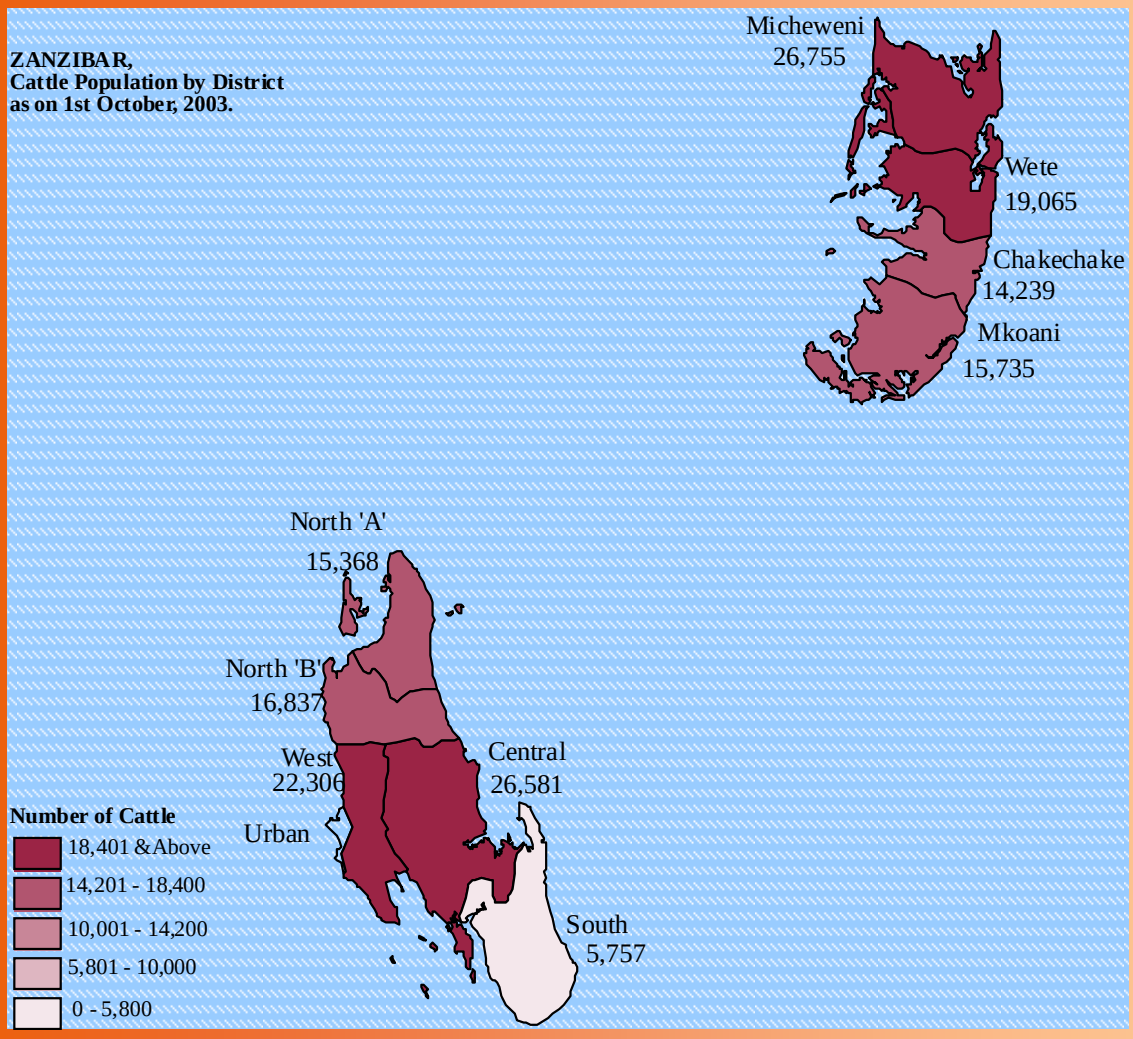
NATIONAL SAMPLE CENSUS OF AGRICULTURE – 2002/2003

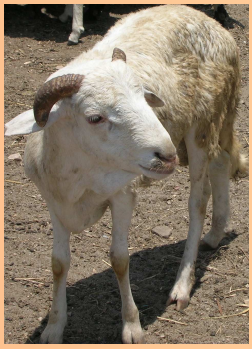
SMALLHOLDER AGRICULTURE

Volume VIII: LIVESTOCK SECTOR - ZANZIBAR REPORT









Executed jointly by the Office of the Chief Government Statistician, National Bureau of Statistics and the Ministry of Agriculture, Natural Resources, Environment and Cooperatives in Zanzibar

August 2006

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ACRONYMS

ASDP	Agriculture Sector Development Programme
CCP	Contagious Caprine Pleuro-pneumonia
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
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
H.P.I	Heifer Project International
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 eight of the publications which provide the results of the small holder farming in livestock sector. The results presented in this report are detailed data on cattle, goats, pigs, sheep, chicken and other livestock. There is also comprehensive information on livestock products, livestock diseases, access to livestock infrastructure, livestock contribution to crop production, livestock extensions services etc. The primary purpose of this report is to fulfill the data users' needs in the area of agricultural sector particularly livestock and poultry.

It is hoped that this report will provide added insights for planners, policy makers and others involved in agricultural sector to produce relevant programme that will assist livestock 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

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EXECUTIVE SUMMARY

The analysis and data contained in this report provide description of the state of the livestock sector in Zanzibar for the agriculture year 1st October 2002 to 30th September 2003. The analysis and tabulation are based on small holders disaggregated and compared to district level.

During the reference period there were 36,445 livestock keeping households which represent 38 percent of the total small holder agriculture households.

As of 1st October 2003 there were 215,802 heads of major livestock. The population of cattle was 162,643 followed by goats (52,324), sheep (300) and pigs (535). Most of the livestock keeping households have both cattle and goats. An estimated 91 percent of the livestock keepers raise cattle, 26 percent raise goats while 0.2 percent keep sheep and only 0.1 percent manage pigs. The average herd size kept by households for different types of livestock are five heads for cattle keeping households, six in the case of goats, four for sheep and 10 in the case of pigs. Micheweni, Central, West and Wete districts are important in livestock enterprise but for Micheweni in particular, its flock is comprised almost entirely of indigenous species. Most of the livestock of improved breeds are in West and Central districts. Chicken are the most important poultry and their number on the reference date was 1,063,791 kept by 66,736 households. The average number of chicken kept by the households is thus 16.

Zanzibar has the highest density of chicken in Tanzania. Mkoani has the highest population of indigenous chicken but almost no improved chicken whereas West and Central district have comparatively good number of exotic chicken which have led to these two districts to be leading in having more chicken than other districts.

Compared to 1992/93 livestock census, the population of major livestock types is increasing with time except in case of sheep and donkeys. The average growth rate for indigenous cattle is 3.6 percent per annum, 7.6 percent for improved cattle, 1.6 percent for goat, -7.6 percent for sheep and an incredible average growth rate of 23.3 percent per annum has been realized for pigs. The average annual growth rate for indigenous chicken is 4 percent, 10.3 percent for layers while the population of broilers has been decreasing at the rate of -5.5 percent per annum.

Indigenous livestock species are very dominant and account 95 percent for cattle, 99.5 percent for goats, 100 percent sheep and 89 percent chicken.

Milk is obtained from cattle and goats where goat's contribution is less than one percent. Due to high proportion of improved cattle in West and Central districts, each of the districts produce more milk than Micheweni District which has a higher number of cattle but almost all are of indigenous species. About 95 percent of the households that produced milk sold some, mostly to neighbours and milk vendors at an average farm gate price of Tsh 250 per litre. The households sell about 66 percent of the milk they produce.

There is some contribution of livestock to crop production in the form of improving soil fertility and structure by using farmyard manure but livestock are almost not used for soil cultivation. Farmyard manure was applied on about 8887ha. The districts where the manure is mostly used are West, Central and Micheweni.

The diseases that affect a large number of livestock are tick-borne, mostly East Coast Fever to cattle. Helmenthiosis infect both cattle and goats but due to improved management in pigs, the condition was not reported in piggeries. Contagious Caprine Pleuro-pneumonia (CCP) has affected goats in some districts in Unguja but has not been reported in any district of Pemba. Contagious Bovine Pleuro-pneumonia and Trypanasomiasis have not been recorded anywhere in Zanzibar.

The distance from livestock keeper's households to livestock infrastructures for services is about 10 km. or more for more than 50 percent of the households. The main source of extension services is the government (82 percent) followed by development projects/NGOs (5 percent). There was no Fish Farming reported during the time of this census.

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 GDP (Economic Survey, 2003). Zanzibar's 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 Livestock sector. The result of this census serves as a baseline for future 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 MANREC is expected to provide useful information for the establishment of the baseline statistics for crops on which to base any subsequent surveys and estimations."* However, some of the livestock data in this report have been compared to the data from the Livestock Census conducted in 1992/93.

This report has four main sections: 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 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 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. The increase in investment is an essential element in the national strategy for growth and reduction of poverty.

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 livestock populations. 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 study 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 etc.

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.

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 all the time. 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 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 villages.

1.3.2 Tabulation Plan Preparation

The tabulation plan was developed following workshops and thus reflects the information needs of the end users.

1.3 3 Sample Design

A sample was extracted from the Zanzibar National Master Sample (NMS) developed with technical assistance of Dr. G.M. Naiman 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 developed by the OCGS 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. 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 etc.
- 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 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 to probe 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

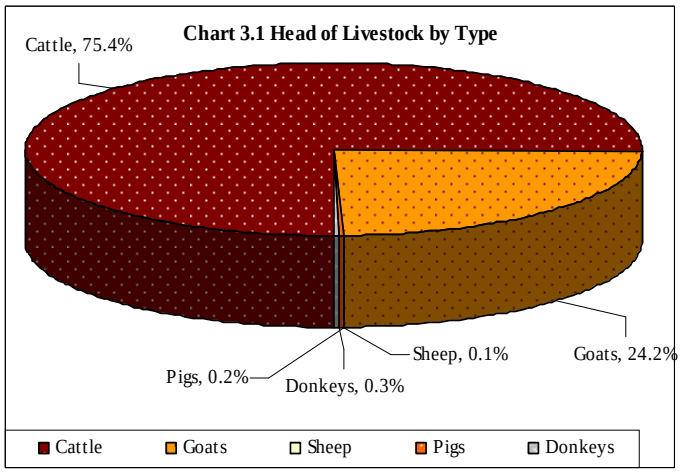
3. LIVESTOCK AND POULTRY RESULTS

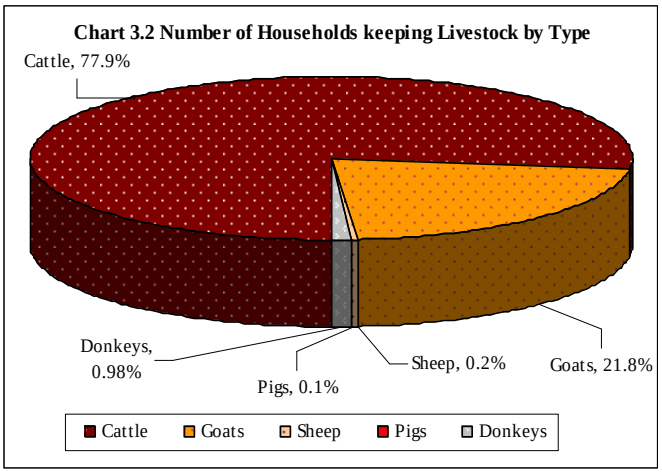
3.1 Livestock Population and Growth

Livestock sector including poultry plays a significant role in the economy of the agricultural household in Zanzibar. Livestock generate a considerable amount of cash income and determine the household economic and social status in many communities. An estimated 36,445 households (38 percent of Agriculture households) kept livestock (excludes poultry). The main types and number of livestock and poultry covered in the 2002/03 Agricultural and Livestock Census are cattle, goats, sheep, pigs, chickens, ducks, turkeys, rabbits, donkeys and horses (Table 3.1). The reference date for livestock population estimates was 1st October 2003 while all other variables collected refer to a period of one year prior to this reference date.

This section analyses the results in relation to the population, husbandry, growth rates and the provision of services at regional and district levels. Population and growth rate trends on livestock compare current data with the data collected during livestock census conducted jointly by MANREC and FAO in 1992/93 agricultural year. Unlike the report that was produced in 1992/93, this report deals only with smallholder households and has left out government and parastatal farms which in any case are no longer operational as business entities.

In terms of livestock populations and number of households keeping livestock, cattle are the most important followed by goats donkeys, Sheep, pigs and other types of livestock which are relatively less important (Chart 3.1 and 3.2).





On the 1st October 2003, there were 216455 heads of livestock of which 75 percent were cattle, 24 percent were goats and less than one percent were donkeys, sheep and pigs combined. The number of households keeping different types of livestock and their numbers are presented in Table 3.1.

Table 3.1 Total Number of Livestock by Type

Livestock Type	Number	Households	Number per Households
Cattle	162,643	33,239	5
Goats	52,324	9,315	6
Sheep	300	72	4
Pigs	535	54	10
Chicken	1,063,791	67,496	16
Ducks	53,571	2,917	18
Turkeys	841	117	7
Rabbits	1,231	130	9
Horse	0	0	0
Donkeys	653	423	2
Others	5,619	481	12

3.1.1 Cattle Population

On 1st October 2003, the numbers of cattle was 162,643 and were kept by 33,239 households. The households keeping cattle were 34 percent of all agricultural households in 2002/03. The average herd size per cattle holding was five heads. Cows and heifers represented 39 and 18 percent of the total cattle population respectively.

The cattle population increased by about 46 percent from 111,693 in 1992/93 to 162,643 in 2002/03 giving an average growth rate of about four percent per annum.

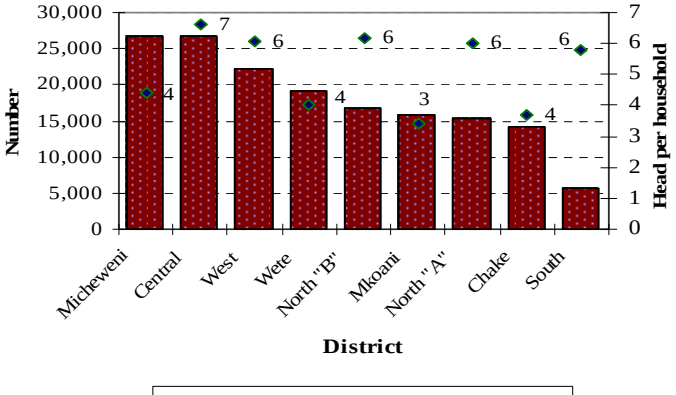
Table 3.2 Total Number of Households and Number of Cattle by Herd Size

Herd Size	Households		Cattle		
	Number	Percent	Number	Percent	Number Per Household
1-5	23553	70.9	66374	40.8	3
6-10	6971	21.0	51378	31.6	7
11-15	1778	5.3	22875	14.1	13
16-20	579	1.7	10079	6.2	17
21-30	177	0.5	4319	2.7	24
31-40	125	0.4	4585	2.8	37
41-50	35	0.1	1619	1.0	46
61-100	21	0.1	1413	0.9	66
Total	**33,239**	**100.0**	**162,643**	**100**	**5**

About 71 percent of households rearing cattle kept one to five head of cattle and these households accounted 41 percent of the total number of cattle, 21 percent of the households kept six to ten head (32% of the total number of cattle). Only eight percent of the households kept 11 or more head and they owned 28 percent of the total cattle population (Table 3.2).

Micheweni and Central Districts had more cattle than other districts and each of these districts accounted for 16 percent of Zanzibar's cattle population. Chakechake and the South districts accounted for 9 and 3 percent of the total herd respectively. Although most cattle were kept in Micheweni, the average herd size per household in this district was not highest. For Micheweni, Central, Chakechake and South districts the average herd size per household were 4, 7, 4 and 6 cattle respectively (Chart 3.3).

Chart 3.3 Cattle Population by District



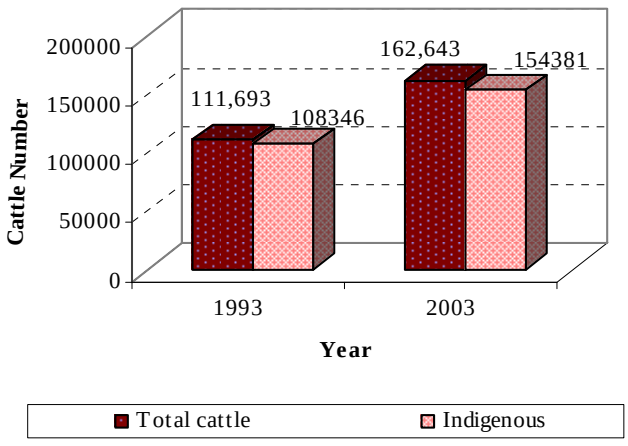
Indigenous Cattle Population

There were 154,381 head of indigenous cattle in Zanzibar (about 95% of the total cattle population).

The indigenous cattle population has increased by about 43 percent in 10 years (from 108,346 in 1992/93 to 154,381 head in 2002/03) at a rate of 3.6 percent per annum (Chart 3.4).

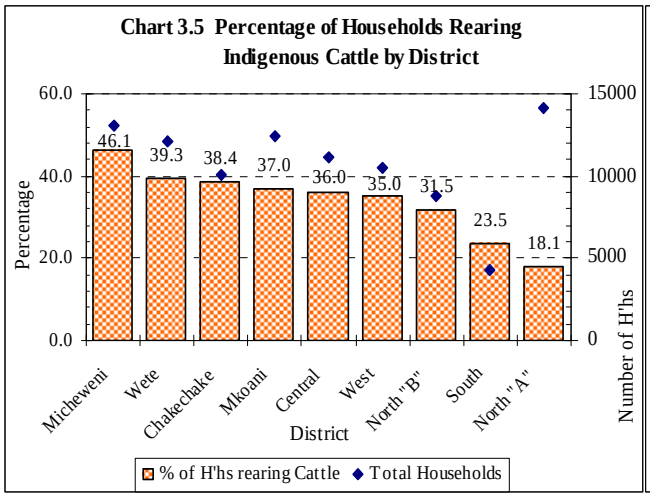
The majority of indigenous cattle were found in

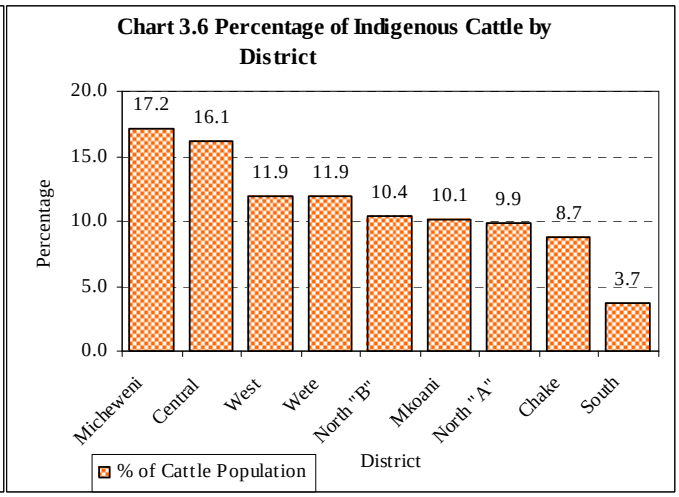
Chart 3.4 Indigenous Cattle Population Trend



Micheweni which accounted for about 17 percent of the total herd size in Zanzibar, followed by Central District (16%) then Wete and West districts (12% each). South District accounted for only 4 percent of the indigenous cattle population.

About 46 percent of the households in Micheweni kept cattle. Other districts important for keeping cattle, were Wete (39% of the district's households), Chakechake (38%), Mkoani (37%) and the district with the smallest number of cattle keeping households was North 'A' where only 18 percent of the households kept cattle (Chart 3.5). However, in terms of number of cattle per cattle keeping household, Central district had more cattle per household compared to Micheweni (Chart 3.3).

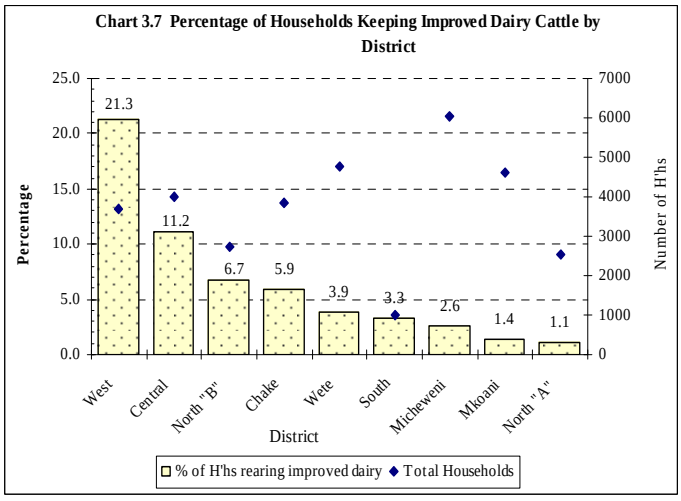


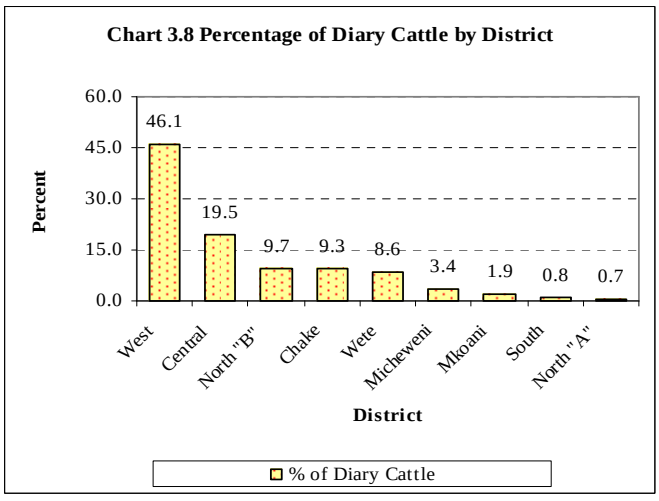


Improved Cattle Population

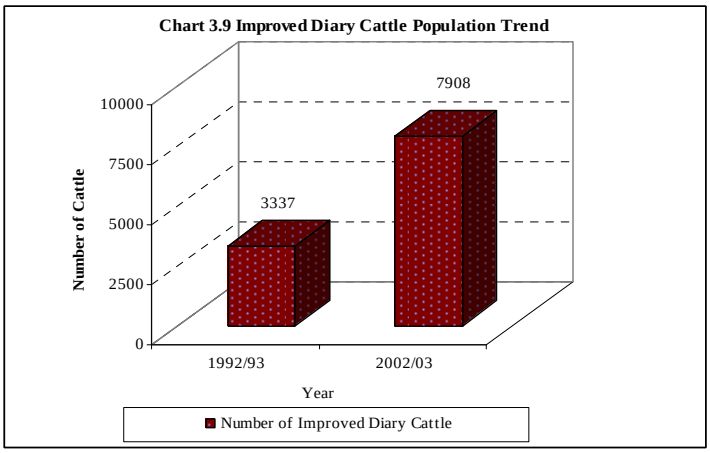
No improved beef breeds and their crosses were found in Zanzibar. However, there are 7,908 improved dairy cattle and their crosses and these accounted for five percent of the total cattle population. This proportion was higher than the National (Tanzania) improved cattle population which was only two percent of the total cattle population.

Improved dairy cattle and crosses were concentrated in West, Central, Chakechake, North 'B' and Wete districts which jointly accounted for 93 percent of the total improved dairy cattle, with the West District having 46 percent, followed by Central District (20%) while North 'A' and South districts accounted for a little less than one percent each (Chart 3.7).



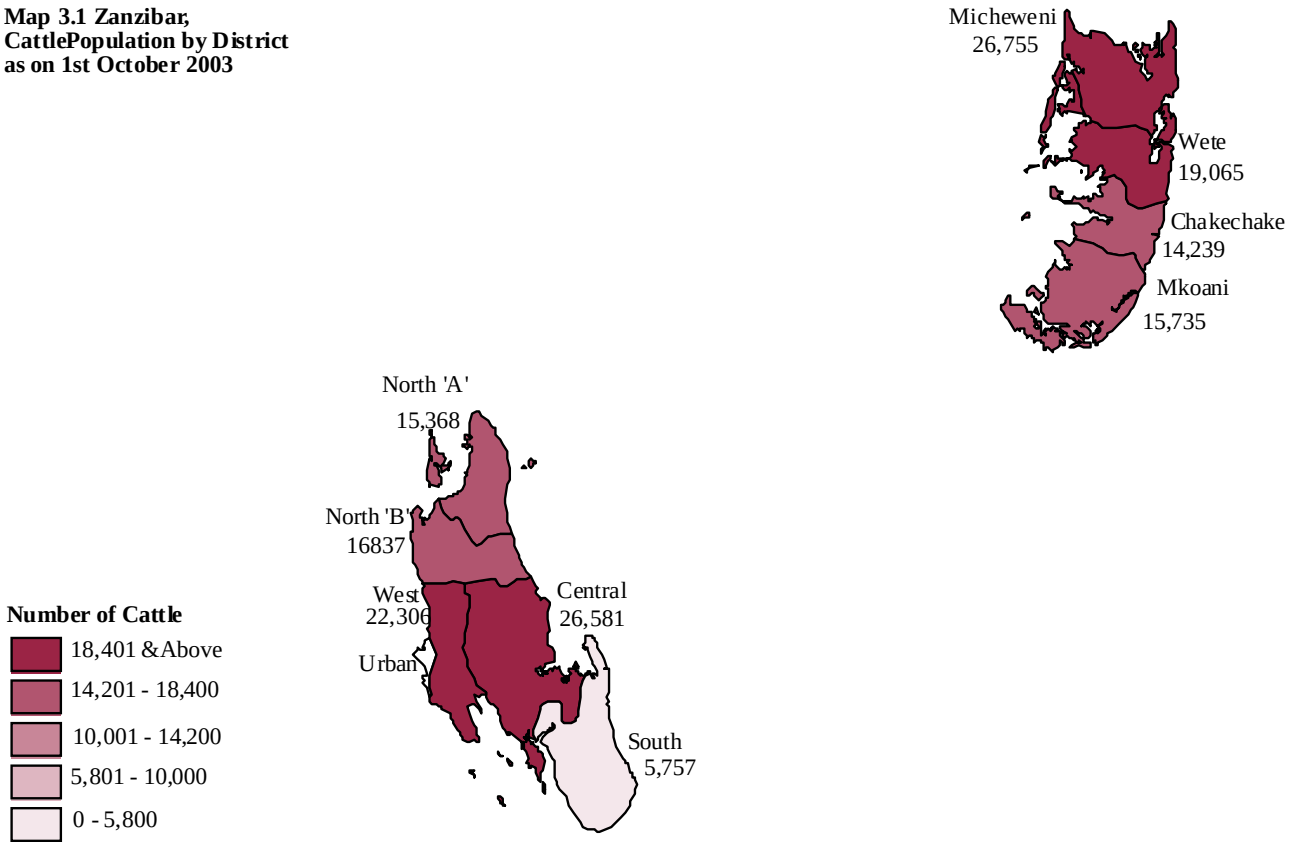


Very few households had improved dairy cattle and West District had the highest concentration of households keeping dairy cattle (21 percent of the households), followed by Central District (11%) whilst North 'B', Wete and Chakechake had 7, 6 and 4 percent of their households keeping dairy cattle respectively. North 'A', South, Micheweni and Mkoani Districts each had less than 4 percent of the households that kept improved dairy cattle(Chart 3.8).

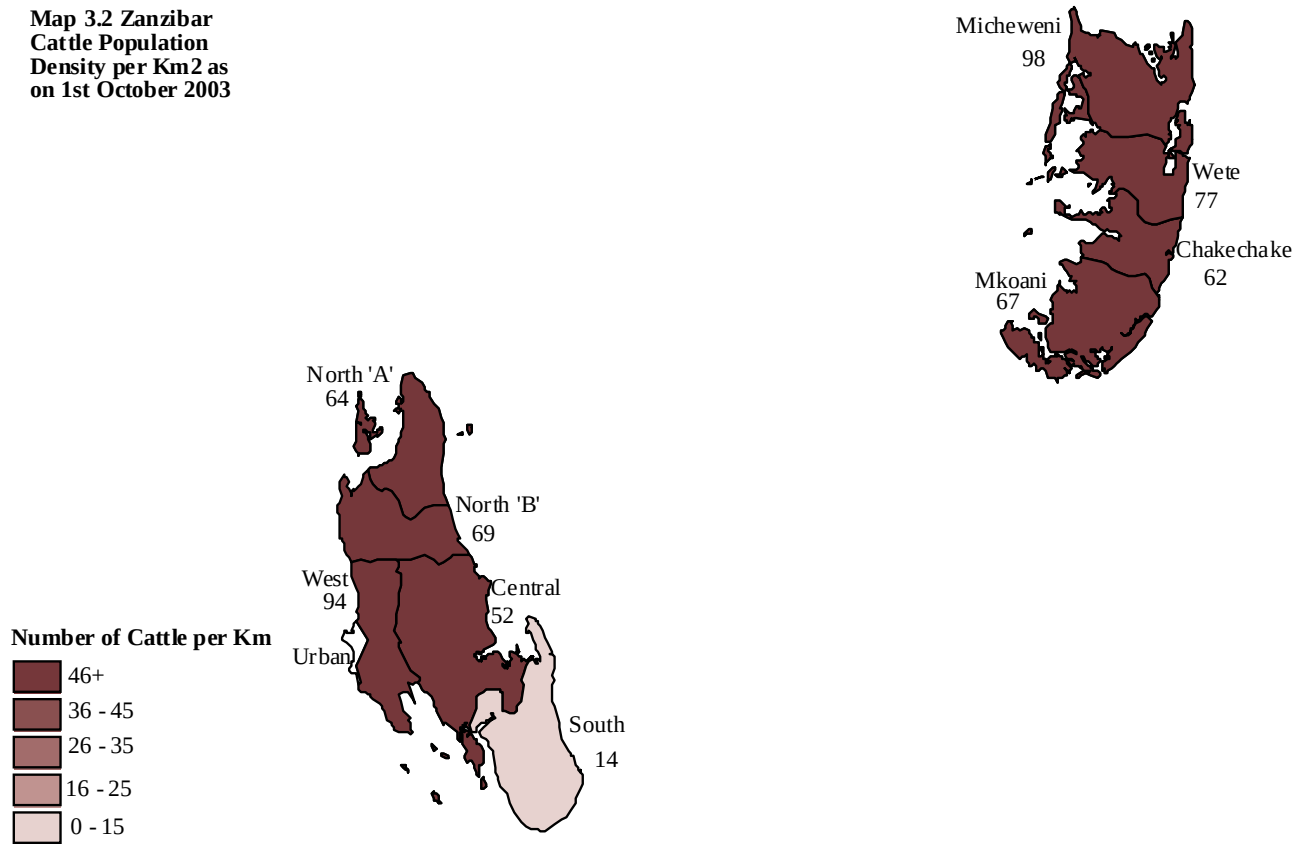


Over the 10 year period from 1993 to 2003 the number of smallholder improved cattle increased by 4,571 head (from 3,337 to 7,908) In 1992/93 there were also 467 improved dairy cattle on state farms and other institutions. Therefore, the overall dairy cattle population increased form 3,804 to 7,908 in 10 years, at an average population growth rate of 7.6 percent per annum (Chart 3.9).

