12,472
Total	**58,289**	**60.4**	**38,234**	**39.6**	**96,522**

12.37 ACCESS TO EQUIPMENT: Number of Households NOT Using Hand Hoe by Main Reason for Not Using by District During 2002/03 Agriculture Year

District	Hand Hoe				
	Equipment / Asset of No Use		Other		Total Number
	Number	%	Number	%	
North A	26	86.5	4	13.5	31
North B	20	100.0	0	0.0	20
Central	10	100.0	0	0.0	10
South	27	78.0	8	22.0	35
West	82	86.8	12	13.2	94
Wete	0	0.0	0	100.0	0
Micheweni	0	0.0	0	100.0	0
Chakechake	0	0.0	19	100.0	19
Mkoani	76	100.0	0	0.0	76
Total	**241**	**84.6**	**44**	**15.4**	**285**

12.38 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Hand Powered Sprayers by Main Reason for Not Using and District, 2002/03 Agriculture Year

District	Hand Powered Sprayer					
	Not Available	Price Too High	No Money to Buy/Rent	Too Much Labour Required	Equipment/ Asset of No Use	Others
	Number	Number	Number	Number	Number	Number
North A	5,558	3,759	1,142	52	2,836	25
North B	2,892	3,273	771	23	1,396	0
Central	1,669	3,615	835	23	3,716	0
South	279	638	90	0	3,150	8
West	1,874	2,454	1,367	0	4,346	58
Wete	3,618	5,394	1,814	0	1,181	21
Micheweni	4,620	4,348	1,305	225	2,552	45
Chakechake	4,287	2,675	994	44	1,677	42
Mkoani	3,568	4,254	1,012	0	3,128	0
Total	**28,366**	**30,411**	**9,329**	**366**	**23,982**	**199**

12.39 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Oxen by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Oxen					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
North A	5,093	2,080	1,210	96	5,579	28
North B	4,166	1,388	658	0	2,566	0
Central	2,977	931	1,217	156	5,811	0
South	109	61	13	0	4,043	8
West	3,714	1,389	1,479	16	3,771	118
Wete	4,233	2,538	2,785	20	2,493	0
Micheweni	7,591	3,235	609	68	1,614	0
Chakechake	7,565	561	681	23	1,181	19
Mkoani	5,669	2,480	350	22	3,951	0
Total	**41,118**	**14,661**	**9,002**	**400**	**31,009**	**173**

12.40 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Ox Plough by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Ox Plough					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
North A	4,995	1,709	958	429	5,991	28
North B	4,164	1,303	655	0	2,656	0
Central	2,838	1,037	1,213	238	5,791	0
South	122	65	0	0	4,040	8
West	3,623	1,526	1,371	36	3,813	118
Wete	4,925	1,780	448	58	4,897	0
Micheweni	8,320	2,428	723	24	1,622	0
Chakechake	7,553	586	581	67	1,224	19
Mkoani	5,612	2,247	350	84	4,179	0
Total	**42,152**	**12,681**	**6,299**	**936**	**34,213**	**173**

12.41 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Ox Seed Planter by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Ox Seed Planter					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
North A	4,610	1,531	985	328	6,631	25
North B	3,934	1,207	593	20	3,024	0
Central	3,011	923	1,043	210	5,957	0
South	86	76	0	0	4,064	8
West	2,882	1,655	1,484	16	4,373	118
Wete	5,505	1,449	470	39	4,644	0
Micheweni	8,305	2,030	812	24	1,947	0
Chakechake	7,229	544	510	46	1,683	19
Mkoani	5,438	2,136	289	64	4,525	20
Total	**41,000**	**11,550**	**6,185**	**746**	**36,851**	**190**

12.42 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Ox- Cart by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Ox Cart					
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other
North A	2,667	3,748	4,516	301	2,701	28
North B	2,244	1,968	1,825	36	2,491	0
Central	968	2,013	1,850	50	5,526	28
South	51	136	39	0	3,987	8
West	914	2,017	2,040	0	4,223	88
Wete	3,389	3,083	4,359	0	1,195	0
Micheweni	2,821	5,112	2,830	24	1,877	0
Chakechake	3,453	2,540	1,570	68	2,264	19
Mkoani	3,915	3,653	1,446	0	3,371	20
Total	**20,424**	**24,272**	**20,476**	**479**	**27,634**	**190**

12.43 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Tractors by Main Reason for Not Using by District During 2002/03 Agriculture Year

District	Tractor				
	Not Available	Price Too High	No Money to Buy / Rent	Equipment / Asset of No Use	Other
North A	5,417	1,517	1,594	2,362	0
North B	2,244	3,330	838	606	0
Central	2,083	2,739	1,073	4,014	0
South	111	106	0	3,864	8
West	1,654	2,800	1,650	3,882	118
Wete	2,101	4,477	4,078	871	0
Micheweni	5,126	3,773	1,316	2,902	0
Chakechake	2,654	3,851	1,796	844	160
Mkoani	2,611	5,488	1,204	2,491	0
Total	**24,002**	**28,080**	**13,548**	**21,834**	**286**

