



Revolutionary Government of Zanzibar

NATIONAL SAMPLE CENSUS OF AGRICULTURE 2019/20



NATIONAL REPORT

ZANZIBAR



The Revolutionary Government of Zanzibar

National Sample Census of Agriculture 2019/20

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General Notes

The highest production of various crops observed in Mijini Magharibi region resulted from the fact that, many agricultural households based in the region were reported to practice their agricultural activities in other regions.

List of Abbreviations

AI	Artificial Insemination
ASDP II	Agricultural Sector Development Programme Phase II
ASLMs	Agricultural Sector Lead Ministries
ASF	African Swan Fever
CAADP	Comprehensive Africa Agriculture Development Programme
CAPI	Computer Assisted Personal Interview
CBPP	Contagious Bovine Pleura Pneumonia
CCPP	Contagious Caprine Pleuropneumonia
CSPro	Census and Survey Processing System
EA	Enumeration Area
FAO	Food and Agriculture Organization
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
NBS	National Bureau of Statistics
NCD	Newcastle Disease
NGOs	Non-Governmental Organizations
NSCA	National Sample Census of Agriculture
OCGS	Office of the Chief Government Statistician
PSU	Primary Sampling Unit
SDGs	Sustainable Development Goals
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
ToE	Training of Enumerators
ToT	Training of Trainers
TVLA	Tanzania Veterinary Laboratory Agency
TZS	Tanzanian Shillings
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

Definition of Key Terms

Reference Period

The Agriculture Sample Census covered the Agricultural Year 2019/20. An Agricultural Year is a twelve-month cycle in which production of crops takes place. In Tanzania, Agricultural Year commences on **1st October** and ends **30th September** of the following year.

A household: Is defined as person or a group of persons with a common arrangement for providing themselves with food regardless of source of income. A household may be either a one-person household or a multi-person household.

An agricultural holding: Is any economic unit of agricultural production (like a garden of temporary and/or permanent crops or cattle rearing/plantation) under single management, without regard to title, legal form or size. Management may be exercised by an individual member of the household or by the entire household. For the purpose of 2019/20 Agriculture Sample Census, agriculture holdings were restricted to those that met one or more of the following conditions:

- Having or operating at least 25 square meters of arable land
- Own or keep at least one head of cattle or five goats/sheep/pigs or fifty chicken/ducks/turkeys during the agriculture year 2019/20.

A crop garden is a piece of land used wholly or partly for crop production purposes under one form of tenure. It may consist of one or more fields adjacent to each other. A crop garden may also be termed a parcel. It may comprise one agricultural holding or just part of an agricultural holding. Tenure refers to the arrangements or right under which the holder holds or uses land.

Short Rainy Season: The short rainy season in Tanzania begins in October up to January of the following year.

Long Rainy Season: The long rainy season in Tanzania begins in March up to May of the same year.

Temporary crops: Crops that mature within one or more rain seasons e.g. beans and maize, but are destroyed after harvesting.

Permanent Crop: Are crops, which are sown or planted once, and then, they occupy the land for some years and need not to be replanted after each annual harvest.

Crop only

A household is referred to be crop only, if it has cultivated a piece of land equal or exceeding 25 square meters. This context also applies to all households owning or have kept livestock whose number does not qualify such household to be an agricultural holding (No cattle or less than 5 goats/sheep/pigs or less than 50 chickens/ turkeys/ ducks/ rabbits).

Livestock only

A household is referred to be a livestock only if it has owned or kept at least 1 cattle and/or 5 goats/sheep/pigs or more and/or 50 chickens/ turkeys/ ducks/ rabbits or more during the reference agricultural year. This also applies to all holders owning or having cultivated land less than 25 square meters.

Pastoralists

This refers to the households involved in livestock keeping with behavior of seasonal movement in search of water and pasture for their livestock.

Crops and Livestock

A household is referred to be both crops and livestock if it has cultivated a piece of land equal or exceeding 25square meters and has owned or kept at least 1 cattle and/or 5 goats/sheep/pigs or more and/or 50chickens/ turkeys/ ducks/ rabbits or more during the reference agricultural year.

Fish Farming

A household is referred to be fish farming if it involves itself in raising fish. This do not include households that fish in the naturally occurring water bodies such as river, lakes, seas, etc.

Small Scale Farms

These are farms, with at least 25 square meters of planted land and/or one cattle, five goats/sheep/pigs, 50chickens/turkeys/ducks/guinea fowls/rabbits.

Large Scale Farm

These are farms with at least 20 hectares of cultivated land or 50 herds of cattle or 100 goats/sheep/pigs or 1,000 chickens. In addition to this, they should fulfill all of the four listed conditions:

- i. Greater part of the produce should go to the market;
- ii. Operation of farm should be continuous;
- iii. There should be an application of machinery/implements on the farm; and
- iv. Should have at least one permanent employee.

Agro Processing

Is the transformation of basic agricultural produces into value added products for the purpose of meeting market needs.

FOREWORD

The 2019/20 National Sample Census of Agriculture (NSCA) is the third comprehensive Census of agriculture to be conducted in Zanzibar. The first Census was conducted in 2002/03 while the second was conducted in 2007/08. The 2019/20 NSCA was implemented by Office of the Chief Government Statistician, (OCGS), the National Bureau of Statistics (NBS) in collaboration with Ministry of Agriculture, Irrigation, Natural Resources, and Livestock and other Agricultural Sector Lead Ministries (ASLMs).

The Census was financially supported by the Government of Zanzibar together with the European Union (EU) and the United States Agency for International Development (USAID) while the Technical Assistance was provided by the United States Department of Agriculture (USDA) and Food and Agriculture Organization (FAO).



Hon. Doctor Soud Nahoda Hassan
Minister of Agriculture,
Irrigation, Natural Resources
and Livestock

The main objective of the 2019/20 National Sample Census of Agriculture was to provide baseline data on Agricultural Statistics. The results will be used for national agricultural planning, implementation and policy intervention for the purpose of improving agricultural sector with the aim of increasing productivity and promoting agro-processing for industrial development and improving farmer's livelihood. Moreover, the results will be used as input in the development of New Zanzibar Mid-Term Development Strategy (MKUZA III Successor Strategy) and its monitoring framework; monitoring the CCM five years' manifesto (2020 – 2025).

It is my hope that, this report will provide important data and information on agricultural sector to Government, Policy makers, Planners, and other stakeholders especially in the beginning of the first five years of the Governance of Hon. Dr. Hussein Ali Mwinyi, the Zanzibar, President and Chairman of the Revolutionary Councils' of Zanzibar.

Hon. Doctor Soud Nahoda Hassan
Minister of Agriculture, Irrigation, Natural Resources and Livestock

PREFACE

The Office of the Chief Government Statistician (OCGS), in collaboration with National Bureau of Statistics (NBS), Ministry of Agriculture Natural Resources, Irrigation and Livestock (MAINRL) conducted the National Sample Census of Agriculture at the end of the 2019/20 agricultural year.

The National Sample Census of Agriculture 2019/20 collected detailed data on rural and urban agriculture households, and ownership, land use, crop production, agro processing, irrigation, use of inputs, crop extension services and agriculture mechanisation. Other data collected were access to credit, market information, agricultural constraints, poverty indicators, livestock population and production of

livestock products livestock extension service, fish farming and beekeeping. The census covered smallholders farming at household level and commercial large scale farms.

This report provide data disaggregated at National and Regional level. The report provides in detailed statistics of different indicators that will work as planning tool for the Government planners, researchers, policy makers, and other stakeholders involved in agriculture and rural development. In addition to that the report also provide comprehensive data that serve as a monitoring and evaluation tool for rural development interventions.

I therefore express my sincere appreciation to the Census Technical Committee and Census Planning team comprised of senior staff from OCGS, NBS, and ASLMs for their commendable work. My appreciation as well extends to all the professionals, regional and district supervisors and field enumerators for their dedicated work. Certinly, without their commitment, the census would not have been successful.

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

Mayasa M. Mwinyi,
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EXECUTIVE SUMMARY

At the end of 2019/20 Agricultural year, the Government of Zanzibar carried out the Agriculture Sample Census as an important part of the Poverty Monitoring Master Plan, in generating relevant and reliable agricultural statistics, for advocacy of effective public policy formulation, geared to promote agriculture sector in the country, of which the majority of the rural population depends on for survival and it is their main source of livelihood. In addition, the Census provides data to policy makers and other stakeholders, as well as benchmark data for monitoring and evaluating the effect of rural development initiatives.

The 2019/20 Agriculture Sample Census was designed to meet the data needs of a wide range of users including policy makers, planners and development project implementer at local, district, regional and national levels, as well as rural development agencies, funding institutions, researchers, NGOs, farmer's organizations, etc. This report provides detailed description of the state of agriculture on the sub sectors of crops and livestock in Zanzibar for the 2019/20 agricultural year based mainly on smallholder farmers.

A total of 180,220 agricultural households were engaged in agriculture, out of which 162,239 households (90.0 percent) were in rural areas and 17,981 (10.0 percent) of the households were in urban areas. The number of agricultural households increased from 132,193 in 2007/2008 to 180,220 in 2019/20 NSCA, present an increase of 36.3 percent.

Crop production was the most common agricultural activity in the Country, of which 64.2 percent of agricultural households were engaged in Crop production only, followed by crop and livestock (34.6 percent) and the least activities engaged with fewer number was rearing or keeping livestock only with only 1.2 percent.

There were 180,220 agricultural households, out of which 145,496 (80.7 percent) were male headed households and 34,722 (19.3 percent) were female headed households. Kusini Pemba region had the largest number of female headed household (29.8 percent). The second notch was followed by Kaskazini Pemba (23.9 percent) and Mjini Magharibi 20.0 percent, whilst the region with the lowest number of female headed household was Kusini Unguja.

In addition to that, there were 1,089,891 household members in the agricultural households out of which 49.7 percent were males and 50.3 females. The household members aged below 15 years accounted for 43.5 percent of the total population whilst, members aged 15 to 64 years (52.0 percent) and members aged above 65 years were 4.5 percent only. The average household size for agricultural households was 6 persons per household. Kusini Pemba region had the largest average number of people per household (6.4), followed by Mjini Magharibi and Kaskazini Pemba with 6.2 and 6.0 persons respectively whilst the smallest household size was recorded in Kusini Unguja 5.2

From the total 944,466 household members with five years and above Kiswahili recorded the highest literacy rate of 48.5 percent, followed by members who were capable to read and write both Kiswahili and English (289,894; 30.7 percent) and other language (0.6 percent). Conversely, 190,677 household members (20.2 percent) did not know how to read/write any other language.

The census results reveal that, from the total 944,466 household members aged 5 years and above the schooling Status was 42.4 percent were still attending School, 26.4 percent were completed school, 16.8 percent dropped out and only 14.5 percent never attended School

The results show that the total land area owned by smallholders under different forms of ownership was 186,240 ha. Most of the land was owned under customary law (82,375 ha; 44.2 percent), followed by land borrowed from others (56,688 ha; 30.4 percent) and land leased/certificate of ownership (11.7 percent). The land ownership with the lowest area was that of the shared cropped from others.

However, large variations existed between regions on land sufficiency for agriculture where out of the total 180,220 households, 48.8 percent (88,030 households) reported land is insufficient whereby within the region land scarcity is more acute in Kaskazini Pemba region with 25,967 households (63.7 percent), followed by Mjini Magharibi (20,523; 57.2 percent) and Kusini Unguja 7,597 (43.2 percent).

The total area planted crops during the agricultural year 2019/20 was 184,350 ha where most of the area with 125,086 ha (67.9 percent) was planted with annual crops while permanent or

perennial crops occupied 59,264 (32.1 percent). On annual crops; roots & tubers crops had the lion share with 58.2 percent of the planted area, followed by cereals 29.4 percent, fruits and vegetables had 8.8 percent of the area covered with annual crops while pulse crops and oil seed and nut crops had the lowest area of 2.6 percent and 1.0 percent respectively. On permanent crops bananas had the largest area with 50.7 percent of the area followed by cloves 14.9 percent and coconuts with 12.9 percent covered with permanent crops and mangoes 5.8 percent.

The total production of cereals during 2019/20 agricultural year was 54,602 tons, where paddy had the largest quantity harvested of 50,421 tons (92.3 percent), followed by Maize 3,951 tons (7.2 percent), and bulrush millet 24 tons (0.3 percent).

The total production for roots and tuber crops was 223,483 tons of which cassava had the highest production with 183,971 tons, followed by sweet potatoes 38,180 tons, yams 1,809 tons and lowest production was on coco yams 1,409 tons.

Among the three main pulses grown in Zanzibar during the 2019/20 agricultural year were cowpeas had the highest production of 3,675 tons (83.3%), followed by pigeon pea 549 tons (12.5%), while green grams had the lowest production of 155 tons (3.5%). On the other hand, the only oil seed crop reported in Zanzibar during the 2019/20 NSCA was groundnuts with total production of 690 tons.

Fruits and vegetables crops production was 49,687 tons. Among the five important produced crop in this group, okra recorded the highest production with 11,004 tons (22.1 percent), followed by water melons 10,897 tons (21.9 percent), tomatoes 10,647 tons (21.4 percent), eggplant 4,879 tons (9.8 percent) and amaranths 4,384 tons (8.8 percent).

The main cash crops produced in Zanzibar and earn the islands most of the forex from the crop sub sector are cloves and seaweeds. Cloves production shrunk by almost 4 times from 8,007 tons recorded in 2002/03 agricultural year to 2,236 tons in 2019/20 agricultural year while seaweed production escalates by more than 9 times, from 617 tons in 2002/03 agricultural year to 5,532 tons in 2019/20 agricultural year.

The total of 132,582 households engaged in permanent crop production in Zanzibar during 2019/20 agricultural year and managed 59,264 ha. An estimated 173,981 tons of different crops produced of which bananas had the highest production 88,085 tons (50.6 percent), followed by mangoes 17,313.3 tons (10.0 percent), pineapples 15,589 tons (9.0 percent). Coconuts and sugarcane production was 7.6 percent and 7.1 percent respectively to the total permanent crops produced during the 2019/20 agricultural year.

About 20,995 agricultural households (12.0 percent) processed their agriculture produce to increase its value. Kusini Pemba region had the highest proportion (15,801, households; 75.3 percent) of total households processed crops, followed by Mjini Magharibi (2,972 households; 14.2 percent) while the least was Kaskazini Pemba with 310 households.

The number of agricultural households reported practicing irrigation for crop production was 45,618 equivalents to 25.6 percent of the total agricultural households. Kusini Pemba region reported the highest number of households with 14,886 (32.0 percent), followed by Mjini Magharibi 30.6 percent), while Kaskazini Pemba region had the least number of households 5.7 percent. The total area planted with annual crops was 126,001 ha (66,647 ha in short rainy season and 59,355 ha during the long rainy season). The total area irrigated was 16,484 (9,063 ha in short rainy and 7,268 ha in long rainy season). The largest area irrigated planted paddy which is 6,772 ha, followed by water melon 1,865 ha, while the smallest area irrigated was 15 ha planted with carrot. The total planted area for Permanent crops were 59,265 ha of which only 1,945 ha irrigated. Banana had the largest irrigated area of 710 ha; followed by clove 603 ha, while lemon had smallest irrigated area (17 ha).

The use of different inputs such as improved seeds, fertilizer, herbicides, Fungicides, insecticides for crops production based on annual and permanent crops vary. During short rainy season the number of households used improved seed was 110,804 households and area planted was 15,609 ha. During the long rainy season, the number of households used improved seeds was 101,874 households and the total land area planted was 13,705 ha.

The number of households applied inorganic fertilizers for annual crops during the short rainy season was 28,778 households and 19,814 households in long rainy season. The area applied with inorganic fertilizers was 8,766 ha during the short rainy season and 5,422 ha in long rainy season. The number of households that applied organic fertilizers on annual crops was 20,494 during the short rainy season and 30,748 households during the long rainy season. The total area applied with organic fertilizers was 5,913 ha in short rainy season and 11,511 ha in long rainy seasons.

The number of households that applied herbicides for annual crops production was 9,944, during the short rainy season and 15,627 households during the long rainy season. The total area applied with herbicide was 3,696 ha in short rainy season and 6,093 ha in long rainy seasons.

The number of households applied fungicide on annual crops was 14,336 whereas 9,233 households during the short rainy season and 5,103 households in long rainy season. The total area applied with fungicide was 3,626 ha during the short rainy season and 1,528 ha in long rainy season.

The number of households that applied insecticide in their annual crops was 37,149, of which 24,134 during short rainy season and 13,015 households during the long rainy season. The total area applied with insecticide was 12,064 of which 8,205 ha in short rainy season and 3,859 ha in long rainy season.

Out of the total 178,071 involved in crop production, only 17,899 households (10.1 percent) received extension services. On the use of agriculture implements and mechanization, the majority of the agricultural households 174,394 use sword, followed by hand hoes 167,294 households and hand sprayers 18,694 households, oxen 6,656 households while ox seed planters used by least number of households 265. Most of the agricultural households own an average of 2 swords and 2 hand hoes whereas 2.4 percent owned hand sprayer. Only 13,273 agricultural households (7.4 percent) of the total agricultural households used tractors/draft animals for farming during 2019/20 agricultural year.

On use of credit 3,583 agricultural household (2.0 percent) reported to borrowed money for agricultural activities during 2019/20 agricultural year. The main source of the **'first credit'** was Cooperatives of which a total of 1,815 agricultural household members borrowed money, followed

by savings and credit Societies with 504 household members, the third source was Private individual (401 members). Cooperatives were the **second credit** and the only source reported with 154 household members. The majority of the household members used the credit in paying labour and the second main use of credit was the purchase of seeds while the least uses of agricultural credit was for fish farming. The total credit borrowed by household members worth TZS 1,543.3 million with an average of TZS 430,722.0 per household while the repayment value was TZS 2,774.0 million.

The majority of agricultural households (41.6 percent) received market information from fellow farmers, followed by Mobile phone 28.2 percent and radio 24.3 percent while the least number of agricultural households 1.2 percent receive market information on internet.

Crop theft was the major constraint mentioned by 20.8 percent of the households, followed by access to land 12.0 percent while the destruction of crops by wild animals/birds and pests and diseases destruction, both were third after being reported by 11.0 percent of the households.

The total of 64,459 households (36 percent to the total agricultural households) was involved in livestock rearing. The main livestock species raised in Zanzibar were cattle, goats, sheep, pigs and chicken and the inventory collection reference date is 1st August, 2020 while other variables including livestock product its reference date was the 2019/20 agricultural year. Besides livestock and poultry population, other variables collected in the 2019/20 agriculture year were milk and eggs production.

As at 1st August, 2020, the numbers of households keeping main livestock were **64,459 of which** raising 55,925 household kept cattle, 18,480 households raised goats, 192 households rear sheep and 145 households kept pigs. An estimated 103,382 households reported to keep poultry. The results show that, there were 270,997 cattle, 111,623 goats, 934 sheep, and 2,209 pigs. Whilst the total number of chicken reported were 3,764,184 birds, of which 3,705,505 birds (98.4 percent) kept by smallholder farmers and 58,679 (1.5 percent) birds from large scale farms.

The total milk production was 36,450,637 liters (23,343,263 liters wet season and 13,107,374 liters dry season). On the other hand, a total of 112,702 liters of goat milk was reported during 2019/20 agricultural year. A total of 223,778,301 eggs were produced of which 10.5 percent produced from indigenous chicken and 89.5 percent from improved chicken.

The main method used for cattle identification colour which was reported by 54,031 households (96.6 percent), followed by cattle clan (538 households; 0.9 percent) and earring (474 households; 0.8 percent).

The total number of households 11,120 households (19.9 percent) reported tick borne diseases infection where 26,365 cattle were infected. About 4,694 households (8.4 percent) reported Contagious Bovine Pleura Pneumonia (CBPP) disease infections where cattle 10,421 cattle were infected. An estimated 439 households reported infection of Trypanosomiasis with 748 cattle infected with the disease. A total of 13,406 households reported Lumpy Skin disease with 29,801 cattle were infected. Helminthiosis disease was reported by 17,295 households with 58,690 cattle infected whereas FMD reported by 4,485 households and there was 11,603 cattle infected. Brucellosis had 3,318 cases of infected cattle and reported by 2,497 households. The total of 2,485 households reported Black Quarter disease with 7,517 cattle infected.

The total of 507 households reported Foot Rot disease to their goats and 1,394 heads infected. About 858 households reported CCPP disease where 2,998 goats were infected. Helminthiosis was reported by 3,919 households with 17,169 goats infected whereas FMD was reported by 2,753 households with 9,090 goats infected.

The census results show that, 3,357 livestock keeping households reported to apply vaccination on FMD whereas 1,019 households applied vaccination against rabies and 2,169 households reported to receive vaccination against Black Quarter disease. About 1,070 households receive Anthrax disease vaccination whereas, 2,076 households reported to receive vaccination on CBPP.

The main method used to control Tick Borne Diseases was spraying applied by 8,976 households (80.0 percent) followed smearing 1,314 households (12 percent), dipping, 751 households (7 percent) and others 196 (1 percent) (Table 4.41). The control methods used for tsetse flies disease include dipping 150 households (75 percent) and spraying 49 households (25 percent). The main control methods used for **New Castle Disease** (NCD) included Vaccination applied by 2,728 households (34 percent) and local herbs 2,515 households (31 percent). The number of households received extension advice was 6,149 (10.0 percent to the total livestock keeping households).

The number of households practicing fish farming was 368 only. The majority of households 353 (95.9 percent) were smallholder farmers. The number of stocked fish was 330,677 fingerlings (173,286 from small holders and 157,391 from large scale farms), whereby the total quantity of fish harvested was 64.2 tons of which a total of 59.4 tons were sold.