Map 3.1 Zanzibar, CattlePopulation by District as on 1st October 2003

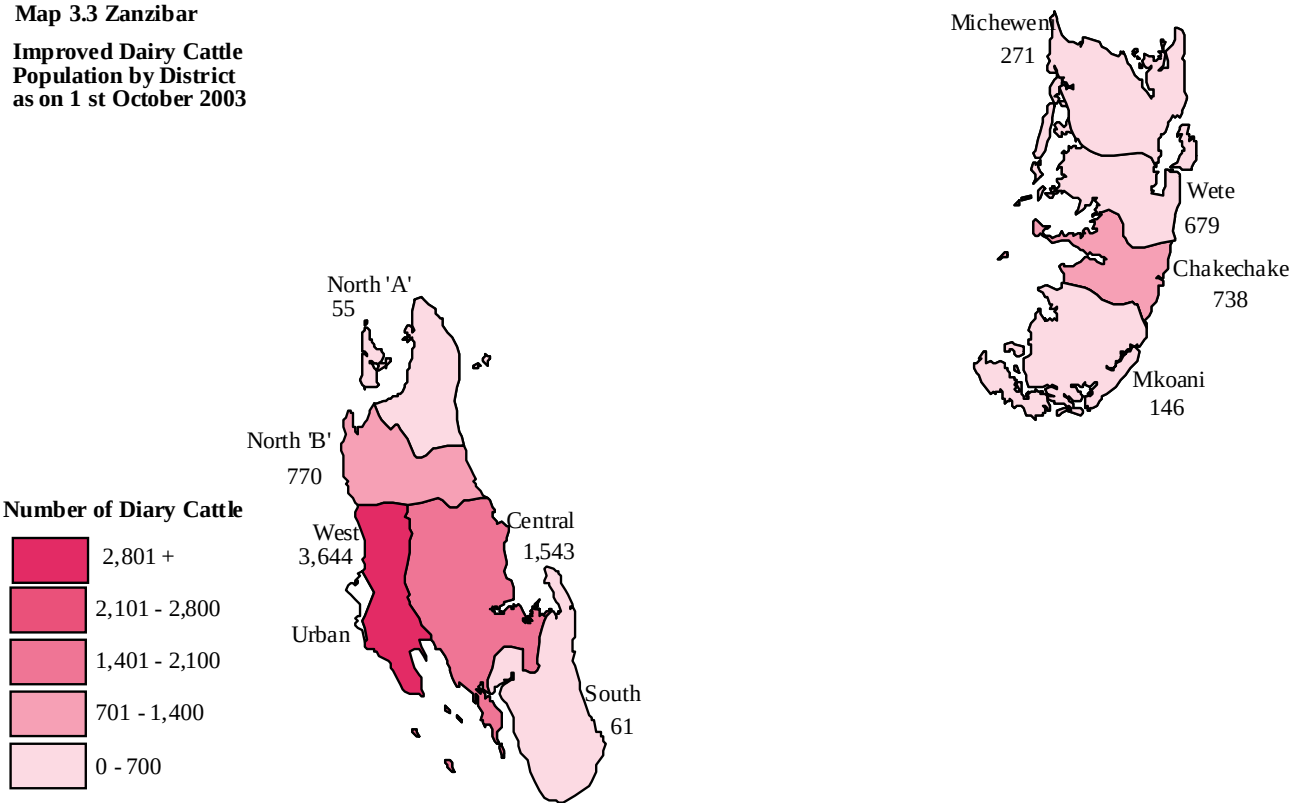


Map 3.2 Zanzibar Cattle Population Density per Km2 as on 1st October 2003



Map 3.3 Zanzibar

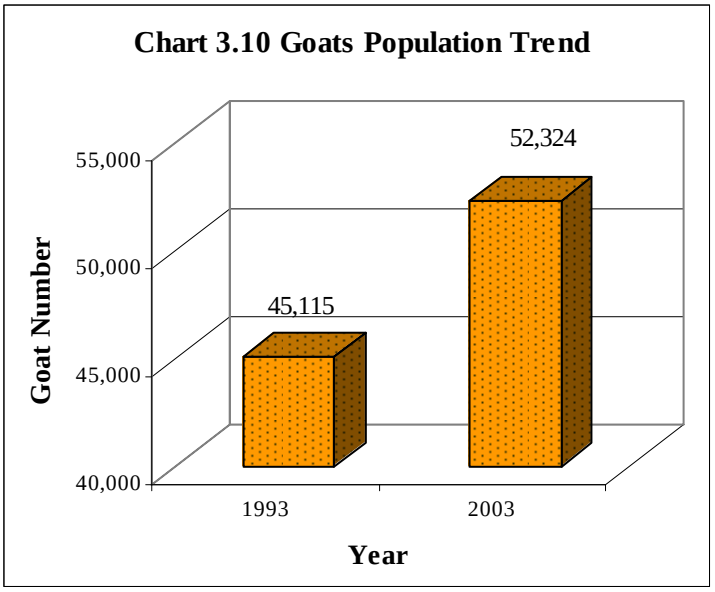
Improved Dairy Cattle Population by District as on 1 st October 2003



3.1.2 Goat Population

The number of households rearing goats in Zanzibar was 9,459 (almost 10% of the total number of agriculture households) and they kept 52,324 goats as of the 1st October 2003. Over the period 1993 to 2003 the goat population increased by 16 percent from a goat population of 45,115. This implies a population growth rate of 1.6 percent per annum.

The percent of households rearing goats is 26 percent of the total number of households rearing livestock and the average number of goats was 8 per household. Female reproductive goats formed 53 percent of the total goat population.



The number of improved dairy goats was less than 1 percent of the goat population. The results also indicate that there were no improved meat production goats.

A small number of improved goats for milk production were found in the South and Wete districts.

The majority of the households that kept goats (53%) had one to four goats. Those keeping five to nine goats were 33 percent. Thus, about 86 percent of the households that raised goats had less than 10 goats (Table 3.3 illustrate the result in details).

Most of the goats were found in North 'A', Central, and Micheweni which together had 52 percent of the goat population (Table 3.4 and Chart 3.11).. Although the total number of goats in the South District was smaller compared to some other districts, this

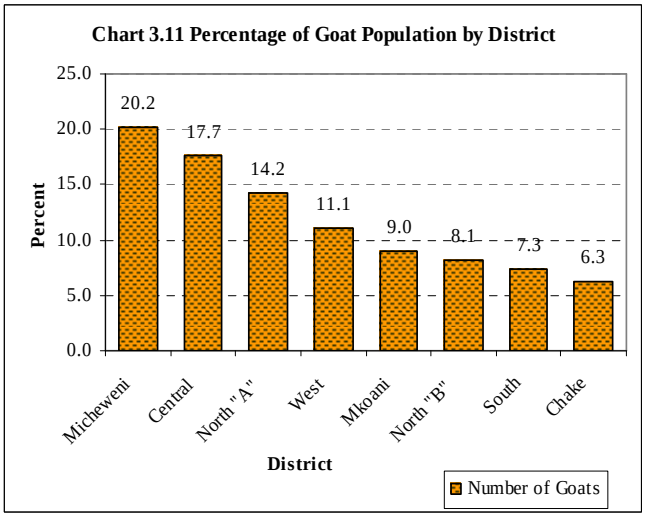
Table 3.3 Number of Households and Number of goats by Herd Size

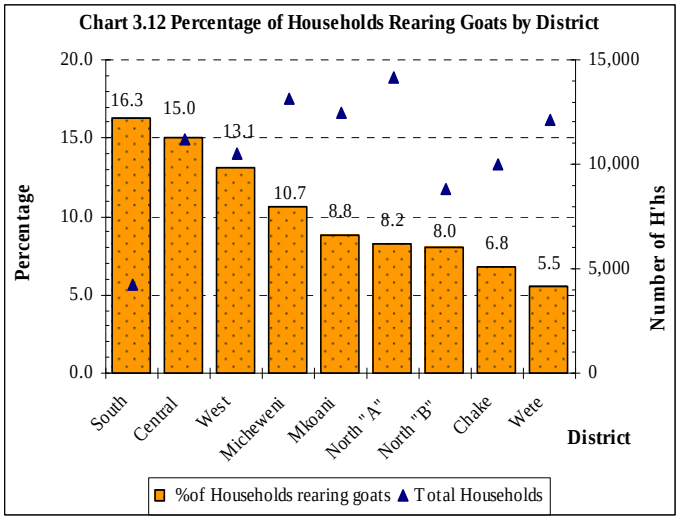
Herd Size	Household		Goat		Number Per Household
	Number	Percent	Number	Percent	
1-4	4,943	53.1	12,717	24.3	3
5-9	3,112	33.4	20,318	38.8	7
10-14	852	9.1	9,992	19.1	12
15-19	234	2.5	3,825	7.3	16
20-24	62	0.7	1,302	2.5	21
25-29	0	0.0	0	0.0	0
30-39	82	0.9	2,740	5.2	33
40+	30	0.3	1,430	2.7	47
Total	**9,315**	**100.0**	**52,324**	**100.0**	**6**

Table 3.4 Number of Households Rearing Goats by Category of Goat and District.

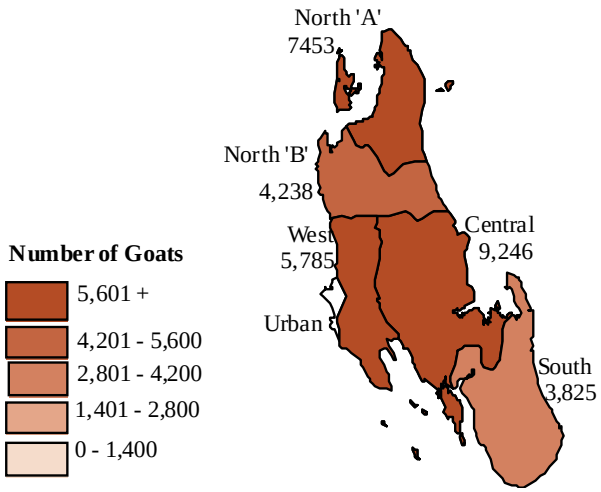
District	Indigenous Goats		Improved Goats		Number of Goat
	Number of Households	Number of Goats	Number of Households	Number of Goats	
North "A"	1,158	7,453	0	0	7,453
North "B"	704	4,238	0	0	4,238
Central	1,674	9,246	0	0	9,246
South	691	3,615	58	210	3,825
West	1,380	5,785	0	0	5,785
Wete	667	3,138	17	52	3,189
Micheweni	1,398	10,575	0	0	10,575
Chakechake	684	3,290	0	0	3,290
Mkoani	1,102	4,723	0	0	4,723
Total		**52,063**		**261**	**52,324**

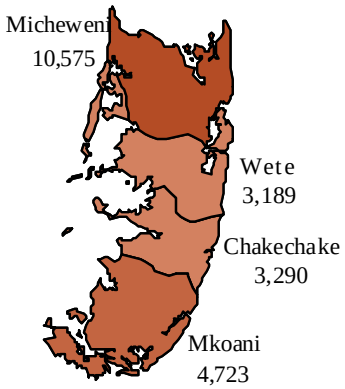
district had the highest proportion of it's households raising goats (16%) compared to other districts such as Central (15 percent), West (13 percent), Mcheweni (11 percent) and only six percent in Wete (Chart 3.12)



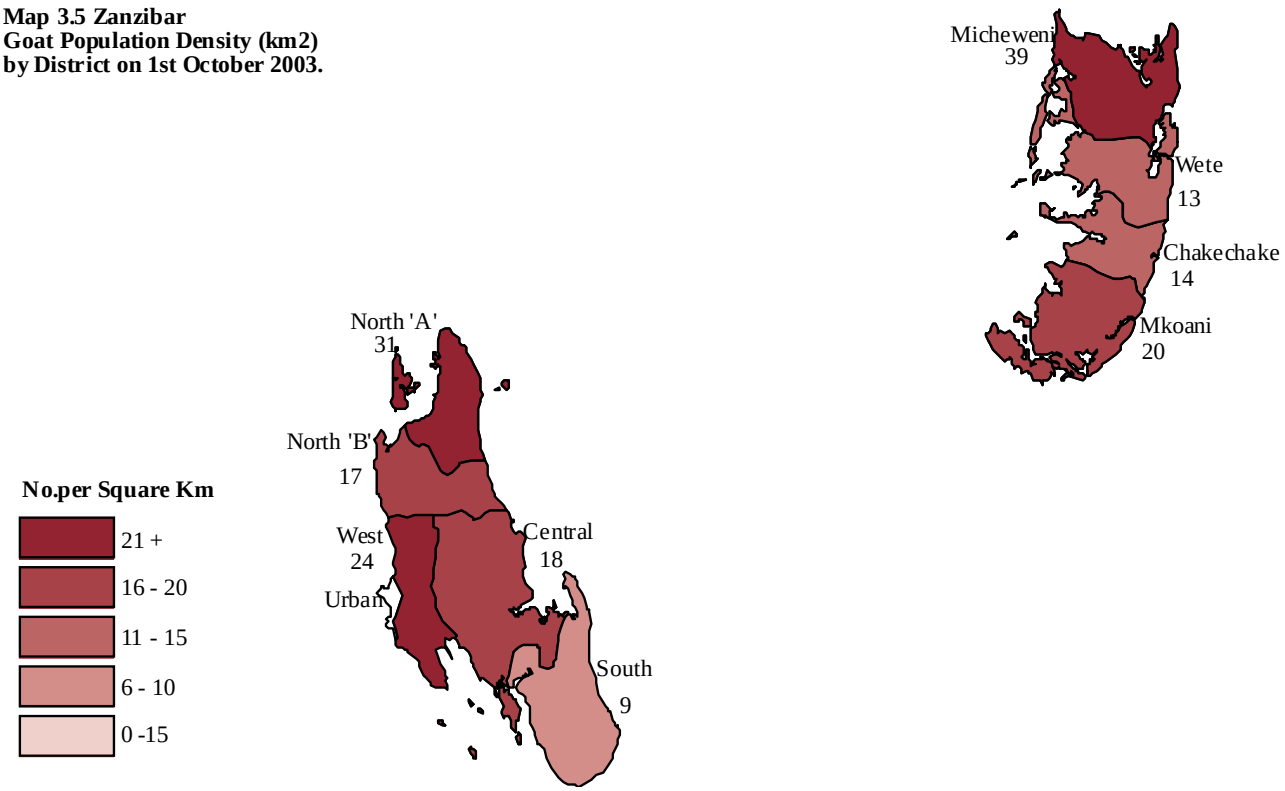


Map 3.4 Zanzibar
Goat Population by
District on 1st October 2003

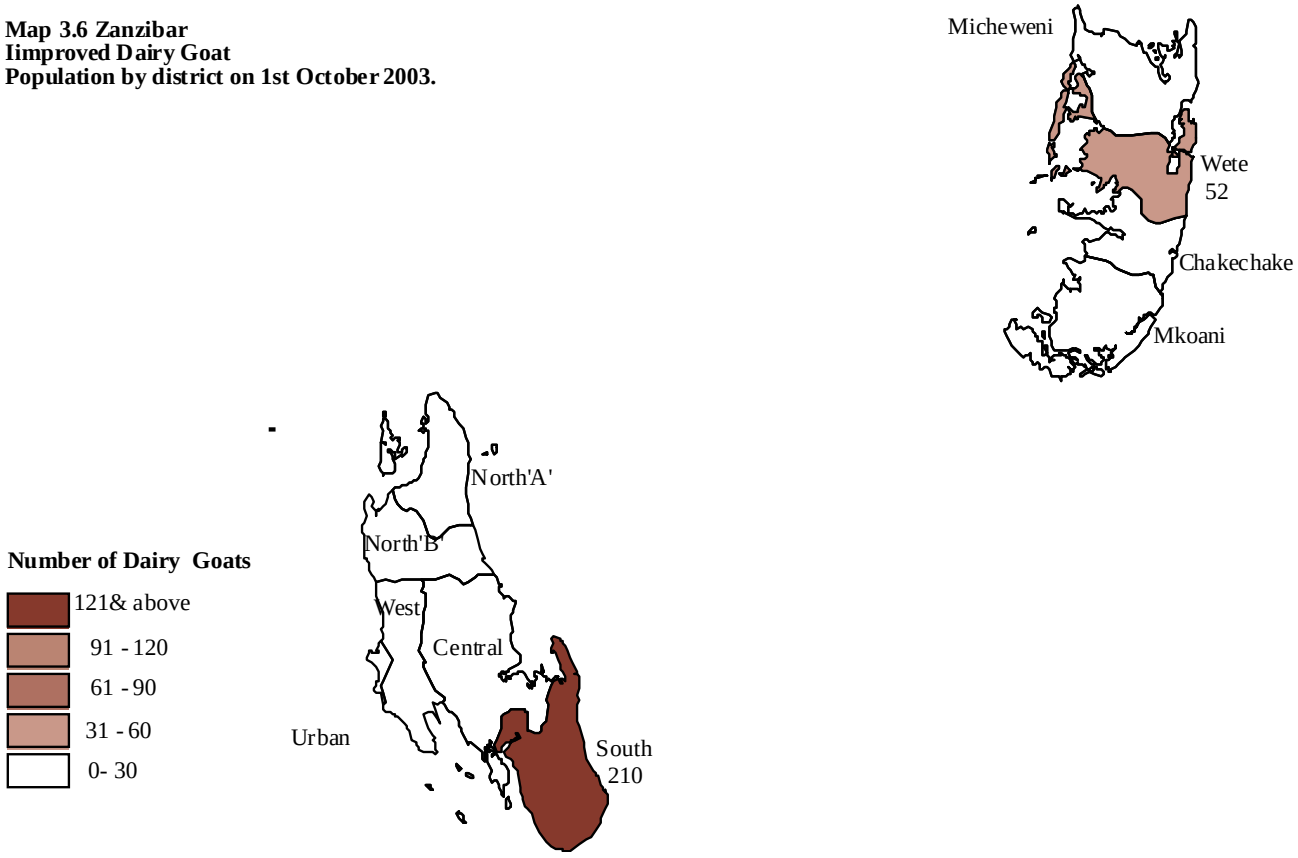




Map 3.5 Zanzibar
Goat Population Density (km2)
by District on 1st October 2003.

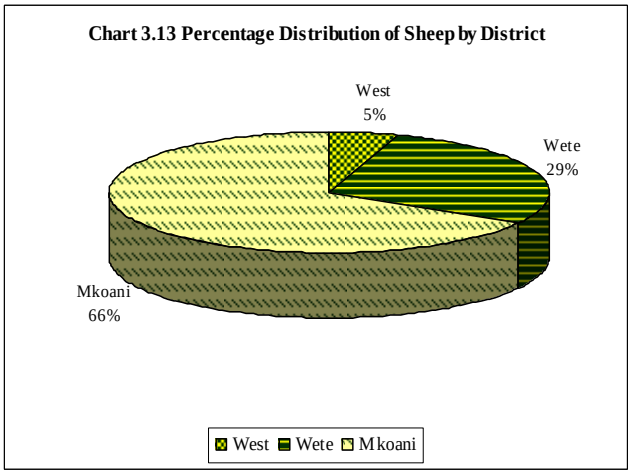


Map 3.6 Zanzibar
Iimproved Dairy Goat
Population by district on 1st October 2003.



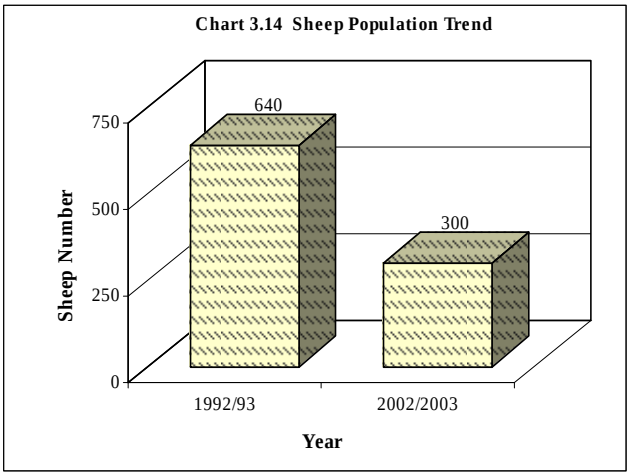
3.1.3 Sheep Population

Sheep were the least important among the ruminant livestock population in Zanzibar. Their population was only 300 compared to 162,643 cattle and 52,324 goats. Sheep were found in only three districts namely Mkoani (66 percent), Wete (29 percent) and Central districts (5 percent).



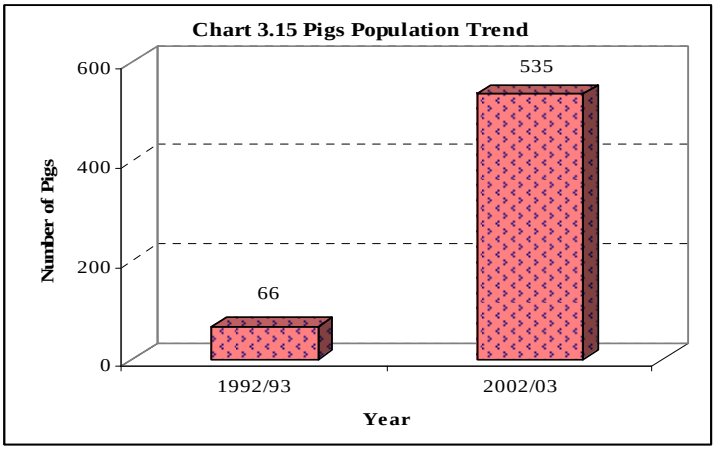
Only 72 households kept sheep which was only 0.07 percent of the total agricultural households and/or 0.19 percent of the households that kept livestock in Zanzibar. The average number of sheep per sheep keeping household was about 4 head and 9 was the maximum number of sheep kept by a household..

Unlike cattle, goats and pigs whose numbers increased between 1992/93 and 2002/03 censuses, sheep population decreased. There were about 640 sheep at the time of the 1992/93 Livestock Census and they were found in all the districts of Zanzibar but the 2002/03 Agriculture and Livestock Sample Census captured only 300 sheep. Thus, the number fell by about 53 percent in a period of 10 years at a rate of -7.3 percent per annum. All sheep were of the indigenous type (Chart 3.14).



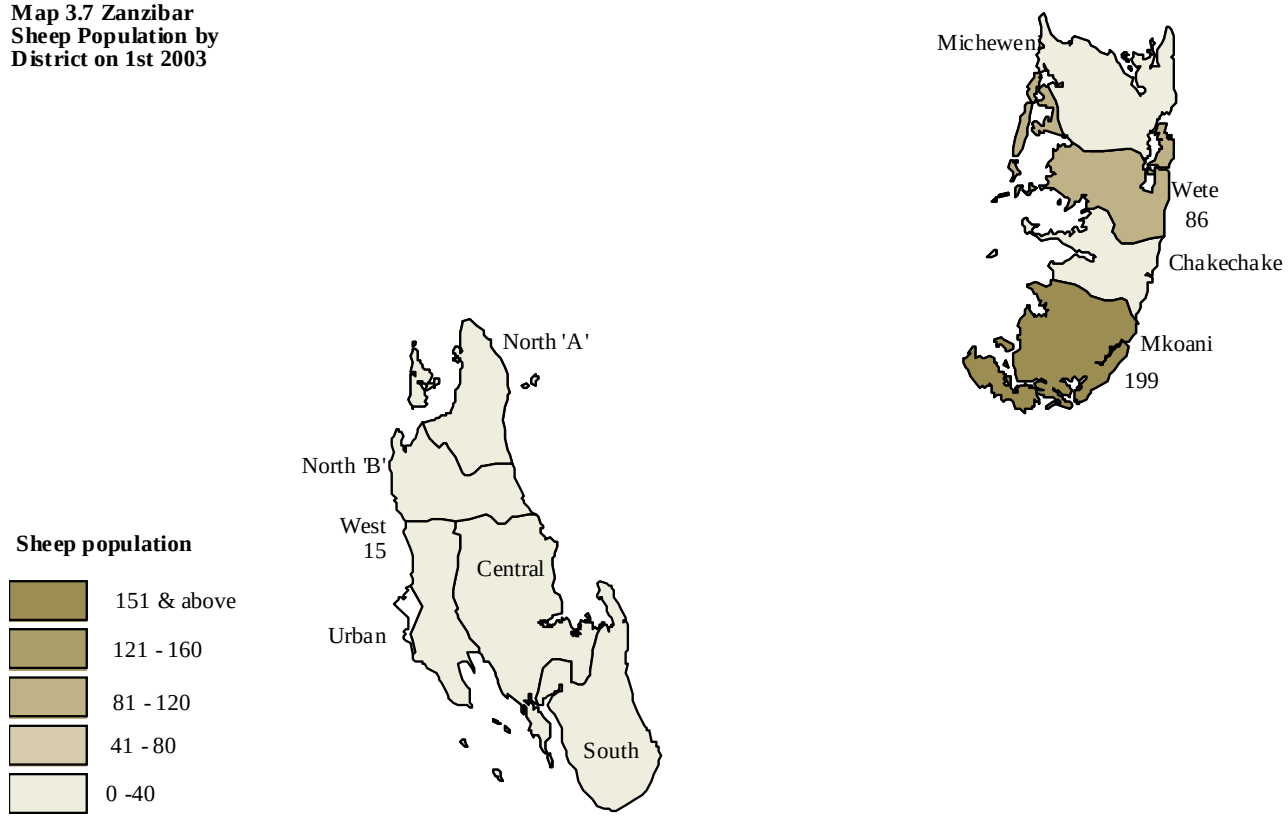
3.1.4 Pig Population

The number of pigs kept on 1st October 2003 was estimated to be 535 heads. These were kept by 54 households, all of them in Central District, Unguja. The average number was 10 pigs per household. These pig keeping households represent 0.05 percent of the total number of agriculture households and 0.15 percent of the livestock keepers. The pig population has increased dramatically from 66 in 1992/93 to 535 in 2002/03. Thus, the population had increased by about 810 percent in 10 years at an average growth rate of 23.28 percent per annum (Chart 3.15).

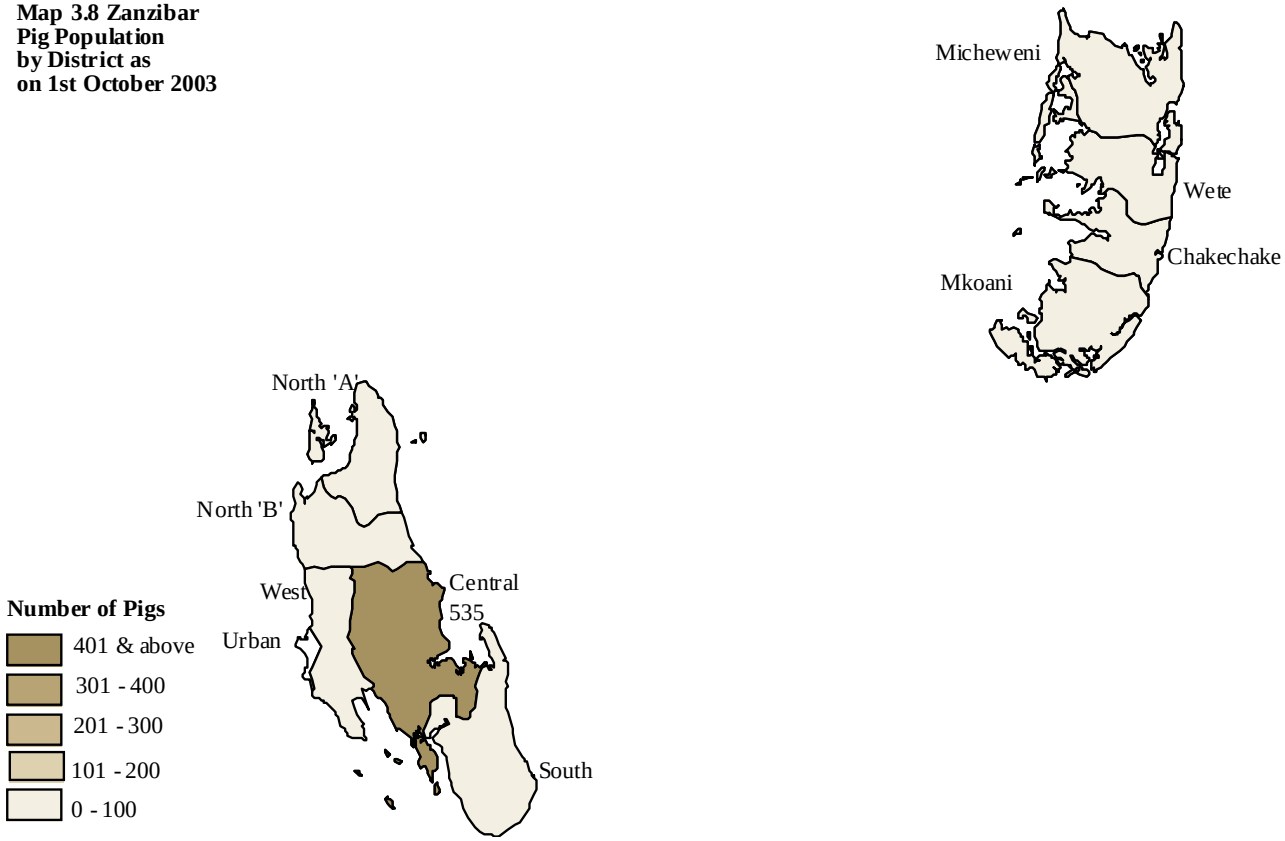


The study shows that 28 pig keeping households kept 1 pig per household and 51 percent of the pig rearing households kept only 5 percent of the total pig population. The remaining 49 percent kept 507 pigs constituting 95 percent of the total pig population, an average of 19 pigs per household.