12.44 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Tractor Plough by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Tractor Plough				
	Not Available	Price Too High	No Money to Buy / Rent	Equipment / Asset of No Use	Other
North A	4,974	1,764	1,932	2,039	0
North B	2,085	3,562	831	407	0
Central	1,775	3,178	1,107	3,482	0
South	96	144	0	3,842	8
West	1,339	3,265	1,675	3,558	117
Wete	1,177	5,020	4,278	489	0
Micheweni	3,461	5,895	2,047	1,574	24
Chakechake	1,627	4,690	1,945	374	137
Mkoani	2,581	5,743	2,123	923	0
Total	**19,115**	**33,260**	**15,938**	**16,689**	**286**

12.45 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Tractor Harrows by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Tractor Harrow				
	Not Available	Price Too High	No Money to Buy / Rent	Equipment / Asset of No Use	Other
North A	5,417	1,517	1,594	2,362	0
North B	2,244	3,330	838	606	0
Central	2,083	2,739	1,073	4,014	0
South	111	106	0	3,864	8
West	1,654	2,800	1,650	3,882	118
Wete	2,101	4,477	4,078	871	0
Micheweni	5,126	3,773	1,316	2,902	0
Chakechake	2,654	3,851	1,796	844	160
Mkoani	2,611	5,488	1,204	2,491	0
Total	**24,002**	**28,080**	**13,548**	**21,834**	**286**

12.46 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Thresher/Sheller by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Thresher/Sheller				
	Not Available	Price Too High	No Money to Buy / Rent	Equipment / Asset of No Use	Other
North A	5,041	1,208	2,300	5,535	26
North B	2,492	2,198	501	3,541	46
Central	1,976	1,660	999	6,509	0
South	444	96	9	3,679	8
West	1,847	2,070	1,305	5,277	28
Wete	2,001	1,564	550	7,972	21
Micheweni	6,438	2,302	678	3,699	0
Chakechake	4,711	1,271	937	3,048	64
Mkoani	3,369	2,781	1,236	5,085	0
Total	**28,320**	**15,149**	**8,515**	**44,344**	**193**

12.47 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Hand Powered Sprayers by Main Reason for Not Using by District, 2002/03 Agriculture Year

District	Hand Powered Sprayer							
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Others	Not Applicable	Total
North A	5,558	3,759	1,142	52	2,836	25	738	14,110
North B	2,892	3,273	771	23	1,396	0	424	8,778
Central	1,669	3,615	835	23	3,716	0	1,287	11,145
South	279	638	90	0	3,150	8	68	4,234
West	1,874	2,454	1,367	0	4,346	58	428	10,527
Wete	3,618	5,394	1,814	0	1,181	21	80	12,108
Micheweni	4,620	4,348	1,305	225	2,552	45	23	13,117
Chakechake	4,287	2,675	994	44	1,677	42	312	10,031
Mkoani	3,568	4,254	1,012	0	3,128	0	509	12,472
Total	**28,366**	**30,411**	**9,329**	**366**	**23,982**	**199**	3,870	**96,522**
%	**29.4**	**31.5**	**9.7**	**0.4**	**24.8**	**0.2**	**4.0**	**100.0**

12.48 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Ox Plough by Main Reason for Not Using and District, 2002/03 Agriculture Year

District	Ox Plough							
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other	Not Applicable	Total
North A	4,995	1,709	958	429	5,991	28	0	14,110
North B	4,164	1,303	655	0	2,656	0	0	8,778
Central	2,838	1,037	1,213	238	5,791	0	28	11,145
South	122	65	0	0	4,040	8	0	4,234
West	3,623	1,526	1,371	36	3,813	118	40	10,527
Wete	4,925	1,780	448	58	4,897	0	0	12,108
Micheweni	8,320	2,428	723	24	1,622	0	0	13,117
Chakechake	7,553	586	581	67	1,224	19	0	10,031
Mkoani	5,612	2,247	350	84	4,179	0	0	12,472
Total	**42,152**	**12,681**	**6,299**	**936**	**34,213**	**174**	**68**	**96,522**
%	**43.7**	**13.1**	**6.5**	**1.0**	**35.4**	**0.2**	**0.1**	**100.0**

12.49 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Ox Cart by Main Reason for Not Using and District, 2002/03 Agriculture Year