The only sources of fingerlings reported by the majority of fish farming households were natural pond and NGO/Project reported by 225 households (61.3 percent) and 142 households (38.7 percent) respectively.

The bee keeping was practiced by 3,064 agricultural households. The total of 36,393 beehives used (6,104 from Small Bees and 30,289 from Large bees) which produce 10,958 liters of honey.

The majority 157,927 households (87.6 percent) used iron sheets as a roofing material, followed by use of grasses/leaves which accounted for 12.0 percent. Other building materials reported were the use of grasses and muds that accounted for 0.2 percent. Tiles (185; 0.10 percent) and asbestos (270; 0.15 percent) were the least building materials used for roofing, walls and floor.

Cement was the main material used for construction of floor and it was reported by 126,364 households (70.1 percent), followed by earth and sand mentioned by 50,892 households (28.2 percent), and the least used was tiles by 2,962 households (1.6 percent). The percentage of household has increased from 15.6 percent in 2008 to 28.2 percent in 2020.

The survey reveals that there are 64,656 households (35.9 percent) out of 180,220 households, used cement bricks for walls. Poles and muds was the second material used for walls and was reported by 59,469 households (33.0 percent) followed by brick stones 19,813 households (11.0 percent). Grass was the least material since it was used only by 200 households (0.1 percent).

The most commonly used toilet facility by households was flush toilet with cistern 64,620 (36.0 percent), followed with those with no toilets (32,944 households; 18.3 percent) and pit latrine with slab/washable (29,297 households; 16.3 percent), while composting toilet/ECOSAN latrine was the least reported type of toilet with 340 households (0.2 percent).

The results show firewood continued to be a dominant source of energy for cooking, it is used by 151,659 households (84.2 percent). Charcoal is the second source of energy for cooking used by 23,202 agricultural households (12.9 percent). The two source of energy for cooking were used by 97.1 percent of agricultural households. Wick lamp reported by 82,750 households (45.9 percent) is the leading source of energy for lighting followed by electricity (66,285 households; 36.8 percent) and solar (17,279 households; 9.6 percent).

Piped water was the main source of drinking water during wet season reported by 78.0 percent of household, followed by protected well (24,487 households; 13.6 percent) and unprotected well (12,500 households; 6.9 percent). Regardless of the type of water source, most of the households (98 percent of the total agricultural households) obtain drinking water from a distance of less than 1 kilometer during both wet and dry season,

Mobile Telephone was the common owned asset by most of the households 166,573 (92.4 percent) while bicycles was owned by 96,449 house (53.5 percent).

The number of meals normally taken by agriculture household was either two or three meals, 95,097 households (52.8 percent) take two meals per day and 78,970 households (43.8 percent) take three meals per day. During agricultural year 2019/20; 40.7 percent of agricultural households rarely experienced problems in satisfying the household food requirements. About 34,505 households (19.1 percent) reported ‘other casual cash earnings’ as their main source of income, followed by sales of food crops 32,765 households (18.2 percent) and business income 31,514 households (17.5 percent) as the source of cash income. Remittances was reported by 19,269 households (10.7 percent) had a significant contribution as a main source of cash income to agricultural households.

CHAPTER ONE

BACKGROUND INFORMATION

1.0 Introduction

Agriculture is an important economic sector that play great roll to the National economy in Zanzibar. In the year 2020, the sector contributed around 22.8 percent of the National GDP (Economic survey report, 2020). The contribution of the crop sub sector to the GDP was 8.8 percent followed by Livestock 7.9 percent, Fisheries 4.9 percent and forest 1.2 percent. The sector is the main source of employment generation, food production, and raw materials for industries as well as foreign earning in the country. The livestock sub - sector the best source of animal protein, food security, a source of cash income, manure for the crop field, draught animal power, and other socio-economic fuctions while fisheries provide among others, a source of high-quality protein. The majority of farmers engaged in agriculture are small holder who grows a wide variety of crop species, annual and perennial crops such as Paddy, Maize, Sorghum, Cowpeas and Groundnuts. In addition to that, farmers also grow fruits and vegetables such as Tomatoes, Amaranths, Orange, Mango, Banana, pawpaw, Watermelon etc. Seaweeds and Cloves are mainly grow by farmers for export. For livestock sub sector, the majority are smallholders engaged in rearing of indigenous cattle, goats, sheep and chicken while fish farming is practiced in small scale.

This report focuses on the data related to agricultural households, land ownership, land use, crops production, agro processing, irrigation use, use of inputs, crop extension and agriculture mechanization. Others are access to credit, market information, agriculture constraint, poverty indicators in agricultural households, livestock rearing and production of livestock products, livestock diseases, cattle identification, fish farming and beekeeping.

This report is divided into seven chapters that are: Background Information, Demographics, Crops Results, Livestock Results, Agricultural Credits, Poverty Indicators and Conclusion and Recommendation.

1.1 Background Information

In order to facilitate various activities of the Poverty Monitoring Master Plan, the Government planned a series of censuses and surveys to assist in policy and planning and to track changes in the wellbeing of the population of Zanzibar. The 2019/20 National Sample Census of Agriculture (NSCA) is the third comprehensive agriculture sample census to be conducted in the country. The first was conducted in 2002/03 agricultural year and the second was in 2007/08 agricultural year.

The 2019/20 agricultural sample census results aim at providing useful information that will help to fill the data gaps, thus support planning and policy formulation geared at promoting agriculture sector in the country of which the majority of the rural population depends on for survival and it is their main source of livelihood. In addition to provision of the data to policy makers and other stakeholders the 2019/20 NSCA collected information that provides benchmark data for monitoring and evaluating the effect of Zanzibar Agriculture Sector Development Programme – Phase II (ZASDP II).

1.2 Census Objectives

The 2019/20 National Sample Census of Agriculture was designed to meet the data needs of a wide range of users down to district level including policy makers at local, regional and national levels, rural development agencies, funding institutions, researchers, NGOs, farmer's organizations. The dataset is both extensive in its sample and detailed in its scope to meet the user demand.

The key objectives of the Census were three-fold:

- i) To identify structural changes if any, in the size of farm household holdings, crop and livestock production, farm inputs and farm implement use. It also seeks to determine if there are any improvement in rural infrastructures and the level of agriculture household living conditions;
- ii) Provision of benchmark data on productivity, production and agricultural practices in relation to policies and interventions promoted by the Agricultural Sector Lead Ministries (ASLMs) and other stakeholders; and;
- iii) Establishment of baseline data for the measurement of the impact of high-level objectives of the Zanzibar Agriculture Sector Development Programme Phase II (ZASDP II).

1.3 Census Scope and Coverage

The 2019/20 National Sample Census of Agriculture was conducted for both large scale farms and smallholder farmers. This report covers information of smallholder farmers in details with some summary data from large scale farms in order to provide complete national estimates for some variables such as total livestock population, crop production etc. The data was collected from a sample of 1,800 smallholder farmers. Data was also collected from 75 large scale farms on a complete enumeration basis.

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

- i). Smallholder farmers questionnaire
- ii). Large scale farms questionnaire
- iii). Community level questionnaire

The smallholder farmers questionnaire was the main census instrument and main topics covered were:

- a) Household information
- b) Land access/ownership/tenure
- c) Land use
- d) Conservational farming
- e) Access and use of resources
- f) Annual and permanent crops production
- g) Main use of crop residuals
- h) Agroprocessing
- i) Crop storage
- j) On farm investments
- k) Access and use of credit for agricultural purposes
- l) Crop extension services
- m) Livestock production and products
- n) Outlet for sales of livestock
- o) Livestock structures/accessories
- p) Livestock pest & parasite control
- q) Livestock extension
- r) Livestock extension service providers

- s) Government regulatory challenges
- t) Fish farming
- u) Bee keeping
- v) Labour use
- w) Subsistence vs non-subsistence
- x) Access to infrastructure and other services
- y) Agricultural constraints
- z) Market information
- aa) Poverty indicators at household level

The large-scale farm questionnaire was administered to large farms which were either privately or corporately managed. Some data from the large scale farms' questionnaire are incorporated in this report. The community level questionnaire was designed to collect village level data such as access and use of common resources, community tree plantations and seasonal farm gate prices.

1.4 Census Methodology

1.4.1 Sample Design

The National Master Sample developed by Office of the Chief Government Statistician (OCGS) to serve as national framework for conducting household-based survey in the country was used to design the 2019/20 National Sample Census of Agriculture (NSCA). The 2019/20 sample was designed to provide estimates disaggregated at regional and district levels.

The 2019/20 NSCA adopted a two-stage design with census enumeration areas as Primary Sampling Units (PSUs) and households as second-stage units. The stage one sampling frame comprises of selection of urban and rural EAs from the 2012 Population and Housing Census frame. The EAs were explicitly sorted by Region and District before employing a Probability Proportionate to Size (PPS). The second stage was the selection of agricultural farming households from the selected EAs for data collection.

1.4.2 Sample Size

A total of 150 PSUs were selected from the 2012 Population and Housing Census (PHC) frame. Out of these, 128 PSUs were from rural EAs and 22 from urban EAs. The number of households differed from one PSU to another, it ranged from 5 to 30 households, making a

total number of 1,800 households. The probability of selecting a household depended on the total number of households in the PSU.

Table 1.1: Census Sample Size During 2019/20 Agricultural Year

Level	Number
Region	5
District	11
EAs	150
Households	1,800

The sample was higher for rural EAs than urban EAs. The technic was designed to give estimates of different parameters with the error margin of 5 percent at 95-confidence level.

1.5 Census Organization

The 2019/20 NSCA was administered by Office of the Chief Government Statistician and National Bureau of Statistics in collaboration with Agriculture Sector Lead Ministries (ASLMs). For smooth implementation of the Census, Steering Committee, Committee of Directors and Technical Committee were formed. The committee members were from the Ministry of Agriculture, Irrigation, Natural resources and Livestock; Office of the Chief Government Statistician, Zanzibar; the National Bureau of Statistics and other Agriculture Sector Lead Ministries (ASLMs). The Steering Committee was responsible for making pertinent decision with regards to census implementation, whereas the Committee of Directors provides advice to the Steering Committee. On the other hand, the Technical Committee was responsible for the overall planning and execution of the project. More specifically the team was responsible to:

- i) Develop tabulation plans;
- ii) Develop sample design;
- iii) Questionnaire design and other census instruments;
- iv) Field pre-testing of the census instruments;
- v) Execution training of trainers;
- vi) Information, education and communication campaign; and
- vii) Field supervision and consistency checks.

CHAPTER TWO DEMOGRAPHICS

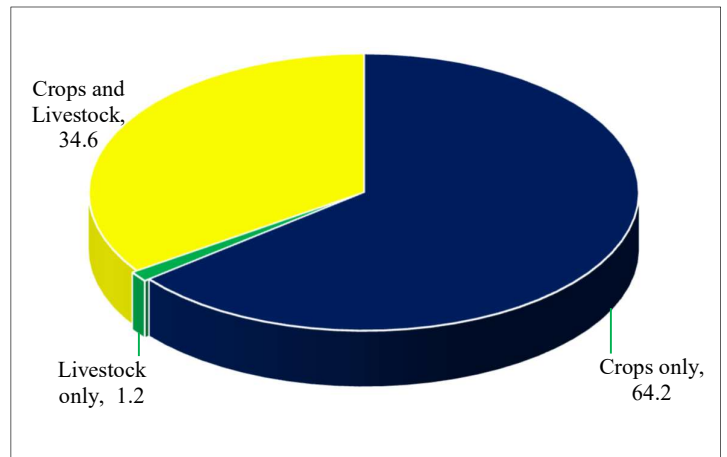
2.0 Agricultural Households

The results presented in this section discuss agricultural activity of the households during the 2019/20 agricultural year. A total of 180,220 agricultural households were engaged in agriculture, out of which 162,239 households (90.0 percent) were in rural areas and 17,981 (10.0 percent) of the households were in urban areas. The number of agricultural households increased from 132,193 in 2007/2008 to 180,220 in 2019/20 NSCA, present an increase of 36.3 percent.

2.1 Types of Agricultural Activities of the Households

Crop production was the most common agricultural activity in the Country of which 115,762 households (64.2) percent of the total agricultural households were engaged in Crop production only, followed by crop and livestock (62,310 households (34.6 percent) and the least activities engaged with fewer number was rearing or keeping livestock only with 2,149 households (1.2 percent) (Figure 2.1)

Figure 2.1: Agriculture Household by Type of Activity During 2019/20 Agricultural Year



2.2 Agricultural Household Characteristics

This section describes the general characteristics of the agricultural households, including; age and sex, residence, household size, literacy and education, livelihood activities, off-farm income, main activity of agricultural household members and types of land tenure etc.

The census results reveal that, there were 1,089,891 household members in the agricultural households out of which 49.7 percent were males and 50.3 females. The household members aged below 15 years accounted for 43.5 percent of the total population whilst, members aged 15 to 64 years (52.0 percent) and members aged above 65 years were 4.5 percent only (Table 2.1).

Table 2.1: Number of Agricultural Household Members by Sex and Age Group, 2019/20 Agricultural Year

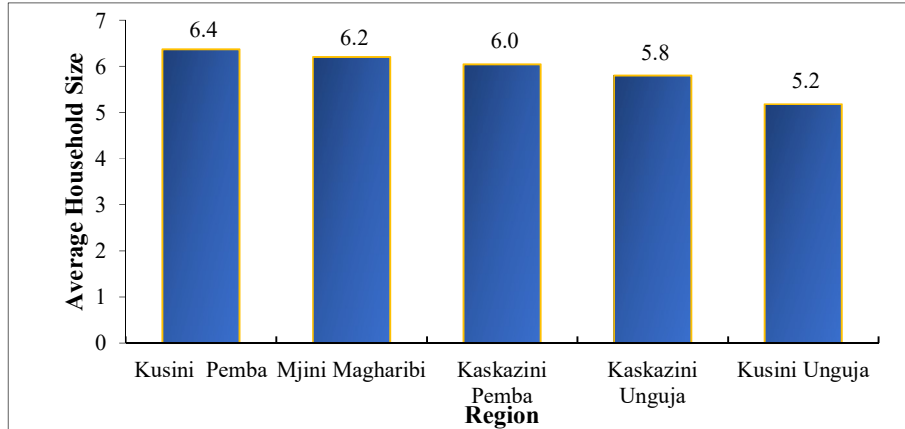
Age group	Total	Sex	
		Male	Female
0 - 4	145,422	72,026	73,396
5 - 9	173,704	87,425	86,279
10 - 14	155,292	79,050	76,242
15 - 19	139,982	72,192	67,790
20 - 24	93,755	47,667	46,088
25 - 29	65,418	30,692	34,726
30 - 34	52,932	22,437	30,495
35 - 39	43,475	18,357	25,118
40 - 44	44,076	19,893	24,183
45 - 49	40,787	19,216	21,571
50 - 54	35,000	18,662	16,338
55 - 59	26,321	13,492	12,829
60 - 64	25,116	13,435	11,681
65 - 69	15,055	8,441	6,614
70 - 74	18,929	11,206	7,723
75 - 79	7,391	4,833	2,558
80 - 84	4,343	2,343	2,000
Above 85	2,893	760	2,133
Total	1,089,891	542,127	547,764

2.3 Number and Size of Agricultural Households

The 2019/20 National Agricultural Sample Census of agriculture result reveals that, Zanzibar has 180,220 agricultural households. There were 145,496 (80.7 percent) Male headed households and 34,722 (19.3 percent) were Female headed households. Kusini Pemba region had the largest number of female headed household (29.8 percent). The second notch was followed by Kaskazini Pemba (23.9 percent) and Mjini Magharibi 20.0 percent, whilst the region with the lowest number of female headed household was Kusini Unguja (10.0 percent).

The average household size for agricultural households was 6 persons per household. Kusini Pemba region had the largest average number of people per household (6.4), followed by Mjini Magharibi and Kaskazini Pemba with 6.2 and 6.0 persons respectively whilst the smallest household size was recorded in Kusini Unguja 5.2 (Figure 2.2)

Figure 2.2: Average Household Size of Agricultural Households during 2019/20 Agricultural Year

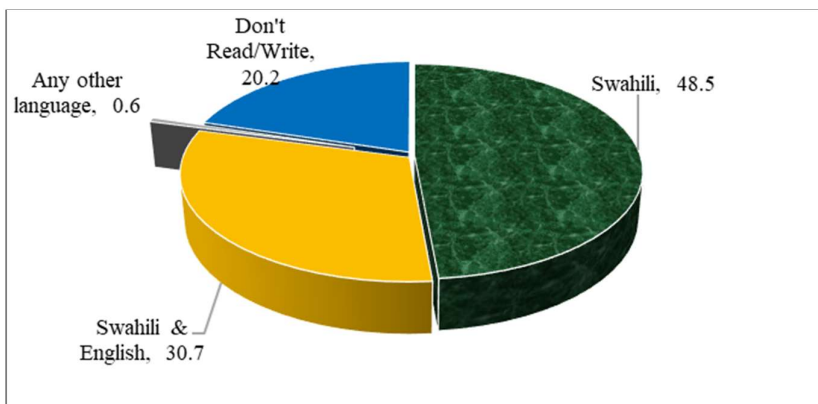


2.4 Literacy and Education of Agricultural Population

The 2019/20 National Sample Census of Agriculture defined literacy as the ability to read and write a simple sentence in Kiswahili only or English only or both English and Swahili or any other language. In this context, the results on literacy and education attainment were collected from all persons aged five years and above in the household.

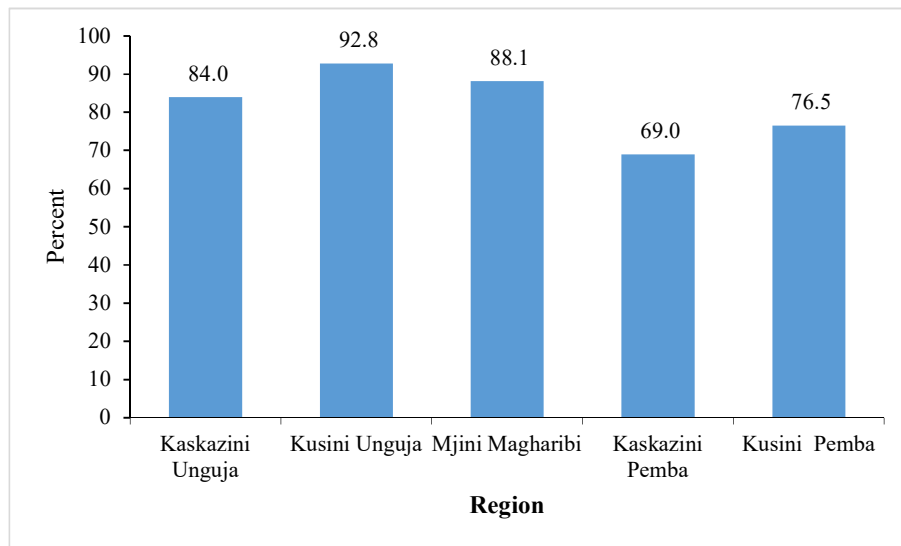
From the total 944,465 household members with five years and above Kiswahili recorded the highest literacy rate of 458,500 households (48.5 percent), followed by members who were capable to read and write both Kiswahili and English (289,894; 30.7 percent) and other language (0.6 percent). Conversely, 190,677 household members (20.2 percent) did not know how to read/write any other language (Figure 2.3).

Figure 2.3 Percentage of Agriculture Household Members Who Can Read and Write by Type of Language During 2019/20 Agricultural Year



The number of people who can not read or write has decreased from 31.0 percent recorded in 2007/08 to 20.2 percent in 2019/20, this indicates that literacy has improved in agricultural households. Zanzibarian's agricultural population has a literacy rate of 79.8 percent in 2019/20, compared to 69.0 percent in 2007/08. Regional disparities do exist, in Zanzibar, Kusini Unguja region had the highest literacy rate (92.8 percent), Kaskazini Unguja (84.0 percent). Whilst the lowest was Kaskazini Pemba (69.0 percent) (Figure 2.4).

Figure 2.4: Percentage of Literacy Level of Household Members by Region During 2019/20 Agricultural Year



2.5 Education Status

The census results reveal that, from the total 944,465 household members aged 5 years and above the schooling Status was 400, 442 (42.4 percent) were still attending school, 248,977 members (26.4 percent) were completed school, 158,248 (16.8 percent) dropped out and only 14.5 percent never attended School (Figure 2.5).

The proportion of household members attending school varies cross regions. Kusini Pemba had the highest number of household members aged 5 years and above still attending school with 136,985 household members (34.2 percent), followed by Kaskazini Pemba (90,079; 22.5 percent), whilst the lowest region was Kusini Unguja (31,491; 7.9 percent) (Figure 2.6).