Map 3.7 Zanzibar Sheep Population by District on 1st 2003

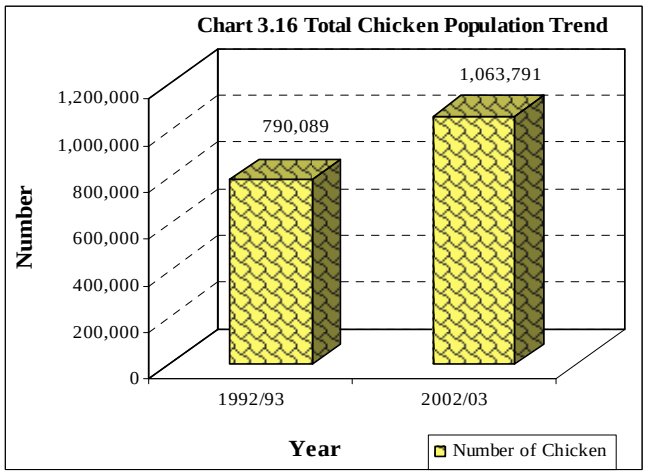


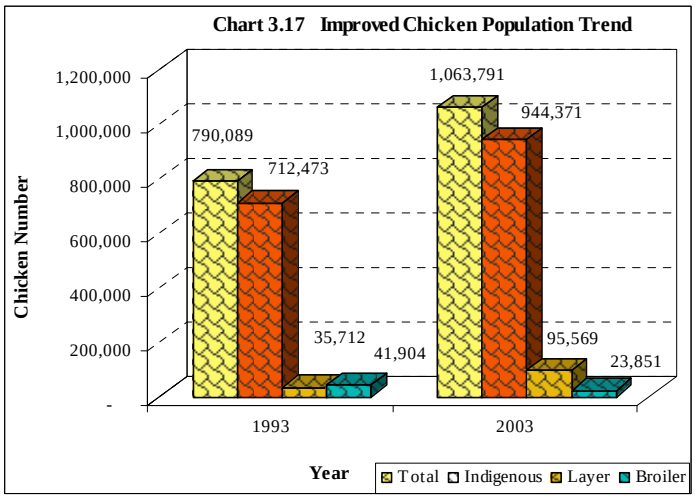
Map 3.8 Zanzibar Pig Population by District as on 1st October 2003



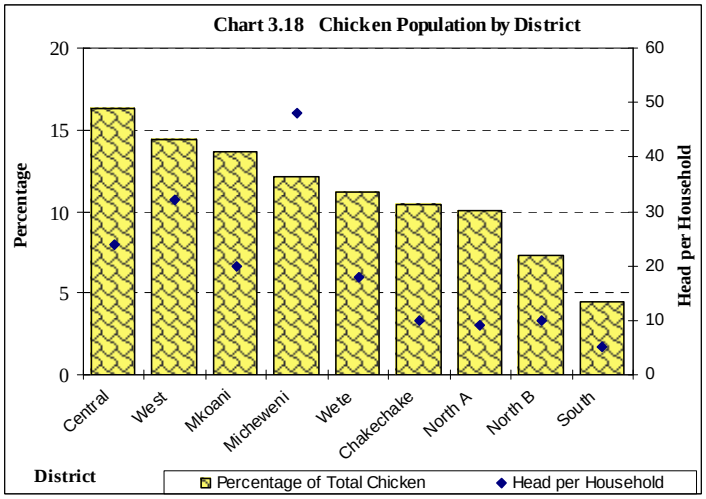
3.1.5 Chicken Population

The census results show that 66,736 households which was equivalent to 69 percent of all agriculture households were engaged in poultry keeping. These households kept 1,063,791 chickens of which 89 percent were indigenous, nine percent were layers and two percent were broilers. The average size of flock per household was 16 and it had the highest chicken density in Tanzania..





The number of chickens have increased from 790,089 to 1,063,791 (an increase of 273,702 chickens) over the period 1993 to 2003. The number of chickens in 2002/03 was higher by 35 percent when compared to 1992/93 Livestock Census Report (Chart 3.17).



Central District accounted for 16 percent of the total number of chicken followed by West and Mkoani Districts (14 percent each) and Micheweni (12%). South district had the lowest number of chicken which was only four percent of the population (3.18).

Most of the rural households kept chickens for social affairs but may sell some of the chicken to generate some cash.

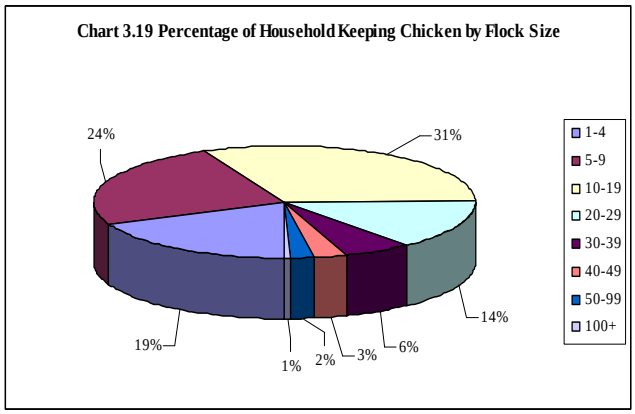


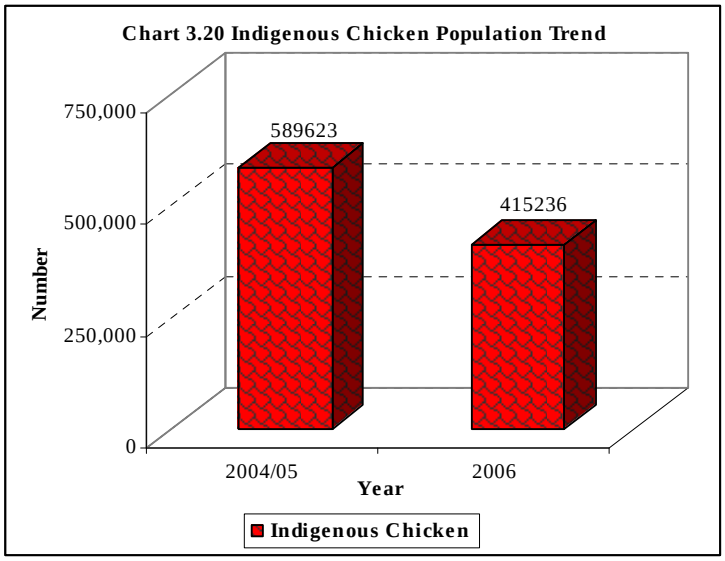
Table 3.5 Households Raising Chickens by Flock Size

Flock Size	Number of Household	%	Number of Chicken	%
1-4	12,566	19	33,601	3
5-9	16,239	24	105,523	10
10-19	21,263	32	271,407	26
20-29	9,429	14	202,522	19
30-39	3,902	6	122,377	12
40-49	1,810	3	74,672	7
50-99	1,357	2	77,000	7
100+	932	1	176,688	17
Total	**67,499**	**100**	**1,063,791**	**100**

The number of households that kept less than 50 chickens was 97 percent of the total households that kept chickens and these accounted for 75 percent of the total chicken population. The households that kept 100 chickens and above were only one percent of the keeping households but they accounted for 17 percent of the total chicken population. Most of the chicken keeping households (32 percent) kept 10 to 19 chickens and they accounted for 26 percent of the chickens (Table 3.5 and Chart 3.19).

Indigenous Chicken Population

There were 944,371 indigenous chickens (89% of the total chicken population). The number has increased from 712,473 head in 1993, by about 33 percent overall and 3 % per annum over the period 1993 and 2003 (Chart 3.20).



Indigenous chickens were kept by 66,434 households (98 percent of the households that kept chicken). Most of these households were in Micheweni District (16 percent). However, Mkoani (14 percent of holdings)and Central District (12 percent of holdings) each accounted for 15 percent of the total number of indigenous chicken while Micheweni accounted for 14 percent of the chickens.

Improved Chicken Population

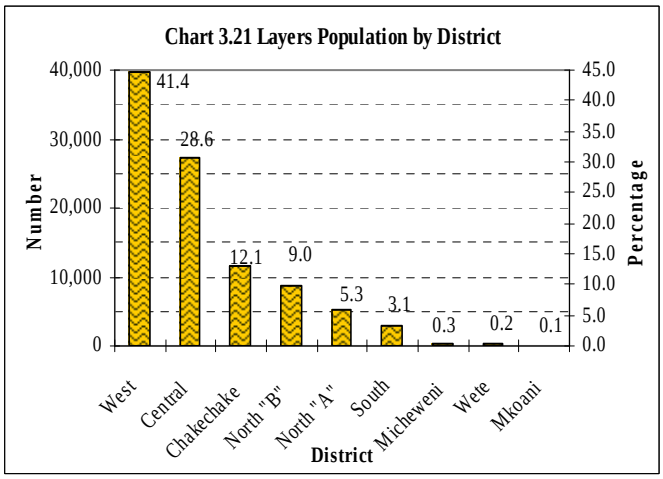
The survey results showed that there were about 119,420 chicken on 1st, October, 2003 representing 11 percent of the total chicken population in Zanzibar (Improved chicken population in Tanzania was only five percent of the total chicken Population). About 80 percent of the improved chickens in Zanzibar were layers and 20 percent were broilers (Table 3.6).

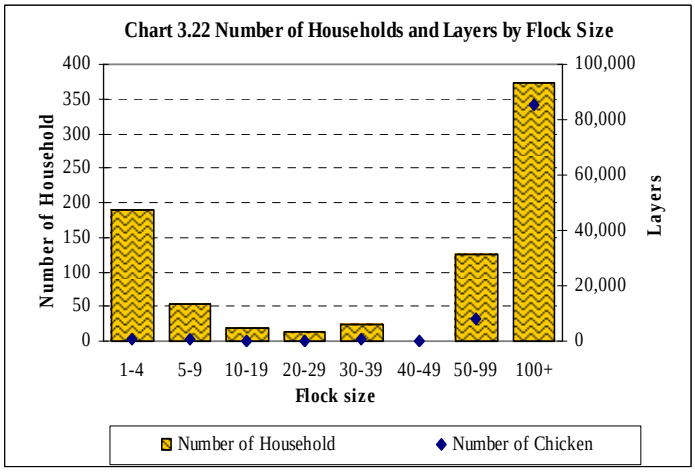
It is expected that the percent of improved chickens would be greater if the urban production had been part of the census.

Table 3.6 Improved Chicken by Flock Size

Flock Size	Layer				Broilers				Total	
	Number of Households	%	Number of Chicken	%	Number of Households	%	Number of Chicken	%	Number of Chicken	%
1-4	189	23.7	526	0.6	48	17.9	143	0.7	669	0.6
5-9	54	6.7	381	0.4	0	0.0	0	0.0	381	0.3
10-19	20	2.5	260	0.3	42	15.8	629	3.0	889	0.7
20-29	12	1.5	305	0.3	12	4.6	303	1.5	608	0.5
30-39	25	3.1	751	0.8	27	10.2	981	4.7	1731	1.4
40-49	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
50-99	124	15.6	7893	8.3	23	8.6	1149	5.6	9042	7.6
100+	374	46.9	85453	89.4	114	42.8	20646	100.0	106100	88.8
Total	**799**	**100.0**	**95569**	**100.0**	**266**	**99.9**	**23851**	**115.5**	**119420**	**100.0**

The percentage of layers in West, Central and Chakechake districts were relatively high at about 41, 29 and 12 percent respectively of the total layers and it was low in Wete, Micheweni and Mkoani Districts which jointly contributed less than one percent to the improved chicken population (Chart 3.21).

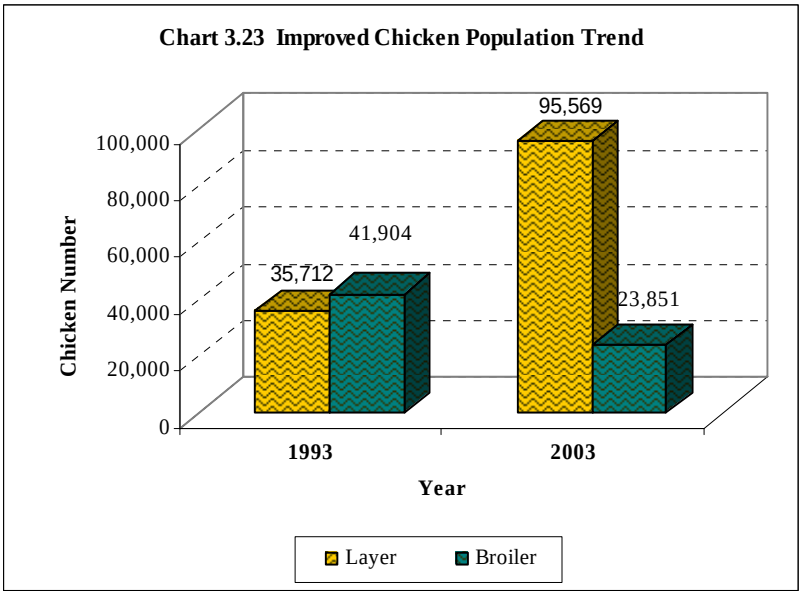




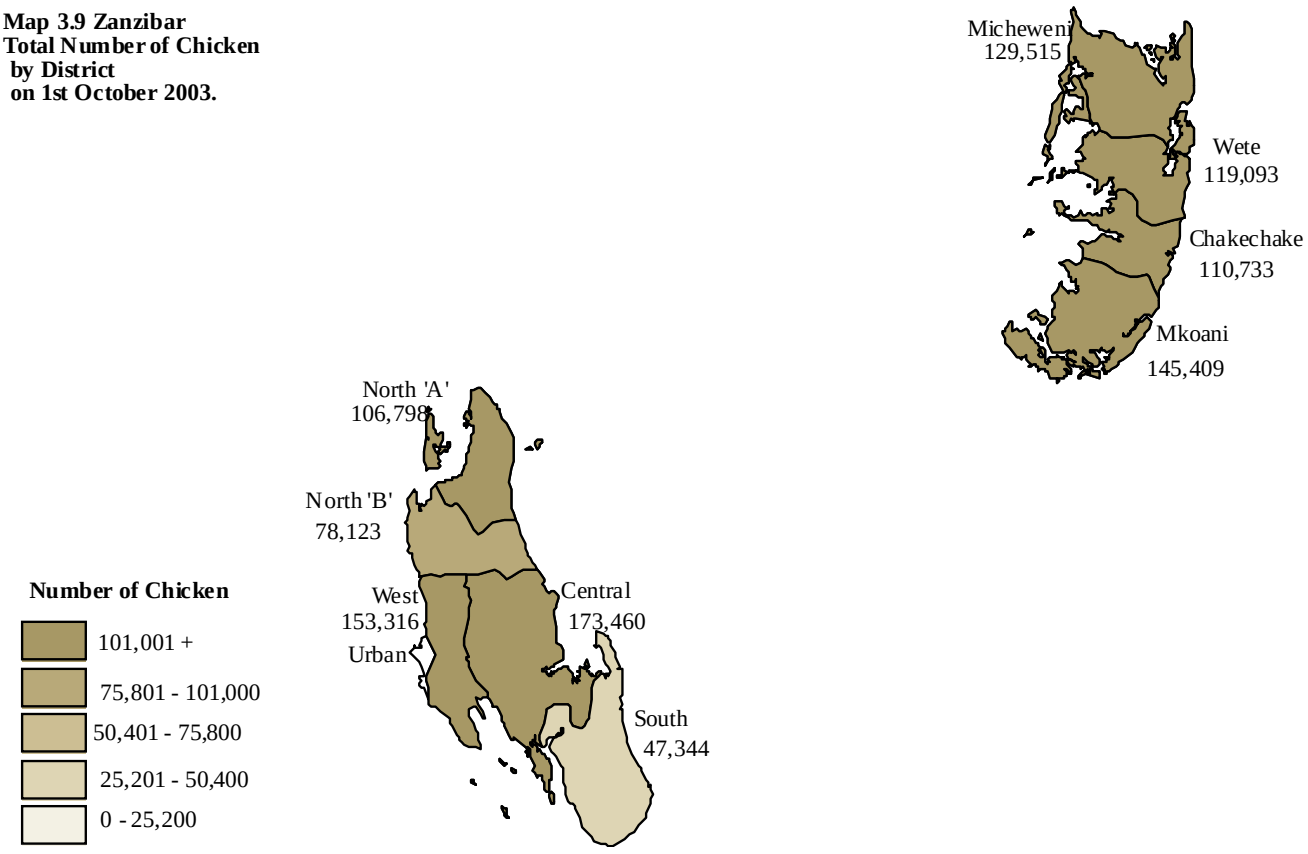
About 33 percent of layer's holdings kept 100 – 299 chicken and managed 43 percent of flock, 38 percent of the holdings kept 1 – 99 and these managed only 2 percent of the chicken and 12 percent of the holdings kept 300 – 499 chicken and they accounted for 34 percent of the flock while holdings that kept 700+ layers were only 2 percent yet kept13 percent of layers

Broiler production was concentrated in West, Central and North 'B' districts with about 40, 34 and 13 percent of the broiler population respectively. Other districts contributed little to this enterprise and there was no broiler production in Wete, Micheweni, Chakechake and Mkoani.

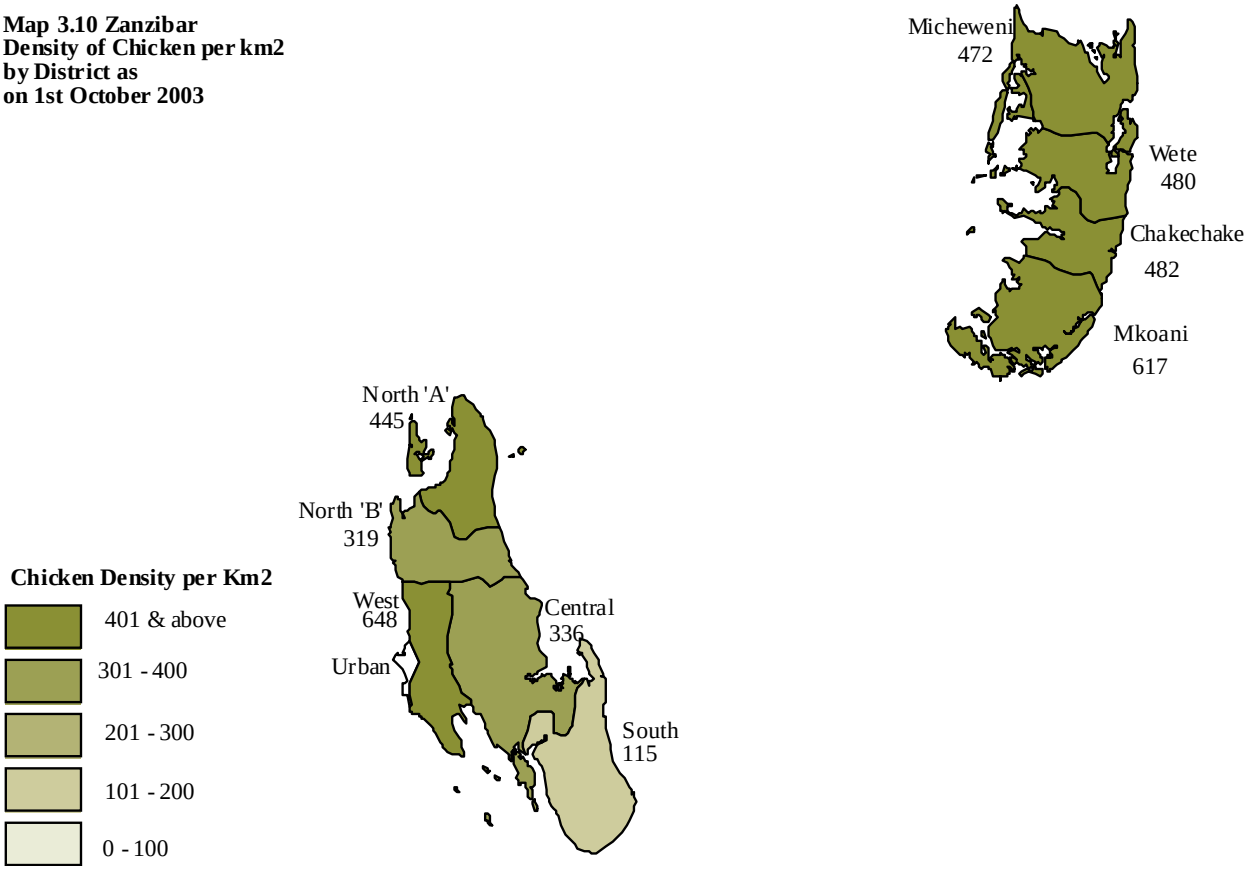
Time series analysis show that the number of improved layers have increased tremendously over the 10 years from 1992/93 to 2002/03, resulting in a growth rate of 10.34 percent per annum with a population of 35,712 in 1993 and 95,569 in 2003.whereas the number of broilers decreased from 41,904 to 23,851 over the same period with a negative growth rate of -5.48 percent per annum (Chart 3.23).



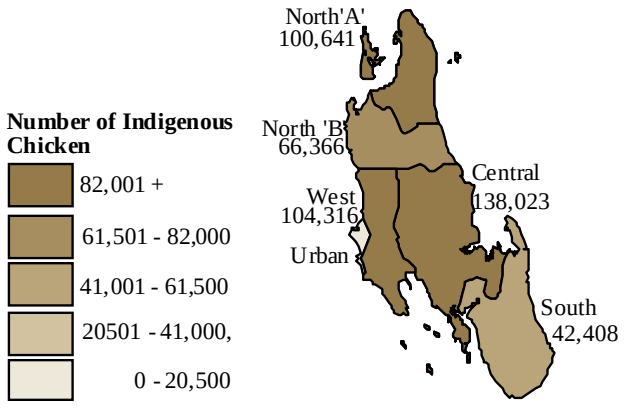
Map 3.9 Zanzibar
Total Number of Chicken
by District
on 1st October 2003.



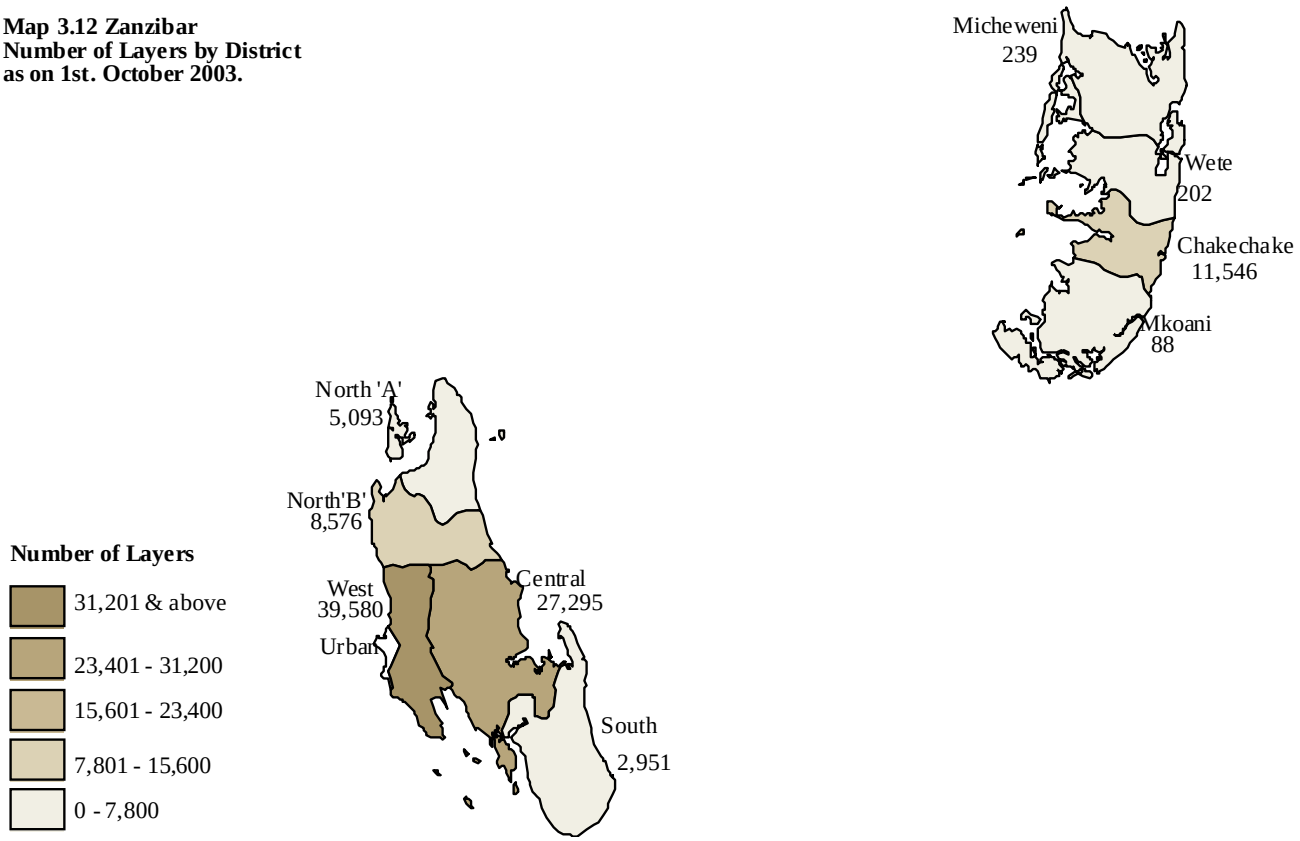
Map 3.10 Zanzibar
Density of Chicken per km2
by District as
on 1st October 2003



Map 3.11 Zanzibar
Number of Indigenous Chickens by District



Map 3.12 Zanzibar
Number of Layers by District as on 1st. October 2003.



3.1.6 Other Livestock and Poultry

There has been an increase in population of most of other livestock and poultry within the ten years inter-censal period. After chicken, ducks were the most important poultry found in all districts. Others in consideration are Turkeys, Rabbits and Donkeys (Table 3.7)

Table 3.7 Populations of Other Livestock by District as of 1st October, 2003

District	Ducks	%	Turkeys	%	Rabbits	%	Donkeys	%	Other	%
North A	17357	32.4	394	46.9	0	0.0	0	0.0	856	15.2
North B	8627	16.1	0	0.0	326	26.5	288	44.1	1130	20.1
Central	9011	16.8	0	0.0	0	0.0	101	15.4	223	4.0
South	7104	13.3	0	0.0	181	14.7	0	0.0	0	0.0
West	7305	13.6	447	53.1	724	58.8	100	15.4	2995	53.3
Wete	1484	2.8	0	0.0	0	0.0	0	0.0	21	0.4
Micheweni	553	1.0	0	0.0	0	0.0	48	7.3	179	3.2
Chakechake	1510	2.8	0	0.0	0	0.0	94	14.4	0	0.0
Mkoani	621	1.2	0	0.0	0	0.0	22	3.3	215	3.8
Total	**53571**	**100.0**	**841**	**100.0**	**1231**	**100.0**	**653**	**100.0**	**5619**	**100.0**

The number of ducks was 33,348 in 1992/93 and had increased to 53,571 by 1st, October 2003. This is an increase by 61 percent in ten years at an average growth rate of five percent per annum.

Ducks were mostly concentrated in North 'A' which had 32 percent of the duck's population. Micheweni and Mkoani districts had the least number of ducks (each with only I% of the ducks).

There were 841 turkeys, with 47 percent of the population in North 'A' and the remaining 53 percent in West District. The turkeys were kept by 116 households (69 in North 'A' and 47 in West). Turkeys were not identified during the 1992/93 Livestock Census, so no time series analysis could be made.

About 1,231 rabbits were kept by 130 households. Rabbits were found in West District (58 percent), North 'B' (25 percent) and South District (17 percent). There has been an increase in rabbit numbers in the last 10 years from a population of 714 in 1993 resulting in an average growth rate of 5.6 percent per annum (Table 3.7).

The population of donkeys were found in North 'B' (44 percent), Central and West (15 percent each), Chakechake (14 percent) but were not found in North 'A', South or Wete Districts. Donkey population had decreased from 1,194 to 653 within the ten year period (Table 3.7).

About 481 households kept about 5,619 non- conventional animals such as guinea fowls, pigeons, guinea pigs etc. This census did not identify any household that kept horses in Zanzibar (Table 3.8).

Table 3.8 Average Number of Other Livestock by Type

Type of Livestock	Household Number	Number of Livestock	Average Number per Household
Ducks	2,917	53,571	18
Turkeys	117	841	7
Rabbits	130	1,231	9
Donkey	423	653	2
Others	481	5,619	12

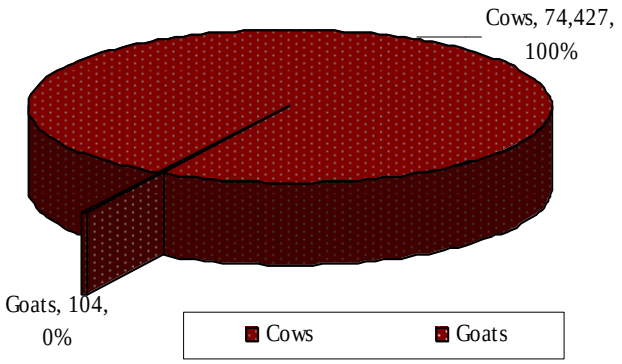
3.2 Livestock and Poultry Products

In this section the results of milk production from cows and goats, egg production and hides and skins are presented. Information on farmyard manure is discussed in another section.

3.2.1 Milk Production

In Tanzania milk is normally obtained from cows and to much lesser extent goats (Chart 3.24). Daily milk production for cows and goats during the dry season drops to about 70 and 75 percent of the wet season production respectively. (Cows milk production was 74,427 litres per day in wet season and 52,507 litres in dry season while goats production was 104 litres in wet season and 78 litres in dry season).

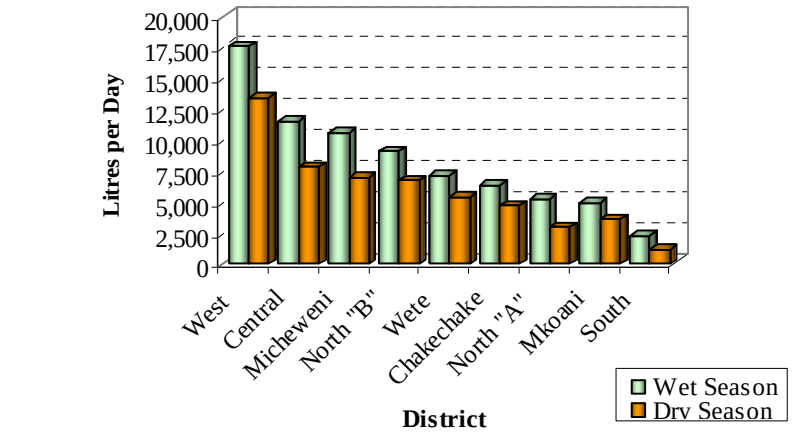
Chart 3.24 Milk Production in Wet Season by Type of Livestock (litres per day)



Milk from Cows

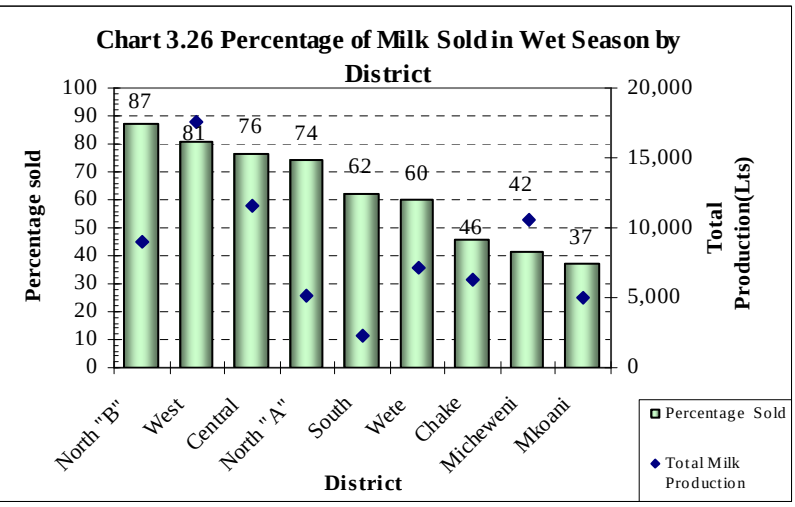
About 30,527 households (92 percent of cattle holdings) milk cows in the wet season. 34,950 cows were milked and produced 74,427 litres of milk per day at an average rate of 2.13litres/cow/day in the wet season. The production in the dry season was about 71 percent that of wet season and was obtained from 90 percent of cows milked in the wet season. The average yield in the dry season was 1.67litres/cow/day. On the average a household collected about 2.44 litres per day in the wet season and 2.1 litres in dry season (Chart 3.25).