District	Ox Cart							
	Not Available	Price Too High	No Money to Buy / Rent	Too Much Labour Required	Equipment / Asset of No Use	Other	Not Applicable	Total
North A	2,667	3,748	4,516	301	2,701	28	148	14,110
North B	2,244	1,968	1,825	36	2,491	0	213	8,778
Central	968	2,013	1,850	50	5,526	28	710	11,145
South	51	136	39	0	3,987	8	14	4,234
West	914	2,017	2,040	0	4,223	88	1,245	10,527
Wete	3,389	3,083	4,359	0	1,195	0	81	12,108
Micheweni	2,821	5,112	2,830	24	1,877	0	454	13,117
Chakechake	3,453	2,540	1,570	68	2,264	19	116	10,031
Mkoani	3,915	3,653	1,446	0	3,371	20	66	12,472
Total	**20,424**	**24,272**	**20,476**	**479**	**27,634**	**190**	3,046	**96,522**
%	**21.2**	**25.1**	**21.2**	**0.5**	**28.6**	**0.2**	**3.2**	**100**

12.50 ACCESS TO EQUIPMENT: Number of Agricultural Households NOT Using Tractor Plough by Main Reason fot Not Using and District,2002/03 Agriculture Year

District	Tractor Plough						
	Not Available	Price Too High	No Money to Buy / Rent	Equipment / Asset of No Use	Other	Not Applicable	Total
North A	4,974	1,764	1,932	2,039	0	3,401	14,110
North B	2,085	3,562	831	407	0	1,893	8,778
Central	1,775	3,178	1,107	3,482	0	1,602	11,145
South	96	144	0	3,842	8	146	4,234
West	1,339	3,265	1,675	3,558	117	573	10,527
Wete	1,177	5,020	4,278	489	0	1,144	12,108
Micheweni	3,461	5,895	2,047	1,574	24	116	13,117
Chakechake	1,627	4,690	1,945	374	137	1,257	10,031
Mkoani	2,581	5,743	2,123	923	0	1,101	12,472
Total	**19,115**	**33,260**	**15,938**	**16,689**	**286**	11,234	**96,522**
%	**19.8**	**34.5**	**16.5**	**17.3**	**0.3**	**11.6**	**100.0**

TREE PLANTING & AGROFORESTRY

14.1 TREE FARMING/AGROFORESTRY: Number of Agricultural Households with Planted Trees by District, 2002/03 Agriculture Year

District	Households with planted Trees		Households Without Planted Trees		Total
	Number	%	Number	%	
North "A"	770	5.5	13,340	94.5	14,110
North "B"	331	3.8	8,447	96.2	8,778
Central	817	7.3	10,327	92.7	11,145
South	310	7.3	3,925	92.7	4,234
West	337	3.2	10,191	96.8	10,527
Wete	38	0.3	12,070	99.7	12,108
Micheweni	176	1.3	12,941	98.7	13,117
Chakechake	132	1.3	9,899	98.7	10,031
Mkoani	21	0.2	12,451	99.8	12,472
Total	**2,931**	**3.0**	**93,591**	**97.0**	**96,522**

14.2 TREE PLANTING/AGROFORESTRY: Number of Households and Number of Trees Planted on Their Land by Planting Location and District, 2002/03 Agriculture Year

District	Where Planted								
	Mostly on Field/Plot Boundaries		Mostly Scattered in Field		Mostly in Plantation/Coppice		Total		
	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Trees per Household
North "A"	193	10,944	392	118,348	186	121,176	770	250,469	325
North "B"	62	24,482	236	107,864	33	53,422	331	185,768	561
Central	439	26,518	127	81,888	251	227,598	817	336,004	411
South	57	3,170	62	53,553	191	362,857	310	419,580	1,355
West	144	79,717	132	90,303	61	3,724	337	173,744	516
Wete	21	249	0	0	17	687	38	936	25
Micheweni	44	1,786	22	2,155	111	25,397	176	29,338	167
Chakechake	42	2,597	21	6,409	68	31,908	132	40,914	311
Mkoani	0	0	21	4,563	0	0	21	4,563	222
Total	**1,002**	**149,463**	**1,011**	**465,083**	**918**	**826770**		**1,441,316**	492