Figure 2.5: Percentage of Household Members by Education Status During 2019/20 Agricultural Year

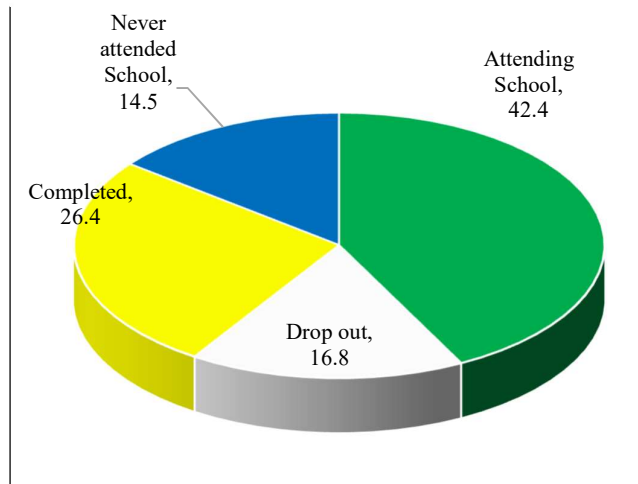
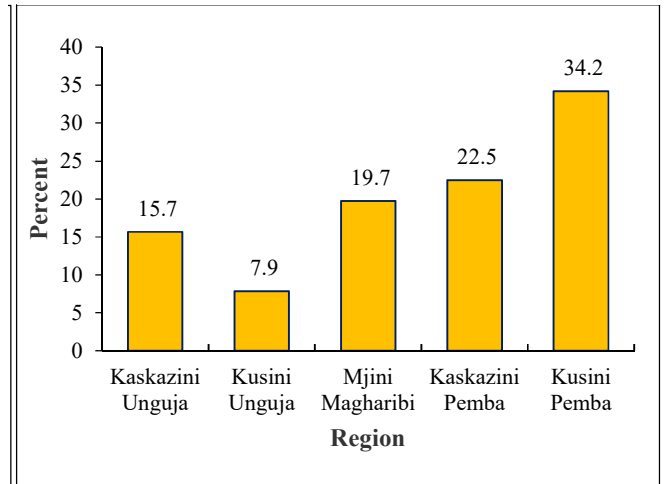


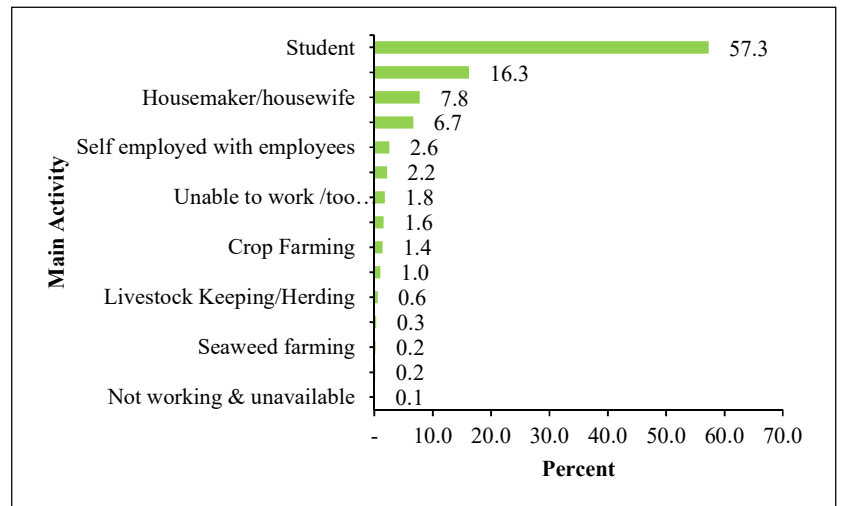
Figure 2.6: Percentage of Household Members Attending School by Region During 2019/20 Agricultural Year



2.6 Main Household Activity

The Main household activity is the activity that occupies the majority of people's time in the rural farming community. About 57.3 percent of the agricultural population are students who spent most of their time at school, followed by unpaid family helper (non agriculture) (16.3 percent), fishing (6.7 percent), crop farming (1.4 percent). Seaweed farming 0.2 percent (Figure 2.7).

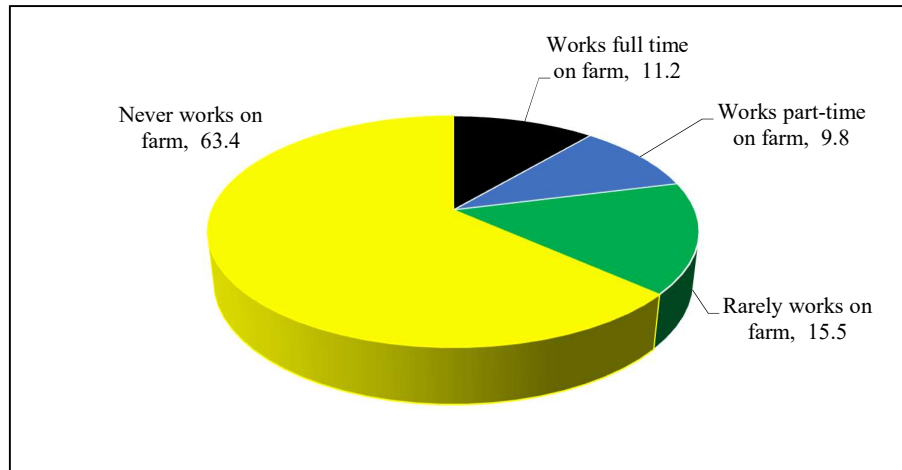
Figure 2.7: Percentage Distribution Agricultural Population by Main Activity During 2019/20 Agricultural Year



The 2019/20 National Sample Census of agriculture also collected information on involvement on farming activities for individual household member aged 5 years and above. Majority of the household members (599,034 households; 63.4 percent) never worked on farm. This is mainly associated with the fact that about 614,440 household members (56.4 percent) were students who spent most of their time in schools, followed by members who rarely worked on farm

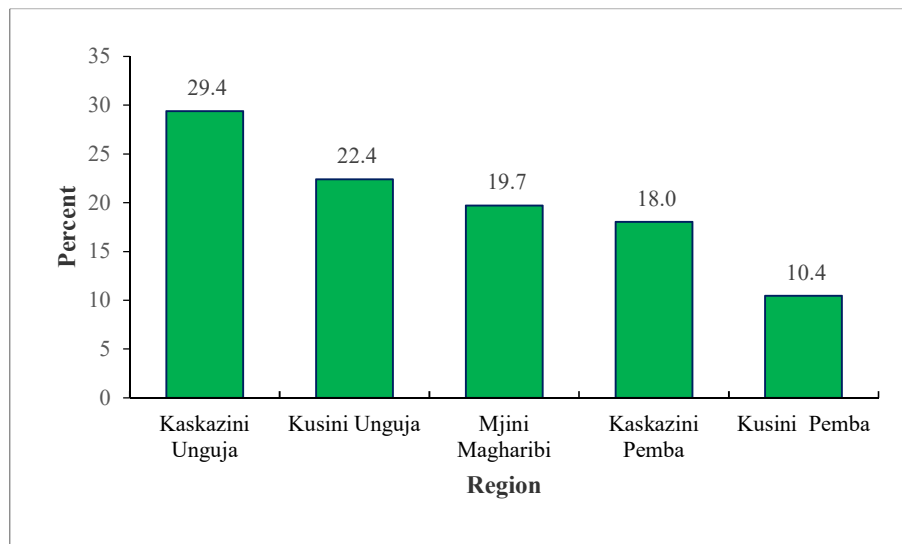
(146,641 households; 15.5 percent), those who worked full time on farm (105,773 household members; 11.2 percent) and those who worked part-time on farm (93,018 household members; 9.8 percent) (Figure 2.8).

Figure 2.8: Percentage of Household Members aged 5 Years and Above Involvement in Farming Activities by Type of Activity



Kaskazini Unguja had the highest percentage (29.4 percent) of household members who spend full time on farming, followed by Kusini Unguja with 22.4 percent, while the lowest proportion of household member were reported in Kusini Pemba (10.4 percent) (Figure 2.9).

Figure 2.9: Percentage of Household Members aged 5 Years and Above Engaged Full time on Farm by Region During Agriculture Year 2019/20



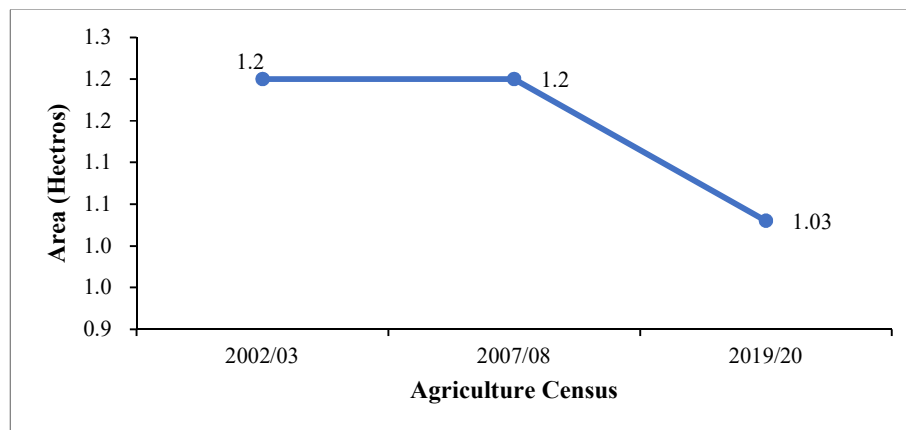
2.7 Land Use

The human use of land is called land use. It entails the management and transformation of natural areas, such as fields, pastures, and villages, into constructed environments. It's also been defined as "the arrangements, activities, and inputs people use to produce, change, or sustain a particular land cover type" (FAO/UNEP, 1999). In this census, this variable tries to show how much of the land available to households is used for agricultural purposes.

2.7.1 Area of Land Utilized

The total usable land available to smallholder farmers was 186,240 ha, equivalent to 1.03 ha of available land per household. The total area of land utilized was 185,277 ha, equivalent to 99.5 percent of the total usable land available. Out of this 126,363 ha, equivalent to 68.2 percent was used for annual crops and 58,277 ha (31.8 percent) used for permanent crops. The holding size of total area used for agriculture has remained constant from 2002/03 to 2007/08 agricultural year and decreased to 1.03 ha per household in 2019/20 (Figure 2.10).

Figure 2.10: Trend of Utilised Land per Household in 2002/03, 2007/08 and 2019/20 Agriculture Censuses



2.7.2 Land Use Sufficiency

The results in Table 2.2 below show that 88,030 agricultural households (48.8 percent) reported land insufficiency. The highest proportion of households reporting land insufficiency within the region was reported in Kaskazini Pemba region with 25,967 households (63.7 percent), followed by Mjini Magharibi (20,523; 57.2 percent) and Kusini Unguja 7,597 (43.2 percent). Kaskazini Unguja was the least region with lower proportion of agricultural households reported to have land insufficiency (11,291 households; 35.7 percent) within the region.

Table 2.2: Number of Agricultural Households by Whether they Consider Having Sufficient Land for the Household and Region During 2019/20 Agricultural Year

Region	Total	Sufficient	Insufficient	Percent of Insufficient Land
Kaskazini Unguja	31,594	20,303	11,291	35.7
Kusini Unguja	17,593	9,996	7,597	43.2
Mjini Magharibi	35,873	15,350	20,523	57.2
Kaskazini Pemba	40,781	14,814	25,967	63.7
Kusini Pemba	54,379	31,727	22,652	41.7
Total	180,220	92,190	88,030	48.8

Pressure on land in Zanzibar was depicted by the fact that almost all the usable land in all regions was utilized 157,134 households (87.2 percent). The highest proportion was reported in Kaskazini Pemba with 37,621 households (92.3 percent of the total land within the region), followed by Kaskazini Unguja (28,708 households; 90.9 percent) and Mjini Magharibi (31,953 households; 89.1 percent). The lowest proportion was in Kusini Pemba (44,053 households; 81.0 percent) (Table 2.3).

Table 2.3: Number of Agricultural Households by Whether All Land Available to the Household Was Used by Region During 2019/20 Agricultural Year

Region	Total	All land was Used	No All Land Used	Percent of all Land used
Kaskazini Unguja	31,594	28,708	2,886	90.9
Kusini Unguja	17,593	14,799	2,794	84.1
Mjini Magharibi	35,873	31,953	3,920	89.1
Kaskazini Pemba	40,781	37,621	3,160	92.3
Kusini Pemba	54,379	44,053	10,326	81.0
Total	180,220	157,134	23,086	87.2

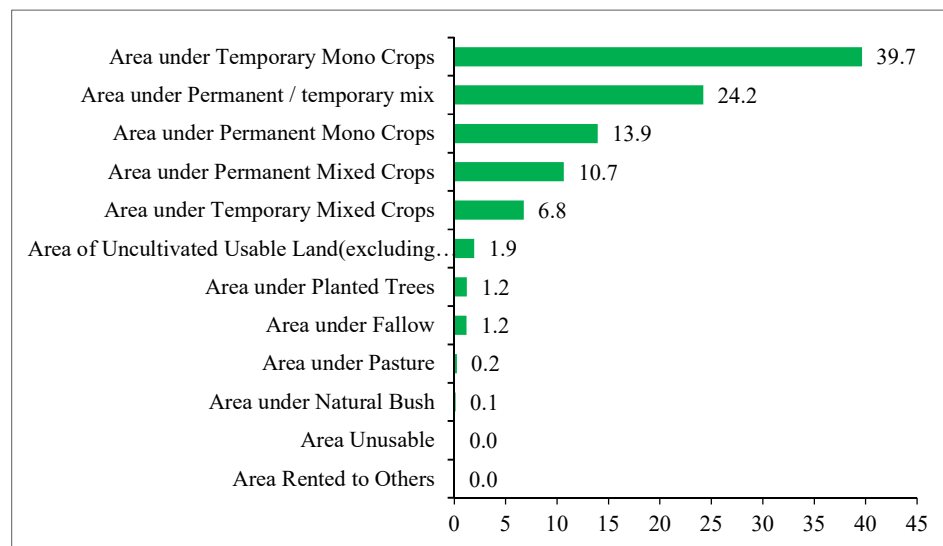
The evidence of land pressure is also conspicuous from the fact that a total of 1,761 households (4.9 percent) in Mjini Magharibi region doing their farming activities outside the region, due to land insufficient in the region. Similar situation was observed for some of the agricultural households in Kusini Unguja with (197 households; 1.1 percent) of which their agricultural

activities were take place in Kaskazini Unguja. Kusini Pemba accounted for 148 households (0.3 percent) agricultural activities took place in Kaskazini Pemba region.

2.8.3 Land Use Patterns

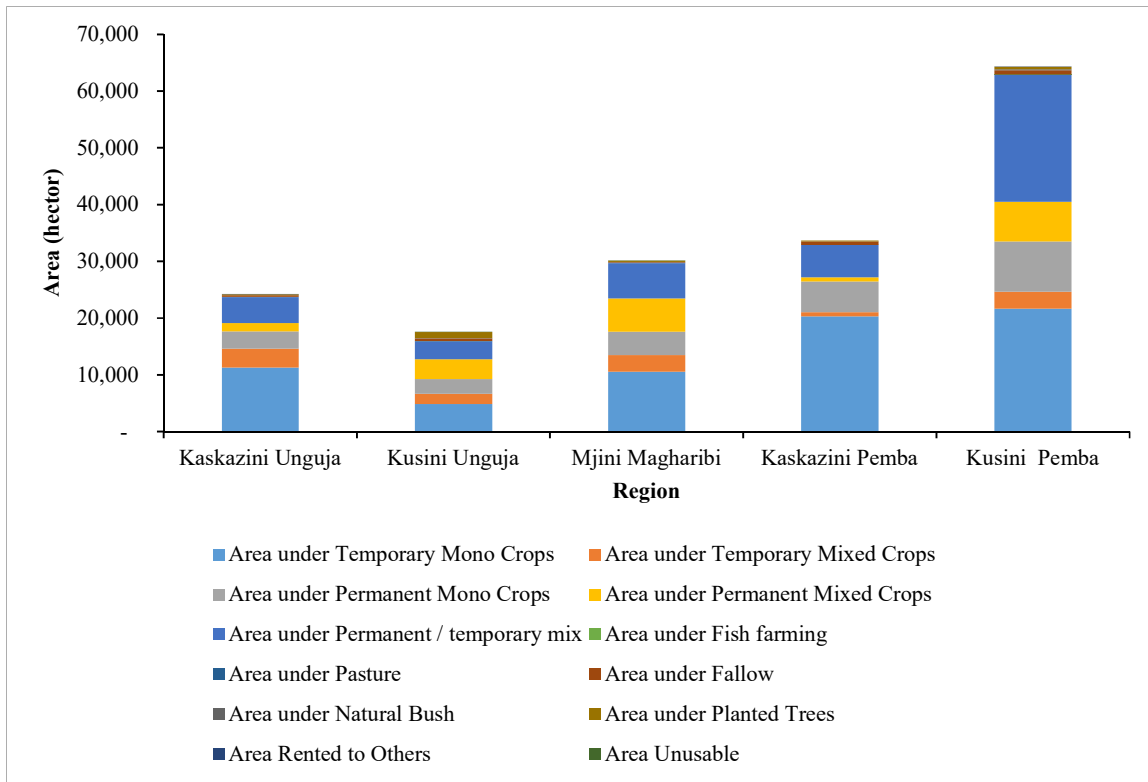
The total of 173,281.3 ha was used under different land use patterns, the area of land under temporary/annual crops was the most common type of agriculture land use in Zanzibar with 68,720 ha (39.7 percent), followed by area under permanent/temporary mix (41,943.3ha; 24.2 percent). Whilst the lowest area was area under fish farming (19 ha) with less than then one percent (Figure 2.11).

Figure 2.11: Land Area by Type of Land Use During 2019/20 Agricultural Year



Kasini Pemba region had the the largest area of land which was utilized for agricultural activities (65,903.3 ha; 38.0 percent), followed by Kusini Pemba (33,963.2 ha; 19.6 percent) and Mjini Magharibi (30,444.8 ha; 17.6 percent). The regions with the least utilized land for production was Kusini Unguja (18,274.8 ha; 10.5 percent) (Figure 2.12).

Figure 2.12: Distribution of Land Utilization by Region During 2019/20 Agricultural Year



CHAPTER THREE

CROPS RESULTS

3.0 Introduction

This chapter presents in-depth census results on households engaged in various crop productions both annual crops (during short and long rainy seasons) and permanent or perennial crops. The crop sub-sector plays an important role in the economy of Zanzibar. During 2020 the agriculture recorded a growth of 3.3 percent and accounted for 22.8 percent share to the National GDP (Zanzibar Statistical Abstract, 2020). The crop production covers types of crops produced, area planted and harvested, quantity harvested and yield. Apart from crop production the chapter also provides the results on agro-processing, irrigation, inputs use, crop marketing, access to farm inputs, crop extension services and agricultural mechanization.

3.1 Crop Production

Annual crop production is practiced either in one or two seasons per year, depending on the rainfall pattern; either households cultivate in the main rainy season (Masika) or the short rainy season (Vuli) or even other households cultivate in both seasons. Annual crops covered most the planted area where 125,086 ha (67.9 percent) while permanent or perennial crops occupied 59,264 ha (32.1percent). Findings on annual crop production are presented by considering different crop groups namely cereals, roots and tubers, pulses, oil seeds and nuts, fruits and vegetables crops.

3.1.1 Cereals Crop Production

Cereal crops are planted to produce grains which are mainly used for food and feeding animal. The cereal crops produced in Zanzibar during 2019/20 agricultural year were paddy, maize, sorghum and bulrush millet. The total area planted for cereals was 36,748 ha while the total harvested area was 26,817 ha which is equivalent to 73.0 percent of the total planted area with cereals.

Paddy occupied the largest planted area for cereals with 33,155 ha equivalent to 90.2 percent of the total area planted with cereals, followed by Maize (3,363 ha; 9.1 percent), Sorghum (121 ha; 0.3 percent) and bulrush millet (110 ha; 0.3 percent).

Similarly, paddy occupied the largest harvested area of 24,554 ha, equivalent to 91.6 percent of the total harvested area with cereals, followed by area harvested with maize (2,106 ha: 7.9 percent) and sorghum (92 ha; 0.3 percent) (Table 3.1).

Table 3.1: Total Planted Area, Harvested Area, Quantity Harvested and Yield of the Cereal Crops Produced by Smallholder Farmers During 2019/20 Agricultural Year

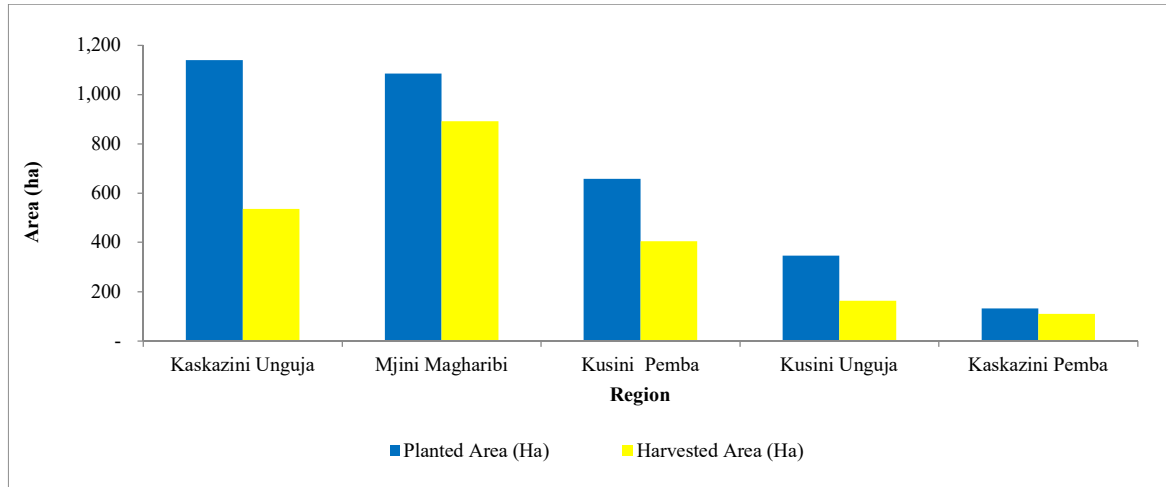
Crop	Total				
	Planted Area (ha)	Harvested Area (ha)	Quantity harvested (tons)	Yield (tons/ha)	
Maize	3,363	2,106	3,951	1.9	
Paddy	33,155	24,554	50,421	2.1	
Sorghum	121	92	80	0.9	
Bulrush Millet	110	64	150	2.4	
Finger Millet	-	-	-	-	
Wheat	-	-	-	-	
Barley	-	-	-	-	
Cereals	36,748	26,817	54,602		

3.1.1.1 Maize

Maize was the second most-produced cereal crop in Zanzibar with 16,037 households engaged in production. Out of the total, 8,850 households (55.2 percent) were engaged during the short rainy season and 7,187 (44.8 per cent) during the long rainy season.