Chart 3.25 Cow Milk Production by District and Season



Most of the milk production in both seasons was in the West District, followed by Central, Micheweni, North 'B' then Wete. These districts produced about 75 percent of total milk during both the wet and dry seasons. Individually, these districts produced about 24, 15, 14, 12 and 10 percent of daily milk production total respectively. South District produced only about three percent. The percentage district's contributions in dry season were nearly the same as in the wet season

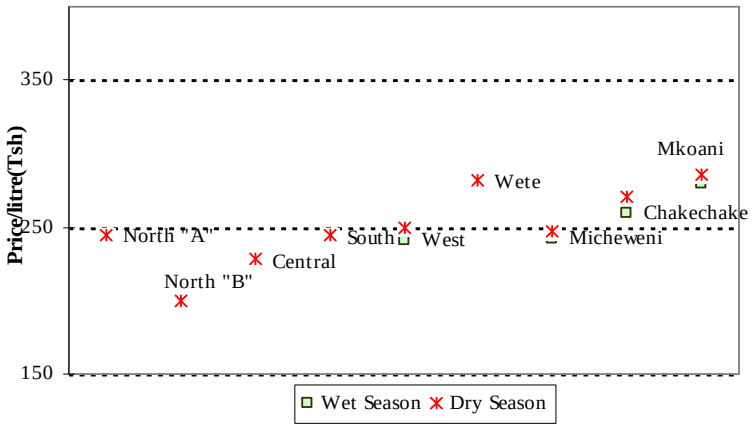
Chart 3.26 Percentage of Milk Sold in Wet Season by District



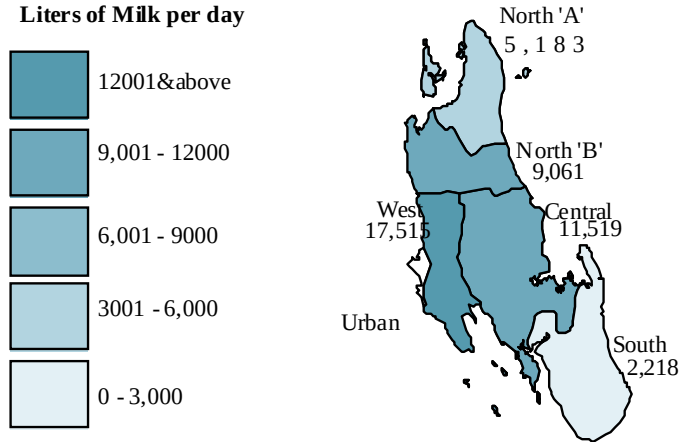
Milk production was one of the main cash income earning activities. About 95 percent of the households that produced milk sold an average of 66 percent of the milk to various market outlets in both wet and dry seasons. The proportion of the marketed milk varied among districts e.g. North 'B' producers sold 87 percent of the milk, followed by West 80 percent, Central 76 percent while Mkoani producers sold only 37 percent of their milk, Micheweni 42 percent and Chakechake 46 percent (Chart 3.26).

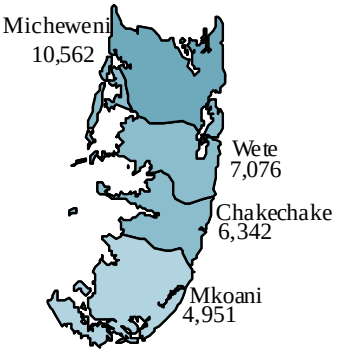
The average price ranged from Tsh 247 per litre in wet season and Tsh 251 per litre in dry season (Chart 3.27).

Chart 3.27 Cow Milk Price by District and Season

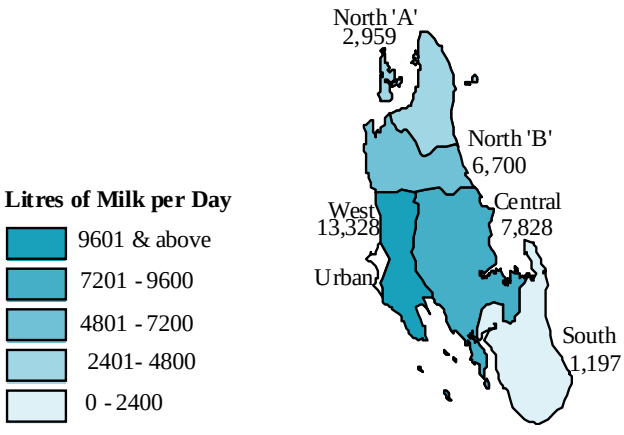


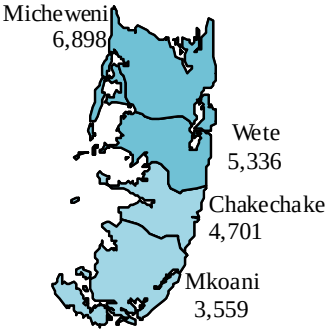
Map 3.13 Zanzibar Milk Productio per Day in Litres During Wet Season by District.





Map 3.14 Zanizibar Milk Production per Day in Litres during the Dry Season by District

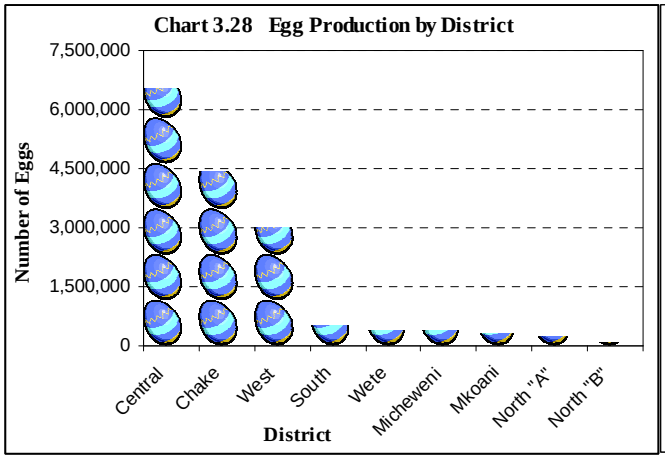


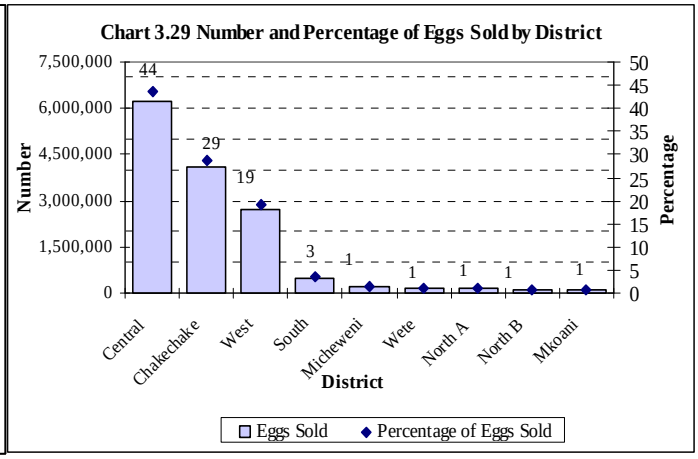


3.2.2 Egg Production

About 16,014,289 eggs were produced by smallholder farmers in the 2002/03 agriculture year.

The main districts that produced eggs were Central (41 percent), Chakechake (27 percent), and West (19 percent). These three districts jointly contributed 87 percent of the total egg production (Chart 3.28).



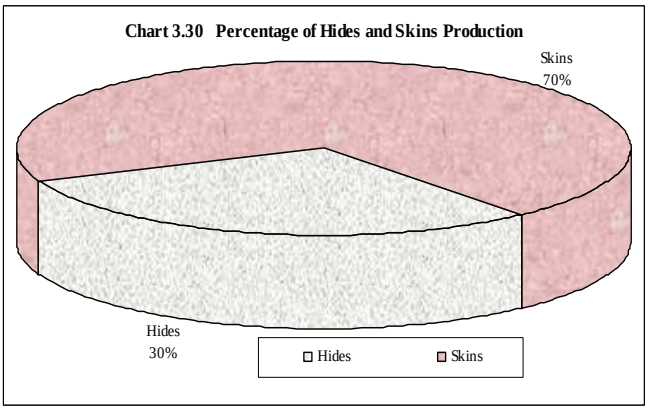


About 89 percent of the eggs were sold to the available markets. Central, Chakechake, and West Districts jointly supplied 91 percent of the eggs. Individually, Central District accounted for 44 percent of the marketed eggs, Chakechake 29 and West 19 percent respectively (chart 3.29).. However, these districts consumed very little of the eggs they produced (4, 5 and eleven percent respectively).

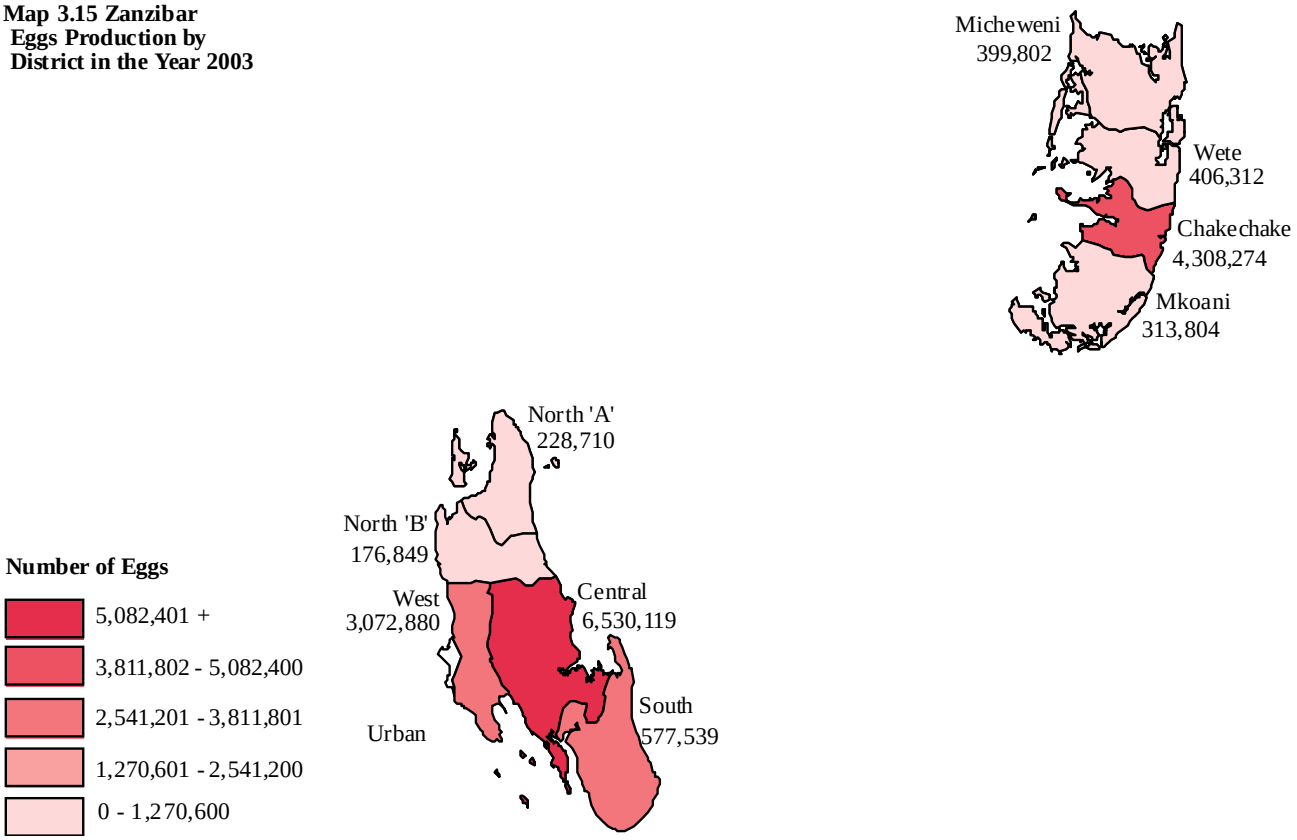
3.2.3 Hide and Skin Production

A total of 3,749 hides and skins were produced in 2002/03 agriculture year. Out of these 30 percent were hides and the remaining were skins (Chart 3.30).

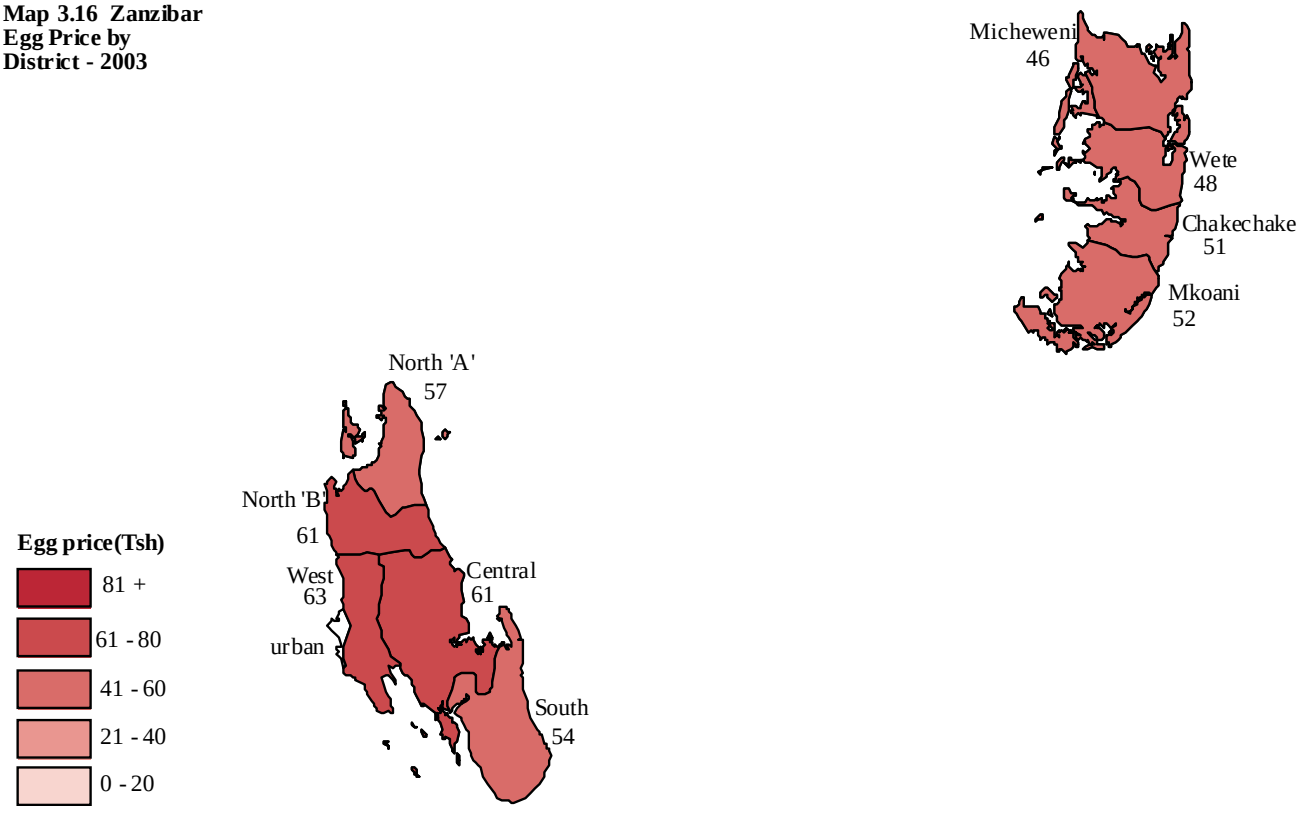
Most of the hides (46 percent) were produced in the South District while West and Chakechake produced 36 and 35 percent of the hides respectively. Most of the hides and skins (69 percent) were utilized by the households and only 31 percent were sold.



Map 3.15 Zanzibar
Eggs Production by
District in the Year 2003



Map 3.16 Zanzibar
Egg Price by
District - 2003

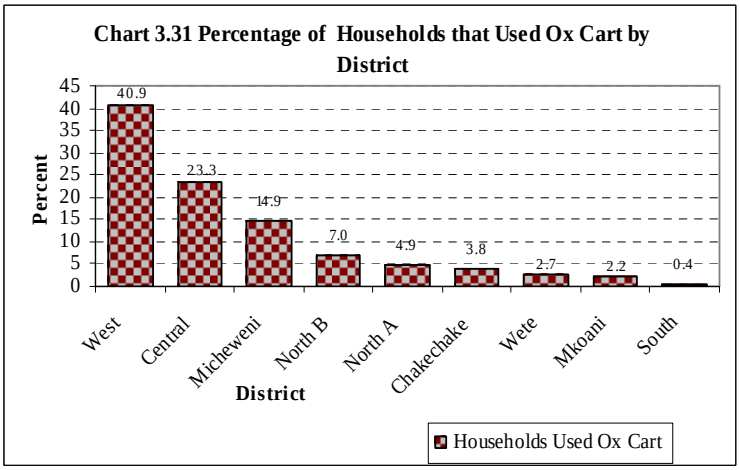


3.3.0 Animal Contribution to Crop Production

Livestock are very important in the promotion of crop production considering the very low availability of tractors and use of artificial fertilizers by farmers. They promote agricultural production by providing draft for ploughing, transport of inputs and farm products as well as farmyard manure to improve soil conditions and fertility for optimal crop production.

3.3.1 Use of Draft Animals

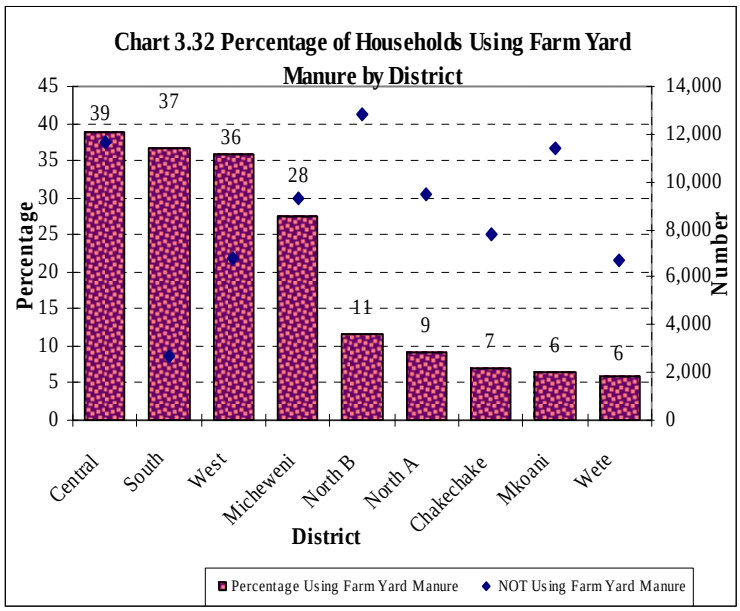
There were only 91 households (51 in Central and 40 in West districts) that used draft animals for crop cultivation but they represented a mere 0.09 percent of the total number of crop holdings. About 33 hectares were cultivated using the draft animals (21ha in Central and 12ha in West Districts respectively).



An ox cart is however a very common means of transport in and out of the farms. About 3047 households (3 percent of crop holdings) used ox carts most of them in West district (41 percent), Central (23 percent) and Micheweni (15 percent), (Chart 3.31).

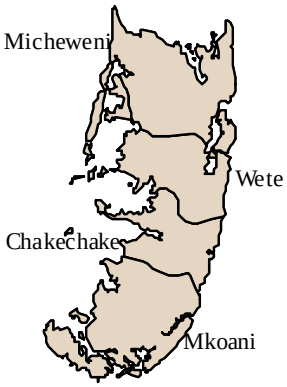
3.3.2 Use of Farmyard Manure

About 17,826 households (19 percent of crop holdings) used farm-yard at a rate of 0.49 ha per household to improve agriculture productivity. Farm-yard manure was used in all districts but it was more common in Central, South, West and Micheweni districts. These districts had a comparatively high concentration of cattle and poultry (Chart 3.32).

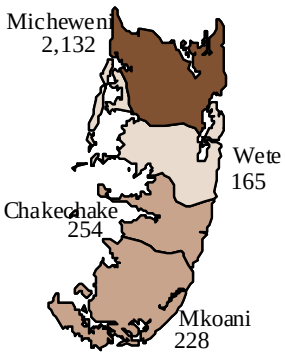


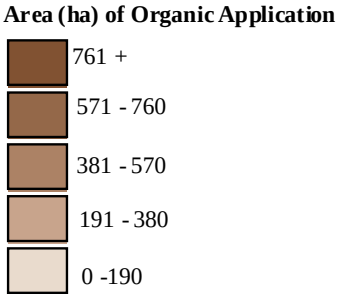
Although Micheweni had 46 percent of the households rearing cattle, only 28 percent of the district's households used farmyard manure. In Central District, 39 percent of the households used the manure, 37 percent in South District, and 36 percent in West District while only six percent of the households used the manure in Mkoani district (Chart 3.32). The manure was applied on 8,887 ha of which 33 percent was in Central District, 23 in Micheweni, 20 in West District and only 2 percent of the area was in Mkoani District.

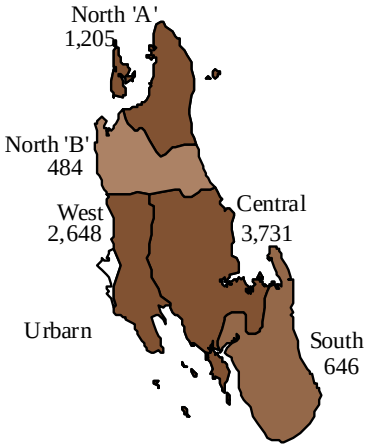
Map 3.17 Zanzibar
Area (ha) Cultivated
with Draft Animls by District.



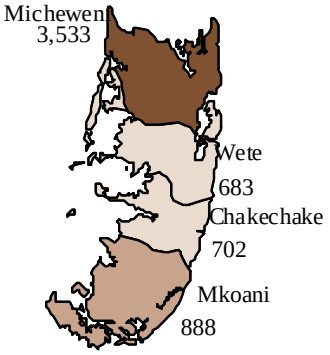
Map 3.18 Zanzibar
Area (ha) of Organic Fertiliser Application by District

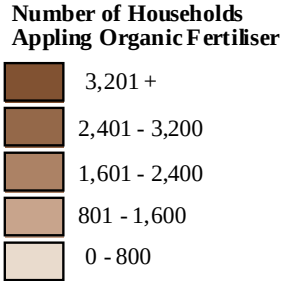


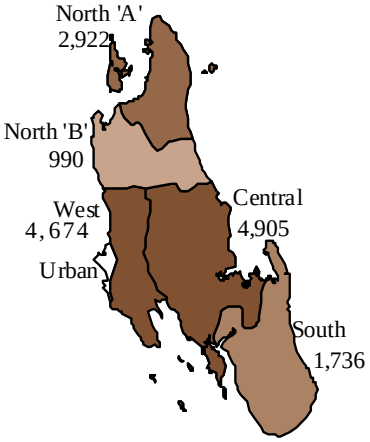




Map 3.19 Zanzibar
Number of Households Appling Organic Fertiliser by District

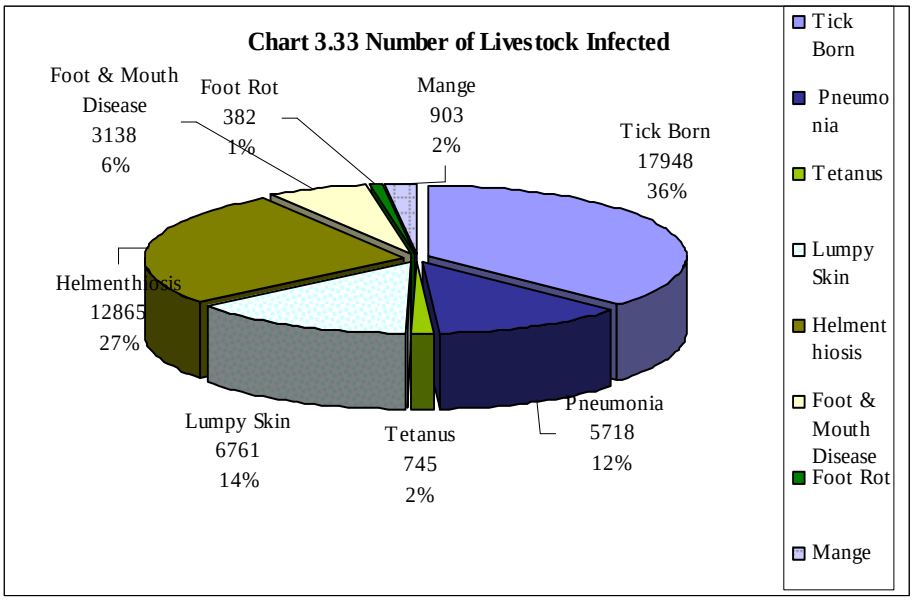






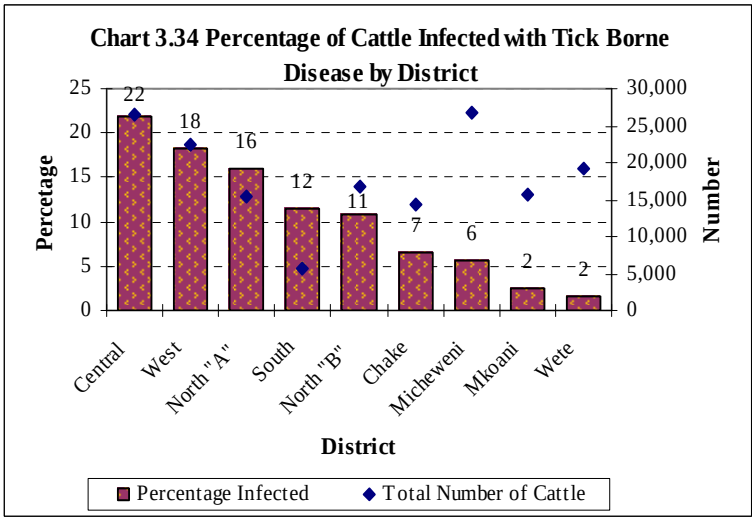
3.4 Livestock Diseases

The most common diseases that infect ruminants are tick-borne diseases (T.B.D), Helmenthiosis and Pneumonia. About 17,948 cattle were infected by tick-borne diseases (TBD). Helmenthiosis was the second most prevalent condition, common in cattle and goats. About 5,565 goats (11% of the goat population) were infected with pneumonia (not necessarily the contagious type). Other common diseases included foot and mouth disease (FMD), mange, tetanus and foot rot. Trypanasomiasis and contagious bovine pleuro-pneumonia (CBPP) cases were not found (Chart3.34).



Tick-borne Diseases

They are the most common livestock diseases infecting mostly cattle. About 50 percent of livestock rearing households encountered tick problems in their herds. The condition was found in all districts but it was more prevalent in Central, West, North 'A' and Micheweni where 77 percent of the cattle were affected.



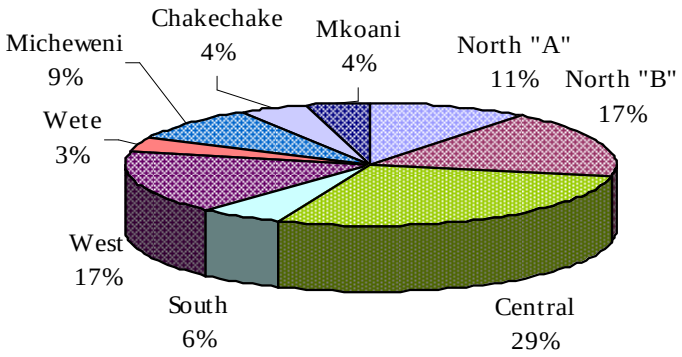
The most common TBD was east coast fever (ECF) which is a big threat and killer to cattle of exotic breeds and their crosses. About 11percent of the total cattle population was affected by TBDs. About 22 percent of the cattle in the Central District were affected, followed by West (18 percent), North 'A' (16 percent) but the diseases were less prevalent in Wete and Mkoani where they affected only two percent of cattle in each district (Chart 3.34).

Helmenthiosis

About 12,865 heads of livestock were reported to be infected with helminths, 68 percent being cattle and 32 percent were goats. However, the rate of infection in goats was higher (8 percent in goats compared to 5 percent in cattle).

Nearly 80 percent of the infected livestock were found in Unguja which is equivalent to 55 percent of the total infected livestock. Individually, Central District had about 29 percent of infected livestock, North 'B' and West Districts had 17 percent each and Wete District had 3 percent only (Chart 3.35).

Chart 3.35 Percentage of Livestock (Cattle & Goats) Infected by Helmenthiosis by District



Helmenth infection in cattle was more prevalent in North 'B' where it affected 11 percent of cattle found in the district, followed by Central and West (eight percent each) while it was less prevalent in Wete where it affected only one percent of the cattle found in the district (Chart 3.36).