14.3 ON FARM TREE PLANTING: Number of Planted Trees by Species and District, 2002/03 Agriculture Year

District	Senna Spp	Acacia Spp	Eucalyptus Spp	Calophylum Inophyllum	Melicia excelsa	Casurina Equisetfilia	Tectona Grandis	Terminalia Catapa	Terminalia Ivorensis	Syszygium Spp	Azadritachta Spp	Kyaya Spp	Moringa Spp	Total
North "A"	191	84,146	57,792	32,808	229	73,821	1006	366	0	0	109	0	0	250,469
North "B"	0	49,618	3,691	0	0	132,416	44	0	0	0	0	0	0	185,768
Central	0	13,457	5,408	465	0	315,971	396	0	0	42	0	0	265	336,004
South	0	79	81	0	0	419,278	142	0	0	0	0	0	0	419,580
West	351	77,821	41,147	0	0	54,154	122	17	41	15	15	61	0	173,744
Wete	0	0	104	0	0	832	0	0	0	0	0	0	0	936
Micheweni	2,155	0	0	0	0	27,183	0	0	0	0	0	0	0	29,338
Chakechake	0	0	0	0	0	40,914	0	0	0	0	0	0	0	40,914
Mkoani	0	0	0	0	0	4,563	0	0	0	0	0	0	0	4,563
Total	**2,696**	**225,121**	**108,222**	**33273**	**229**	**1,069,132**	**1710**	**383**	**41**	**57**	**124**	**61**	**265**	1,441,316
%	**0.187**	**15.619**	**7.509**	**2.309**	**0.016**	**74.177**	**0.119**	**0.027**	**0.003**	**0.004**	**0.009**	**0.004**	**0.018**	**100**

14.4 TREE PLANTING/AGROFORESTRY: Number of Agricultural Households Planting Trees by Main Use of Tree and District, 2002/03 Agriculture Year

District	Main Use							
	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	**Other**	**Total**
North "A"	264	574	0	290	23	0	0	1,152
North "B"	114	103	44	60	0	0	10	331
Central	144	636	84	136	0	0	49	1,049
South	22	268	0	13	0	0	13	316
West	156	114	62	75	51	15	17	491
Wete	0	59	0	0	0	0	0	59
Micheweni	23	109	0	0	0	0	43	176
Chake	0	112	0	19	0	0	0	132
Mkoani	0	0	21	0	0	0	0	21
Total	**723**	**1,975**	**211**	**594**	**74**	**15**	**133**	**3,725**

14.5 TREE PLANTING/AGROFORESTRY: Number of Agricultural Households Planting Trees by Second Use of Tree and District, 2002/03 Agriculture Year

District	Second Use						
	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Other	Total
North "A"	63	318	25	721	25	0	1,152
North "B"	60	49	42	158	0	22	331
Central	83	50	81	762	47	26	1,049
South	0	40	6	270	0	0	316
West	101	60	62	195	73	0	491
Wete	0	0	0	59	0	0	59
Micheweni	0	43	0	88	0	45	176
Chakechake	0	19	0	91	21	0	132
Mkoani	0	21	0	0	0	0	21
Total	**307**	**600**	**215**	**2343**	**166**	**93**	**3,725**

14.6 TREE PLANTING/AGROFORESTRY: Number of Trees Utilised and Value by Type of Utilisation and District, 2002/03 Agriculture Year

District	Utilisation of trees				
	Number of Plank Trees Sold	Number of Pole Trees Sold	Number of Poles hh Utilised	Number of Timber hh Utilised	Total Value (Tsh)
North "A"	114	5,640	1931	27	8,365,736
North "B"	22,654	19,706	702	0	16,971,378
Central	0	15,107	3079	0	15,671,299
South	33	17,482	167	33	10,171,796
West	18,028	1,836	749	86	1,014,444
Wete	0	148	0	120	55,059
Micheweni	0	14,075	0	0	18,384,172
Chakechake	0	13,787	2899	0	8,858,998
Mkoani	0	0	822	0	822,212
Total	**40,830**	**87,781**	**10,348**	**267**	80,315,095

14.7 COMMUNITY TREE PLANTING: Number of Households Involved in Community Tree Planting by Main Scheme Household Involvement and District, 2002/03 Agriculture Year

District	Household Involvement				
	Only Planting	Only Protection & Thinning	Only Cutting	Most or all Activities	Total
North "A"	48	28	0	526	602
North "B"	54	10	0	52	116
Central	497	41	51	757	1,346
South	0	0	0	0	0
West	84	63	0	102	249
Wete	63	0	0	272	335
Micheweni	23	0	23	183	229
Chakechake	0	0	0	24	24
Mkoani	0	0	0	0	0
Total	**770**	**142**	**74**	**1,916**	**2,902**

14.8 COMMUNITY TREE PLANTING: Number of Agricultural Households by Distance to Community Planted Forest (Km) and District, 2002/03 Agriculture Year

District	Distance	
	1-9	Total
North "A"	602	602
North "B"	116	116
Central	1,346	1,346
South	0	0
West	249	249
Wete	335	335
Micheweni	229	229
Chakechake	24	24
Mkoani	0	0
Total	**2,902**	**2,902**

14.9 COMMUNITY TREE PLANTING: Number of Households Involved in Community Tree Planting by Main Reason and District, 2002/03 Agriculture Year