The region which reported the largest area planted with maize was Kaskazini Unguja in which 1,141 ha was planted equivalent to 33.9 percent of the total planted area for maize in Zanzibar, followed by Mjini Magharibi (1,085 ha; 32.3 percent) and Kusini Pemba (658 ha, 19.6 percent) while Kaskazini Pemba reported the least planted area (132 ha; 3.9 percent) (Figure 3.1).

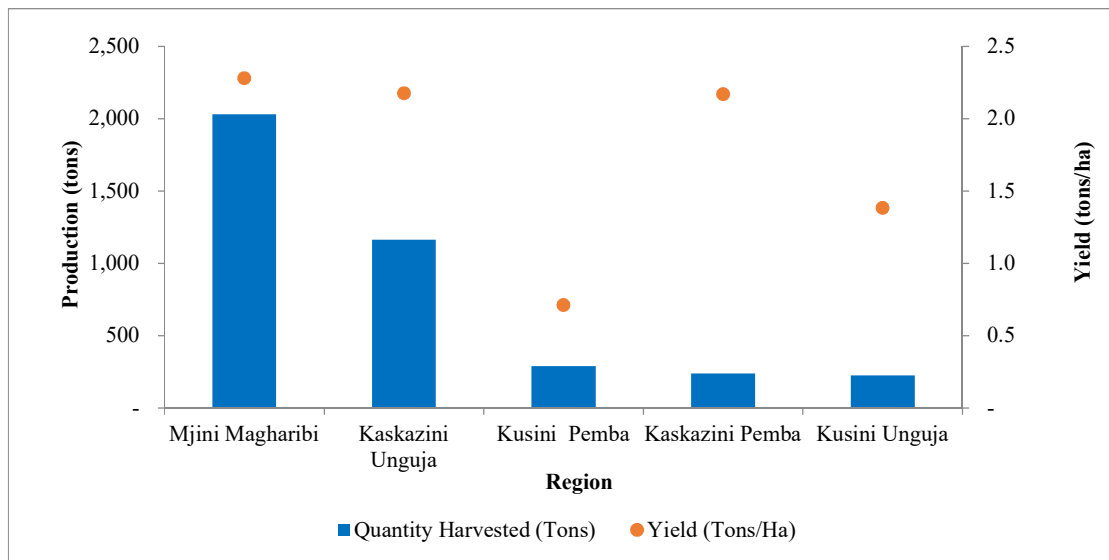
Figure 3.1: Planted and Harvested Area with Maize by Smallholder Farmers by Region During 2019/20 Agricultural Year



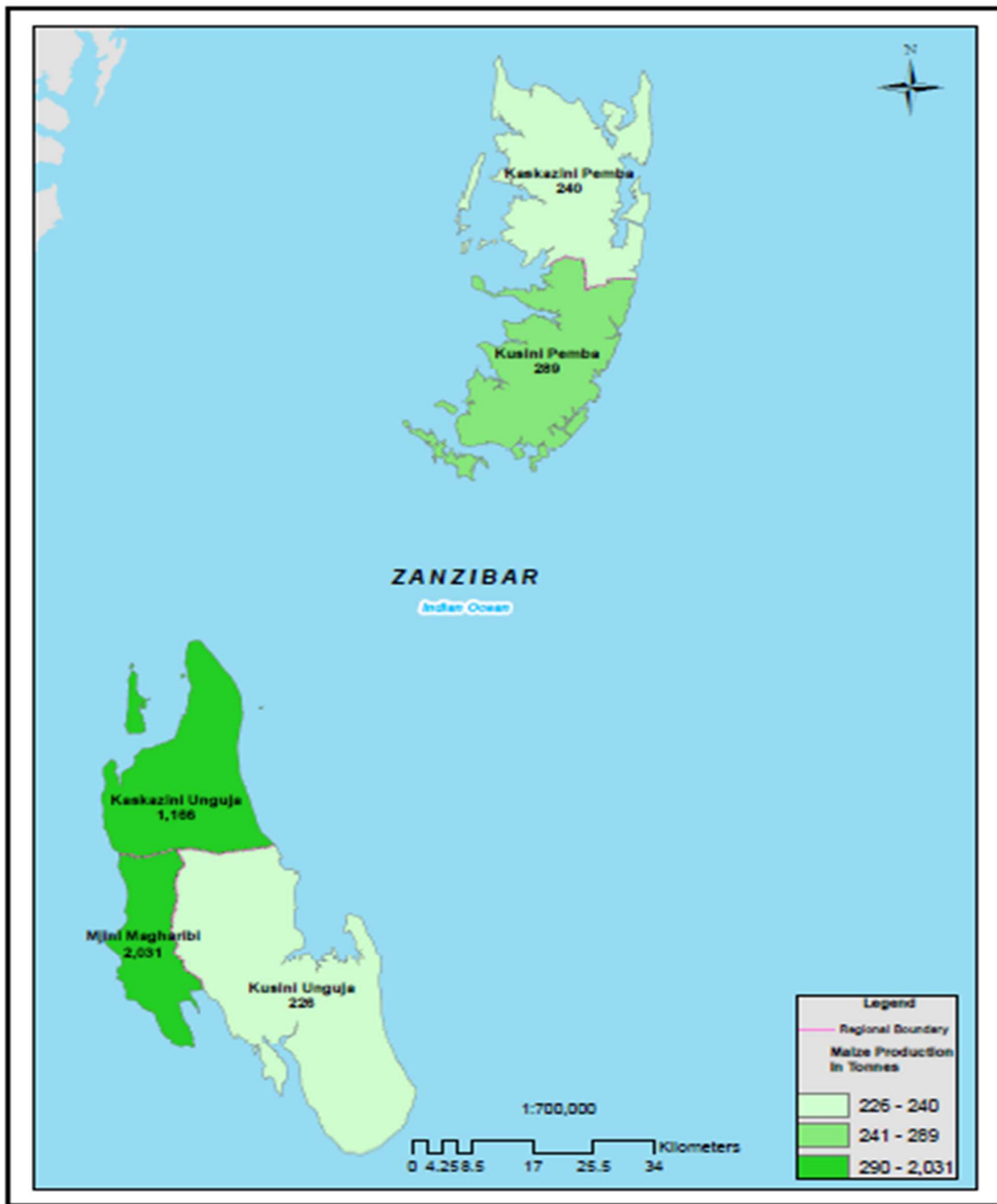
Mjini Magharibi reported the largest harvested area, (891 ha) equivalent to 42.3 percent of the total harvested area with maize, followed by Kaskazini Unguja (536 ha; 25.4 Percent) and Kusini Pemba (406 ha; 19.3 Percent). Kaskazini Pemba reported the least harvested area (110 ha; 5.2 percent).

Out of the total maize produced, Mjini Magharibi reported the largest production (2,031 tons; 51.4 percent), followed by Kaskazini Unguja (1,166 tons; to 29.5 percent) and Kusini Pemba (289 tons; 7.3 percent). Kusini Unguja reported the least quantity harvested (226 tons; 5.7 percent) (Figure 3.2 & Map 3.1).

Figure 3.2: Production and Yield of Maize During 2019/20 Agricultural Year



Map 3.1: Production of Maize (tons) by Region During 2019/20 Agricultural Year



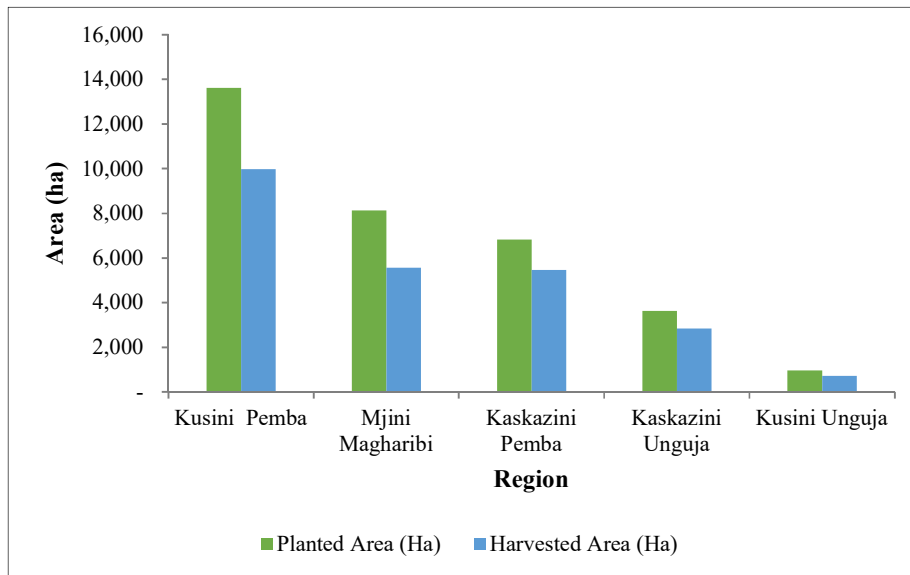
3.1.1.2 Paddy

Paddy was widely produced in Zanzibar during 2019/20, agricultural year, grown by 107,257 agricultural households. The number of households engaged in Paddy production during the short rainy season was 29,649 (27.6 percent) and 77,609 (72.4 percent) households during the long rainy season.

The region which reported the largest planted area of paddy was Kusini Pemba, in which 13,620 ha were planted equivalent to 41.1 percent of the total planted area with paddy, followed by Mjini Magharibi (8,124 ha; 24.5 percent) and Kaskazini Pemba (6,818 ha, 20.6 percent). The least planted area was reported in Kusini Unguja (964 ha; 2.9 percent)

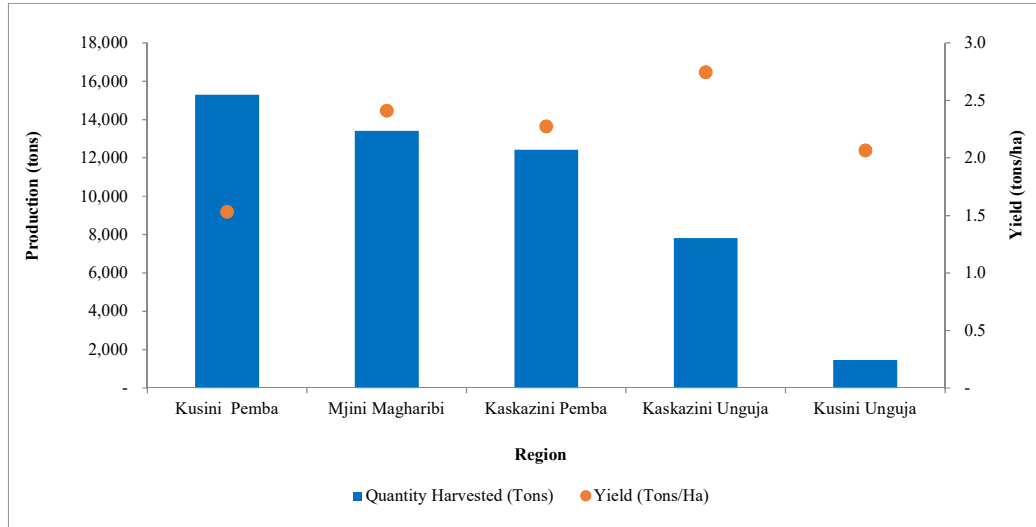
A Similar trend was observed for harvested area whereby the area harvested in Kusini Pemba was 9,975 ha equivalent to 40.6 percent of the total harvested area, followed by Mjini Magharibi which recorded 5,565 ha (22.7 percent) and Kaskazini Pemba 5,456 ha (22.2 percent). Kusini Unguja region had the least harvested area (708 ha; 2.9 percent) (Figure 3.3).

Figure 3.3: Planted and Harvested Area (ha) with Paddy by Region During 2019/20 Agricultural Year

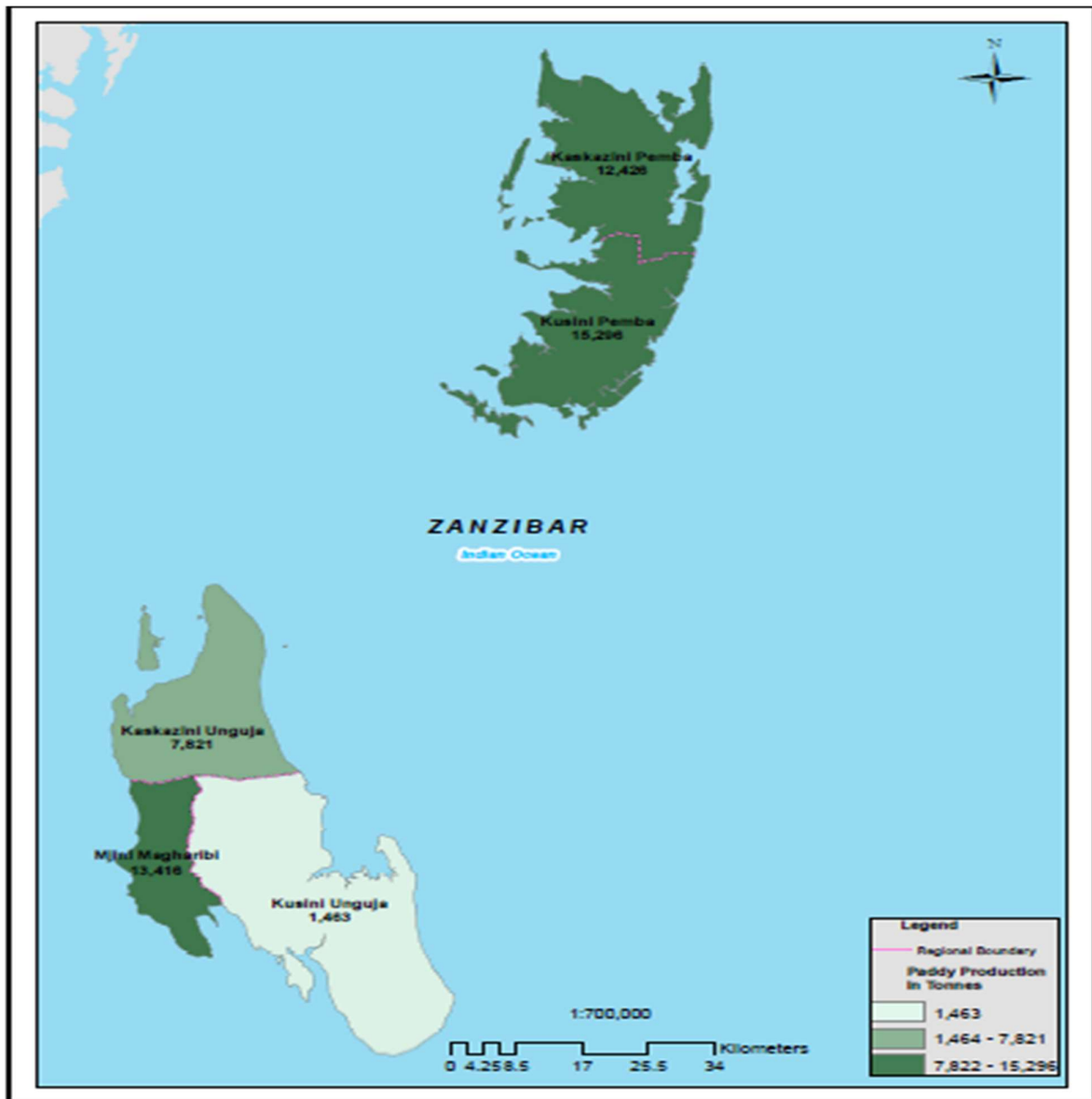


The region which reported the largest production of paddy was Kusini Pemba (15,296 tons; 30.3 percent), followed by Mjini Magharibi (13,416 tons; 26.6 percent) and Kaskazini Pemba (12,426 tons; 24.6 percent) and the least production was reported in Kusini Unguja (1,463 tons; 2.9 percent) (Figure 3.4 & Map 3.2).

Figure 3.4: Production and Yield of Paddy by Smallholders Farmers During 2019/20 Agricultural Year



Map 3.2: Production of Paddy by Region During 2019/20 Agricultural Year



3.1.1.3 Sorghum

The number of households reported to engage in sorghum production was 518 of which, 85 households were engaged during the short rainy season and 433 during the long rainy season. However, only two regions in Zanzibar which reported sorghum production, that are Kaskazini Pemba with the largest planted area (101 ha) and Kaskazini Unguja (20 ha).

Area harvested with sorghum was 92 ha equivalent to 76.5 percent of the total area planted, however, the only region reported the area harvested was Kaskazini Pemba. The total production for sorghum was 80 tons with an average yield of 0.9 tons per ha.

3.1.1.4 Other Cereals

The 2019/20 NSCA also looked at other cereals which were produced in small quantities but important in some regions. These cereal crops include bulrush millet, finger millet. The results show that, a total of 110 ha was planted with bulrush millet. The harvested area with bulrush millet was 64 ha. Furthermore, the total production of bulrush millet was 150 tons. The average yield of bulrush millet was 2.4 tons/ha.

3.1.2 Roots and Tuber Crops Production

Roots and tuber crops grown in Zanzibar include cassava, sweet potatoes, yams, cocoyam and Irish potatoes. These crops were produced during both, short and long rainy seasons as well as permanent crop. There were 179,799 households engaged in roots and tuber production during the short rainy season and 130,890 households during the long rainy season whereas 570 households grew roots and tubers as permanent crop (570 under mono crop and 1,035 under permanent). Total area planted with roots and tuber was 73,112 ha, out of the total planted area 40,718 ha was harvested with the total production of 225,370 tons (Table 3.2).

Table 3.2: Planted Area, Harvested Area, Quantity harvested, Yield and Percentage of Roots and Tubers During 2019/20 Agricultural Year

Crop	Total			
	Planted Area (ha)	Harvested Area (ha)	Quantity harvested (tons)	Yield (tons/ha)
Cassava	62,794	35,696	183,971	5.2
Sweet Potatoes	7,144	3,455	38,180	11.0
Irish Potatoes	11	-	-	-
Yams	1,913	908	1,809	2.0
Cocoyams	1,266	659	1,409	2.1
Roots and Tubers	73,129	40,718	225,370	

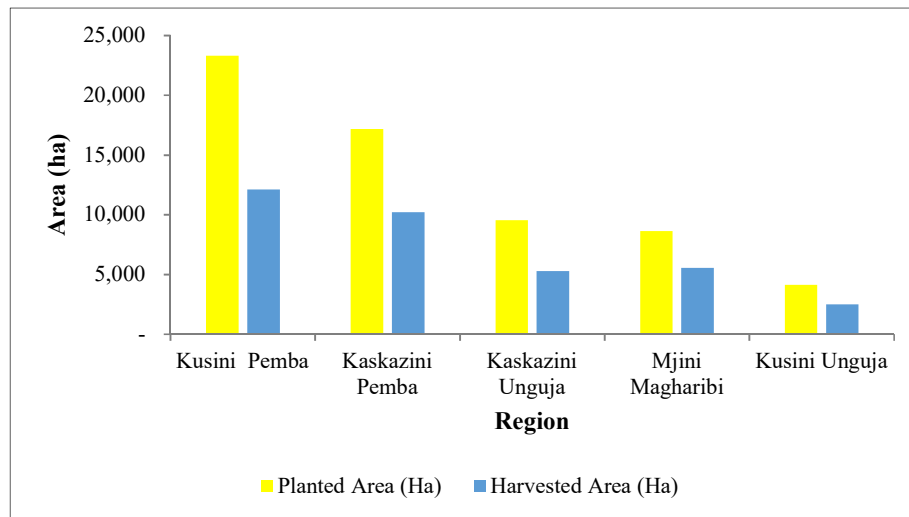
3.1.2.1 Cassava

Cassava was the major root and tuber crop grown in Zanzibar during 2019/20 agricultural year, whereby 147,614 households were engaged in its production during the short rainy season and 99,730 households during the long rain season, whereas 1,605 households planted cassava as a permanent crop (570 under mono-crops and 1,035 as mixed-crop).

The area occupied with cassava was 62,794 ha which is the largest planted area under roots and tuber crops, out of that, 62,444 ha was planted as annual crop (39,643 ha during the short

rainy season and 22,801 ha during the long rainy seasons) while 350 ha were under permanent crops (206 ha mono-crops and 144 ha mixed crop). The region with the largest planted area was Kusini Pemba with 23,288 ha equivalent to 37.1 percent of the total area planted with cassava, followed by Kaskazini Pemba (17,175 ha; 27.4 Percent) and Kaskazini Unguja (9,549 ha; 15.2 percent). Conversely the least planted area was reported in Kusini Unguja (4,124 ha; 6.6 percent) (Figure 3.5).