Chart 3.36 Percentage of Cattle infected with Helmenthiosis by District

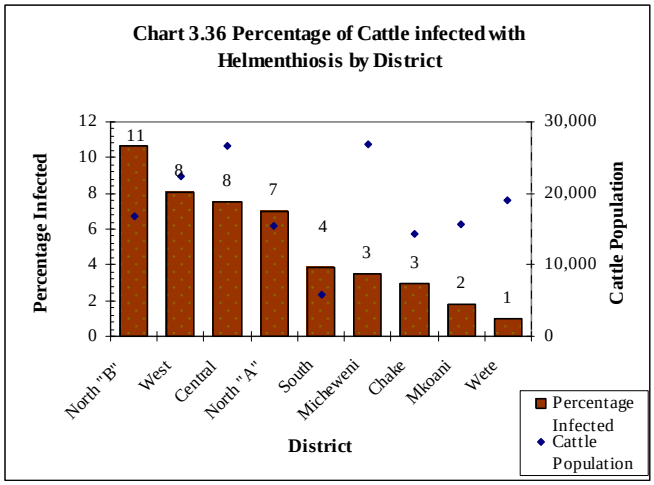
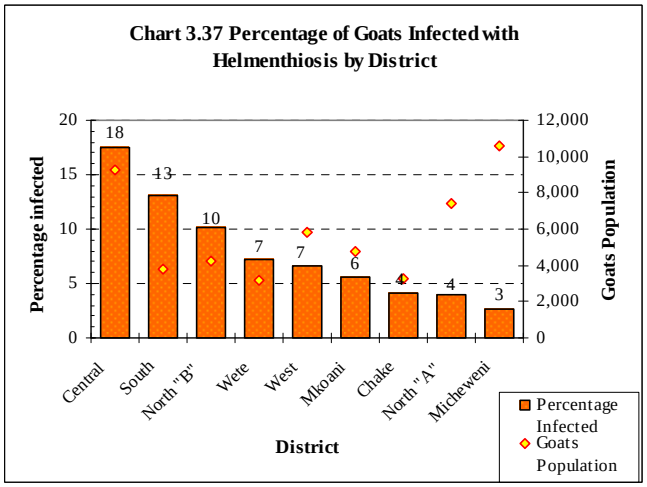
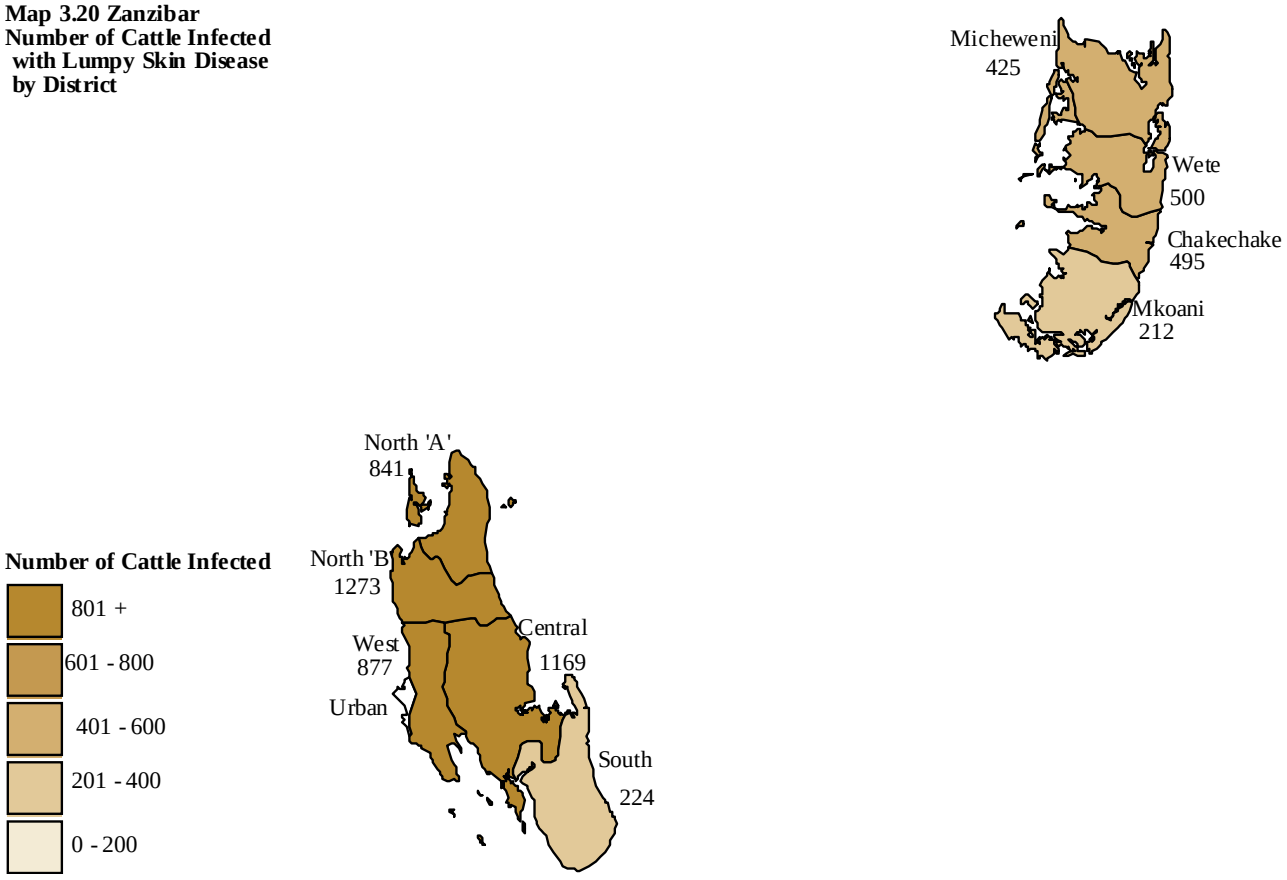


Chart 3.37 Percentage of Goats Infected with Helmenthiosis by District

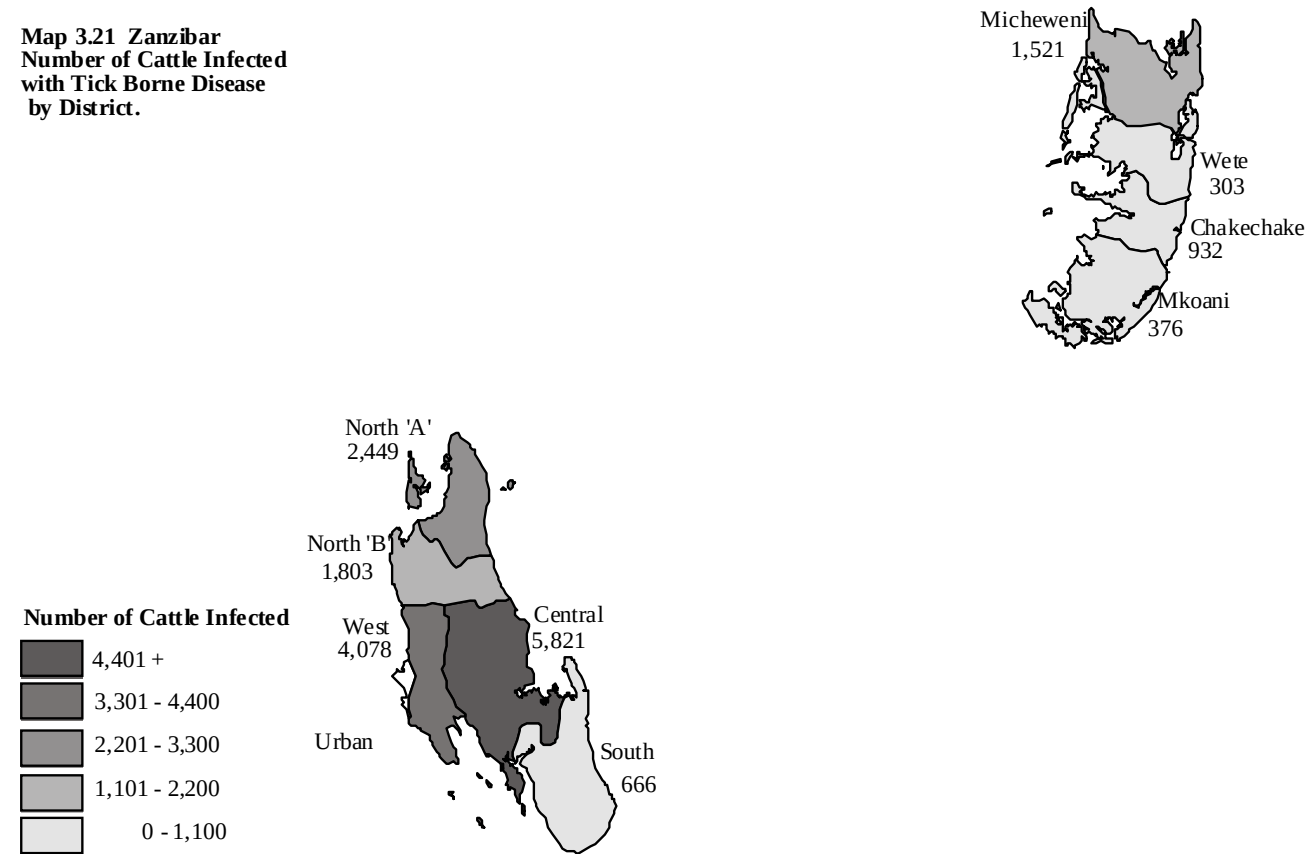


For goats, helmenthiosis was more prevalent in Central District where 18 percent of the herd was affected, followed by South District (13 percent of the herd), North 'B' (10 percent) while Micheweni had only three percent of its herd affected by the parasites (Chart 3.37).

Map 3.20 Zanzibar
Number of Cattle Infected with Lumpy Skin Disease by District

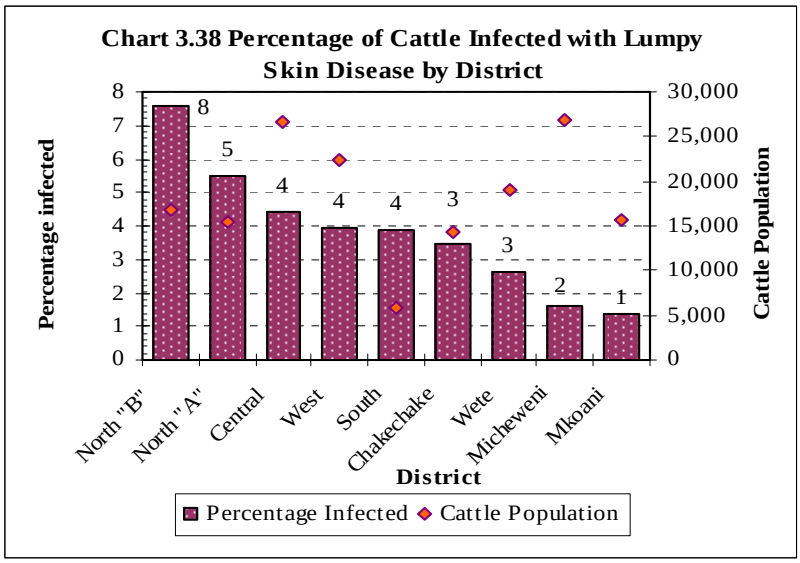


Map 3.21 Zanzibar
Number of Cattle Infected with Tick Borne Disease by District.



Lumpy Skin Disease (LSD)

Lumpy skin disease infected four percent of the total cattle population. Of the total infected cattle with LSD in Zanzibar, most were in North 'B' (21% of the total affected), which was equivalent to only 8 percent of the cattle population in the district), Central district, (19 percent of the total affected cattle however only 4 percent in terms of district cattle), whereas Mkoani contributed four percent of the infected cattle which was only one percent of the cattle in the district (Chart 3.38).



Contagious Caprine Pleuro-pneumonia (CCPP)

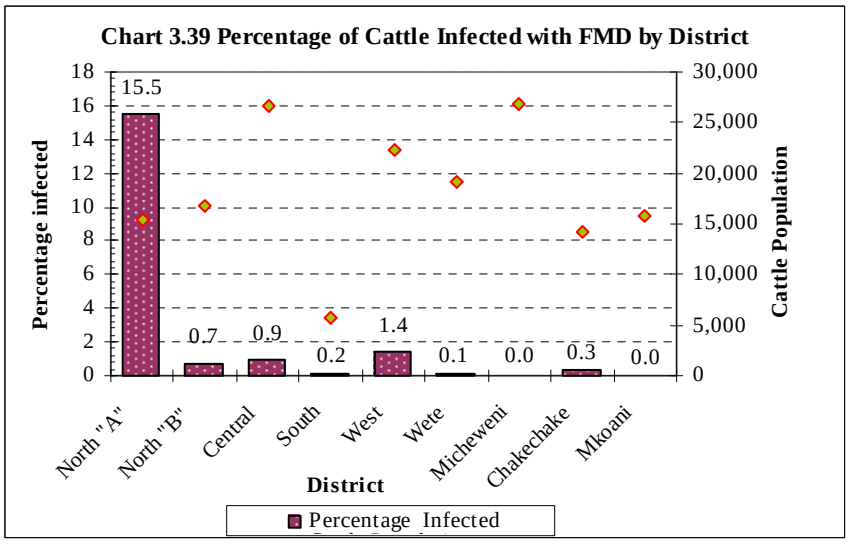
About 5,565 goats were affected by pneumonic problems.

Micheweni District had 81 percent of the total affected animals.but these were mostly kids which are prone to common pneumonia infections under humid environmental condition. The actual CCPP was experienced in Unguja island especially in North 'A' and North 'B' Districts and it was not reported in any district in Pemba.

Foot and Mouth Disease (FMD)

Foot and Mouth Disease affected about two percent of the total cattle population.

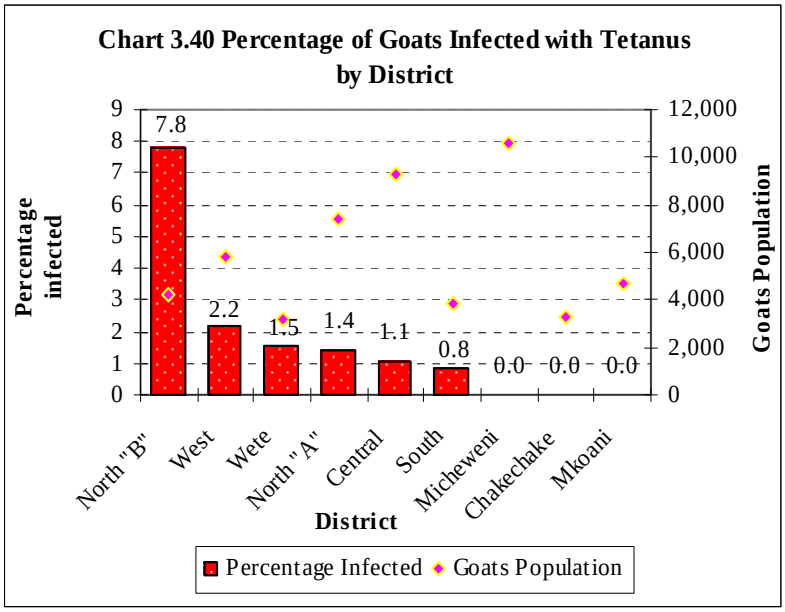
The district that had the highest infection was North 'A' with 76 percent of the total affected cattle in Zanzibar which is equivalent to equal to 16 percent of the cattle population in the district; whereas less than one percent of the affected cattle were in Wete and about 1.5 percent of them were in Chakechake. There was no FMD infection in Micheweni and Mkoani Districts (Chart3.39).



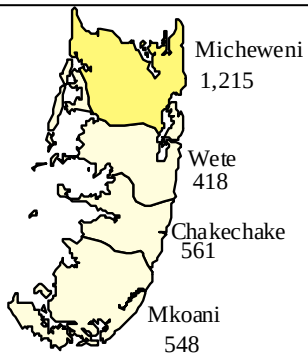
Tetanus

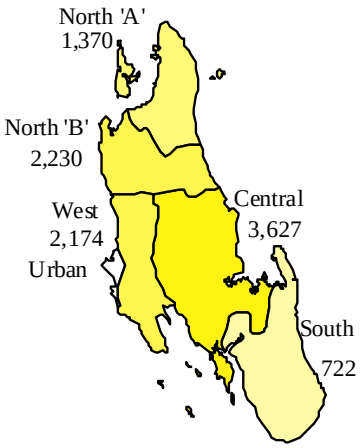
Tetanus is not a common disease and it affected only one percent of the Zanzibar's goats population. About eight percent of the goats in North 'B' District were affected, 2 percent of the goats in West District were also affected, 1 percent for each of the goat population in Wete, North 'A' , Central and South Districts while no cases were reported in Micheweni, Chakechake and Mkoani Districts (Chart 3.40).

Other diseases such as Contagious Bovine Pleuro-pneumonia, Foot rot, Anthrax, and African Swine Fever were not reported at all.



Map 3.22 Number of Cattle and Goats Infected with Helminthiosis by District

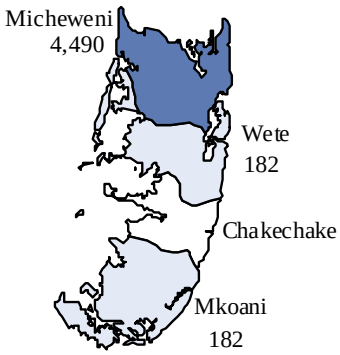


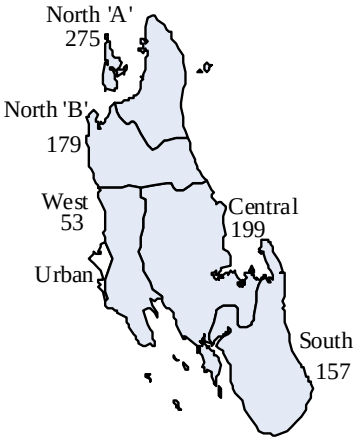


Number of Cattle and Goats Infected

- 2,401 +
- 1,801 - 2,400
- 1,201 - 1,800
- 601 - 1,200
- 0 - 600

Map 3. 23 Number of Goats and Sheep Infected with Pneumonia by District

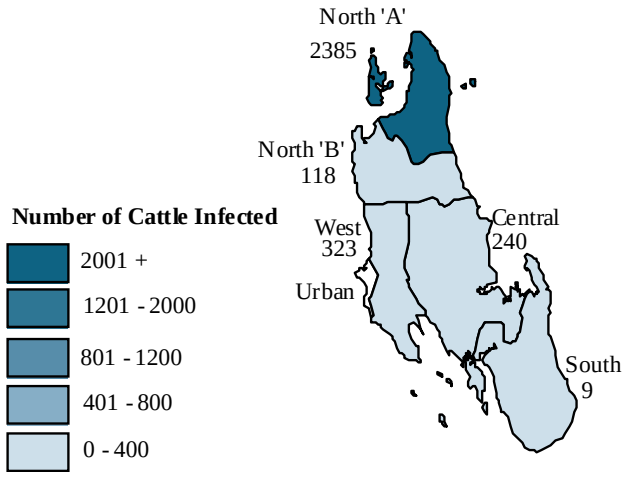




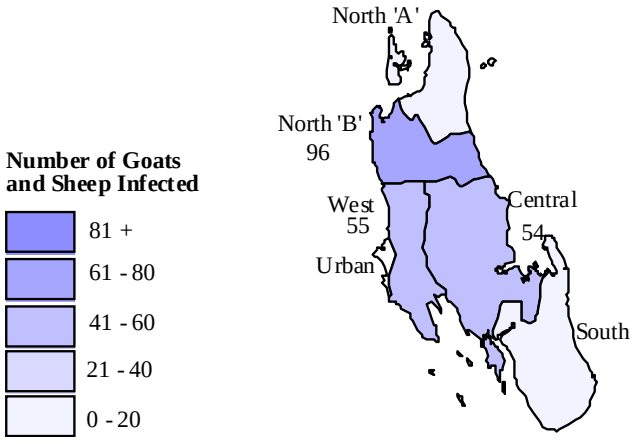
Number of Goats and Sheep Infected

- 3,201 +
- 2,401 - 3,200
- 1,601 - 2,400
- 801 - 1,600
- 0 - 800

Map 3.24 Number of Cattle Infected withFoot and Mouth Disease by District



Map 3.25 Number of Goats and Sheep Infected with Foot Rot Disease by District



3.4.1 Pest and Parasite Control

Deworming

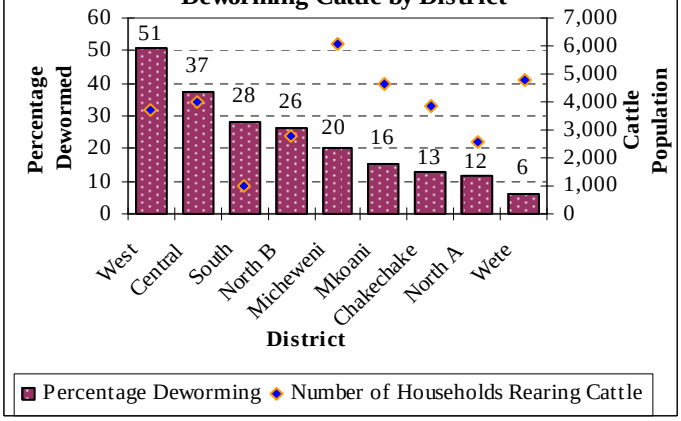
About 20 percent of the livestock holdings dewormed their herds. Nearly 49 percent of the households keeping pigs carried out deworming, whilst 22 percent of households dewormed their cattle and only 13 percent of the households dewormed their goats (Table 3.9).

Table 3.9 Number of Households Deworming Livestock by Livestock Type

Type of Livestock	Number of Households Deworming	%	Number of Households not Deworming	%	Total Number of Households Raising Livestock
Goats	1,227	13	8,231	87	9,458
Cattles	7,404	22	25,885	78	33,289
Sheep	15	21	57	79	72
Pigs	27	49	28	51	55
Total	**8,673**	**20**	**34,201**	**80**	**42,874**

Cattle deworming was more common in West District where 51 percent of the cattle holdings exercised it, followed by Central District (37% of holdings), Micheweni (20%) whereas in Wete only 6 percent of the cattle holdings dewormed their cattle (Chart 3.41).

Chart 3.41 Percentage of Households Deworming Cattle by District



Tick Control

About 57 percent of households that kept cattle were reported to have encountered tick problems. Nearly 19 percent of such households were found in Micheweni which represented 58 percent of the district's cattle holdings, 14 percent were in West District which were 70 percent of the district's cattle holdings while only three percent of the affected households were in South District representing 58 percent of the cattle holdings (Chart 3.42).

Chart 3.42 Percentage of Households Encountering Cattle Tick Problems by District

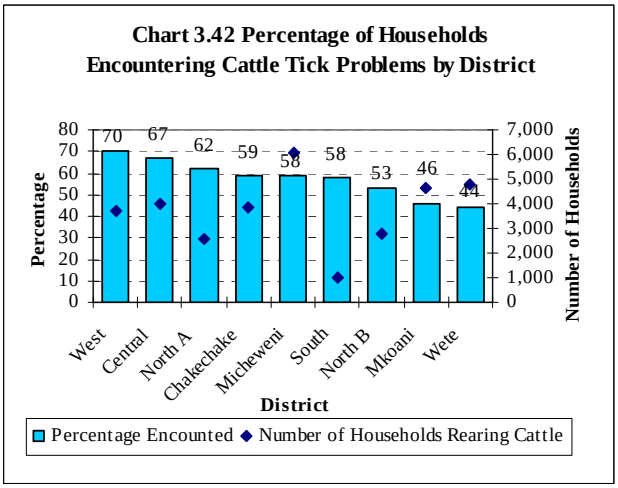
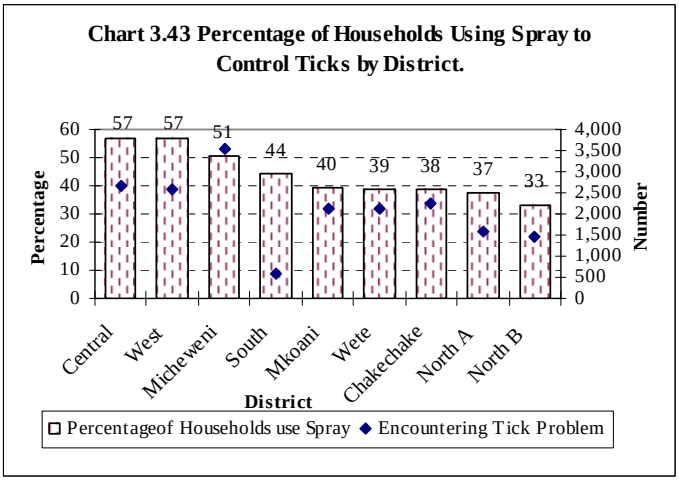
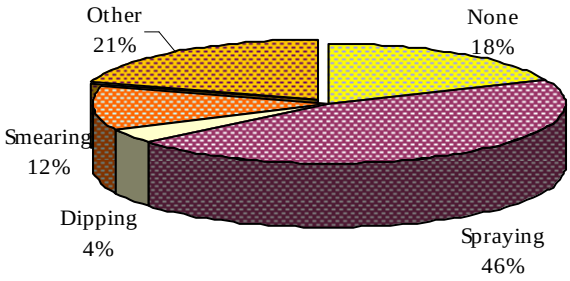


Chart 3.43 Percentage of Households Using Spray to Control Ticks by District.



About 18 percent of the interviewed households that encountered tick problems did not take any control measures against ticks, 46 percent used hand spraying as a control measure, 4 percent used dipping, 12 percent used pour on/smearing method and 21 percent used other methods, including hand picking (Chart 3.44).

Chart 3.44 Percentage of Agriculture Households Used Different Methods to Control Ticks

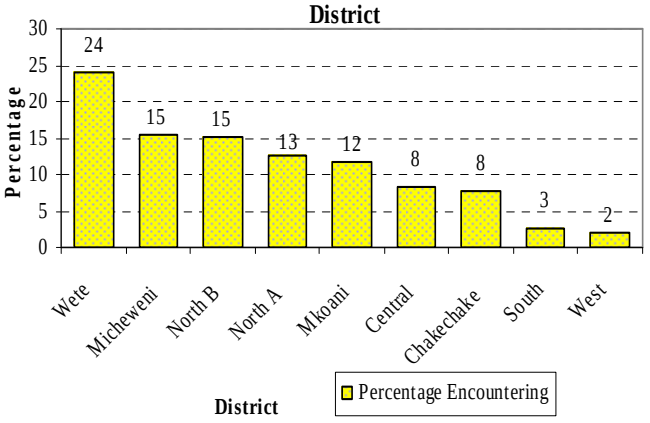


Stomoxy Control

About two percent of the livestock holdings have encountered stomoxis problems. Around 24 percent of the households that encountered the problems were in Wete District, Micheweni and North 'B' had 15 percent each whereas only two percent were found in West District (Chart 3.45).

Nearly 56 percent of the households that encountered the problems did not use any control method, 39 percent used hand spraying whereas the remaining five percent practiced other methods of control (Chart 3.46).

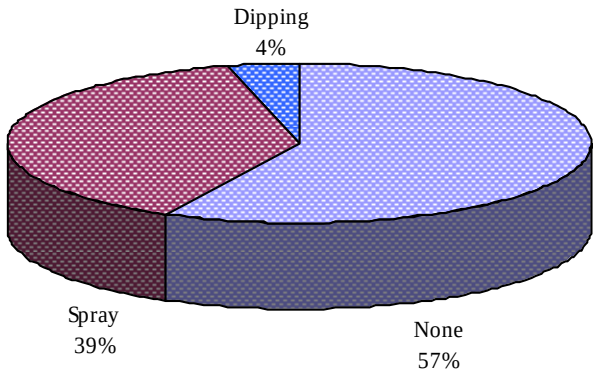
Chart 3.45 Percentage of Households Encountering Stomoxy by District



3.5 Access to Livestock Infrastructures and Services

The census results show that more than 50 percent of the households raising livestock had to walk 10km or more for input requirements and veterinary services such as hand powered sprayers, secondary market, slaughter slab, input supply store veterinary clinic etc.

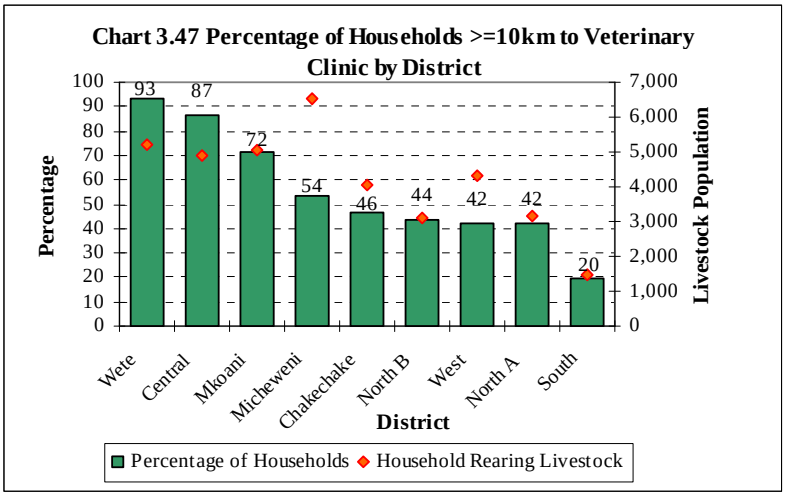
Chart 3.46 Percentage of Households that Used Specified Methods to Control Stomoxy



3.5.1 Access to Veterinary Clinics

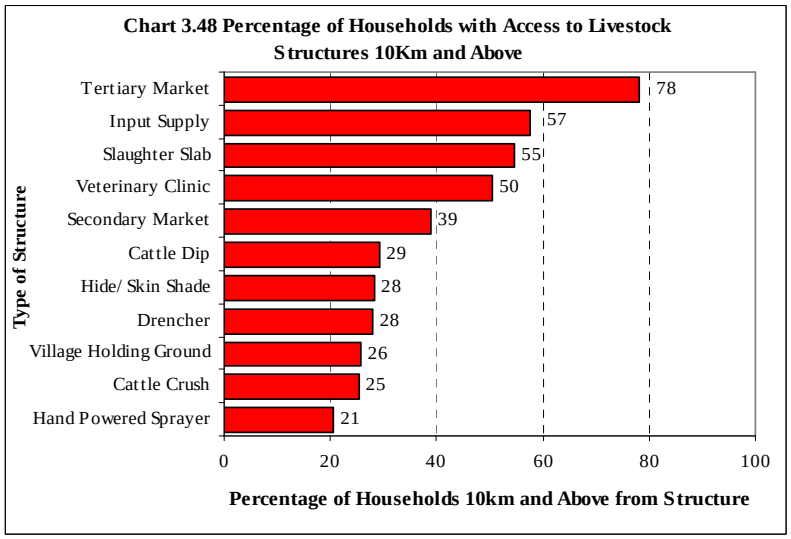
About 63 percent of the livestock keepers walked a distance of 10 km or more to the nearest veterinary clinics.

About 93 percent of livestock keepers in Wete, 87 percent in Central, 72 percent in Mkoani, 20 percent in South and 44 percent in North 'B' districts had to walk 10 or more km to the service (Chart 3.47). Agriculture households in these districts kept about 51 percent of livestock.