District	Main Purpose					
	Erosion Control	Production of Poles	Production of Firewood	Environmental Rehabilitation	Others	Total
North "A"	0	444	80	23	54	602
North "B"	0	116	0	0	0	116
Central	62	686	28	570	0	1,346
South	0	0	0	0	0	0
West	40	43	58	107	0	249
Wete	0	314	0	21	0	335
Micheweni	46	160	0	23	0	229
Chakechake	0	24	0	0	0	24
Mkoani	0	0	0	0	0	0
Total	**149**	**1,787**	**166**	**745**	**54**	**2,902**

14.10 TREE FARMING: Number of Agricultural Households Involved in Community Tree Planting Scheme By Main Use and District, 2002/03 Agricultural Year

District	Main Use During 2002/03							
	Poles	Timber Logs	Charcoal	Firewood	Not Ready to Use	Not Allowed to Use	Other	Total
North "A"	357	54	0	50	141	0	0	602
North "B"	84	32	0	0	0	0	0	116
Central	612	179	25	150	254	125	0	1,346
South	0	0	0	0	0	0	0	0
West	58	46	0	35	48	61	0	249
Wete	253	0	0	0	61	0	21	335
Micheweni	114	23	0	47	22	0	23	229
Chakechake	24	0	0	0	0	0	0	24
Mkoani	0	0	0	0	0	0	0	0
Total	**1,503**	**335**	**25**	**282**	**526**	**187**	**45**	**2,902**

CROP EXTENSION

15.1 CROP EXTENSION: Number of Agricultural Households Receiving Extension Massages by District, 2002/03 Agriculture Year

District	Number of Households Receiving Extension Advise		Number of Households NOT Receiving Extension Advise		Total Number of Agriculture Households
	Number	%	Number	%	
North "A"	3,525	25.0	10,585	75.0	14,110
North "B"	782	8.9	7,996	91.1	8,778
Central	1,385	12.4	9,760	87.6	11,145
South	531	12.5	3,703	87.5	4,234
West	576	5.5	9,951	94.5	10,527
Wete	1,424	11.8	10,684	88.2	12,108
Micheweni	1,728	13.2	11,389	86.8	13,117
Chakechake	1,628	16.2	8,403	83.8	10,031
Mkoani	5,529	44.3	6,943	55.7	12,472
Total	**17,109**	**17.7**	**79,413**	**82.3**	**96,522**

15.2 CROP EXTENSION SERVICES: Number of Agricultural Households by Quality of Extension Services and District, 2002/03 Agricultural Year

District	Quality of Service									
	Very Good	%	Good	%	Average	%	Poor	%	No Good	%
North "A"	466	13.2	2,202	62.5	756	21.4	101	2.9	0	0.0
North "B"	71	9.3	567	74.6	105	10.8	40	5.2	0	0.0
Central	373	26.9	795	57.4	193	13.9	0	0.0	23	1.7
South	173	32.6	257	48.5	74	13.9	26	4.9	0	0.0
West	199	34.5	328	56.9	49	8.5	0	0.0	0	0.0
Wete	404	28.4	779	54.7	220	15.4	21	1.5	0	0.0
Micheweni	467	27.0	914	52.9	304	17.6	22	1.2	22	1.2
Chakechake	468	28.8	816	50.1	204	12.5	140	8.6	0	0.0
Mkoani	1,105	20.0	2,906	52.6	1,317	23.8	140	2.5	61	1.1
Total	**3,726**	**21.8**	**9,564**	**56.0**	**3,223**	**18.7**	**491**	**2.9**	**106**	**0.6**

15.3 EXTENSION MESSAGES: Number of Agricultural Households by Source of Extension Messages and District, 2002/03 Agricultural Year

District	Source of Crop Extension						
	Government	%	NGO / Development Project	%	Other	%	Receiving Extension Advice
North "A"	3,231	91.6	216	6.1	78	2.2	3,525
North "B"	782	100.0	0	0.0	0	0.0	782
Central	1,300	93.9	0	0.0	85	6.1	1,385
South	472	89.0	27	5.2	31	5.9	531
West	509	88.3	24	4.2	43	7.5	576
Wete	1,385	97.2	19	1.3	21	1.5	1,424
Micheweni	1,549	89.7	24	1.4	154	8.9	1,728
Chakechake	1,544	94.8	0	0.0	84	5.2	1,628
Mkoani	5,464	98.8	43	0.8	21	0.4	5,529
Total	**16,237**	**94.9**	**354**	**2.1**	**518**	**3.0**	**17,109**

15.4 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Plant Spacing by Source and District, 2002/03 Agriculture Year

District	Spacing					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	2,087	170	50	2,307	14,110	16.4
North "B"	675	0	0	675	8,778	7.7
Central	1,069	0	60	1,128	11,145	10.1
South	317	21	12	351	4,234	8.3
West	410	24	20	454	10,527	4.3
Wete	648	0	0	648	12,108	5.3
Micheweni	1,017	24	23	1,065	13,117	8.1
Chakechake	721	0	42	763	10,031	7.6
Mkoani	3,039	0	21	3,060	12,472	24.5
Total	**9,982**	**240**	**229**	**10,451**	**96,522**	10.8
%	95.5	2.3	2.2	100.0		