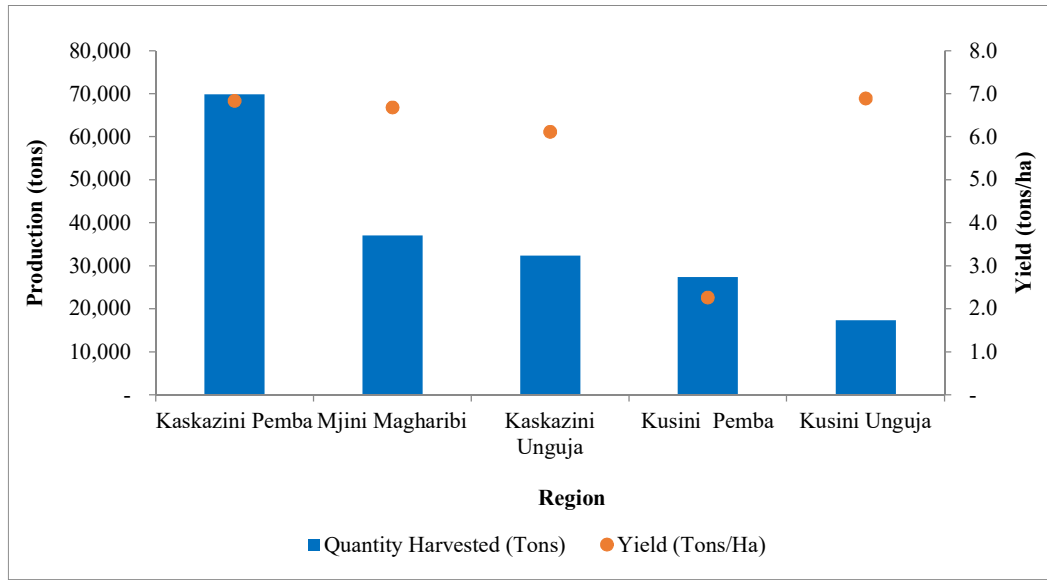
Figure 3.5: Planted and Harvested Area (ha) with Cassava by Region During 2019/20 Agricultural Year



The Total harvested area was 35,696 ha which is equivalent to 56.9 percent of the area planted with cassava. A region with the largest harvested area was Kusini Pemba which reported 12,112 ha equivalent to 33.9 percent followed by Kaskazini Pemba (10,219 ha; 28.8 percent) and Mjini Magharibi (5,546 ha; 15.5 percent). The least harvested area was reported in Kusini Unguja (2,517 ha; 7.1 percent) (Figure 3.5)

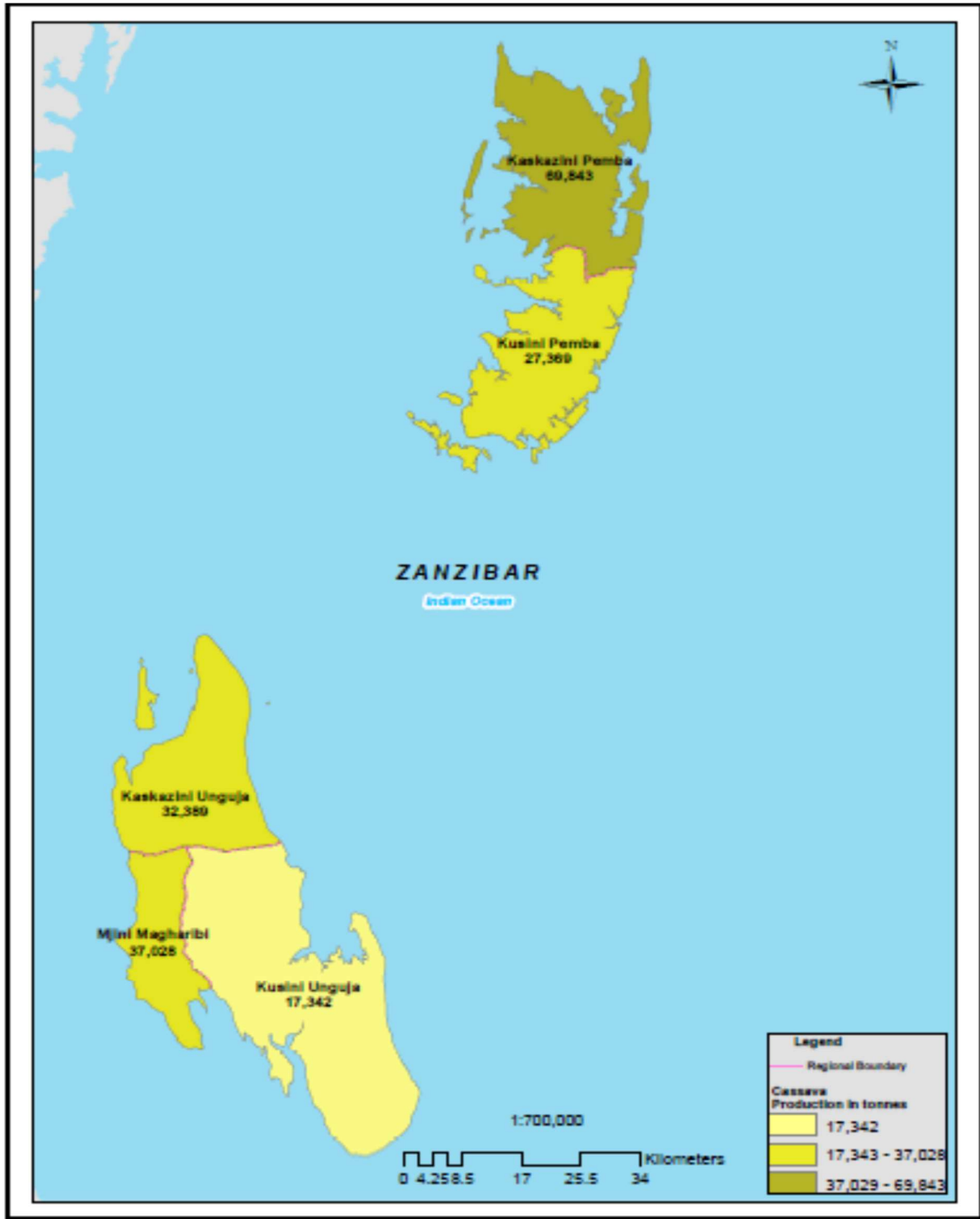
The total quantity of Cassava harvested was 183,971 tons with an average yield of 5.2 tons/ha. The region which reported the highest production was Kaskazini Pemba with 69,843 tons (38.0 percent of the total production) and an average yield of 6.8tons/ha, followed by Mjini Magharibi (37,028 tons, 20.1 percent); with an average yield of 6.7tons/ha and Kaskazini Unguja (32,389 tons, 17.6 percent) with an average yield of 6.1tons/ha. The least quantity harvested was reported in Kusini Unguja (17,342 tons; 9.4 percent) with an average yield of 6.9tons/ha (Figure 3.6 &Map 3.3).

Figure 3.6: Production and Yield of Cassava During 2019/20 Agricultural Year, Tanzania Zanzibar



Generally, the results show that cassava production increased from 67,958 tons in 2002/03 to 120,911 tons in 2007/08, a production increase of 78.0 percent which is an average of annual increase of 16.0 percent. In the 2019/20 agricultural year the production of cassava rose again to 182,084 tons from 2007/08, which is an increase of 51.0 percent which is an equivalent of 4.0 percent annual increase. Compared to the 2002/03, 2007/08 and 2019/20 Agriculture years' the average yield of cassava was reported to increase from 2.0 tons/ha, 3.1 tons/ha and 5.1 tons/ha respectively.

Map 3.3: Production of Cassava (tons) by Region During 2019/20 Agricultural Year

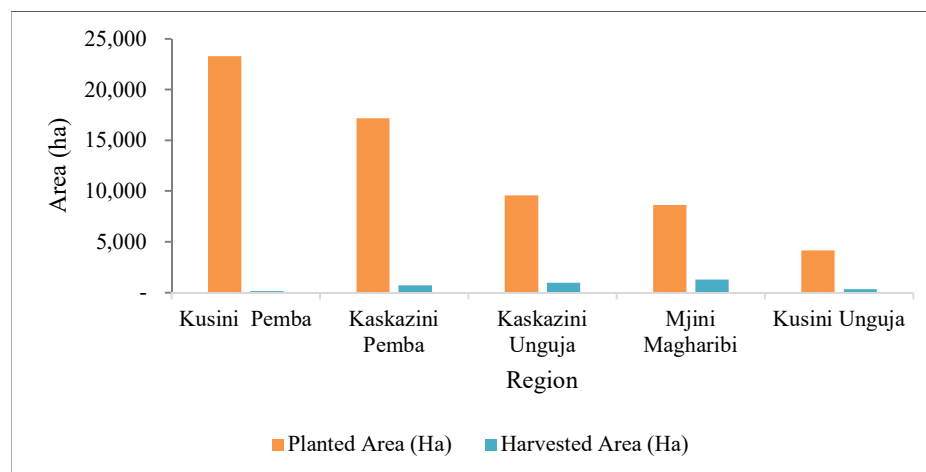


3.1.2.2 Sweet Potatoes

Sweet potatoes is the second major root and tuber crop grown in Zanzibar. During the 2019/20 agricultural year, there were 35,956 households engaged in sweet potato production, out of which, 14,282 households (39.7 percent) were engaged during the short rainy season and 21,674 (60.3 percent) during the long rainy season.

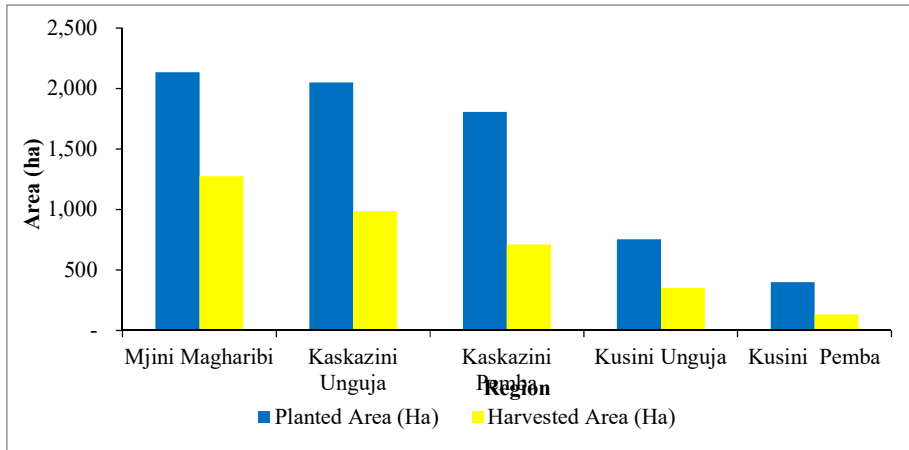
The total area under sweet potato production was 7,145 hectares, of which 3,142 ha were planted during the short rainy season and 4,003 ha during the long rainy season. The largest planted area was reported in Mjini Magharibi region in which the area was 2,136 ha equivalent to 29.9 percent of the total area under roots and tuber, followed by Kaskazini Unguja (2,049 ha; 28.7 percent) and Kaskazini Pemba (1,808 ha; 25.3 percent), the least planted area was reported in Kusini Pemba (399 ha; 5.6 percent) (Figure 3.7).

Figure 3.7: Planted and Harvested Area (ha) with Sweet Potatoes by Region During 2019/20



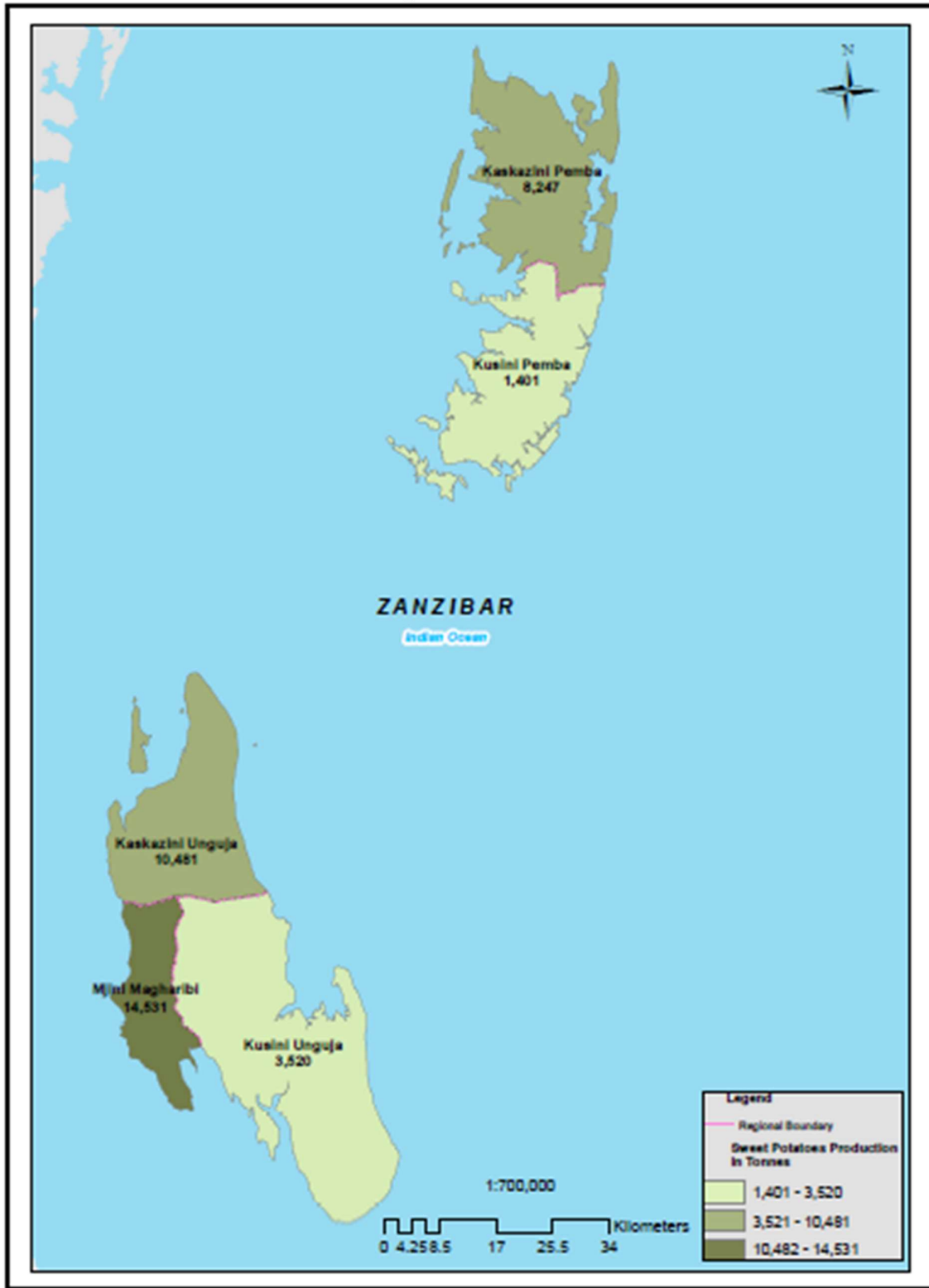
Area harvested for sweet potatoes during 2019/20 agricultural year was 3,455 ha which is equivalent to 48.4 percent of the total area planted, while the largest harvested area was reported in Mjini Magharibi (1,276 ha; 36.9 percent), followed by Kaskazini Unguja (988 ha; 28.6 percent) and Kaskazini Pemba (711 ha; 20.6 percent). Kusini Unguja reported the least harvested area (131 ha; 3.8 percent) (Figure 3.8).

Figure 3.8: Planted and Harvested Area with Sweet Potatoes by Region During 2019/20 Agricultural Year



The quantity of sweet potatoes harvested was 38,180 tons with an average yield of 11.0 tons/ha. Mjini Magharibi region reported the highest production (14,531 tons) equivalent to 38.1 percent of the total sweet potatoes production with an average yield of 11.4 tons/ha, followed by Kaskazini Unguja (10,481 tons; 5 percent) and Kaskazini Pemba (8,247tons; 21.6 percent) with an average yield of 11.6tons/ha. Conversely, the lowest production was recorded in Kusini Pemba (1,401 tons; 3.7 percent) (Map 3.4).

Map 3.4: Production of Sweet Potatoes Production (tons) by Region During 2019/20 Agricultural Year

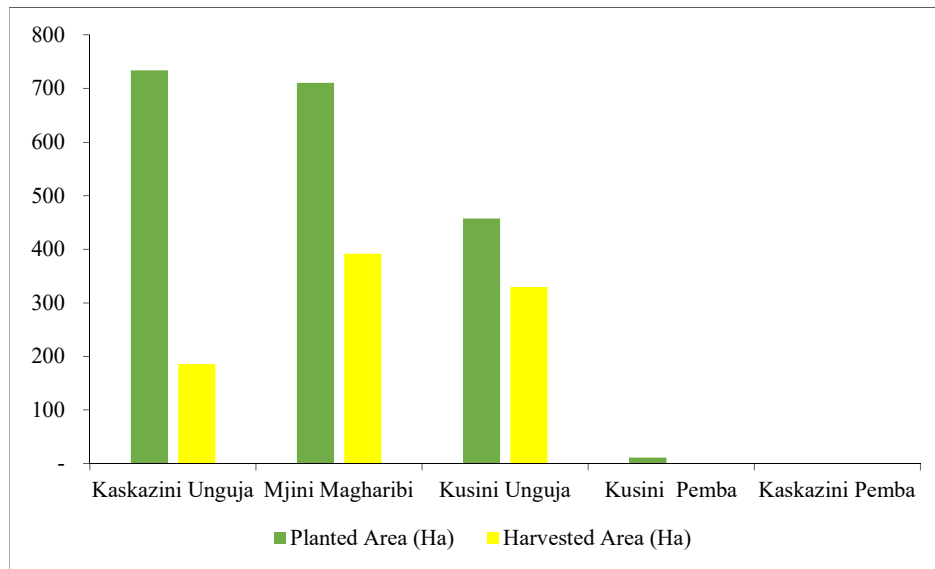


3.1.2.3 Yams

The number of households engaged in yams production during the 2019/20 agricultural year was 15,116, of which 10,081 households (667 percent) engaged during the short rainy season and 5,035 (33.3 percent) during the long rainy season.

The planted area with yams was 1,913 ha, of which 1,324 ha and 589 ha were planted during the short and long rainy season respectively. Kaskazini Unguja had the largest planted area (734 ha), which is equivalent to 38.3 percent of the total area planted, followed by Mjini Magharibi (711 ha; 37.1 Percent) and Kusini Unguja (458ha; 23.9 percent). The least planted area was reported in Kusini Pemba (11 ha; 0.6 percent).

Figure 3.9: Planted and Harvested Area with Yams by Region During 2019/20 Agricultural Year

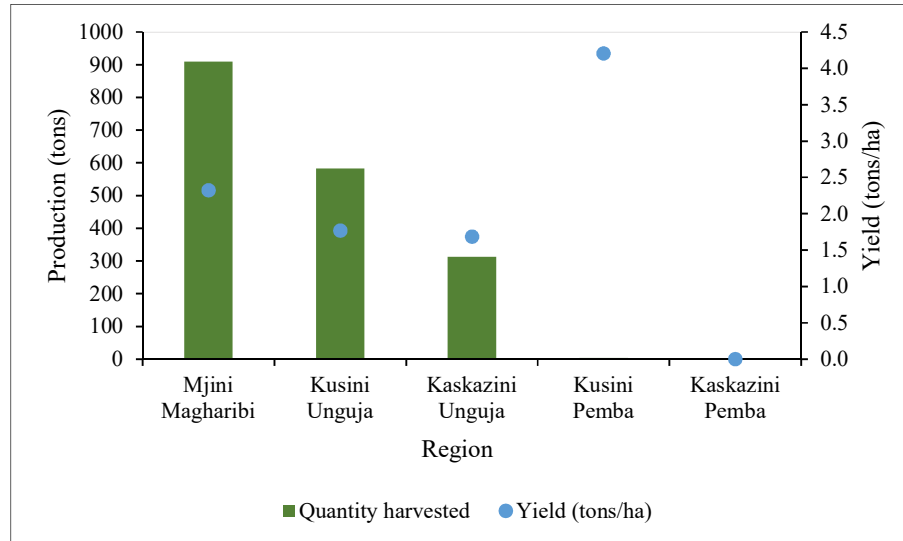


The total harvested area with yams in Zanzibar was 908 ha which is equivalent to 47.5 percent of the total area planted with yams. Mjini Magharibi reported the largest harvested area (392 ha, 43.1 percent); followed by Kusini Unguja (330 ha; 36.1 percent) and Kaskazini Unguja (186 ha; 20.5percent). Kusini Pemba reported the least harvested area (1 ha; 0.1 percent) (Figure 3.9).

The reported quantity of yams produced was 1,809 tons with an average yield of 2.0 tons/ha. Mjini Magharibi reported the highest production of 910 tons which is equivalent to 50.3 percent of the total yams production and an average yield of 2.3 tons/ha yield, followed by Kusini Unguja (583 tons; 32.2 percent) with an average yield of 1.8 and Kaskazini Unguja (313

tons;17.3 percent).and average yield of 1.7 tons/ha. Kusini Pemba reported the least quantity harvested (3ha; 0.2 percent) (Figure3.10).