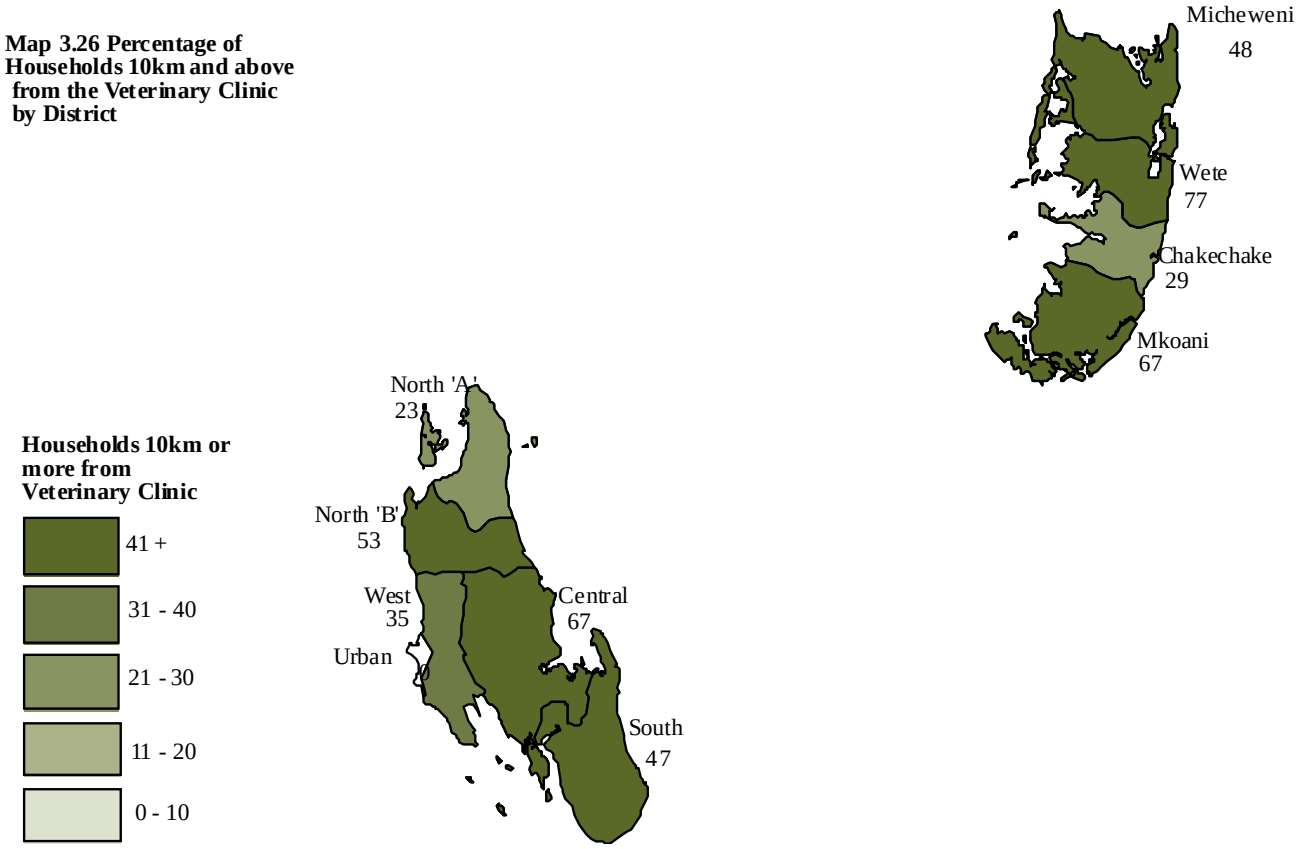


3.5.2 Distance to Livestock Infrastructure and Services

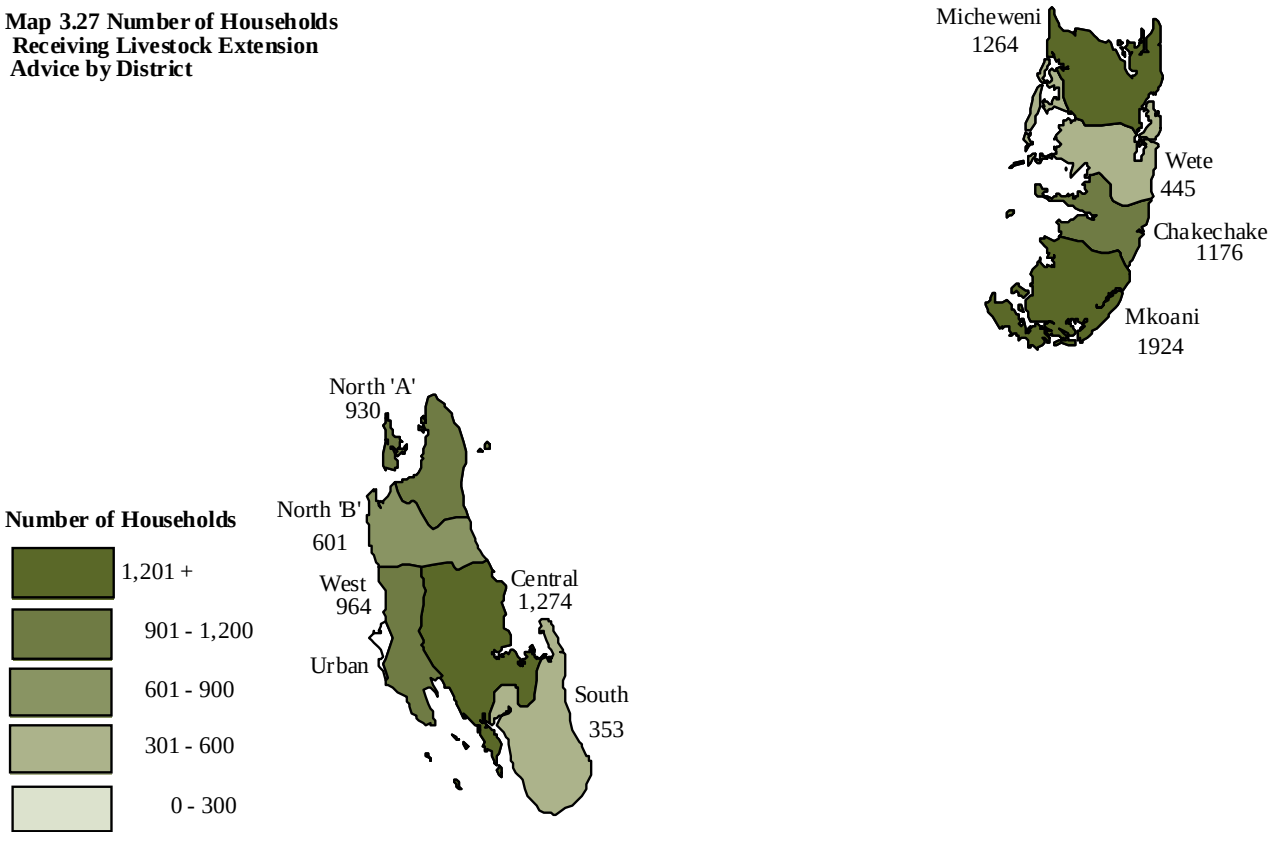
On average 57 percent of livestock keepers were reported to walk 10 km or more to get to the nearest livestock infrastructure and services. The distances to specialized veterinary services such as veterinary clinics and input supplies were higher than those to livestock husbandry structures such as hand powered sprayers, drenchers and cattle crush (Chart 3.48).



Map 3.26 Percentage of Households 10km and above from the Veterinary Clinic by District



Map 3.27 Number of Households Receiving Livestock Extension Advice by District

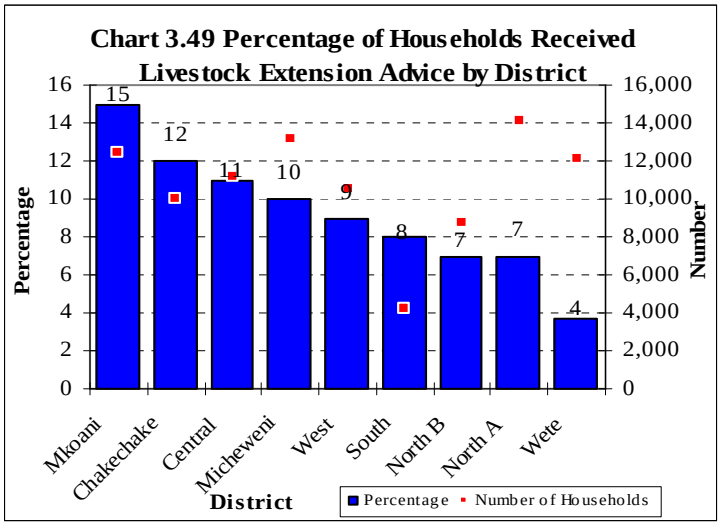


3.6 Livestock Extension Services

3.6.1 Extension Services Outreach

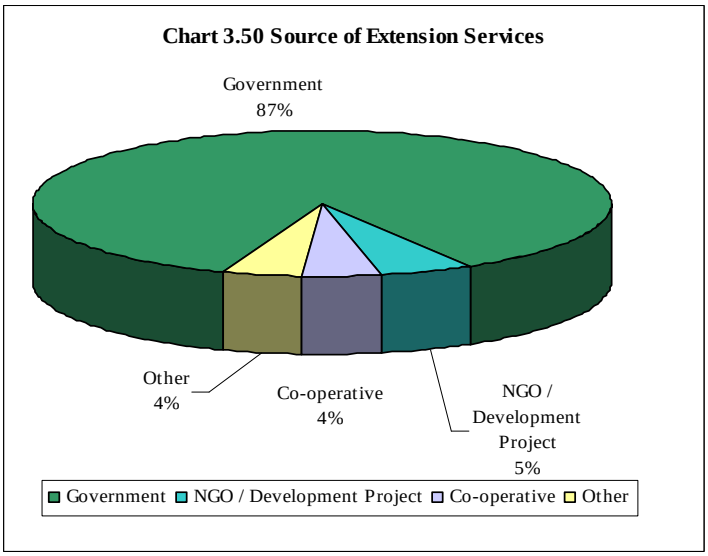
Around 8,931 livestock holdings received livestock extension messages.and these represent 13 percent of livestock holdings including poultry keepers.

Nearly 15 percent of the agricultural households in Mkoani received the services, followed by Chakechake with 12 percent of it's agricultural households, Central (11 percent), Micheweni (10 percent), West (nine percent), South (eight percent), North 'A' and, North 'B' seven percent each and Wete District four percent (Chart 3.49).



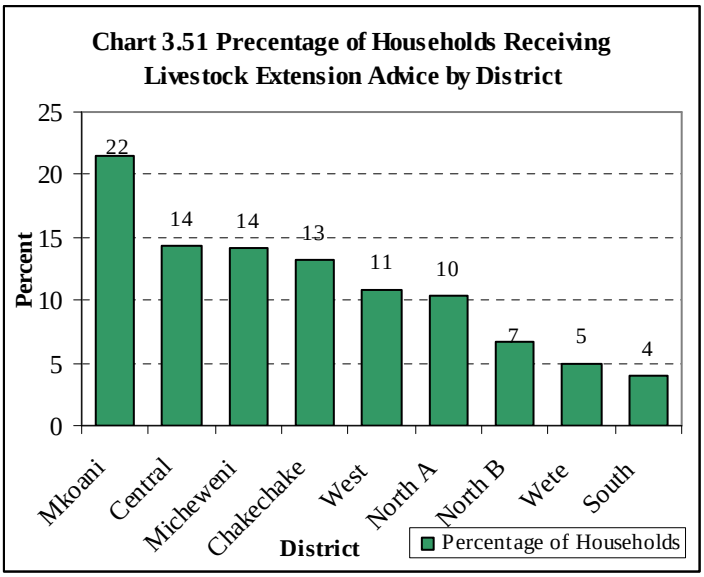
3.6.2 Source of Extension Services

The main source of livestock extension services was the government whose agents advised 87 percent of the households, development Projects and NGOs delivered services to about five percent of the households, farmer's associations delivered messages to about four percent of the households and other sources served about four percent of the households (Chart 3.50).



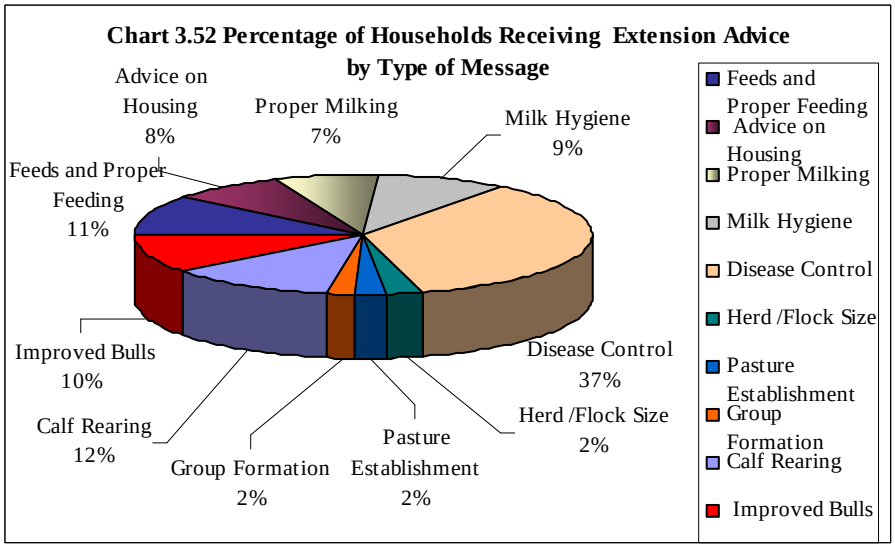
In South District NGOs were the main sources of advice. They advised 17 percent of the households that received extension on livestock services. Farmer to farmer services was not common in any district. About 18 percent of livestock keeping households had members who participated in farmer's groups where they received extension advice.

About 22 percent of livestock keepers in Mkoani received extension advice compared to 14 percent each for Micheweni and Central districts. In South District only four percent of its livestock keeping households received extension massages (Chart 3.51).

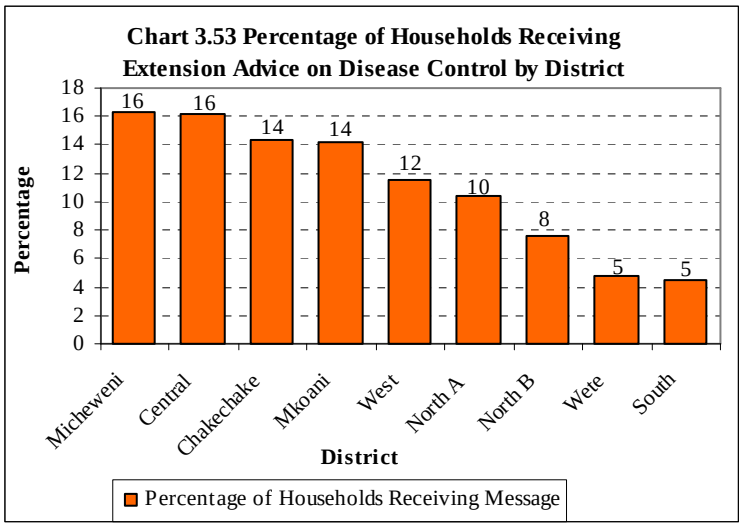


3.6.3 Type of Extension Services

Advice on disease control was the most common type of extension messages. These messages were provided to 37 percent of the households that were advised followed by messages on calf rearing (12 percent), proper feeding (11 percent) while messages on group formation were provided to only two percent of the households (Chart 3.52). Government agents advised 99 percent of the households on various livestock development issues and the NGOs agents advised the remaining one percent of the households mostly in South District.



Most of the households that received messages on disease control were in Micheweni and Central districts each accounting for 16 percent of the households that received the messages. These were closely followed by Chakechake and Mkoani Districts each of which accounted for 14 percent of the households. South District had only five percent of the households that received advice on disease control (Chart 3.53).



3.6.4 Quality of Extension Service

About 19 percent of the households that received extension advise on livestock improvement reported that the impact of the services was very good, 70 percent of the households reported it to be good, 10 percent reported it to be average and one percent said it was poor (Table 3.10)

Table 3.10 Number of Agricultural Households By Quality of Extension Services and District

District	Quality of Service									
	Very Good		Good		Average		Poor		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
North A	109	12	746	80	74	8	0	0	930	100
North B	59	10	521	87	21	3	0	0	601	100
Central	346	27	874	67	53	4	27	2	1300	100
South	73	21	267	76	13	4	0	0	353	100
West	98	10	822	85	44	5	0	0	964	100
Wete	102	23	322	72	21	5	0	0	445	100
Micheweni	187	15	922	73	155	12	0	0	1264	100
Chakechake	302	26	743	63	108	9	23	2	1176	100
Mkoani	377	20	1045	55	481	25	0	0	1903	100
Total	**1654**	**19**	**6262**	**70**	**971**	**11**	**50**	**1**	**8936**	**100**

3.7 Fish Farming

There was no Fish farming in Zanzibar. It needs to be initiated and then promoted as it can be a good source of protein supply, contribute greatly to household food security and generate income for the households. Once this activity is established, fish farming enterprises can easily become self sustaining

4. CONCLUSIONS

In 2002/03 Agriculture Sample Census, data were collected on rural demographics, crop production and productivity, input use, agro-processing and storage, farmer's access to services, livestock population, production and diseases, access to social infrastructures, poverty and livelihood.

This analysis of livestock sector mainly focuses on livestock structures, district distribution of livestock, herd size, livestock diseases and access to infrastructure and services. Where possible, the data are compared with the livestock census conducted in 1992/93 at national level for Zanzibar in order to identify the changes during the inter-census period. The livestock sector is very significant in Zanzibar's economy (providing jobs and income to an estimated 36,445 households which represent 38 percent of the rural agriculture households).

In 2002/03 livestock sector contributed 4 percent of Zanzibar's GDP. The total livestock number in Zanzibar was 215,802 of which 162,643 (75 percent) were cattle, 52,324 (24 percent) goats and less than one percent were sheep and pigs combined (300 (0.14 percent) sheep and 535 (0.25 percent) pigs). Most of the livestock holdings kept an average of 1 to 9 animals. Most of the livestock were kept in Micheweni and Central districts and fewer were in South District.

The livestock populations for cattle, goats and pigs increased at different rates but the sheep population decreased. The improved dairy cattle population increased at higher rate than indigenous cattle and this may be due to awareness of the importance of milk production and the introduction of dairy cattle from outside of Zanzibar through IAEA's Heifer-in-Trust Project and other initiatives.

The improved broiler trend experienced a sharp decline in its growth rate over the last ten years, possibly due to increased disease conditions and inadequate supply of reliable day old chicks and reliable balanced broilers feeds as well as the import of cheap dressed chicken from other countries. However, the improved layers trend showed a large increase probably because layers provide farmers with regular cash income, are less subject to competition from imports and eggs are more perishable for importing over long distances. Further investigations are needed in order to determine the dynamics in improved chicken production.

Improved chicken sub-sector should be developed and the feeds and by-products of milling should be investigated to support this industry which is essential in regard to protein needs, in the form of meat and eggs for the increasing population as well as a source of income for the smallholders. Policy changes in the form of import price setting and production incentives to enable the smallholders to compete with cheap chicken from other countries may be required.

Livestock diseases, especially tick-borne diseases are widespread and so access to functional veterinary services is an issue that needs to be addressed. Improved access to infrastructure, management, proper feeds, veterinary services and the promotion of price policy to lower feed cost will allow the livestock sector to perform better.

The reduction in livestock production and productivity may have been due to the drought during the year of the census.

It has been found out that services and infrastructures are generally more accessible in areas near to urban centers such asFuoni, Kiembe Samaki, Vitongoji, and Mtoni. These areas have small numbers of livestock compared to places like some villages in Micheweni and in Central Districts which have less support and infrastructures and services. In districts where farming system is more intensive, especially where there is more of improved dairy cattle and improved poultry production (West and Central districts) there is more service support than in those areas where system is basically extensive and the livestock are generally of indigenous species. The policy of privatization of veterinary and extension services should be given some consideration.

In general, Zanzibar has a small number of livestock especially small ruminants (sheep and goats) and pigs which anyhow were expected to be few because of culture and religious reasons. The number of pigs is however increasing. Chicken production is very important and Zanzibar has the highest density of 404 to square kilometer in the country (Tanzania). The contribution of livestock (draft animals) to land cultivation was insignificant. They were used on only on 0.18 percent of the total planted area (during both long and short rainy seasons. There is a need to provide farmers with this knowledge.

District Profiles

The following profiles summarize the status of livestock in each district.

North 'A' District

North 'A' District had the lowest proportion of households that kept indigenous cattle (18 percent of the households, Zanzibar's average was 34 percent of the households per district). A cattle keeping household kept an average of six cattle.

The district accounted for only nine percent of the cattle population, had the lowest number of households that kept dairy cattle or their crosses and produced little milk. Only eight percent of the households kept goats and no household kept sheep, pigs, rabbits or donkeys. Indigenous chicken population was medium but improved chicken population was low. However, the district accounted for most of the ducks (32 percent) and it was the second in importance in turkey production (47 percent of the population). Eggs production was very low.

Considering the number of livestock, disease infections were moderate but CCPP and mange infections were highest in this district. There was no farming household that used draft animals for land preparation and only nine percent of the households used farm-yard manure. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

North 'B' District

About 32 percent of the households in North 'B' District kept indigenous cattle. The average number of cattle kept by the cattle keeping household was six cattle.

The district accounted for 10 percent of the cattle population and nine percent of the households that kept dairy cattle or their crosses. Milk production in the district was very little. About eight percent of the households kept goats but there was no

household that kept sheep or pigs. The district accounted for 26 percent of rabbit's population and 44 percent of donkeys. The proportion of Indigenous and improved chicken population was low and so egg production was very little. The district accounted for 16 percent of duck's population and there were no turkeys.

Diseases infections were moderate. There was no household that used draft animals for land preparation and about 37 percent of the households used farm-yard manure. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

Central District

In Central District 36 percent of the households kept indigenous cattle. On average a cattle keeping household kept seven cattle.

The district was second to Micheweni District for having the highest number of cattle and it was also second to West District in number of improved (dairy/crosses) cattle. It was also the second most important milk producer (produced 15 percent of the milk). About 15 percent of the households kept goats and no household kept sheep, rabbits or donkeys. Central District was the only district that had households which kept pigs. The district ranked second in numbers of indigenous chickens, layers and broilers but it had the largest number of chicken than any other district. It also leads in egg production (accounted for 41 percent of the eggs). The district accounted for 17 percent of ducks population but there were no turkeys.

Diseases infections were moderate. The district accounted for 51 percent of households that used draft animals for land preparation and had the highest use of farm-yard manure with 39 percent of the households using the input. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

South District

This district had the lowest number of households that kept cattle. About 23 percent of the households kept indigenous cattle. On average each cattle keeping household kept six cattle's.

The district accounted of only about four percent of the cattle population and less than one percent of dairy cattle or their crosses and produced little milk. South District had the highest proportion of the households that kept goats (16 percent) but these accounted for only four percent of goat population. No household kept sheep or pigs. South District had the lowest number of chicken (only four percent of total chickens population). The district accounted for 13 percent of ducks but there were no turkeys.

Diseases infections were moderate. No household used draft animals for land preparation and 37 percent of the households used farm-yard manure. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

West District

West District was third in terms of number of cattle (14 percent of cattle population) and it had the highest number of dairy cattle or their crosses (46 percent of the population). About 35 percent of the households kept an average of six indigenous cattle.

About 13 percent of the households kept goats, less than one percent kept sheep (five percent of the sheep population), no household kept pigs and the district accounted for 59 percent of rabbits, 15 percent of donkeys, 14 percent of ducks and 53 percent of turkeys. West District had a moderate number of indigenous chickens but it had the highest numbers of layers and broilers and it was the second district in number of chicken population. However, the district accounted for only 19 percent of egg production (Central 41 and Chakechake 27 percent respectively) suggesting that most of the layers have not started producing eggs.

Diseases infection was moderate. About 49 percent of households that used draft animals for land preparation (less than one percent of the total number of households). About 36 percent of the households used farm-yard manure.
The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

Wete District

Wete District was ranked the fourth in having the big number of cattle and about 39 percent of the households in the district kept indigenous cattle. On average each cattle keeping household kept four cattle's.

The district accounted for 12 percent of the cattle population but produced little milk. Only six percent (lowest) of the households kept goats, very few kept sheep (less than one percent of households), none kept pigs, rabbits and donkeys. Indigenous chicken population was medium but improved chicken population was very low (there were no broilers). The district accounted for only three percent of the ducks population and there were no turkeys. The production of eggs was very little.
Disease infections were moderate and no household used draft animals for land preparation. Only six percent of the households used farm-yard manure. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

Micheweni District

The district had the highest proportion of households (46 percent) that kept indigenous cattle. However, the average heads kept by the households was four cattle which were below the Zanzibar's average of five cattle. Micheweni accounted for nearly 16 percent of the cattle population. The district accounted for 17 percent of indigenous cattle population but only three percent of improved dairy cattle.

About 11 percent of the households kept goats, and no household kept sheep, pigs, and rabbits. or donkeys. Indigenous chicken population was medium but improved chicken population was low. However, the district accounted for small amount of ducks (1 percent) and didn't have any turkey production. The production of eggs was very little.

Disease infections were moderate. No household used draft animals for land preparation and 28 percent of the households used farm-yard manure. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

Chakechake District

About 38 percent of the households in the district kept indigenous cattle. The average number of cattle was four for each cattle keeping household. Chakechake District accounted for nine percent of the total cattle population.

The district accounted of nine percent of the total cattle population and improved cattle for milk production and produced little milk. About seven percent of the households kept goats, no household kept sheep, pigs and rabbits. The district accounted for 14 percent of donkeys' population.

Indigenous chicken population was medium, it was raked the third in layers population (12 percent of layers) but there were no broilers. The ducks population was low and there were no turkeys. Chakechake District accounted for 27 percent of the total annual egg production.

Disease infection was moderate. No household used draft animals for land preparation and only seven percent of the households used farm-yard manure. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

Mkoani District

About 37 percent of the households kept indigenous cattle. The district's average number of cattle heads per cattle keeping household was three which was the lowest.

Mkoani accounted for 10 percent of the total cattle population and only three percent of improved dairy cattle or their crosses. About nine percent of the households kept goats and no household kept sheep, pigs, or rabbits. The district accounted for four percent of donkey's population. Mkoani District had the highest number of indigenous chickens (15 percent) but almost no improved chickens. It also had very low number of ducks (one percent of Zanzibar's total duck population), no turkeys. Eggs production was very little.

Disease infection was moderate. No household used draft animals for land preparation and only six percent of the households used farm-yard manure. The access to livestock infrastructures and services were moderate to poor and almost all extension services were provided by the government.

6. APPENDICES

Appendix I: **Livestock and Poultry Tabulation List**

Appendix II: **Livestock and Poultry Tables**

Appendix III: **Questionnaires**

Table Number **Description** **Page Number**

TYPE OF AGRICULTURE HOUSEHOLD

LIVESTOCK CONTRIBUTION TO CROP PRODUCTION

CATTLE POPULATION

GOAT POPULATION

SHEEP POPULATION

PIG POPULATION

CHICKEN POPULATION

OTHER LIVESTOCK

LIVESTOCK PRODUCTS

LIVESTOCK DISEASES

ACCESS TO LIVESTOCK INFRASTRUCTURES

ACCESS TO LIVESTOCK EXTENSION SERVICES

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

District	Rural Households Involved in Agriculture		Rural Households No 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	37.0	17899	63.0	28,426
Wete	12,108	84.0	2308	16.0	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 rural households involved in agriculture - Small holder questionnaire. Number of rural households not involved in Agriculture-household listing

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

District	Type of Agricultural Holding						Total Number of Agriculture Hoseholds	Total Number of Households Growing Crops	Total number of Households Rearing Livestock
	Crops Only		Livestock Only		Crops & Livestock				
	Number	Percent	Number	Percent	Number	Percent			
North A	11,121	19	31	10	2,959	8	14,110	14,080	2,989
North B	5,784	10	20	7	2,974	8	8,778	8,758	2,994
Central	6,494	11	0	0	4,651	13	11,145	11,145	4,651
South	2,988	5	38	13	1,208	3	4,234	4,196	1,246
West	6,334	11	149	49	4,045	11	10,527	10,379	4,194
Wete	7,066	12	20	7	5,022	14	12,108	12,088	5,042
Micheweni	6,703	11	24	8	6,390	18	13,117	13,093	6,414
Chakechake	5,946	10	19	6	4,065	11	10,031	10,011	4,085
Mkoani	7,641	13	0	0	4,831	13	12,472	12,472	4,831
Total	**60,077**	**100**	**301**	**100**	**36,144**	**100**	**96,522**	**96,221**	**36,445**

17.1 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Number and Percentage of Households Using Draft Animals by District during 2002/03 Agricultural Year

District	Households Using Draft Animals		Household Not Using Draft Animals		Total households
	Number	%	Number	%	
North "A"	0	0.0	14110	100.0	14110
North "B"	0	0.0	8778	100.0	8778
Central	51	0.5	11093	99.5	11145
South	0	0.0	4234	100.0	4234
West	40	0.4	10487	99.6	10527
Wete	0	0.0	12108	100.0	12108
Micheweni	0	0.0	13117	100.0	13117
Chakechake	0	0.0	10031	100.0	10031
Mkoani	0	0.0	12472	100.0	12472
Total	**91**	**0.1**	**96,431**	**99.9**	**96522**

17.2 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Number of Draft Animals Owned, Used and Area Cultivated (Hectare) by District During 2002/03 Agricultural Year

District	Oxen			Bulls			Total		
	Number Owned	Number Used	Area Cultivated (ha)	Number Owned	Number Used	Area Cultivated (ha)	Number Owned	Number Used	Area Cultivated (ha)
North "A"	0	0	0.0	0	0	0.0	0	0	0.0
North "B"	0	0	0.0	0	0	0.0	0	0	0.0
Central	112	112	11.3	23	23	9.4	135	135	20.7
South	0	0	0.0	0	0	0.0	0	0	0.0
West	0	40	12.1	0	0	0.0	0	40	12.1
Wete	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
Chakechake	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
Total	**112**	**152**	**23.4**	**23**	**23**	**9.4**	**135**	**175**	**32.9**

17.3 ANIMAL CONTRIBUTION TO CROPS: Number of Crop Growing Households Using Organic Fertilizer by District during 2002/03 Agricultural Year

District	Using Organic Fertilizers		Not Using Organic Fertilizers		Total	
	Number	%	Number	%	Number	%
North "A"	2922	14	11189	15	14110	15
North "B"	990	5	7788	10	8778	9
Central	4905	23	6240	8	11145	12
South	1736	8	2499	3	4234	4
West	4674	22	5853	8	10527	11
Wete	683	3	11425	15	12108	13
Micheweni	3533	17	9584	13	13117	14
Chake	702	3	9328	12	10031	10
Mkoani	888	4	11584	15	12472	13
Total	**21034**	**100**	**75488**	**100**	**96522**	**100**

17.4 ANIMAL CONTRIBUTION TO CROPS: Area of Farm Yard Manure and Compost Manure Application by District during 2002/03 Agricultural Year

District	Farm Yard Manure		Compost Manure		Total Area of Organic Fertilizer	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
North "A"	565	6	640	25	1205	10
North "B"	462	5	22	1	484	4
Central	2934	33	796	31	3731	32
South	516	6	129	5	646	6
West	1799	20	850	33	2648	23
Wete	148	2	17	1	165	1
Micheweni	2075	23	57	2	2132	19
Chake	197	2	58	2	254	2
Mkoani	191	2	37	1	228	2
Total	**8887**	**100**	**2606**	**100**	**11493**	**100**

18.1 CATTLE POPULATION: Total Number of Households Rearing and Not Rearing Cattle by District during 2002/03 Agricultural Year