15.5 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Agro-Chemical Use by Source and District, 2002/03 Agriculture Year

District	Use of Agrochemicals					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	1,033	0	28	1,061	14,110	7.5
North "B"	450	0	0	450	8,778	5.1
Central	673	0	41	714	11,145	6.4
South	94	0	0	94	4,234	2.2
West	157	0	17	174	10,527	1.7
Wete	362	0	0	362	12,108	3.0
Micheweni	439	0	0	439	13,117	3.3
Chakechake	269	0	0	269	10,031	2.7
Mkoani	1,841	0	0	1,841	12,472	14.8
Total	**5,317**	**0**	**86**	5,404	**96,522**	5.6
%	**98.4**	**0**	**1.6**	**100**		

15.6 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Erosion Control by Source and District, 2002/03 Agriculture Year

District	Erosion Control					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	800	21	105	926	14,110	6.6
North "B"	119	0	0	119	8,778	1.4
Central	122	0	0	122	11,145	1.1
South	22	0	0	22	4,234	0.5
West	128	0	0	128	10,527	1.2
Wete	120	0	0	120	12,108	1.0
Micheweni	114	0	23	137	13,117	1.0
Chakechake	67	0	0	67	10,031	0.7
Mkoani	1,101	22	0	1,123	12,472	9.0
Total	**2,595**	**43**	**129**	**2,766**	**96,522**	**2.9**
%	**93.8**	**1.5**	**4.7**	**100**		

15.7 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Organic Fertiliser Use by Source and District, 2002/03 Agriculture Year

District	Organic Fertiliser Use					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	1,437	23	107	1,567	14,110	11.1
North "B"	361	0	0	361	8,778	4.1
Central	772	0	93	866	11,145	7.8
South	341	0	24	365	4,234	8.6
West	305	24	0	329	10,527	3.1
Wete	559	0	0	559	12,108	4.6
Micheweni	928	22	154	1,104	13,117	8.4
Chakechake	653	0	81	734	10,031	7.3
Mkoani	2,384	43	21	2,448	12,472	19.6
Total	**7,740**	**112**	**481**	**8,333**	**96,522**	**8.6**
%	**92.9**	**1.3**	**5.8**	**100**		

15.8 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Inorganic Fertiliser Use by Source and District, 2002/03 Agriculture Year

District	Inorganic Fertiliser Use					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number of Household
North "A"	1,418	0	28	1,446	14,110	10.2
North "B"	326	0	0	326	8,778	3.7
Central	506	0	0	506	11,145	4.5
South	86	0	0	86	4,234	2.0
West	186	0	17	203	10,527	1.9
Wete	772	19	0	791	12,108	6.5
Micheweni	527	0	23	550	13,117	4.2
Chakechake	642	0	0	642	10,031	6.4
Mkoani	2,090	22	0	2,112	12,472	16.9
Total	**6,552**	**40**	**68**	6,660	**96,522**	6.9
%	**98.4**	**0.6**	**1.0**	**100**		

15.9 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Use of Improved Seeds by Source and District, 2002/03 Agriculture Year

District	Use of Improved Seeds					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	1,309	142	53	1,504	14,110	10.7
North "B"	451	0	0	451	8,778	5.1
Central	890	0	58	947	11,145	8.5
South	151	9	0	160	4,234	3.8
West	298	0	43	341	10,527	3.2
Wete	387	22	0	409	12,108	3.4
Micheweni	690	24	46	760	13,117	5.8
Chakechake	676	0	19	696	10,031	6.9
Mkoani	2,136	0	0	2,136	12,472	17.1
Total	**6,988**	**196**	**219**	**7,403**	**96,522**	7.7
%	**94.4**	**2.6**	**3.0**	**100**		

15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Mechanisation by Source and District, 2002/03 Agriculture Year

District	Irrigation Technology					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	1,224	0	28	1,252	14,110	8.9
North "B"	306	0	0	306	8,778	3.5
Central	387	0	0	387	11,145	3.5
South	60	6	0	65	4,234	1.5
West	172	0	0	172	10,527	1.6
Wete	222	0	0	222	12,108	1.8
Micheweni	448	0	0	448	13,117	3.4
Chakechake	533	0	19	552	10,031	5.5
Mkoani	2,483	0	0	2,483	12,472	19.9
Total	**5,835**	**6**	**47**	**5,888**	**96,522**	6.1
%	**99.1**	**0.1**	**0.8**	**100**		

15.11 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Irrigation Technology by Source and District, 2002/03 Agriculture Year