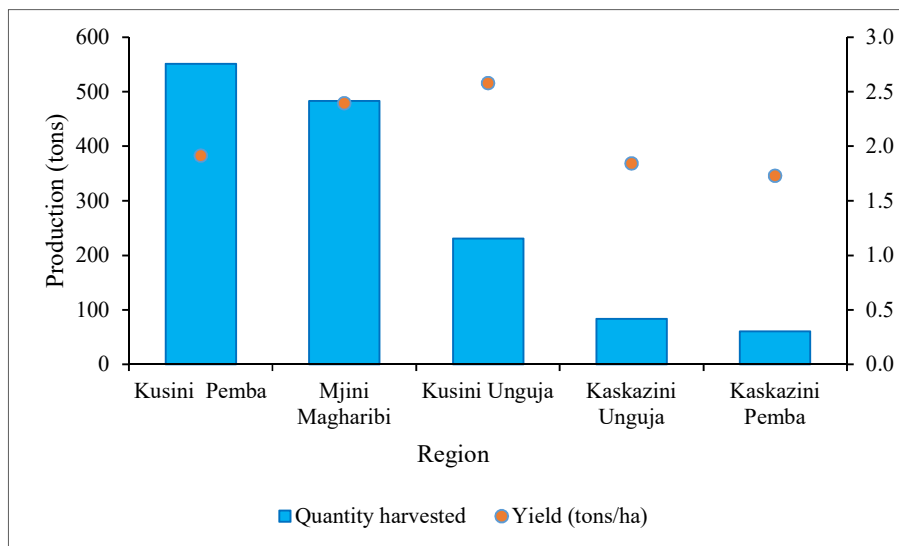
Figure 3.10: Production and Yield of Yams by Region During During 2019/20 Agricultural Year



3.1.2.4 Other Roots and Tuber Crop

Other root and tuber crop grown in Zanzibar is cocoyams, the total planted area with cocoyams was 1,265.9 ha, the total harvested for cocoyams 658.9 ha. The reported quantity of cocoyams produced was 1,409.2 tons with an average yield of 2.1 tons/ha. The highest production of cocoyams was reported in Kaskazini Pemba with 551.6 tons, equivalent to 39.1 percent of the total production and an average yield of 2.19 tons/ha, followed by Mjini Magharibi (482.9 tons, 34.3 percent) with average yield of 2.4 tons/ha, Kusini unguja (230.9 tons, 16.4 percent) with average yield of 2.6 tons/ha, while the lowest production was Kaskazini Unguja (83.6 tons, 5.9 percent) with average yield of 1.9 tons/ha (Figure 3.11).

Figure 3.11: Production and Yield of Cocoyams by Region During During 2019/20 Agricultural Year



3.1.3 Pulses

Pulses were produced during short and long rainy seasons in Zanzibar. This group comprises of cowpeas, pigeon peas, beans, green grams, bambara nuts and fiwi. Number of households engaged in pulses production during the short rainy and long rainy seasons were 17,711 and 3,849 respectively, whereas 2,915 households grew pulses classified under permanent crops. Area Planted with pulse was 3,764 ha, whereby cowpeas occupied the largest area (2,022 ha; 53.7 percent), followed by pigeon peas (1,116 ha; 46.7 percent) and green grams (496 ha; 13.2 percent). Fiwi had the least planted area (7 ha; 0.2 percent).

The total harvested area for pulses was 2,392 ha which is equivalent to 63.5 percent of the total planted area with pulses. Cow peas had the largest area harvested (1,316ha; 55.0 percent), followed by pigeon peas (655 ha; 27.4 percent) and green grams (392 ha; 16.4 percent). Fiwi and Bambara nuts had the least planted area (7 ha; 0.3 percent) (Figure 3.12 & Figure 3.13).

Figure 3.12: Percentage Share of Planted Area (ha) for Pulses During 2019/20 Agricultural Year

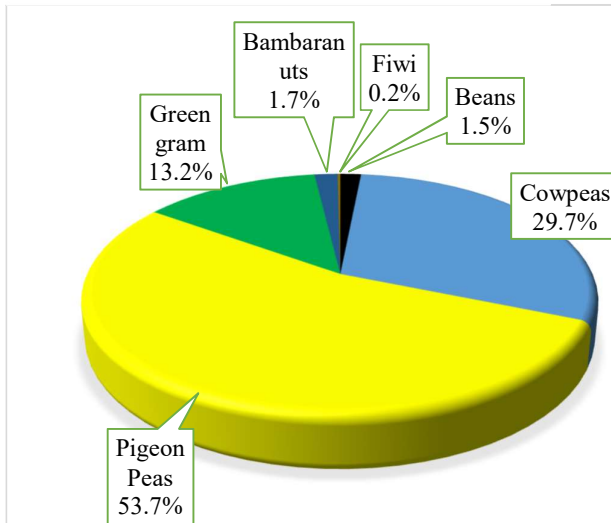
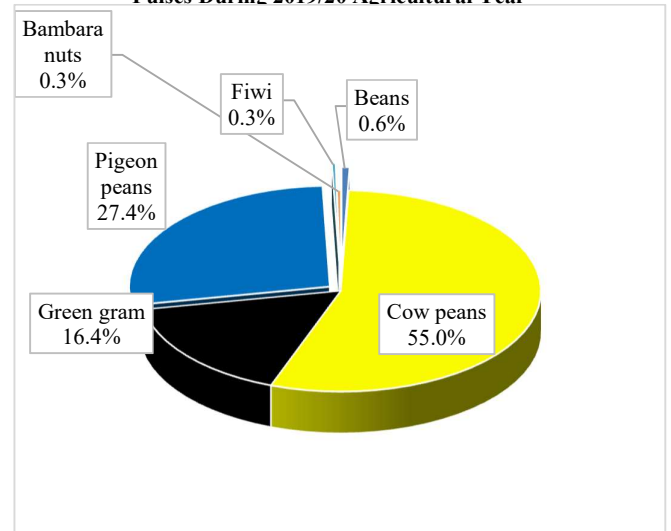


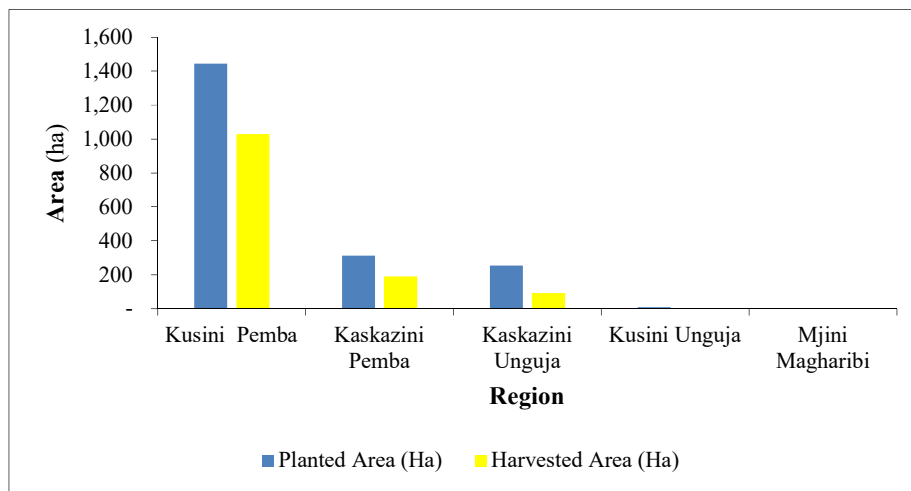
Figure 3.13: Percentage Share of Harvested Area (ha) for Pulses During 2019/20 Agricultural Year



3.1.3.1 Cowpeas

Cowpeas was the major pulse widely produced during the 2019/20 agricultural year in Zanzibar. The number of agricultural households engaged in cowpeas production was 12,862. Whereby 10,499 households (81.6 percent) engaged during the short rainy season and 2,363 households (18.4 percent) during the long rainy season. Kusini Pemba reported the largest planted area with cowpeas (1,444 ha) equivalent to 71.4 percent of the area planted with cowpeas, followed by Kaskazini Pemba (312 ha; 15.4 percent) and Kaskazini Unguja (254; ha, 12.6 percent). Mjini Magharibi reported the least planted area (3 ha; 0.1 percent) (Figure 3.14).

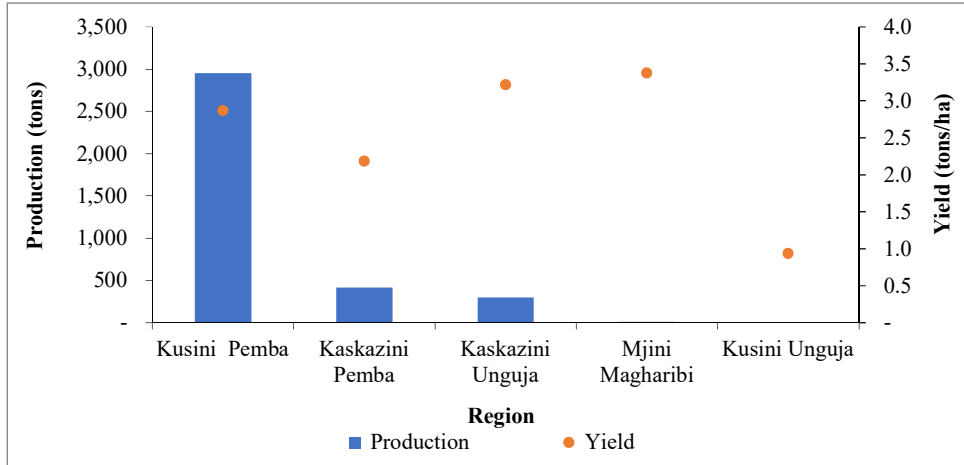
Figure 3.14: Planted and Harvested Area with Cowpeas by Region During 2019/20 Agricultural Year



A similar trend was observed on harvested area, whereby Kusini Pemba reported 1,030 ha which is equivalent to 78.3 percent of the total harvested area with cowpeas, followed by Kaskazini Pemba (190 ha; 14.4 Percent) and Kaskazini Unguja (92 ha; 7.0 percent). Kusini Unguja reported the least harvested area (1 ha; 0.1 percent) (Figure 3.14).

The total production of cowpeas was 3,675 tons with an average yield of 2.8 tons/ha. Kusini Pemba region reported the largest production (2,954 tons; 80.4 percent) with an average yield of 2.9 tons/ha followed by Kaskazini Pemba (414 tons; 11.3 percent) with an average yield of 2.2 tons/ha and Kaskazini Unguja (297 tons; 8.1 percent) with an average yield of 3.2 tons/ha. Kusini Unguja reported the least quantity harvested (1 ton; 0.03 percent) with average yield of 0.9 tons/ha (Figure 3.15).

Figure: 3.15: Production of Cowpeas by Region During 2019/2 Agricultural Year

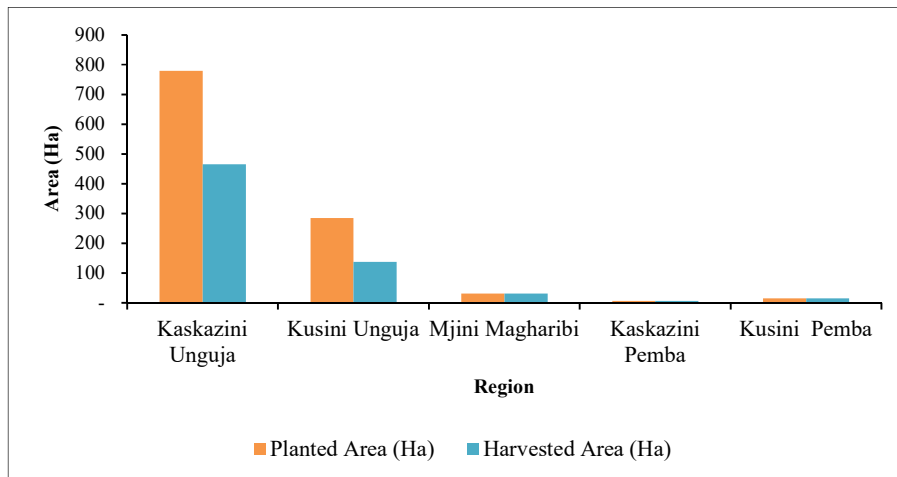


3.1.3.2 Pigeon peas

Number of households engaged in pigeon peas production during the short rainy season was, 3,712 and 891 households during the long rainy season while 2,915 households planted it as a permanent crop (1,213 under mono-crop and 1,702 as mixed crop).

The planted area occupied with pigeon peas was 1,116 ha; out of which 497 ha and 128 ha were planted during the short and long rainy seasons respectively whilst 491 ha was under permanent crop (mono-crops 251 ha and 240 ha mixed crops). A region with the largest planted area was Kaskazini Unguja (779 ha; 69.9 percent), followed by Kusini Unguja (285 ha; 25.5 percent) and Mjini Magharibi (32ha; 2.8 percent). Kaskazini Pemba reported the least planted area (6 ha; 0.5 percent) Figure 3.16).

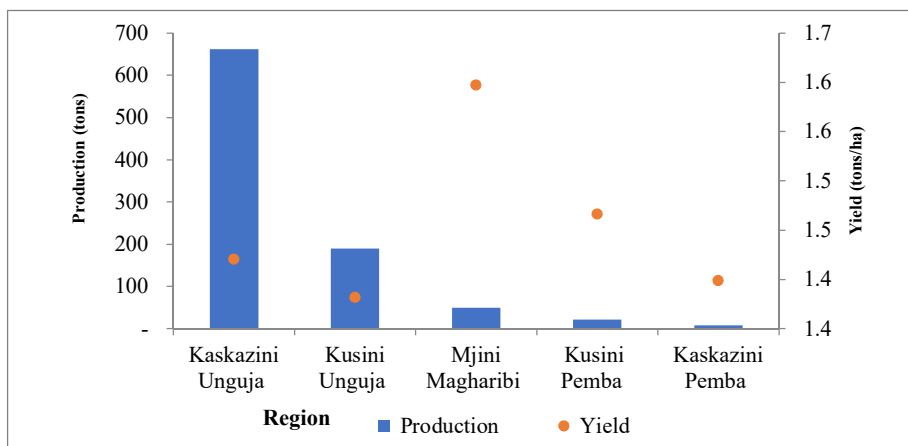
Figure: 3.16: Planted and harvested Area (ha) with Pigeonpeas by Region During 2019/2 Agricultural Year



Area harvested with pigeon peas was 655 ha which is equivalent to 58.7 percent of the total area planted with pigeon peas. The largest harvested area was reported in Kaskazini Unguja region (466 ha; 71.2 percent) followed by Kusini Unguja (137 ha; 20.9 percent) and Mjini Magharibi (31 ha; 4.8 percent). Kaskazini Pemba reported the least harvested area (6 ha; 0.9 percent) (Figure 3.16).

The quantity of pigeon peas reported was 931 tons with an average yield of 1.4tons/ha. Kaskazini Unguja region reported the highest production of 662 tons which is equivalent to 71.1 percent of the total pigeon peas production with an average yield of 1.4 tons/ha, followed by Kusini Unguja (190 tons; 20.4 percent; 1.4tons/ha yield) and Mjini Magharibi with 50 tons (5.3 percent; 1.6tons/ha yield). Kaskazini Pemba reported the least quantity harvested (8 ha; 0.9 percent) (Figure 3.17).

Figure 3.17: Production and Yield of Pigeon Peas by Smallholder Farmers by Region During 2019/20 Agricultural Year



3.1.3.3 Green gram

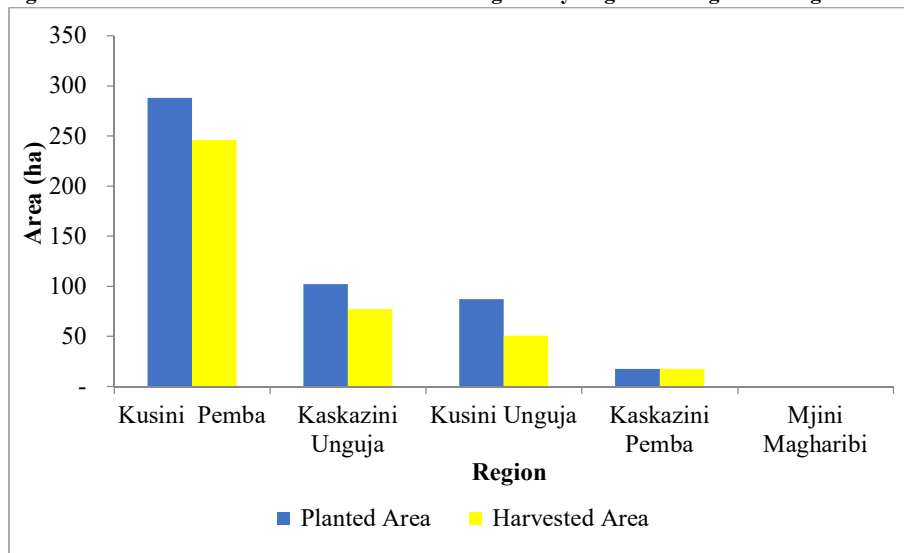
A total of 3,556 households were engaged in green gram production during the 2019/20 agricultural year, out of which, 2,961 households (83.3 percent) were engaged during the short rainy season and 595 (16.7 percent) during the long rainy season.

The total planted area under green gram production was 496 ha, out of which 434 ha were planted during the short rainy season and 62 ha during the long rainy season. The largest planted area was reported in Kusini Pemba (288 ha) which is equivalent to 58.1 percent of the total area under this crop, followed by Kaskazini Unguja (102 ha; 20.7 percent) and Kusini

Pemba (87 ha; 17.6 percent). Kaskazini Pemba reported the least planted area (18 ha; 3.6 percent) and no planted area for green gram was reported in Mjini Magharibi region.

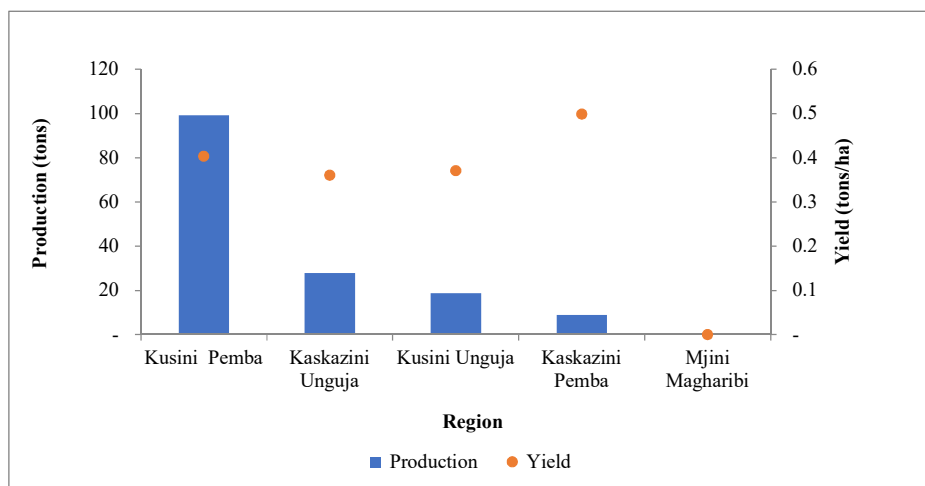
Area harvested for green gram in Zanzibar during 2019/20 agricultural year was 392 ha which is equivalent to 79.0 percent of the total planted area with green gram. The largest harvested area was reported in Kusini Pemba (246 tons; 62.8 percent), followed by Kaskazini Unguja (77ha; 19.7 percent) and Kusini Unguja (51 ha; 12.9 percent). Kaskazini Pemba reported the least harvested area (18 ha; 4.5 percent) (Figure 3.18).

Figure 3.18: Planted and Harvested Area of Greengram by Region During 2019/2 Agricultural Year



Quantity of green gram was 155 tons with an average yield of 0.4 tons/ha. Kusini Pemba region reported the highest production (99 tons) equivalent to 62.8 percent of the total green gram production, followed by Kaskazini Unguja (28 tons; 19.7 percent) and Kusini Unguja region (19 tons; 12.9 percent). Kaskazini Pemba reported the least quantity harvested (9 tons; 5.7 percent). Kusini Pemba led with the production of 99 tons (64.1 percent and yield 0.4), followed by Kaskazini Unguja (28 tons; 18.7 percent); while Kaskazini Pemba had least production (9 tons; 5.9 percent). Moreover, results show that, the average productivity of green gram was 0.4 tons/ha. Kaskazini Pemba region had productivity of 0.5 tons/ha (Figure 3.19).

Figure 3.19: Green gram Production and Yield by Region During 2019/08 Agricultural Year



3.1.3.4 Other Pulses

Other pulses include bambaranuts and fiwi. The total area planted with other pulses was 72 ha. The total area harvested with other pulses was 14 ha and the total quantity harvested was only 7 tons.

3.1.4 Oil Seeds and Nuts Crops

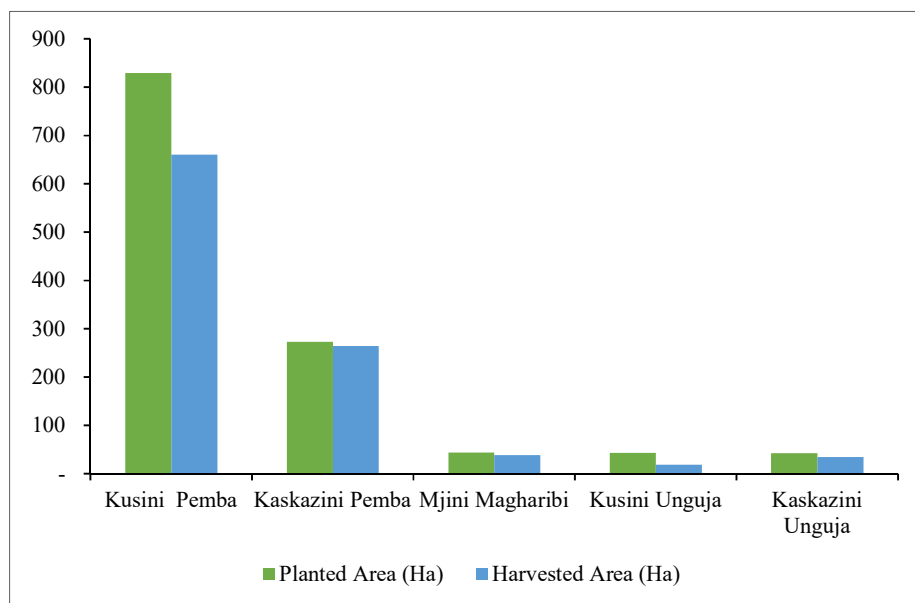
3.1.4.1 Groundnuts

The only oil seed crop reported in Zanzibar during the 2019/20 NSCA was groundnuts. A total of 7,249 households were engaged in groundnuts production; (5,193 households during the short rainy season and 2,056 households during the long rainy season).