District	Households Rearing Cattle		Households Not Rearing Cattle		Total Agricultural Households	Total Livestock Keeping Households
	Number	%	Number	%		
North "A"	2,549	18.0	11,561	82.0	14,110	3,138
North "B"	2,729	32.0	6,009	68.0	8,778	3,102
Central	4,008	36.0	7,137	64.0	11,145	4,914
South	994	23.0	3,240	77.0	4,234	1,484
West	3,680	35.0	6,839	65.0	10,527	4,301
Wete	4,761	39.0	7,347	61.0	12,108	5,206
Micheweni	6,049	46.0	7,068	54.0	13,117	6,540
Chake	3,854	38.0	6,177	62.0	10,031	4,054
Mkoani	4,616	37.0	7,855	63.0	12,472	5,064
Total	**33,239**	**34.0**	**63,234**	**66.0**	**96,522**	**37,803**

18.2 CATTLE POPULATION: Number of Cattle by Type and District as of 1st October 2003

District	Indigenous Cattle			Improved Beef Cattle		Improved Dairy Cattle			Number of Cattle
	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	Number of Households	Number of Cattle	%	
North "A"	2521	15313	99.6	0	0	28	55	0.4	15368
North "B"	2729	16067	95.4	0	0	184	770	4.6	16837
Central	4008	25038	94.2	0	0	447	1543	5.8	26581
South	985	5696	98.9	0	0	33	61	1.1	5757
West	3501	18662	83.7	0	0	786	3644	16.3	22306
Wete	4697	18386	96.4	0	0	186	679	3.6	19065
Micheweni	6026	26484	99.0	0	0	158	271	1.0	26755
Chakechake	3808	13501	94.8	0	0	228	738	5.2	14239
Mkoani	4616	15589	99.1	0	0	63	146	0.9	15735
Total	**32891**	**154736**	**95.1**	**0**	**0**	**2113**	**7,908**	**4.9**	**162,643**

18.3.1CATTLE POPULATION: Number of Households Rearing Cattle, Head of Cattle and Average Number per Households by Herd Size as of 1st October 2003

Herd Size	Cattle Rearing Households		Head of Cattle		Average Number of Cattle per Household
	Number	%	Number	%	
1-5	23,553	71	66,374	41	3
6 - 10	6,971	21	51,378	32	7
11 - 15	1,778	5	22,875	14	13
16-20	579	2	10,079	6	17
21-30	177	1	4,319	3	24
31-40	125	0	4,585	3	37
41-50	35	0	1,619	1	46
61-100	21	0	1,413	1	66
Total	**33,239**	**100**	**162,643**	**100**	**5**

18.4.1 CATTLE POPULATION: Number of Cattle by Type and District as of 1st October 2003

District	Indigenous Cattle			Improved Beef Cattle		Improved Dairy Cattle			Number of Cattle
	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	Number of Households	Number of Cattle	%	
North "A"	2521	15313	99.6	0	0	28	55	0.4	15368
North "B"	2729	16067	95.4	0	0	184	770	4.6	16837
Central	4008	25038	94.2	0	0	447	1543	5.8	26581
South	985	5696	98.9	0	0	33	61	1.1	5757
West	3501	18662	83.7	0	0	786	3644	16.3	22306
Wete	4697	18386	96.4	0	0	186	679	3.6	19065
Micheweni	6026	26484	99.0	0	0	158	271	1.0	26755
Chakechake	3808	13501	94.8	0	0	228	738	5.2	14239
Mkoani	4616	15589	99.1	0	0	63	146	0.9	15735
Total	**32891**	**154736**	**95.1**	**0**	**0**	**2113**	**7,908**	**4.9**	**162,643**

18.5 CATTLE POPULATION: Number of Indigenous Cattle by Category of Cattle and District on 1st October 2003

District	Category						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
North "A"	2,313	6,510	0	2,308	2,092	2,090	15,313
North "B"	2,259	6,702	147	3,274	2,111	1,574	16,067
Central	4,173	9,591	205	4,070	3,449	3,550	25,038
South	782	2,461	10	972	645	826	5,696
West	2,779	7,003	115	3,498	2,361	2,906	18,662
Wete	4,576	6,997	19	3,054	1,764	1,976	18,386
Micheweni	5,528	9,817	64	5,057	2,902	3,116	26,484
Chakechake	2,412	5,390	0	2,203	1,845	1,650	13,501
Mkoani	3,359	5,906	36	3,218	1,423	1,646	15,589
Total	**28,181**	**60,377**	**596**	**27,654**	**18,592**	**19,334**	**154,736**

18.6 CATTLE POPULATION: Number of Improved Dairy Cattle by Category of Cattle and District as of 1st October 2003

District	Category						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
North "A"	0	0	0	55	0	0	55
North "B"	121	370	0	106	131	42	770
Central	83	533	53	459	232	181	1,543
South	0	42	0	10	0	9	61
West	277	1,562	0	679	616	511	3,644
Wete	174	231	0	146	87	40	679
Micheweni	69	111	0	0	22	69	271
Chakechake	48	298	0	140	116	136	738
Mkoani	0	105	0	0	42	0	146
Total	**773**	**3,252**	**53**	**1,596**	**1,245**	**989**	**7,908**

18.8 CATTLE POPULATION: Total Number of Cattle by Category of Cattle and District as of 1st October 2003

District	Category						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
North "A"	2313	6510	0	2364	2092	2090	15368
North "B"	2380	7072	147	3380	2242	1616	16837
Central	4285	10045	259	4529	3707	3757	26581
South	782	2503	10	982	645	835	5757
West	3131	8465	115	4117	2996	3483	22306
Wete	4750	7228	19	3201	1851	2016	19065
Micheweni	5597	9928	64	5057	2924	3186	26755
Chakechake	2460	5688	0	2343	1961	1787	14239
Mkoani	3359	6011	36	3218	1464	1646	15735
Total	**29,057**	**63,450**	**649**	**29,191**	**19,882**	**20,415**	**162,643**

18.13 CATTLE OFFTAKE: Heads of Cattle Off take by Category and District during 2002/03 Agricultural Year

District	Category						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
North "A"	1648	676	0	215	403	479	3422
North "B"	1165	929	0	340	701	430	3565
Central	838	548	126	484	461	466	2922
South	241	211	9	174	183	40	858
West	1114	1155	24	592	345	374	3604
Wete	301	308	0	282	333	453	1676
Micheweni	745	944	0	384	606	482	3161
Chakechake	908	514	23	652	621	409	3127
Mkoani	602	230	100	216	189	168	1506
Total	**7,562**	**5,516**	**282**	**3,337**	**3,842**	**3,302**	**23,841**

18.14 CATTLE INTAKE: Head of Cattle Intake by Category of Cattle and District during 2002/03 Agricultural Year

District	Cattle Intake						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
North "A"	303	230	0	346	2023	2059	4961
North "B"	0	60	0	57	2255	1630	4002
Central	298	259	0	589	3810	3828	8784
South	51	180	0	37	670	875	1813
West	146	481	20	356	3005	3276	7284
Wete	437	328	0	220	2245	2426	5656
Micheweni	727	922	0	503	3441	3623	9216
Chakechake	483	948	0	499	1871	2082	5884
Mkoani	144	314	0	457	1247	1794	3956
Total	**2,590**	**3,722**	**20**	**3,064**	**20,567**	**21,593**	**51,556**

18.4.1 CATTLE: Balance of Head of Cattle (Intake - Off Take) by Category and District as of 1st October 2003

District	Cattle Type						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
North "A"	-1345	-447	0	131	1619	1580	1539
North "B"	-1165	-869	0	-283	1553	1201	437
Central	-539	-289	-126	105	3349	3361	5861
South	-190	-31	-9	-137	487	835	955
West	-968	-674	-4	-236	2661	2902	3680
Wete	136	20	0	-62	1913	1973	3980
Micheweni	-18	-22	0	120	2835	3140	6055
Chake	-425	435	-23	-152	1250	1673	2757
Mkoani	-458	83	-100	241	1058	1627	2450
Total	**-4972**	**-1794**	**-262**	**-273**	**16,725**	**18,291**	**27,715**

18.13 CATTLE OFFTAKE: Deaths and Off-take of Cattle.in.2002/03 Agricultural Year

District	Bulls			Cows			Steers			Heifers			Male Calves			Female Calves		
	Total Offtake	Number Died	%	Total Offtake	Number Died	%	Total Offtake	Number Died	%	Total Offtake	Number Died	%	Total Offtake	Number Died	%	Total Off Take	Number Died	Total Off Take
North "A"	1648	507	30.8	676	352	52.0	0	0	0	215	132	62	403	241	60	479	297	62
North "B"	1165	343	29.4	929	334	35.9	0	0	0	340	125	37	701	405	58	430	243	57
Central	838	323	38.5	548	203	37.0	126	0	0	484	69	14	461	346	75	466	245	53
South	241	27	11.2	211	91	42.9	9	0	0	174	27	15	183	85	46	40	17	42
West	1114	253	22.7	1155	307	26.6	24	24	100	592	148	25	345	235	68	374	209	56
Wete	301	81	26.9	308	168	54.4	0	0	0	282	42	15	333	209	63	453	391	86
Micheweni	745	306	41.1	944	592	62.7	0	0	0	384	148	38	606	477	79	482	382	79
Chakechake	908	162	17.8	514	199	38.7	23	0	0	652	227	35	621	576	93	409	316	77
Mkoani	602	66	10.9	230	82	35.7	100	0	0	216	41	19	189	167	88	168	168	100
Total	**7,562**	**2,067**	**27.3**	**5,516**	**2,328**	**42.2**	**282**	**24**	**9**	**3,337**	**960**	**29**	**3,842**	**2,742**	**71**	**3302**	**2,269**	**69**

19.1 GOATS POPULATION: Number of Households Rearing and Not. Rearing.Goats by District during 2002/03 Agricultural Year

District	Households Rearing Goats		Households Not Rearing Goats		Total	
	Number	%	Number	%	Number of Agriculture Households	Total Livestock Keeping Households
North "A"	1158	8.0	12952	92.0	14110	3,138
North "B"	704	8.0	8074	92.0	8778	3,102
Central	1674	15.0	9471	85.0	11145	4,914
South	691	16.0	3544	84.0	4234	1,484
West	1380	13.0	9147	87.0	10527	4,301
Wete	667	6.0	11441	94.0	12108	5,206
Micheweni	1398	11.0	11719	89.0	13117	6,540
Chakechake	684	7.0	9347	93.0	10031	4,054
Mkoani	1102	9.0	11369	91.0	12472	5,064
Total	**9,459**	**10.0**	**87,063**	**90.0**	**96,522**	**37,803**

19.2 GOATS POPULATION: Number of Goats by Type and District during 2002/03 Agricultural Year

District	Indigenous			Improved for Meat		Improved Dairy			Total	
	Number of Households	Number of Goat	%	Number of Households	Number of Goat	Number of Households	Number of Goat	%	Number of Households	Number of Goat
North "A"	1158	7453	100.0	0	0	0	0	0.0	1158	7453
North "B"	704	4238	100.0	0	0	0	0	0.0	704	4238
Central	1674	9246	100.0	0	0	0	0	0.0	1674	9246
South	691	3615	94.5	0	0	58	210	5.5	749	3825
West	1380	5785	100.0	0	0	0	0	0.0	1380	5785
Wete	667	3138	98.4	0	0	17	52	1.6	684	3189
Micheweni	1398	10575	100.0	0	0	0	0	0.0	1398	10575
Chakechake	684	3290	100.0	0	0	0	0	0.0	684	3290
Mkoani	1102	4723	100.0	0	0	0	0	0.0	1102	4723
Total	**9,459**	**52,063**	**99.5**	**0**	**0**	**75**	**261**	**0.5**	**9534**	**52,324**

19.3.1 GOATS POPULATION: Number of Households Rearing Goats, Heads of Goats and Average Head per Households by Herd Size as of 1st October 2003

Herd Size	Household		Goats		Average Number of Goats per Household
	Number	%	Number	%	
1 - 4	5087	53.8	12,717	24.3	2
5 - 9	3,112	32.9	20,318	38.8	7
10 - 14	852	9.0	9,992	19.1	12
15-19	234	2.5	3,825	7.3	16
20-24	62	0.7	1,302	2.5	21
30-39	82	0.9	2,740	5.2	33
40+	30	0.3	1,430	2.7	48
Total	**9,459**	**100.0**	**52,324**	**100.0**	**6**

19.4.1 GOATS POPULATION: Number of Goats by Category and Type of Goats as of 1st October 2003

Category	Indigenous		Improved for Meat		Improved Dairy		Total Goats
	Number	%	Number	%	Number	%	
Billy Goat	8741	99.6	0	0.0	39	0.4	8780
Castrated Goat	319	100.0	0	0.0	0	0.0	319
She Goat	27838	99.5	0	0.0	131	0.5	27969
Male Kid	7260	99.6	0	0.0	26	0.4	7286
She Kid	7905	99.2	0	0.0	65	0.8	7970
Total	**52,063**	**99.5**	**0**	**0.0**	**261**	**0.5**	**52,324**

19.5 GOATS POPULATION: Number of Indigenous Goats by Category and District as of 1st October 2003

District	Category					Total
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	
North "A"	1,139	24	4,021	1,224	1,045	7,453
North "B"	444	0	2,495	637	662	4,238
Central	1,409	24	5,129	1,255	1,429	9,246
South	438	24	1,935	435	784	3,615
West	862	130	3,115	661	1,016	5,785
Wete	560	0	1,610	465	503	3,138
Micheweni	2,141	17	5,215	1,695	1,507	10,575
Chakechake	644	0	1,851	453	342	3,290
Mkoani	1,103	100	2,467	435	618	4,723
Total	**8,741**	**319**	**27,838**	**7,260**	**7,905**	**52,063**

19.7 GOATS POPULATION: Number of Improved Dairy Goats by Category and District as of 1st October 2003

District	Improved Dairy					Total
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	
North "A"	0	0	0	0	0	0
North "B"	0	0	0	0	0	0
Central	0	0	0	0	0	0
South	39	0	97	26	48	210
West	0	0	0	0	0	0
Wete	0	0	34	0	17	52
Micheweni	0	0	0	0	0	0
Chake	0	0	0	0	0	0
Mkoani	0	0	0	0	0	0
Total	**39**	**0**	**131**	**26**	**65**	**261**

19.8 GOATS POPULATION: Total Number of Goats by Category and District as of 1st October 2003

District	Category					Total
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	
North "A"	1139	24	4021	1224	1045	7453
North "B"	444	0	2495	637	662	4238
Central	1409	24	5129	1255	1429	9246
South	476	24	2032	461	832	3825
West	862	130	3115	661	1016	5785
Wete	560	0	1645	465	520	3189
Micheweni	2141	17	5215	1695	1507	10575
Chakechake	644	0	1851	453	342	3290
Mkoani	1103	100	2467	435	618	4723
Total	**8,780**	**319**	**27,969**	**7,286**	**7,970**	**52,324**

19.9 GOATS INTAKE: Goats Intake by Category and District during 2002/03 Agricultural Year

District	Goat Intake					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
North "A"	69	0	49	933	981	2033
North "B"	16	0	58	451	635	1160
Central	80	0	235	1241	1509	3066
South	22	0	30	517	905	1473
West	34	0	61	642	928	1664
Wete	106	0	342	538	650	1636
Micheweni	766	22	1631	2147	2152	6717
Chakechake	24	23	272	628	385	1331
Mkoani	260	0	304	413	576	1554
Total	**1,376**	**45**	**2,982**	**7,509**	**8,721**	**20,634**

19.14 GOATS OFFTAKE: Goat Off take by Category and District during 2002/03 Agricultural Year

District	Category					Total
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	
North "A"	1275	53	625	434	319	2706
North "B"	557	0	294	30	97	977
Central	576	0	936	278	183	1973
South	509	0	328	149	157	1143
West	352	174	468	127	110	1232
Wete	127	0	291	209	171	798
Micheweni	1002	64	2011	653	778	4508
Chakechake	215	0	198	67	46	525
Mkoani	328	60	354	129	168	1039
Total	**4,941**	**350**	**5,504**	**2,075**	**2,029**	**14,901**

19.15 GOATS OFFTAKE: Number of Goats that Died and Total Off take by Category and District during 2002/03 Agricultural Year

District	Billy Goat			Castrated Goat			She Goat			Male Kid			She Kid			Total		
	Number Died	Offtake	%	Number Died	Offtake	%	Number Died	Offtake	%	Number Died	Offtake	%	Number Died	Offtake	%	Number Died	Total Goat Offtake	%
North "A"	348	1,275	27.3	28	53	53.0	218	625	34.9	231	434	53.3	232	319	72.7	1,058	2,706	39.1
North "B"	136	5,57	24.4	0	0	0.0	142	294	48.3	30	30	100.0	56	97	58.3	365	977	37.3
Central	118	5,76	20.4	0	0	0.0	622	936	66.5	278	278	100.0	162	183	88.4	1,180	1,973	59.8
South	85	509	16.7	0	0	0.0	128	328	39.0	106	149	71.1	86	157	54.4	404	1,143	35.4
West	191	352	54.1	24	174	13.7	276	468	58.8	100	127	78.4	110	110	100.0	700	1,232	56.8
Wete	22	127	17.0	0	0	0.0	291	291	100.0	169	209	81.1	171	171	100.0	653	798	81.8
Micheweni	691	1,002	69.0	22	64	34.6	1,645	2,011	81.8	635	653	97.2	778	778	100.0	3,770	4,508	83.6
Chakechake	62	215	28.8	0	0	0.0	44	198	22.3	67	67	100.0	46	46	100.0	219	525	41.6
Mkoani	21	3,28	6.5	0	60	0.0	139	354	39.3	107	129	82.9	148	168	87.9	415	1,039	39.9
Total	**1,673**	**4,941**	**33.9**	**74**	**350**	**21.1**	**3,505**	**5,504**	**63.7**	**1,723**	**2,075**	**83.0**	**1,789**	**2,029**	**88.1**	**8,763**	**14,901**	**58.8**

20.1 SHEEP POPULATION: Number of Households Raising and Not Raising Sheep by District during 2002/03 Agricultural Year

District	Households Raising Sheep		Households Not Raising Sheep		Total Agricultural Households	Total Livestock Holdings
	Number	%	Number	%		
North "A"	0	0.0	14,110	100.0	14,110	3,138
North "B"	0	0.0	8,778	100.0	8,778	3,102
Central	0	0.0	11,145	100.0	11,145	4,914
South	0	0.0	4,234	100.0	4,234	1,484
West	15	0.1	10,512	99.9	10,527	4,301
Wete	17	0.1	12,091	99.9	12,108	5,206
Micheweni	0	0.0	13,117	100.0	13,117	6,540
Chakechake	0	0.0	10,031	100.0	10,031	4,054
Mkoani	40	0.3	12,432	99.7	12,472	5,064
Total	**72**	0.1	**96,450**	**99.9**	**96,522**	**37,803**

20.2SHEEP POPULATION: Number of Sheep and Type by District as of 1st October,2003

District	Number of Indigenous		Number of Improved for Mutton	Total Sheep
	Number	%	Number	
North "A"	0	0	0	0
North "B"	0	0	0	0
Central	0	0	0	0
South	0	0	0	0
West	15	5	0	15
Wete	86	29	0	86
Micheweni	0	0	0	0
Chakechake	0	0	0	0
Mkoani	199	66	0	199
Total	**300**	**100**	**0**	**300**

20.3.1 SHEEP POPULATION: Number of Households Rearing Sheep by Herd Size

Herd Size	Households		Sheep		Average Number of Sheep per Household
	Number	%	Number	%	
1 - 4	35	49	76	25	2
5 - 9	37	51	224	75	6
Total	**72**	**100**	**300**	**100**	**4**

20.4.1 SHEEP POPULATION: Number of Sheep by Type and Category by District as of 1st October 2003

District	Number of Indigenous				Number of Improved for Mutton				
	Ram	She Sheep	Male Lamb	She Lamb	Ram	She Sheep	Male Lamb	She Lamb	Total
North "A"	0	0	0	0	0	0	0	0	0
North "B"	0	0	0	0	0	0	0	0	0
Central	0	0	0	0	0	0	0	0	0
South	0	0	0	0	0	0	0	0	0
West	0	15	0	0	0	0	0	0	15
Wete	34	34	17	0	0	0	0	0	86
Micheweni	0	0	0	0	0	0	0	0	0
Chakechake	0	0	0	0	0	0	0	0	0
Mkoani	40	99	20	39	0	0	0	0	199
Total	**74**	**149**	**38**	**39**	**0**	**0**	**0**	**0**	**300**

20.12.1 SHEEP INTAKE: Sheep Intake by Category and District during 2002/03 Agricultural Year

District	Category				Total Sheep Intake
	Ram	She Sheep	Male Lamb	She Lamb	
North "A"	0	0	0	0	0
North "B"	0	0	0	0	0
Central	0	0	0	0	0
South	0	0	0	0	0
West	0	0	0	0	0
Wete	0	0	17	0	17
Micheweni	0	0	0	0	0
Chakechake	0	0	0	0	0
Mkoani	0	0	20	39	60
Total	**0**	**0**	**38**	**39**	**77**

20.12.2 SHEEP OFFTAKE: Sheep Off take by Category and District during 2002/03 Agricultural Year

District	Category				Total Sheep Off-take
	Ram	She Sheep	Male Lamb	She Lamb	
North "A"	0	0	0	0	0
North "B"	0	0	0	0	0
Central	0	0	0	0	0
South	0	0	0	0	0
West	0	0	0	0	0
Wete	0	0	0	0	0
Micheweni	0	0	0	0	0
Chakechake	0	0	0	0	0
Mkoani	20	0	0	0	20
Total	**20**	**0**	**0**	**0**	**20**

20.13 SHEEP OFFTAKE: Number of Sheep that Died and Offtake By Type and District during 2002/03 Agricultural Year

District	Ram		She Sheep		Male Lamb		She Lamb		Total	
	Number Died	Total Sheep Offtake	Number Died	Total Sheep Offtake	Numbe r Died	Total Sheep Offtake	Numb er Died	Total Sheep Offtake	Number Died	Total Sheep Offtake
North "A"	0	0	0	0	0	0	0	0	0	0
North "B"	0	0	0	0	0	0	0	0	0	0
Central	0	0	0	0	0	0	0	0	0	0
South	0	0	0	0	0	0	0	0	0	0
West	0	0	0	0	0	0	0	0	0	0
Wete	0	0	0	0	0	0	0	0	0	0
Micheweni	0	0	0	0	0	0	0	0	0	0
Chakechake	0	0	0	0	0	0	0	0	0	0
Mkoani	0	20	0	0	0	0	0	0	0	20
Total	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**

21.1 PIG POPULATION: Number of Households Rearing and Not Rearing Pigs by District as of 1st October 2002/03

District	Households Raising Pigs		Households Not Raising Pigs		Total Agricultural Households
	Number	%	Number	%	
North "A"	0	0	14110	100	14110
North "B"	0	0	8778	100	8778
Central	54	0.5	11090	99.5	11145
South	0	0	4234	100	4234
West	0	0	10527	100	10527
Wete	0	0	12108	100	12108
Micheweni	0	0	13117	100	13117
Chakechake	0	0	10031	100	10031
Mkoani	0	0	12472	100	12472
Total	**54**	**0.5**	**96,468**	**100**	**96,522**

21.3.1 PIG POPULATION: Number of Households Rearing Pigs, Number of Pigs and Average Pigs per Holding by Herd Size as of 1st October 2003

Herd Size	Number of Household		Pigs		Average Number of Pigs per Household
	Number	%	Number	%	
1 - 4	28	51	28	5	1
5 - 9	0	0	0	0	0
1 - 10	0	0	0	0	0
15-19	27	49	507	95	19
25-29	0	0	0	0	0
30-39	0	0	0	0	0
40+	0	0	0	0	0
Total	**54**	**100**	**535**	**100**	**10**

District	Boar	Castrated Male	Sow / Gilt	Male Piglet	She Piglet	Total
North "A"	0	0	0	0	0	0
North "B"	0	0	0	0	0	0
Central	27	0	108	133	267	535
South	0	0	0	0	0	0
West	0	0	0	0	0	0
Wete	0	0	0	0	0	0
Micheweni	0	0	0	0	0	0
Chakechake	0	0	0	0	0	0
Mkoani	0	0	0	0	0	0
Total	**27**	**0**	**108**	**133**	**267**	**535**

21.9 PIGS POPULATION: Number of Pigs per Household by District as of 1st October 2003

District	Number of Household	Number of Pig	Average Number Per Household
North "A"	0	0	0
North "B"	0	0	0
Central	54	535	10
South	0	0	0
West	0	0	0
Wete	0	0	0
Micheweni	0	0	0
Chakechake	0	0	0
Mkoani	0	0	0
Total	**54**	**535**	**10**

23.1 CHICKEN POPULATION: Number of Chickens and Type of Chicken by District as of 1st October 2003.

District	Type			Total Chicken
	Indigenous Chicken	Layer	Broiler	
North "A"	100,641	5,093	1,064	106,798
North "B"	66,366	8,576	3,181	78,123
Central	138,023	27,295	8,141	173,460
South	42,408	2,951	1,984	47,344
West	104,316	39,580	9,420	153,316
Wete	118,832	202	59	119,093
Micheweni	129,276	239	0	129,515
Chakechake	99,188	11,546	0	110,733
Mkoani	145,320	88	0	145,409
Total	**944,371**	**95,569**	**23,851**	**1,063,791**

23.2 CHICKEN POPULATION: Number of Households Keeping Different Types of Chicken by Flock Size as of 1st October, 2003

Flock Size	Type						Total Number of Chickens
	Indigenous Chicken		Layers		Broilers		
	Number of Households	Number of Chickens	Number of Households	Number of Chickens	Number of Households	Number of Chickens	
1 - 4	12,329	32,932	189	526	48	143	33,601
5 - 9	16,185	105,142	54	381	0	0	105,523
10 - 19	21,201	270,518	20	260	42	629	271,407
20-29	9,405	201,915	12	305	12	303	202,522
30-39	3,849	120,646	25	751	27	981	122,377
40-49	1,810	74,672	0	0	0	0	74,672
50-99	1,210	67,957	124	7893	23	1,149	77,000
100+	444	70,589	374	85,453	114	20,646	176,688
Total	**66,434**	**944,371**	**799**	**95,569**	**266**	**23,851**	**1,063,791**

23.3.1CHICKEN POPULATION: Number of Households and Chickens Raised by Average Flock Size as on 1st October, 2003

Flock Size	Number of Household	Chickens		Average Chickens per Household
		Number	%	
1 - 4	12,365	33,064	3	3
5 - 9	16,169	105,113	10	7
10 - 19	21,052	268,310	25	13
20-29	9,377	201,875	19	22
30-39	3,749	117,643	11	31
40-49	1,785	73,894	7	41
50-99	1,319	76,858	7	58
100+	919	187,034	18	204
Total	**66,736**	**1,063,791**	**100**	**16**

23.9 OTHER LIVESTOCK: Number of Other Livestocks by District as of 1st October,2003

District	Other Livestock's						Total
	Ducks	Turkeys	Rabbits	Donkeys	Horses	Other	
North "A"	17,357	394	0	0	0	856	18,607
North "B"	8,627	0'	326	288	0	1,130	10,371
Central	9,011	0	0	101	0	223	9,335
South	7,104	0	181	0	0	0	7,285
West	7,305	447	724	100	0	2,995	11,570
Wete	1,484	0	0	0	0	21	1,505
Micheweni	553	0	0	48	0	179	780
Chakechake	1,510	0	0	94	0	0	1,604
Mkoani	621	0	0	22	0	215	858
Total	**53,571**	**841**	**1,231**	**653**	**0**	**5,619**	**61,915**

25.1 LIVESTOCK PRODUCTS: Cow Milk Production by Season and District during 2002/03 Agricultural Year

District	Litres of Milk / day				Number of Cattle Milked / day		Average Price Per Litre (Tsh)		Quantity Sold per Day(Litres)			
	Wet Season		Dry Season		Wet Season	Dry Season	Wet Season	Dry Season	Wet Season		Dry Season	
	Number of Household	Litres	Number of Household	Litres					Number of Households	Litres Sold Per Day	Number of Households	Litres Sold Per Day
North "A"	2,481	5,183	2,158	2,959	3,276	2,492	243	244	2,334	3,848	1,990	2,286
North "B"	2,600	9,061	2,269	6,700	3,714	3,503	199	200	2,521	7,905	2,191	5,905
Central	3,732	1,1519	3,417	7,828	5,885	5,035	226	228	3,681	8,779	3,365	6,202
South	944	2,218	769	1,197	1,272	912	242	245	860	1,379	685	810
West	3,499	17,515	2,943	13,328	5,548	5,234	241	249	3,380	14,144	2,861	10,446
Wete	4,356	7,076	3,139	5,336	3,999	3,680	280	282	4,039	4,234	2,762	3,030
Micheweni	5,387	10,562	4,347	6,898	5,420	5,061	241	247	5,166	4,395	4,132	2,981
Chakechake	3,486	6,342	2,610	4,701	3,126	2,965	260	270	3,300	2,917	24,48	1,922
Mkoani	4,043	4,951	2,705	3,559	2,710	2,446	279	286	3,787	1,841	2,575	1,243
Total	**30,527**	**74,427**	**24,356**	**52,507**	**34,950**	**31,328**	**247**	**251**	**29,066**	**49,442**	**23,008**	**34,825**

25.2 LIVESTOCK PRODUCTS: Production of Goats Milk by Season and District during 2002/03 Agricultural Year

District	Litres of Milk per Day		Number of Goats Milked		Average Price Per Litre (Tsh)		Sold per Day (Litres)	
	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
North "A"	0	0	0	0	0	0	0	0
North "B"	0	0	0	0	0	0	0	0
Central	0	0	0	0	0	0	0	0
South	104	78	52	52	817	817	65	52
West	0	0	0	0	0	0	0	0
Wete	0	0	0	0	0	0	0	0
Micheweni	0	0	0	0	0	0	0	0
Chakechake	0	0	0	0	0	0	0	0
Mkoani	0	0	0	0	0	0	0	0
Total	**104**	**78**	**52**	**52**	**817**	**817**	**65**	**52**

25.4 LIVESTOCK PRODUCTS: Number of Eggs Sold and Consumed by District during 2002/03 Agricultural Year

District	Eggs				
	Sold		Consumed		Total
	Number	%	Number	%	
North A	148,535	65	80,175	35	228,710
North B	114,110	65	62,739	35	176,849
Central	6,243,576	96	286,543	4	6,530,119
South	495,080	86	82,459	14	577,539
West	2,732,289	89	340,591	11	3,072,880
Wete	177,453	44	228,859	56	406,312
Micheweni	187,841	47	211,961	53	399,802
Chakechake	4,099,560	95	208,714	5	4,308,274
Mkoani	107,640	34	206,164	66	313,804
Total	**14,306,084**	**89**	**1,708,205**	**11**	**16,014,290**

25.5 LIVESTOCK PRODUCTS: Number of Hides Sold or Consumed/Utilized by District during 2002/03 Agricultural Year

District	Hides				Total
	Sold		Utilized		
	Number	%	Number	%	
North A	0	0	287	100	287
North B	0	0	0	0	0
Central	85	100	0	0	85
South	311	61	203	39	513
West	0	0	0	0	0
Wete	64	34	123	66	187
Micheweni	22	50	22	50	44
Chakechake	0	0	0	0	0
Mkoani	0	0	0	0	0
Total	**481**	**43**	**634**	**57**	**1115**

25.6 LIVESTOCK PRODUCTS: Number of Skins Sold or Consumed/Utilized by District during 2002/03 Agricultural Year

District	Skins				Total
	Sold		Utilized		
	Number	%	Number	%	
North A	0	0	0	0	0
North B	0	0	0	0	0
Central	0	0	758	100	758
South	0	0	17	100	17
West	569	60	379	40	948
Wete	0	0	0	0	0
Micheweni	0	0	0	0	0
Chakechake	114	13	796	88	910
Mkoani	0	0	0	0	0
Total	**683**	**26**	**1,951**	74	**2,633**

18.5 CATTLE DISEASES: Number of Cattle Infected by Type of Diseases and District during 2002/03 Agricultural Year

District	Total Cattle Population	Number and Type of Disease									
		Tick Born Disease	%	Contagious Bovine Pleuro Pneumonia	Trypanosomiases	Lumpy Skin Disease	%	Helminthiosis	%	Foot & Mouth Disease	%
North "A"	15,368	2,449	16.0	0	0	841	5.0	1,074	7.0	2,385	15.5
North "B"	16,837	1,803	11.0	0	0	1,273	8.0	1,799	11.0	118	0.7
Central	26,581	5,821	22.0	0	0	1,169	4.0	2,005	8.0	240	0.9
South	5,757	666	12.0	0	0	224	4.0	224	4.0	9	0.2
West	22,306	4,078	18.0	0	0	877	4.0	1,789	8.0	323	1.4
Wete	19,065	303	2.0	0	0	500	3.0	188	1.0	20	0.1
Micheweni	26,755	1,521	6.0	0	0	425	2.0	936	3.0	0	0
Chakechake	14,239	932	7.0	0	0	495	3.0	425	3.0	44	0.3
Mkoani	15,735	376	2.0	0	0	212	1.0	281	2.0	0	0
Total	**162,643**	**17,948**	**11.0**	**0**	**0**	**6,016**	**19.0**	**8,722**	**29.0**	**3,138**	**10**

19.5 GOATS DISEASES: Number of Goats Infected and Type of Disease by District during 2002/03 Agricultural Year

District	Total Goat	Number Infected									
		Foot Rot	%	Pneumonia	%	Helminthiosis	%	Tetanus	%	Mange	%
North "A"	7,453	0	0	275	3.7	296	4	126	1.7	394	5
North "B"	4,238	96	2.3	179	4.2	431	10	32	0.8	81	2
Central	9,246	54	0.6	199	2.2	1,622	18	107	1.2	82	1
South	3,825	0	0	157	4.1	498	13	101	2.6	121	3
West	5,785	55	0.9	38	0.7	385	7	330	5.7	142	2
Wete	3,189	0	0	*182	5.7	230	7	0	0	0	0
Micheweni	10,575	0	0	*4,490	42.5	279	3	48	0.5	0	0
Chakechake	3,290	0	0	0	0.0	136	4	0	0	44	1
Mkoani	4,723	39	0.8	*44	0.9	267	6	0	0	38	1
Total	**52,324**	**244**	**0.5**	**5,565**	10.6	**4,143**	**8**	**745**	**1.4**	**903**	**2**

Note: * Indicate kids pneumonia.