District	Irrigation Technology					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	581	0	50	631	14,110	4.5
North "B"	128	0	0	128	8,778	1.5
Central	445	28	16	489	11,145	4.4
South	91	13	0	104	4,234	2.5
West	187	0	0	187	10,527	1.8
Wete	41	0	0	41	12,108	0.3
Micheweni	148	0	0	148	13,117	1.1
Chakechake	71	0	0	71	10,031	0.7
Mkoani	440	22	0	461	12,472	3.7
Total	**2,131**	**62**	**67**	**2,260**	**96,522**	2.3
%	**94.3**	**2.7**	**3.0**	**100**		

15.12 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Crop Storage by Source and District, 2002/03 Agriculture Year

District	Crop Storage					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	581	71	48	699	14,110	5.0
North "B"	160	0	0	160	8,778	1.8
Central	199	0	25	224	11,145	2.0
South	14	9	0	23	4,234	0.5
West	135	0	0	135	10,527	1.3
Wete	137	0	21	158	12,108	1.3
Micheweni	154	46	87	286	13,117	2.2
Chakechake	177	0	0	177	10,031	1.8
Mkoani	551	0	0	551	12,472	4.4
Total	**2,108**	**125**	**181**	**2,414**	**96,522**	2.5
%	**87.3**	**5.2**	**7.5**	**100**		

15.13 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Vermin Control by Source and District, 2002/03 Agriculture Year

District	Vermin Control					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	437	21	28	486	14,110	3.4
North "B"	211	0	0	211	8,778	2.4
Central	283	0	0	283	11,145	2.5
South	44	0	0	44	4,234	1.0
West	170	24	6	200	10,527	1.9
Wete	80	0	0	80	12,108	0.7
Micheweni	156	0	0	156	13,117	1.2
Chake	69	0	0	69	10,031	0.7
Mkoani	286	0	0	286	12,472	2.3
Total	**1,735**	**46**	**33**	**1,815**	**96,522**	1.9
%	**95.6**	**2.5**	**1.8**	**100**		

15.14 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Agro Processing by Source and District, 2002/03 Agriculture Year

District	Agro-processing					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	606	46	54	706	14,110	5.0
North "B"	45	0	0	45	8,778	0.5
Central	76	0	0	76	11,145	0.7
South	14	0	0	14	4,234	0.3
West	35	0	0	35	10,527	0.3
Wete	59	0	0	59	12,108	0.5
Micheweni	22	0	24	45	13,117	0.3
Chakechake	23	0	0	23	10,031	0.2
Mkoani	363	0	0	363	12,472	2.9
Total	**1,243**	**46**	**77**	**1,367**	**96,522**	1.4
%	**91**	**3**	**6**	**100**		

15.15 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Agro-Forestry by Source and District, 2002/03 Agriculture Year

District	Agro-forestry					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	294	46	22	363	14,110	3
North "B"	135	0	0	135	8,778	2
Central	54	0	0	54	11,145	0
South	27	0	0	27	4,234	1
West	115	0	0	115	10,527	1
Wete	61	0	0	61	12,108	1
Micheweni	195	0	0	195	13,117	1
Chakechake	24	0	0	24	10,031	0
Mkoani	109	0	0	109	12,472	1
Total	**1,014**	**46**	**22**	**1,082**	**96,522**	1
%	**93.7**	**4.3**	**2.0**	**100**		

15.16 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Bee Keeping by Source and District, 2002/03 Agriculture Year

District	Beekeeping					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	21	0	56	78	14,110	0.6
North "B"	0	0	0	0	8,778	0.0
Central	26	0	0	26	11,145	0.2
South	41	0	7	48	4,234	1.1
West	0	0	0	0	10,527	0.0
Wete	0	0	0	0	12,108	0.0
Micheweni	43	0	0	43	13,117	0.3
Chakechake	0	0	0	0	10,031	0.0
Mkoani	0	0	0	0	12,472	0.0
Total	**132**	**0**	**63**	**195**	**96,522**	0.2
%	**67.6**	**0.0**	**32.4**	**100**		

15.17 CROP EXTENSION: Number of Agricultural Households Receiving Advice on Fish Farming by Source and District, 2002/03 Agriculture Year

District	Fish Farming					
	Government	NGO / Development Project	Other	Total Receiving Advice	Total Number of Households	% of Total Number 0f Household
North "A"	23	0	28	51	14,110	0.4
North "B"	0	0	0	0	8,778	0.0
Central	0	0	0	0	11,145	0.0
South	0	0	0	0	4,234	0.0
West	0	0	0	0	10,527	0.0
Wete	0	0	0	0	12,108	0.0
Micheweni	0	0	0	0	13,117	0.0
Chakechake	0	0	0	0	10,031	0.0
Mkoani	0	0	0	0	12,472	0.0
Total	**23**	**0**	**28**	**51**	**96,522**	0.1
%	**45.3**	**0.0**	**54.7**	**100**		