A total area planted with groundnuts during the 2019 agricultural year was 1,231 ha. Kusini Pemba reported the largest planted area (829 ha; 67.3 percent), followed by Kaskazini Pemba (273 ha; 22.2 percent) and Mjini Magharibi (44 ha; 3.6 percent). Kaskazini Unguja reported the least area planted (42 ha; 3.4 percent).

Harvested area reported for groundnuts was 1,017 ha which is equivalent to 82.6 percent of the total planted area, Kusini Pemba region reported the largest harvested area (660 ha; 65.0 percent), followed by Kaskazini Pemba (264 ha; 26.0 percent) and Mjini Magharibi (39 ha; 3.8 percent). Kusini Unguja reported the least harvested area. (19 ha; 1.8 percent) (Figure 3.20).

Figure 3.20: Harvested Area and Production of Groundnuts by Region During 2019/20 Agricultural Year



Total quantity of groundnuts harvested was 690 tons with an average yield of 0.7tons/ha. Kusini Pemba reported the largest quantity (455 tons; 66.0 percent) with an average yield of 0.7tons/ha, followed by Kaskazini Pemba (189 tons; 27.4 percent) with an average yield of 0.7 and Kaskazini Unguja (26 tons; 3.8 percent) with an average yield of 0.8 tons/ha. Mjini Magharibi reported the least quantity harvested (9 tons; 1.2 percent) with an average yield of 0.2 tons/ha.

3.1.5 Fruits and Vegetables

Different fruits and vegetables were grown in Zanzibar during 2019/20 agricultural year, the most common were Tomatoes, watermelon, chilies, amaranth, banana, oranges, and mangoes among others. The area planted with fruits and vegetables was 11, 055 ha, while the total area harvested was 7,180 ha equivalent to 64.9 percent of the total planted area with fruits and vegetables. The type of fruits and vegetables grown were.

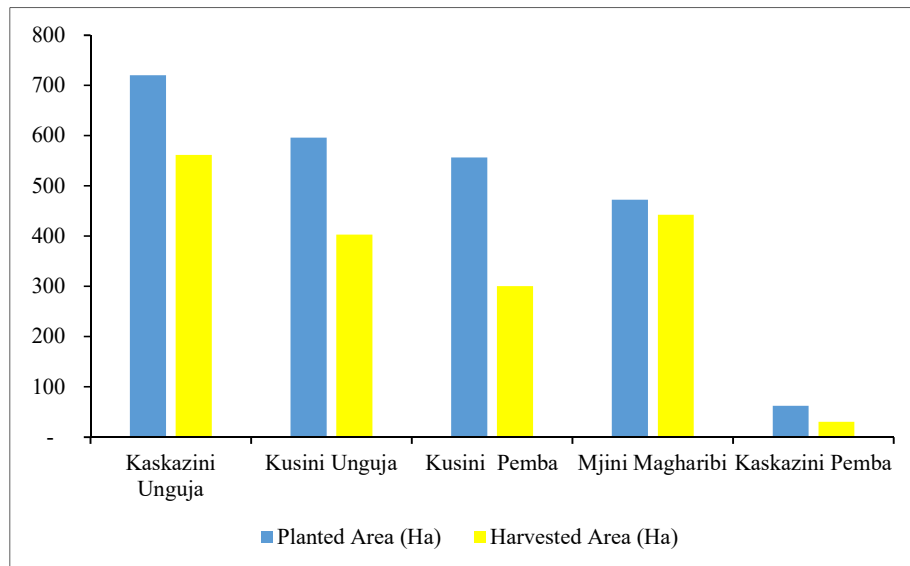
3.1.5.1 Tomato

Tomatoes are among the major fruit and vegetable crops grown in Zanzibar. Total number of households engaged in tomatoes production during the short rainy season was 9,923 (59.8 percent) and 6,665 (40.2 percent) during the long rainy season.

Total area planted with tomatoes was 2,408 ha which is equivalent to 21.8 percent of the total area under fruits and vegetable. Kaskazini Unguja reported largest planted area (720 ha) equivalent to 29.9 percent of the total planted area with tomatoes, followed by Kusini Unguja region (596 ha; 24.7 percent) and Kusini Pemba (556 ha; 23.1 percent). Kaskazini Pemba reported the least planted area (63 ha; 2.6 percent).

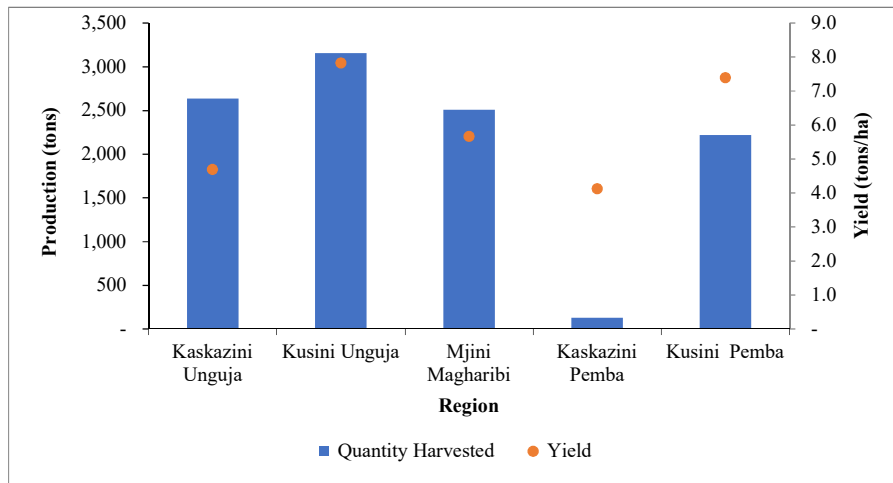
Area harvested reported during the 2019/20 agricultural year was 7,180 ha which is equivalent to 21.8 percent of the total planted area with tomatoes. Kaskazini Unguja reported the largest area (562 ha; 32.2 percent) followed by Mjini Magharibi (443ha; 25.5 percent) and Kusini Unguja (403ha; 23.2 percent). Kaskazini Pemba reported the least harvested area (31 ha; 1.8 percent) (Figure 3.21).

Figure 3.21 Planted and Harvested Area (ha) of Chillies by Region During 2019/20 Agricultural Year

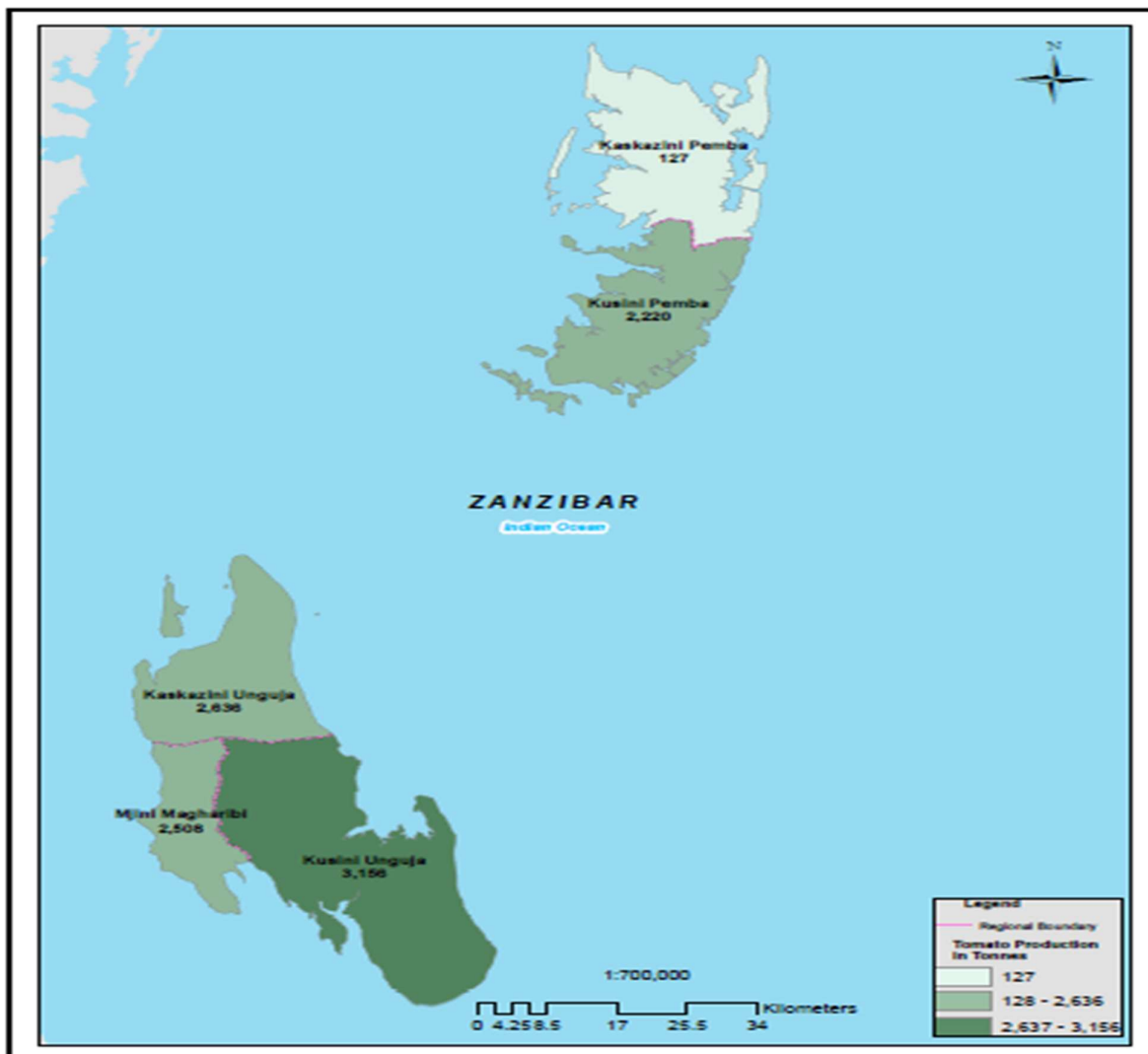


Quantity of tomatoes harvested was 10,647 tons with an average yield of 6.1 tons/ha. Kusini Unguja had the largest quantity harvested (3,156 tons; 7.8 yield) followed by Kaskazini Unguja (2,636 tons; 4.7 tons'/ha yield) and Mjini Magharibi (2,508 tons; 5.4 tons'/ha yield). Kaskazini Pemba reported the least quantity harvested (127 tons; 1.2) (Figure 3.22 and Map 3.5).

Figure 3.22: Quantity Harvested and Yield of Tomato by Region during 2019/20 Agricultural Year



Map 3.5: Tomatoes Production (tons) by Region during 2019/20 Agricultural Year



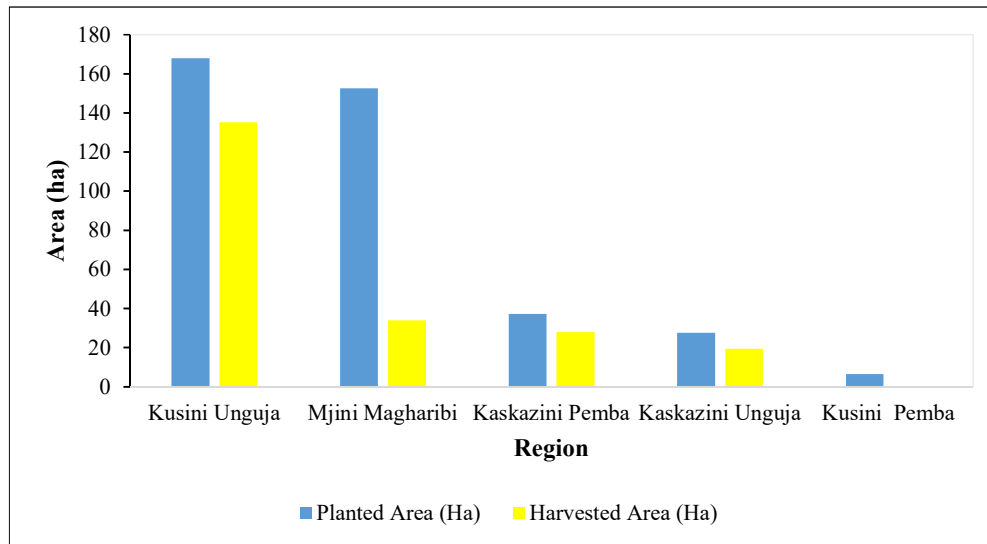
3.1.5.2 Chilies

The number of households engaged in Chilies production was 2,758 out of which 1,040 households (37.7 percent) were engaged during the short rainy season and 1,718 households (62.3 percent) during the long rainy season.

Total area planted with chilies during 2019/20 agricultural year was 392 ha which is equivalent to 3.5 percent of the total area planted with fruits and vegetables. Kusini Unguja had the largest planted area among the regions (168 ha) equivalent to 42.9 percent of the total planted area with chilies, followed by Mjini Magharibi (153ha; 38.9ha) and Kaskazini Pemba (37ha; 9.5 percent). Kusini Pemba reported the least planted area (6 ha; 1.7 percent).

A total area harvested with chilies reported was 217 hectares which is equivalent to 55.7 percent of the total area planted with chilies. Kusini Unguja reported the largest harvested area (135 ha) equivalent to 62.4 percent of the total area harvested with chilies, followed by Mjini Magharibi (34 ha; 15.7 percent) and Kaskazini Pemba with 28 ha equivalent to 12.9 percent. Kaskazini Pemba reported the least harvested area (28 ha; 12.9 percent) (Figure 3.23).

Figure 3.23: Planted and Harvested Area (ha) of Chillies by Region During 2019/20 Agricultural Year



Quantity of chilies harvested was 1,651 tons with an average yield of 7.6 tons/ha. Kusini Unguja region reported the largest quantity (1,337 ha; 9.9tons/ha yield), followed by Mjini Magharibi (124 ha; 3.7 tons’/ha yield) and Kaskazini Unguja (110 tons; 7 tons’/ha average yield). Kaskazini Pemba reported the least quantity harvested (80 tons; 2.9 tons’/ha average yield).

3.1.5.3 Cabbage

The 2019/20 NSCA results reveal that, a total of 44 households were engaged in growing cabbage during short rainy season and during long rainy season there were no households reported to grow cabbage in Zanzibar. The total planted area of cabbage was 2.0 ha, only reported in Mjini Magharibi region.

The total harvested area with cabbage was 2 ha, the only region reported harvested area was Mjini Magharibi (2 ha), present 100.0 percent of the total planted area with total production of

2 tons all in reported in Mjini Magharibi as it was the only region engaged in cabbage production. Moreover, results show that, the average productivity of cabbage was 1.1 tons/ha. (Table 3.3).

Table 3.3: Number of Household, Planted Area, Quantity Harvested and Yield of Cabbage by Region During 2019/20 Agricultural Year

Region	Planted Area (ha)	Harvested Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kaskazini Unguja	-	-	-	-
Kusini Unguja	-	-	-	-
Mjini Magharibi	2	2	2	1.1
Kaskazini Pemba	-	-	-	-
Kusini Pemba	-	-	-	-
Total	2	2	2	1.1

3.1.5.4 Okra

The 2019/20 NSCA results reveal that, a total of 8,864 households were engaged in growing okra during short rainy season (6,284 households) and long rainy season, 2,580 households.

The total planted area for okra was 1,593 ha in Tanzania Zanzibar. Mjini Magharibi had the largest planted area with okra (913 ha; 57.3 percent), followed by Kaskazini Unguja (307 ha; 19.3 percent) and the least region was Kaskazini Pemba (8 ha 0.5 percent).

The total harvested area with okra was 1,110 ha. Mjini Magharibi had the largest harvested area (643 ha; 58.0 percent), followed by Kaskazini Unguja (267 ha; 24.1 percent), while the least harvested area was Kusini Pemba (71 ha; 6.4 percent).

Okra production was 11,004 tons, Mjini Magharibi led with the production of 9,097 tons (82.7 percent), followed by Kaskazini Unguja with the production of 848 tons (7.7 percent), while the least production was reported in Kusini Pemba region (324 tons; 2.9 percent).

Moreover, results show that, the average productivity of okra was 9.9 tons/ha. The highest productivity was reported in Mjini Magharibi region with 14.1 tons/ha, whereas the lowest yield was reported in Kaskazini Unguja (3.2 tons/ha) (Table 3.4)

Table 3.4: Planted and Harvested Area, Quantity and Yield of Okra by Region During 2019/20 Agricultural Year

Region	Planted Area (ha)	Harvested Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Kaskazini Unguja	307	267	848	3.2
Kusini Unguja	204	128	734	5.7
Mjini Magharibi	913	643	9,097	14.1
Kaskazini Pemba	8	-	-	-
Kusini Pemba	161	71	324	4.6
Total	1,593	1,110	11,004	9.9

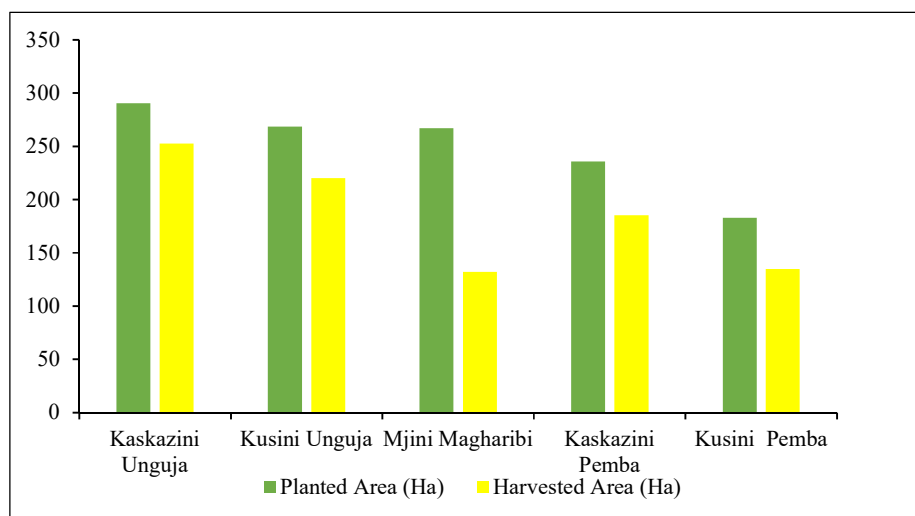
3.1.5.5 Amaranth

The total number of households engaged in amaranth production during 2019/20 agricultural year was 10,944 whereby 6,353 households were engaged during the short rainy season and 4,641 households during the long rainy season.

Total area planted with amaranth during 2019/20 agricultural year was 1,245 ha which is equivalent to 11.3 percent of the total area under fruits and vegetable. Mjini Magharibi reported the largest planted area with amaranth (291 ha) equivalent to 23.3 percent of the total planted area with amaranth followed by Kaskazini Unguja (269 ha; 21.5 percent) and Kusini Pemba (267 ha; 21.5 percent). Kaskazini Pemba reported the least planted area (18ha; 14.7 percent)

Area harvested reported during the 2019/20 agricultural year was 925 ha equivalent to 74.1 percent of the total planted area with amaranth. Mjini Magharibi reported the largest area (253 ha; 27.3 percent) followed by Kaskazini Unguja which reported 220 ha equivalent to 23.8 and Kusini Unguja (185 ha; 20.0 percent) (Figure 3.7c). Kusini Pemba reported the least Harvested area (132 ha; 14.3 percent) (Figure 3.24).

Figure 3.24: Planted and Harvested Area (ha) with Amaranth by Region During 2019/20 Agricultural Year



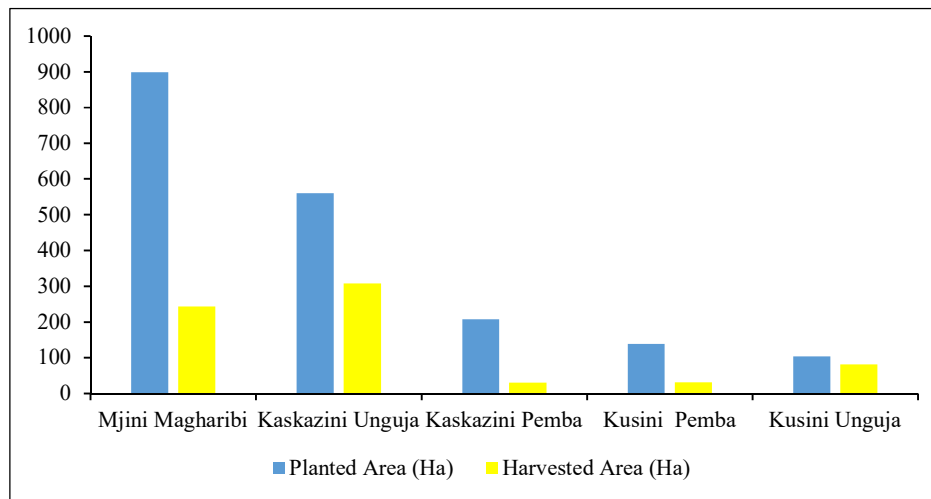
Quantity of amaranth harvested was 4,384 tons with productivity of 4.7 tons/ha. Mjini Magharibi had the largest quantity of amaranth harvested (1,214 tons; 4.8 tons’/ha yield), followed by Kaskazini Unguja which reported 970 tons with an average yield of 4.4 tons/ha and Kusini Unguja (963 tons; 5.2 tons’/ha average yield). Kusini Pemba reported the least quantity of amaranth harvested (569 tons; 13.0 percent) with an average yield of 4.3 tons/ha.