20.5 SHEEP DISEASES: Number of Sheep Infected and Type of Disease by District during 2002/03 Agricultural Year

District	Total Sheep	Number Infected									
		Foot Rot	%	Pneumonia	%	Helminthiosis	%	Trypanasomiasis	%	Foot & Mouth Disease	%
North "A"	0	0	0.0	0	0.0	0	0	0	0	0	0
North "B"	0	0	0.0	0	0.0	0	0	0	0	0	0
Central	0	0	0.0	0	0.0	0	0	0	0	0	0
South	0	0	0.0	0	0.0	0	0	0	0	0	0
West	15	0	0.0	15	100.0	0	0	0	0	0	0
Wete	86	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
Chakechake	0	0	0.0	0	0.0	0	0	0	0	0	0
Mkoani	199	138	69.0	138	69.0	0	0	0	0	0	0

Total	**300**	**138**	**46.0**	**153**	**51.0**	**0**	**0**	**0**	**0**	**0**	**0**

21.5 PIG DISEASES: Number of Pigs Infected by Type of Disease and District during 2002/03 Agricultural Year

District	Total Pig	Number and Type of Disease								Total
		Mage	%	African Swine Fever	%	Anemia	%	Helminthiosis	%	
North "A"	0	0	0	0	0	0	0	0	0.0	0
North "B"	0	0	0	0	0	0	0	0	0.0	0
Central	535	0	0	0	0	0	0	80	15.0	80
South	0	0	0	0	0	0	0	0	0.0	0
West	0	0	0	0	0	0	0	0	0.0	0
Wete	0	0	0	0	0	0	0	0	0.0	0
Micheweni	0	0	0	0	0	0	0	0	0.0	0
Chakechake	0	0	0	0	0	0	0	0	0.0	0
Mkoani	0	0	0	0	0	0	0	0	0.0	0
Total	**535**	**0**	**0**	**0**	**0**	**0**	**0**	**80**	**15.0**	**80**

22.1 PESTS AND PARASITE CONTROL: Number of Livestock Holdings that Dewormed/Not Dewormed Livestock by District during 2002/03 Agricultural Year

District	Households Dewormed Livestock		Households NOT Dewormed Livestock		Total Number
	Number	% age	Number	% age	
North "A"	352	11.2	2786	88.8	3138
North "B"	733	23.6	2369	76.4	3102
Central	1902	38.7	3012	61.3	4914
South	355	23.9	1129	76.1	1484
West	2016	46.9	2285	53.1	4301
Wete	311	6.0	4895	94.0	5206
Micheweni	1228	18.8	5312	81.2	6540
Chakechake	495	12.2	3559	87.8	4054
Mkoani	716	14.1	4348	85.9	5064
Total	**8,108**	**21**	**29,695**	**79**	**37,803**

22.2 PESTS AND PARASITE CONTROL: Number of Livestock holdings that Dewormed Different Types Livestock and District during 2002/03 Agricultural Year

District	Dewormed Goats		Dewormed Cattle		Dewormed Sheep		Dewormed Pigs	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
North "A"	56	4.5	297	4.0	0	0.0	0	0.0
North "B"	43	3.5	733	9.9	0	0.0	0	0.0
Central	5,83	47.5	1,486	20.1	0	0.0	27	100.0
South	98	8.0	280	3.8	0	0.0	0	0.0
West	383	31.2	1,877	25.4	15	100.0	0	0.0
Wete	21	1.7	291	3.9	0	0.0	0	0.0
Micheweni	22	1.8	1,228	16.6	0	0.0	0	0.0
Chakechake	0	0.0	495	6.7	0	0.0	0	0.0
Mkoani	22	1.8	716	9.7	0	0.0	0	0.0
Total	**1,227**	**100.0**	**7,404**	**100.0**	**15**	**100.0**	**27**	**100.0**

22.3 PESTS AND PARASITE CONTROL: Number of Livestock Holdings Reporting to Encounter/not encountered Tick Problems and District during 2002/03 Agriculture Year

District	Households Encountering Tick Problems		Households NOT Encountering Tick Problems		Total Number
	Number	%	Number	%	
North "A"	1,590	50.7	1,548	49.3	3,138
North "B"	1,459	47.0	1,643	53.0	3,102
Central	2,684	54.6	2,230	45.4	4,914
South	574	38.7	910	61.3	1,484
West	2,578	59.9	1,723	40.1	4,301
Wete	2,112	40.6	3,094	59.4	5,206
Micheweni	3,537	54.1	3,003	45.9	6,540
Chakechake	2,270	56.0	1,784	44.0	4,054
Mkoani	2,122	41.9	2,942	58.1	5,064
Total	**18,926**	**50.1**	**18,877**	**49.9**	**37,803**

22.4 PESTS AND PARASITE CONTROL: Number of Livestock Holdings by Method of Tick Control and District during 2002/03 Agricultural Year

District	Method of Tick Control										Total Number
	Spraying		Dipping		Smearing		Other		No Control		
	Number	% age	Number	% age	Number	% age	Number	% age	Number	% age	
North "A"	595	37.4	79	5.0	112	7.1	137	8.6	666	41.9	1,590
North "B"	480	32.9	210	14.4	173	11.9	141	9.7	454	31.1	1,459
Central	1,530	57.0	177	6.6	673	25.1	158	5.9	147	5.5	2,684
South	254	44.2	70	12.2	181	31.5	22	3.9	47	8.2	574
West	1,461	56.7	148	5.8	337	13.1	532	20.7	99	3.8	2,578
Wete	822	38.9	0	0.0	204	9.7	713	33.7	373	17.7	2,112
Micheweni	1,799	50.9	0	0.0	158	4.5	743	21.0	837	23.7	3,537
Chakechake	873	38.5	0	0.0	195	8.6	639	28.2	563	24.8	2,270
Mkoani	841	39.6	21	1.0	184	8.7	816	38.4	260	12.2	2,122
Total	**8,656**	**45.7**	**705**	**3.7**	**2,218**	**11.7**	**3,901**	**20.6**	**3,446**	**18.2**	**18,926**

22.5 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Holdings Reporting to have Encountered/Not Encountered Tsetse Flies/Stomoxy Problems during 2002/03 Agricultural Year

District	Households Encountering Stomoxy/Tsetse Flies Problem		Households NOT Encountering Stomoxy/Tsetse Problem		Total	
	Number	%	Number	%	Number	%
North "A"	111	3.5	3,027	96.5	3,138	100
North "B"	133	4.3	2,969	95.7	3,102	100
Central	73	1.5	4,841	98.5	4,914	100
South	24	1.6	1,460	98.4	1,484	100
West	17	0.4	4,284	99.6	4,301	100
Wete	211	4.0	4,995	96.0	5,206	100
Micheweni	135	2.1	6,405	97.9	6,540	100
Chakechake	67	1.6	3,987	98.4	4,054	100
Mkoani	103	2.0	4,961	98.0	5,064	100
Total	**874**	**2.3**	**36,929**	**97.7**	**37,803**	**100**

22.6 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percentage of Agricultural Households by Method of Controlling Tsetse Flies/ Stomoxy during 2002/03 Agricultural Year

District	Method of Tsetse Flies/ Stomoxy Control						Total Number
	No Control		Spray		Dipping		
	Number	%	Number	%	Number	%	
North A	69	55.5	55	44.5	0	0.0	124
North B	89	60.9	57	39.1	0	0.0	146
Central	0	0.0	47	100.0	0	0.0	47
South	27	72.3	0	0.0	10	27.7	37
West	0	0.0	17	100.0	0	0.0	17
Wete	117	73.4	42	26.6	0	0.0	159
Micheweni	126	85.3	22	14.7	0	0.0	148
Chakechake	59	73.5	21	26.5	0	0.0	80
Mkoani	55	47.1	42	35.9	20	17.0	116
Total	**541**	**61.9**	**303**	**34.7**	**30**	**3.4**	**874**

27.1 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance(km) to the Nearest Cattle Dip by District During 2002/03 Agriculture Year

District	Distance to Nearest Cattle Dip						
	<5	5 - 9	10 - 14	15 – 19	20 - 29	30 - 49	Total
North "A"	231	183	170	78	0	4	666
North "B"	515	285	109	40	23	0	972
Central	227	806	301	56	0	0	1,390
South	13	19	57	66	58	0	212
West	1,234	496	140	0	0	0	1,870
Wete	368	0	21	43	20	0	453
Micheweni	287	1,453	385	273	69	0	2,467
Chakechake	47	0	0	0	0	0	47
Mkoani	94	0	559	128	0	0	780
Total	**3,016**	**3,242**	**1,742**	**685**	**170**	**4**	**8,858**

27.2 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Hand Powered Sprayer by District During 2002/03 Agriculture Year

District	Distance to Nearest Hand Powered Sprayer					
	<5	5 - 9	10 - 14	15 - 19	20 - 29	Total
North "A"	240	339	69	0	0	648
North "B"	712	99	0	0	15	827
Central	1,315	102	0	0	26	1,443
South	406	52	0	8	0	465
West	879	108	23	0	0	1,010
Wete	817	44	786	0	20	1,667
Micheweni	70	0	94	260	93	518
Chakechake	334	176	0	0	0	510
Mkoani	151	0	36	84	0	271
Total	**4,925**	**920**	**1,008**	**352**	**154**	**7,359**

27.4 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to Nearest Cattle Crush by District During 2002/03 Agriculture Year

District	Distance to Nearest Cattle Crush						
	<5	5 - 9	10 - 14	15 – 19	20 - 29	30 - 49	Total
North "A"	580	128	188	29	0	0	580
North "B"	282	0	22	0	0	23	127
Central	609	327	46	0	0	0	452
South	264	19	8	0	0	0	41
West	324	64	23	0	0	0	356
Wete	297	0	21	0	40	0	60
Micheweni	281	22	22	0	0	0	66
Chakechake	368	109	22	0	0	0	132
Mkoani	257	0	0	21	0	0	21
Total	**1,371**	**669**	**354**	**50**	**40**	**23**	**1,835**

27.5 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to Nearest Primary Market and District During 2002/03 Agriculture Year

District	Distance to Nearest Primary Market						
	<5	5 - 9	10 - 14	15 - 19	20 - 29	30 - 49	Total
North "A"	0	0	0	0	0	0	0
North "B"	0	0	0	0	0	0	0
Central	0	0	0	0	0	0	0
South	0	0	0	0	0	0	0
West	0	0	0	0	0	0	0
Wete	0	415	2,072	1,153	564	0	4,203
Micheweni	149	47	134	92	254	1,403	2,079
Chakechake	0	1,506	456	288	115	0	2,365
Mkoani	0	0	58	193	504	332	1,088
Total	**149**	**1,988**	**2,720**	**1,726**	**1,437**	**1,735**	**9,735**

27.6 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Secondary Market by District During 2002/03 Agriculture Year

District	Distance to Nearest Secondary Market						
	<5	5 - 9	10 - 14	15 – 19	20 - 29	30 - 49	Total
North "A"	0	0	0	0	0	0	0
North "B"	0	0	0	0	0	0	0
Central	0	0	0	0	0	0	0
South	0	0	0	0	0	0	0
West	0	0	0	0	0	0	0
Wete	0	106	140	65	0	0	310
Micheweni	0	0	24	47	16	188	274
Chakechake	39	1,454	179	195	0	0	1,868
Mkoani	0	0	0	107	59	0	166
Total	**39**	**1,561**	**342**	**414**	**75**	**188**	**2,619**

27.8 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Slaughter Slab by District During 2002/03 Agriculture Year

District	Distance to Nearest Slaughter Slab							
	<5	5 - 9	10 - 14	15 - 19	20 - 29	30 - 49	50+	Total
North "A"	167	108	25	21	0	105	25	451
North "B"	38	0	0	0	20	83	0	141
Central	40	360	281	0	0	27	0	708
South	0	24	12	14	54	39	10	152
West	815	154	109	81	96	0	0	1,254
Wete	165	606	2761	65	20	0	0	3,618
Micheweni	197	24	16	217	269	210	0	933
Chakechake	220	1685	414	195	0	0	0	2,515
Mkoani	237	44	20	149	427	146	0	1,024
Total	**1,879**	**3,005**	**3,638**	**741**	**886**	**609**	**35**	**10,795**

27.9 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Hide/ Skin Shade by District During 2002/03 Agriculture Year

District	Distance to Nearest Hide/ Skin Shade					
	<5	5 - 9	10 - 14	15 - 19	20 - 29	Total
North “A”	0	28	0	28	0	56
North “B”	0	0	0	22	0	22
Central	0	55	0	0	0	55
South	0	0	0	0	0	0
West	365	55	71	0	0	490
Wete	0	0	66	0	0	66
Micheweni	588	0	0	0	90	678
Chakechake	178	478	156	195	0	1,008
Mkoani	0	0	19	43	0	62
Total	**1,131**	**616**	**311**	**289**	**90**	**2,436**

27.10 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Input Supply Store by District During 2002/03 Agriculture Year

District	Distance to Nearest Input Supply							
	<5	5 - 9	10 - 14	15 - 19	20 - 29	30 - 49	50+	Total
North “A”	410	1,287	126	532	123	492	384	3,355
North “B”	588	65	0	259	1,088	297	0	2,296
Central	2,229	1,172	502	535	1,074	33	26	5,570
South	63	65	48	81	62	53	81	452
West	1,011	1,155	1,059	181	257	0	0	3,662
Wete	408	850	3,690	1,428	62	0	0	6,439
Micheweni	5,64	191	115	1,526	1,805	326	0	4,527
Chakechake	925	4,061	746	482	222	0	0	6,437
Mkoani	444	146	751	939	1,275	434	0	3,990
Total	**6,641**	**8,992**	**7,038**	**5,962**	**5,968**	**1,635**	**491**	**36,728**

27.11 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Veterinary Clinic by District During 2002/03 Agriculture Year

District	Distance to Nearest Veterinary Clinic							
	<5	5 - 9	10 -14	15 - 19	20 - 29	30-49	50+	Total
North "A"	1,777	2,539	687	72	22	405	127	5,629
North "B"	903	292	158	358	638	208	0	2,555
Central	616	1,475	1,315	784	2,070	95	0	6,356
South	218	109	82	61	92	57	0	620
West	1,686	1,723	1,423	239	153	0	0	5,223
Wete	415	1,295	4,282	1,303	41	0	0	7,336
Micheweni	2,662	1,205	71	1,503	1,699	233	0	7,373
Chakechake	1,353	3,228	1,407	269	199	0	0	6,456
Mkoani	1,563	195	679	896	1,750	309	0	5,391
Total	**11,192**	**12,061**	**10,105**	**5,484**	**6,665**	**1,306**	**127**	**46,939**

27.12 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Village Holding Ground During 2002/03 Agriculture Year.

District	Distance to Nearest Village Holding Ground					
	<5	5 - 9	10 - 14	15 - 19	20 - 29	Total
North 'A'	50	0	0	0	0	50
North 'B'	62	0	0	0	0	62
Central	328	0	0	0	0	328
South	0	0	0	0	0	0
West	46	0	0	0	0	46
Wete	41	0	0	0	0	41
Micheweni	70	0	0	0	0	70
Chakechake	0	0	0	0	0	0
Mkoani	63	0	0	0	0	63
Total	**660**	**0**	**0**	**0**	**0**	**660**

27.13 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Village Watering Point/ Dam by District During 2002/03 Agriculture Year

District	Distance to Nearest Village Watering Point/ Dam			
	<5	5 - 9	10 - 14	Total
North 'A'	23	0	0	23
North 'B'	20	0	0	20
Central	268	0	0	268
South	0	0	0	0
West	39	0	0	39
Wete	0	0	0	0
Micheweni	67	0	0	67
Chakechake	0	0	0	0
Mkoani	0	0	0	0
Total	**416**	**0**	**0**	**416**

27.14 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Nearest Drencher by District During 2002/03 Agriculture Year

District	Distance to Nearest Drencher						
	<5	5 - 9	10- 14	15 - 19	20 - 29	30 - 49	Total
North "A"	159	553	0	48	0	0	759
North "B"	43	0	0	18	67	66	194
Central	137	409	76	76	25	0	724
South	0	12	0	0	0	0	12
West	276	168	134	0	25	0	604
Wete	42	21	21	22	20	0	125
Micheweni	726	152	32	182	0	0	1,091
Chakechake	23	113	0	0	0	0	136
Mkoani	106	80	41	235	81	0	543
Total	**1,512**	**1,507**	**304**	**580**	**219**	**66**	**4,188**

33.15 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Research Station by District During 2002/03 Agriculture Year

District	Distance (Km) to Research Station							
	<5	5 - 9	10 - 14	15 - 19	20- 29	30 - 49	50 +	Total
North "A"	25	57	0	25	1,862	10,435	1,707	14,110
North "B"	0	544	619	1,386	3,354	2,750	125	8,778
Central	246	2,423	2,202	1,422	1,621	2,316	916	11,146
South	0	1,026	282	601	194	193	1,937	4,233
West	337	3,272	1,422	1,826	308	287	3,076	10,528
Wete	0	1,119	5,366	2,963	248	961	1,451	12,108
Micheweni	24	3,422	2,477	2,766	3,062	289	1,077	13,117
Chakechake	85	3,527	2,199	1,706	718	0	1,795	10,030
Mkoani	0	350	2,271	1,625	3,222	4,140	864	12,472
Total	**716**	**15,739**	**16,839**	**14,319**	**14,589**	**21,372**	**12,948**	**96,522**

33.16 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance (km) to the Plant Protection Lab by District During 2002/03 Agriculture Year

District	Distance (Km) to Plant Protection Lab							
	<5	5 - 9	10 - 14	15 - 19	20 - 29	30 - 49	50 +	Total
North "A"	122	26	27	0	1,560	10,683	1,692	14,110
North "B"	22	408	640	1,443	3,430	2,750	84	8,778
Central	244	2,726	1,985	1,425	1,586	2,336	842	11,145
South	0	0	0	0	0	1,012	3,222	4,234
West	368	3,063	1,431	1,932	711	335	2,687	10,527
Wete	0	1,647	4,637	1,929	2,683	1,131	81	12,108
Micheweni	22	2,920	1,080	809	2,556	5,058	672	13,117
Chakechake	85	4,706	2,163	548	688	352	1,488	10,031
Mkoani	0	19	1,316	2,235	4,357	4,502	42	12,472
Total	**865**	**15,516**	**13,280**	**10,322**	**17,571**	**28,160**	**10,808**	**96,522**

33.17 ACCESS TO LIVESTOCK STRUCTURES: Number of Agricultural Households by Distance(km) to the Land Registration Office by District During 2002/03 Agriculture Year

District	Distance (Km) to Land Registration Office							
	<5	5 - 9	10 - 14	15 - 19	20 - 29	30 - 49	50 +	Total
North "A"	127	2,993	4,547	27	1,358	623	4435	14,110
North "B"	45	1,927	1,211	2101	74	636	2783	8,778
Central	257	6,001	865	365	493	1,743	1,422	11,145
South	0	297	44	601	207	446	2,639	4,234
West	253	3,469	2,736	1,994	591	0	1,484	10,527
Wete	22	1,608	4,010	3,128	3,015	264	61	12,108
Micheweni	42	1,483	969	1,618	3,462	4,792	751	13,117
Chakechake	85	4,757	2,790	525	367	0	1,506	10,031
Mkoani	0	657	1,514	2,779	3,631	3,849	43	12,472
Total	**831**	**2,3191**	**18,687**	**13,140**	**13,198**	**12,352**	**15,124**	**96,522**

33.18 ACCESS TO LIVESTOCK STRUCTURES: Table 72. Number of Agricultural Households by Distance (km) to Livestock Development Centre During 2002/03 Agriculture Year

District	Distance (Kim) to Livestock Development Center							
	<5	5 - 9	10 - 14	15 - 19	20 - 29	30 - 49	50 +	Total
North "A"	505	3,305	1,998	1,286	2,434	2,280	49	11,857
North "B"	112	1,347	850	1,299	1,368	23	0	5,000
Central	276	5,359	946	985	1,158	135	269	9,127
South	0	730	413	736	703	243	109	2,934
West	150	3,497	2,775	1,142	48	48	0	7,660
Wete	37	3,670	4,990	385	542	0	0	9,624
Micheweni	68	4,639	1,153	1,525	2,298	392	0	10,075
Chakechake	110	4,664	1,852	498	345	673	0	8,141
Mkoani	0	1,957	3,698	3,015	1,138	786	0	10,594
Total	**1,256**	**29,167**	**18,676**	**10,872**	**10,035**	**4,579**	**428**	**7,5012**

28.1 FISH FARMING: Number of Agricultural Households Practicing/Not Practicing Fish Farming by District During 2002/03 Agricultural Year

District	Households NOT Doing Fish Farming		Households Doing Fish Farming	Total Agricultural households
	Number	%	Number	Number
North "A"	14,110	100	0	14,110
North "B"	8,778	100	0	8,778
Central	11,145	100	0	11,145
South	4,234	100	0	4,234
West	10,527	100	0	10,527
Wete	12,108	100	0	12,108
Micheweni	13,117	100	0	13,117
Chakechake	10,031	100	0	10,031
Mkoani	12,472	100	0	12,472
Total	**96,522**	**100**	**0**	**96,522**

29.1.1 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Feeds and Proper Feeding by Source and District

District	Source of Advice					
	Government	NGO/ Development Project	Co-operative	Others	Large Scale Farmer	Total
North “A”	44	0	0	0	0	44
North “B”	165	0	0	0	0	165
Central	382	53	0	25	0	460
South	83	26	0	0	0	109
West	249	0	0	0	0	249
Wete	179	0	0	0	0	179
Micheweni	187	0	0	0	0	187
Chakechake	254	0	0	23	0	278
Mkoani	215	0	0	0	0	215
Total	**1,759**	**79**	**0**	**48**	**0**	**1,887**
%	**93**	**4**	**0**	**3**	**0**	**100**

29.1.2 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Housing by Source and District

District	Source of Advice			
	Government	NGO/ Development Project	Large Scale Farmer	Total
North “A”	78	0	0	78
North “B”	64	0	0	64
Central	250	53	0	303
South	0	39	0	39
West	205	0	0	205
Wete	119	0	0	119
Micheweni	169	0	0	169
Chakechake	166	0	0	166
Mkoani	272	0	0	272
Total	**1,323**	**92**	**0**	**1,416**
%	**93**	**7**	**0**	**100**

29.1.3 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Proper Milking by Source and District

District	Source of Advice			
	Government	NGO/ Development Project	Co-operative	Total
North "A"	138	0	0	138
North "B"	107	0	0	107
Central	407	27	0	434
South	27	26	0	53
West	214	0	0	214
Wete	103	0	0	103
Micheweni	115	0	0	115
Chakechake	111	0	0	111
Mkoani	63	0	0	63
Total	**1,284**	**53**	**0**	**1,337**
%	**96**	**4**	**0**	**100**

29.1.4 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Milk Hygene by Source and District

District	Source of Advice			
	Government	NGO/ Development Project	Large Scale Farmer	Total
North "A"	361	0	0	361
North "B"	103	0	0	103
Central	310	27	0	336
South	40	39	0	79
West	295	0	0	295
Wete	121	0	0	121
Micheweni	115	0	0	115
Chakechake	181	0	0	181
Mkoani	43	0	0	43
Total	**1,568**	**66**	**0**	**1,634**
%	**96**	**4**	**0**	**100**

29.1.5 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Disease Control by Source and District

District	Source of Advice				
	Government	NGO/ Development Project	Co-operative	Large Scale Farmer	Total
North "A"	665	0	0	0	665
North "B"	484	0	0	0	484
Central	1,003	27	0	0	1,030
South	236	52	0	0	288
West	737	0	0	0	737
Wete	307	0	0	0	307
Micheweni	1,044	0	0	0	1,044
Chakechake	918	0	0	0	918
Mkoani	905	0	0	0	905
Total	**6,300**	**79**	**0**	**0**	**6,379**
%	**99**	**1**	**0**	**0**	**100**

29.1.6 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Herd /Flock Size by Source and District

District	Source of Advice				
	Government	NGO/ Development Project	Co-operative	Large Scale Farmer	Total
North 'A'	0	0	0	0	0
North 'B'	18	0	0	0	18
Central	76	0	0	0	76
South	0	26	0	0	26
West	97	0	0	0	97
Wete	16	0	0	0	16
Micheweni	33	0	0	0	33
Chakechake	92	0	0	0	92
Mkoani	78	0	0	0	78
Total	**412**	**26**	**0**	**0**	**438**
%	**94**	**6**	**0**	**0**	**100**

29.1.7 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Pasture Establishment and Selection by Source and District

District	Source of Advice				
	Government	NGO/ Development Project	Co-operative	Large Scale Farmer	Total
North 'A'	0	0	0	0	0
North 'B'	22	0	0	0	22
Central	106	0	0	0	106
South	6	13	0	0	19
West	71	0	0	0	71
Wete	83	0	0	0	83
Micheweni	39	0	0	0	39
Chakechake	21	0	0	0	21
Mkoani	0	20	0	0	20
Total	**347**	**33**	**0**	**0**	**380**
%	**91**	**9**	**0**	**0**	**100**

29.1.8 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Group Formation and Strengthening by Source and District

District	Source of Advice				
	Government	NGO / Development Project	Co-operative	Large Scale Farmer	Total
North 'A'	57	0	0	0	57
North 'B'	20	0	0	0	20
Central	104	0	0	0	104
South	0	39	0	0	39
West	24	0	0	0	24
Wete	20	0	0	0	20
Micheweni	65	0	0	0	65
Chakechake	0	0	0	0	0
Mkoani	41	0	0	0	41
Total	**330**	**39**	**0**	**0**	**369**
%	**89**	**11**	**0**	**0**	**100**

29.1.9 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Calf Rearing by Source and District

District	Source of Advice				
	Government	NGO / Development Project	Co-operative	Large Scale Farmer	Total
North 'A'	226	0	0	0	226
North 'B'	85	0	0	0	85
Central	332	27	0	0	359
South	90	26	0	0	116
West	144	0	0	0	144
Wete	103	0	0	0	103
Micheweni	625	0	0	0	625
Chakechake	159	0	0	0	159
Mkoani	292	20	0	0	312
Total	**2,056**	**73**	**0**	**0**	**2,129**
%	**97**	**3**	**0**	**0**	**100**

29.1.10 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Use of Improved Bulls by Source and District

District	Source of Advice				
	Government	NGO/ Development Project	Co-operative	Large Scale Farmer	Total
North 'A'	56	0	0	0	56
North 'B'	42	0	0	0	42
Central	303	27	0	0	329
South	92	26	0	0	118
West	116	0	0	0	116
Wete	124	0	0	0	124
Micheweni	819	0	0	0	819
Chakechake	90	0	0	0	90
Mkoani	168	0	0	0	168
Total	**1,810**	**53**	**0**	**0**	**1,863**
%	**97**	**3**	**0**	**0**	**100**

29.2 LIVESTOCK EXTENSION: Number of Agricultural Households by Quality of Extension Services and District

District	Quality of Service								Total Number
	Very Good		Good		Average		Poor		
	Number	%	Number	%	Number	%	Number	%	
North 'A'	109	12	746	80	74	8	0	0	930
North 'B'	59	10	521	87	21	3	0	0	601
Central	346	27	874	67	53	4	27	2	1,300
South	73	21	267	76	13	4	0	0	353
West	98	10	822	85	44	5	0	0	964
Wete	102	23	322	72	21	5	0	0	445
Micheweni	187	15	922	73	155	12	0	0	1,264
Chakechake	302	26	743	63	108	9	23	2	1,176
Mkoani	377	20	1,045	55	481	25	0	0	1,903
Total	**1,654**	**19**	**6,262**	**70**	**971**	**11**	**50**	**1**	**8,936**

APPENDIX III: CENSUS DATA COLLECTION INSTRUCTIONS

Smallholder Questionnaire
Community questionnaire
Village Listing Forms

Appendix III. a Smallholder Questionnaire