15.18 CROP EXTENSION: Number of Agricultural Households Receiving and Adopting Extension Messages by Type of Message and District (Part 1), 2002/03 Agriculture Year

District	Spacing			Use of Agrochemicals			Erosion Control		
	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%
North "A"	2,307	2,004	86.9	1,061	396	37.4	926	905	97.7
North "B"	675	663	98.2	450	187	41.6	119	52	43.5
Central	1,128	1,075	95.3	714	660	92.4	122	122	100.0
South	351	299	85.1	94	52	55.0	22	22	100.0
West	454	411	90.7	174	105	60.5	128	91	71.1
Wete	648	607	93.7	362	139	38.3	120	80	66.1
Micheweni	1,065	998	93.8	439	129	29.4	137	90	65.9
Chakechake	763	648	84.9	269	111	41.2	67	22	33.2
Mkoani	**3,060**	**2,104**	**68.8**	**1,841**	**486**	**26.4**	**1,123**	**340**	**30.3**
Total	**10,451**	**8,810**	**84.3**	**5,404**	**2,264**	**41.9**	**2,766**	**1,725**	**62.3**

15.19 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 2) During 2002/03 Agriculture Year

District	Organic Fertiliser			Inorganic Fertiliser			Use of Improved Seeds		
	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%
North "A"	1,567	983	63	1,446	791	55	1,504	887	59
North "B"	361	236	65	326	229	70	451	368	82
Central	866	734	85	506	321	63	947	843	89
South	365	300	82	86	61	71	160	138	87
West	329	248	75	203	151	74	341	306	90
Wete	559	379	68	791	513	65	409	350	86
Micheweni	1,104	702	64	550	83	15	760	334	44
Chakechake	734	371	51	642	320	50	696	468	67
Mkoani	2,448	1,164	48	2,112	631	30	2,136	746	35
Total	**8,333**	**5,117**	**61.4**	**6,660**	**3,100**	**46.5**	**7,403**	**4,440**	**60.0**

15.20 CROP EXTENSION: Number of Agricultural Households Receiving and Adopting Extension Messages by Type of Message and District (Part 3), 2002/03 Agriculture Year

District	Mechanisation/LST			Irrigation Technology			Crop Storage		
	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%
North "A"	1,252	926	74.0	631	159	25.2	699	583	83.3
North "B"	306	178	58.2	128	64	50.4	160	140	87.6
Central	387	309	79.9	489	412	84.3	224	198	88.4
South	65	38	58.6	104	82	79.2	23	23	100.0
West	172	115	66.8	187	130	69.5	135	114	84.3
Wete	222	80	36.1	41	21	51.7	158	117	74.2
Micheweni	448	24	5.3	148	124	84.1	286	198	69.1
Chakechake	552	299	54.1	71	0	0.0	177	177	100.0
Mkoani	2,483	766	30.8	461	128	27.7	551	469	85.1
Total	**5,888**	**2,736**	46.5	**2,260**	**1,121**	49.6	**2,414**	**2,019**	83.6

15.21 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 4) During 2002/03 Agriculture Year

District	Vermin Control			Agro-processing			Agro-forestry		
	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%	Received Advice	Adopted Message	%
North "A"	486	432	88.9	706	661	93.6	706	661	93.6
North "B"	211	108	51.1	45	45	100.0	45	45	100.0
Central	283	257	90.7	50	53	105.5	50	53	105.5
South	44	44	100.0	14	14	100.0	14	14	100.0
West	200	154	77.2	35	35	100.0	35	35	100.0
Wete	80	60	75.3	59	59	100.0	59	59	100.0
Micheweni	156	91	58.2	45	24	51.9	45	24	51.9
Chakechake	69	69	100.0	23	23	100.0	23	23	100.0
Mkoani	286	172	60.0	363	222	61.2	363	222	61.2
Total	**1,815**	**1387**	76.4	**1341**	**1135**	**84.7**	**1341**	**1135**	**84.7**

15.22 CROP EXTENSION: Number of Agricultural Households Receiving and Adopting Extension Messages by Type of Message and District (Part 5), 2002/03 Agriculture Year

District	Beekeeping			Fish Farming		
	Received	Adopted	%	Received	Adopted	%
North "A"	78	0	0.0	51	0	0
North "B"	0	0	0.0	0	0	0
Central	26	0	0.0	0	0	0
South	48	39	81	0	0	0
West	0	0	0.0	0	0	0
Wete	0	0		0	0	0
Micheweni	43	22	50.0	0	0	0
Chakechake	0	0	0.0	0	0	0
Mkoani	0	0	0.0	0	0	0
Total	**195**	**61**	**31.0**	**51**	**0**	**0**