3.1.5.6 Watermelon

The total number of households engaged in watermelon production was 4,084 out of which 2,800 households engaged during the short rainy season and 1,284 during the long rainy season. The total planted area with watermelon was 1,907 ha which is equivalent to 17.2 percent of the total area under fruits and vegetable. Mjini Magharibi reported the largest planted area of 898 ha which is equivalent to 47.1 percent of the total planted area with watermelon followed by Kaskazini Unguja (560 ha; 29.4 percent) and Kaskazini Pemba (207 ha; 10.8 percent). Kusini Unguja reported the least planted area (104 ha; 5.5 percent).

Area harvested during 2019/20 agricultural year was 694 ha which is equivalent to 36.4 percent of the total planted area with watermelon. Kaskazini Unguja reported the largest area (308 ha; 44.3 percent) followed by Mjini Magharibi which reported 244 ha equivalent to 35.1 and Kusini Unguja (81 ha; 11.7 percent). Kaskazini Pemba reported the least harvested area (30 ha; 4.4 percent) (Figure 3.25).

Figure 3. 25: Planted and Harvested (ha) with Watermelon by During 2019/20 Agricultural Year



Quantity of watermelon harvested was 10,897 tons with productivity of 15.7tons/ha. Mjini Magharibi had the largest quantity harvested of watermelon (4,512 tons; 18.5 yield) followed by Kaskazini Unguja (3,931 tons; 12.8 tons’/ha yield) and Kusini Unguja (1,485 tons) and the yield of 18.3 tons’/ha yield). Kaskazini Pemba reported the least quantity harvested (409 tons) with an average yield of 13.4 tons/ ha.

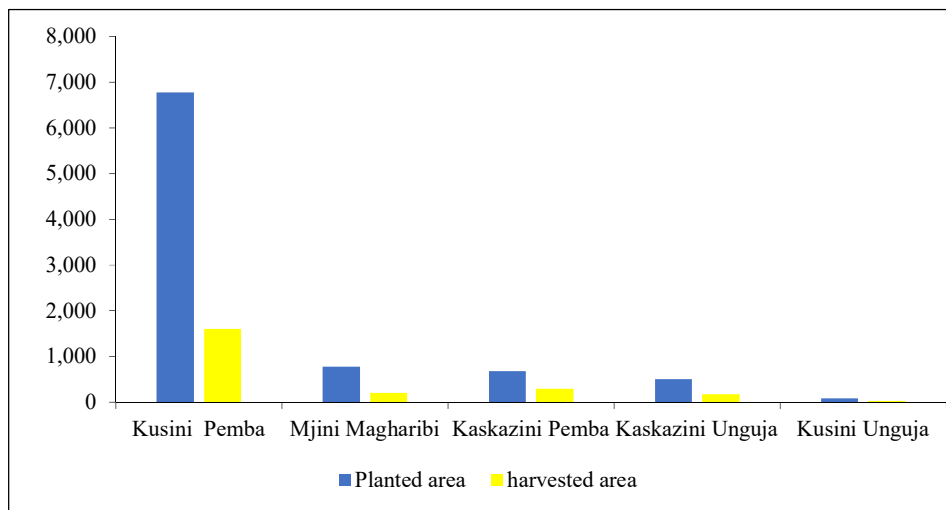
3.1.6 Cash Crops

The main cash crops produced in Zanzibar are Cloves and Seaweeds.

3.1.6.1 Cloves

Clove is the main cash crop produced in Zanzibar during 2019/20 agricultural year, there were 25,097 households engaged in cloves production. The total planted area was 8,830 ha (2,631 ha under mono crops and 6,199 ha under mixed crops). Kusini Pemba region reported the largest planted area (6,779 ha) which is equivalent to 76.8 percent of the total area planted with cloves, (2,051 ha mono crop; 4,728 ha under mixed crop), followed by Mjini Magharibi (778 ha; 8.8 percent) and Kaskazini Pemba (677 ha; 7.2 percent). Kusini Unguja the reported the least planted area (87 ha; 1.0 percent). The total area harvested with cloves was 2,308 ha, equivalent to 26.1 percent of the total planted area. Kusini Pemba reported the largest harvested area for cloves (1,607 ha), followed by Kaskazini Pemba (295 ha) and Mjini Magharibi (204 ha). Kusini Unguja reported the least harvested area (28 ha; 1.2 percent) (Figure 3.26).

Figure 3.26: Planted and Harvested Area (ha) with Clove by Region During 2019/20 Agricultural Year



Quantity of cloves harvested during the 2019/20 agricultural year 2,236 tons. Kusini Pemba region reported the largest quantity of cloves harvested (1,042 tons), followed by Kaskazini Pemba (619 tons) and Mjini Magharibi (360 tons). Kusini Unguja reported the least quantity harvested (100 tons; 4.5 percent).

3.1.6.2 Seaweeds.

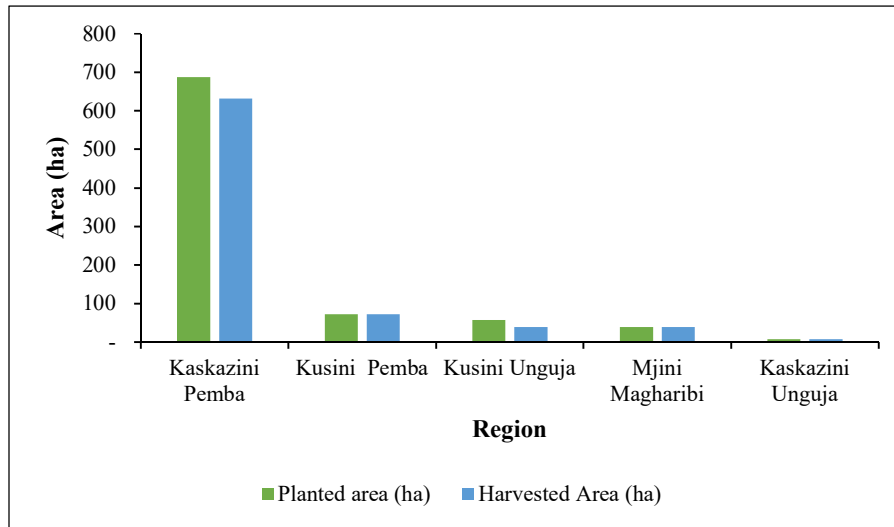
Another cash crops produced in Zanzibar was Seaweed of which the number of households reported to be engaged in its production was 5,210, out of which 2,800 households (53.7 percent) engaged during the short rainy season and 2,410 households (46.3 percent) during the long rainy season.

A total of 863 hectares were planted with seaweed during 2019/20 agricultural year, out of which 397 ha were planted during the short rainy season and 466 ha during the long rainy season.

Kaskazini Pemba region reported the largest planted area (688 ha; 79.7 percent) followed by Kusini Pemba (72 ha, 8.3 percent) and Kusini Unguja (57ha; 6.5 percent). Kaskazini Unguja reported the least planted area (8 ha; 0.9 percent)

The Area harvested with seaweed during 2019/20 agricultural year was 789 ha. Kaskazini Pemba region reported the largest area harvested of 631 ha equivalent to 80 percent of the total harvested area, followed by Kusini Pemba (72 ha equivalent to 8.3 percent). Kaskazini Unguja reported the least harvested area (8 ha; 1.0 percent) (Figure 3.27).

Figure 3.27: Planted and Harvested Area (ha) with Seaweeds by Region During 2019/20 Agricultural Year



The quantity of seaweed produced during the 2019/20 agricultural year was 5,532 tons. Kaskazini Pemba reported largest quantity harvested (4,385 tons) followed by Kusini Pemba (538 tons) and Kusini Unguja. (315 tons). Kaskazini Unguja reported the least quantity harvested (49 ha; 0.9 percent) with an average yield of 6.4tons/ha.

3.1.7 Permanent Crops

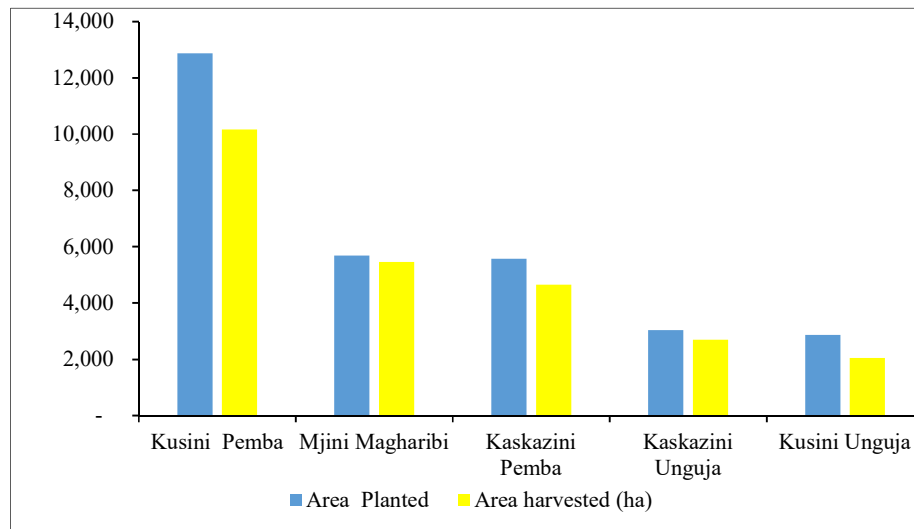
Permanent crops presented in this section are banana, mango and oranges. The results of other permanent crops are presented as annex. The results presented hereunder are number of agricultural households, planted area, harvested area, quantity harvested.

3.1.7.1 Banana

The number of households engaged in banana production was 133,983 (59,050 households under mono crop; 74,932 under mixed crops). The total planted area with banana was 30,016 ha (13,941 ha under mono crop; 16,075 under mixed crop). Kusini Pemba reported the largest planted area (12,875 ha; 42.9 percent), followed by Mjini Magharibi (5,685 ha; 18.9 percent) and Kaskazini Pemba (5,573 ha; 18.6 percent). Kusini Unguja reported the least planted area (2,856; 9.5 percent). the total harvested area with banana was 25,019 ha which is equivalent to 83.4 percent of the total planted area. Kusini Pemba reported the largest harvested area under banana production (10,162 ha; 406 percent), followed by Mjini Magharibi (5,458 ha; 21.8

percent) and Kaskazini Pemba (4,653 ha; 18.6 percent). Kusini Unguja reported the least harvested area (2,047 ha; 8.2 percent). (Figure 3.28).

Figure 3. 28: Planted and Harvested and Harvested (ha) with Banana by During 2019/20 Agricultural Year



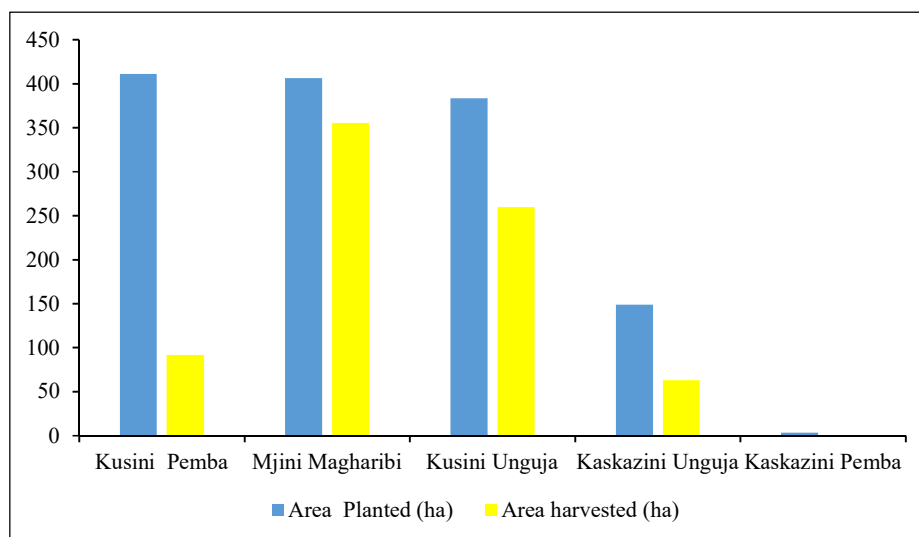
Quantity of banana harvested was 85,096 tons, out of which Mjini Magharibi reported the largest quantity (26,640 tons; 31.3 percent), followed by Kusini Pemba (25,219 tons; 29.6 percent) and Kaskazini Pemba (15,237 tons; 17.9 percent). The least quantity harvested was reported in Kusini Unguja (8,640 tons; 10.2 percent.)

3.1.7.2 Orange

The number of households engaged in orange production was 12,799 (1,099 households under mono crop; 11,700 under mixed crops). The total planted area with orange was 1,353 ha (156 ha under mono crop; 1,197 ha under mixed crop). Kusini Pemba region reported the largest planted area (411 ha; 30.4 percent), followed by Mjini Magharibi (406 ha; 30.0 percent) and Kusini Unguja (384 ha; 28.3 percent). Kaskazini Pemba reported the least planted area (3 ha; 0.2 percent).

Total area harvested with oranges was 770 ha which is equivalent to 56.9 percent of the total planted area with oranges. Mjini Magharibi reported the largest harvested area under orange production (355 ha; 46.1 percent), followed by Kusini Unguja (260 ha; 33.7 percent) and Kusini Pemba (92 ha; 11.9 percent). Kaskazini Unguja reported the least harvested area (63 ha; 8.2 percent) (Figure 3.29).

Figure 3. 29: Planted and Harvested and Harvested (ha) with Orange by During 2019/20 Agricultural



Quantity of oranges harvested was 8,137 tons, out of this Mjini Magharibi reported the largest quantity (3,771 tons; 46.3 percent), followed by Kusini Unguja (2,809 tons; 34.5 percent) and Kusini Pemba (913 tons; 11.2 percent). The least quantity harvested was reported in Kaskazini Unguja (63 tons; 8.2 percent.).

3.1.7.3 Pineapple

The number of households engaged in pine apple production was 7,476 (1,446 households under mono crop; 6,030 under mixed crops). The total planted area with pine apple was 1,057.5 ha (293.5 ha under mono crop; 765 ha under mixed crop). Kusini Pemba region reported the largest planted area (338.3 ha; 32.0 percent), followed by Kaskazini Unguja (273.6 ha; 25.9 percent) and Mjini Magharibi (225.8 ha; 21.4 percent). Kusini Unguja reported the least planted area (70.0 ha; 6.6 percent). the total harvested area with pine apple was 472.3 ha which is equivalent to 44.7 percent of the total planted area with pine apple. Mjini Magharibi reported the largest harvested area under pine apple production (188.6 ha; 39.9 percent), followed by Kusini Pemba (125.9 ha; 26.6 percent) and Kaskazini Unguja (114.5 ha; 24.3 percent). Kaskazini Pemba reported the least harvested area (18.2 ha; 3.9 percent) (Table 3.5).

Table 3.5: Planted and Harvested Area (ha) with Pine Apple and Quantity Harvested (tons) by Region During 2019/20 Agricultural Year

Region	Planted Area (ha)	Harvested Area (ha)	Percentage		
			of Harvested Area	Quantity harvested (tons)	Percentage of Quantity Harvested
Kaskazini					
Unguja	273.6	114.5	24.3	3,827.4	24.6
Kusini Unguja	70.0	25.1	5.3	780.2	5.0
Mjini Magharibi	225.8	188.6	39.9	6,176.6	39.6
Kaskazini Pemba	149.7	18.2	3.9	1,156.7	7.4
Kusini Pemba	338.3	125.9	26.6	3,648.0	23.4
Total	1,057.5	472.3	100.0	15,588.9	100.0

Quantity of pine apple harvested was 15,888.9 tons, out of this Mjini Magharibi reported the largest quantity (6,176.6 tons; 39.6 percent), followed by Kaskazini Unguja (3,827.4 tons; 24.6 percent) and Kusini Pemba (3,648.0 tons; 23.4 percent). The least quantity harvested was reported in Kaskazini Pemba (1,156.7 tons; 7.4 percent.) (Table 3.5).

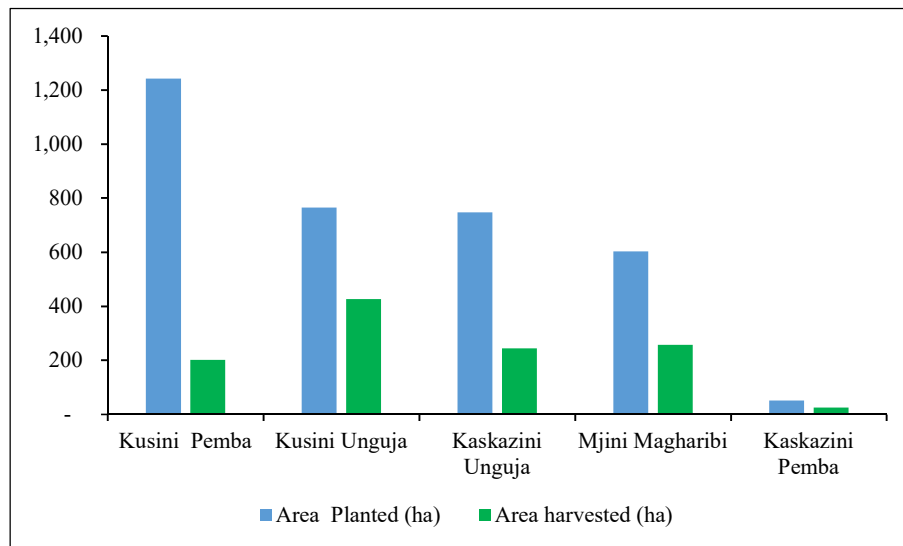
In general, the quantity of pine apple increase from 5,954.02 tons recorded in 2007/08 agricultural year to 15,888.9 tons reported in 2019/20 agricultural year; give an increase of more than 100 percent.

3.1.7.4 Mango

The number of households engaged in mango production was 27,723 (2,471 households under mono crop; 25,252 under mixed crops). The total planted area with mango was 3,409 ha (579 ha under mono crop; 2,830 under mixed crop). Kusini Pemba reported the largest planted area (1,242 ha; 36.4 percent), followed by Kusini Unguja (765ha; 22.4 percent) and Kaskazini Unguja (747 ha; 21.9 percent). Kaskazini Pemba reported the least planted area (51 ha; 1.5 percent).

Total area harvested with mango was 1,156 ha equivalent to 33.9 percent of the total planted area with mangoes. Kusini Unguja reported the largest harvested area under mango production (427 ha; 36.9 percent), followed by Mjini Magharibi (258 ha; 22.3 percent) and Kaskazini Unguja (244 ha; 21.1 percent). Kaskazini Pemba reported the least harvested area (26 ha; 2.3 percent) (Figure 3.30).

Figure 3.30: Planted and Harvested Area (ha) with Mango by Region During 2019/20 Agricultural Year.



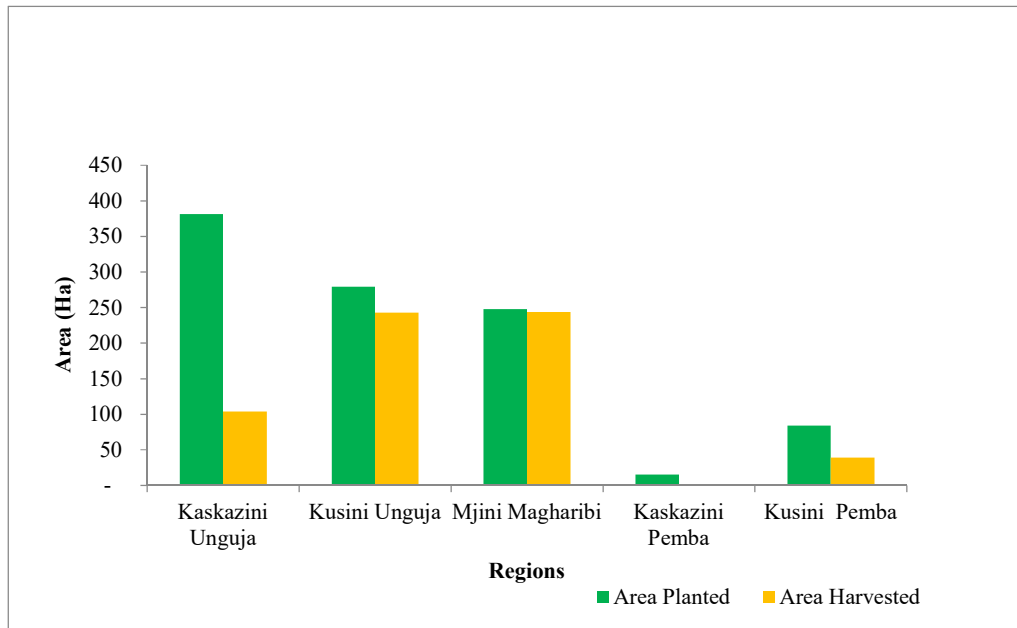
Quantity of mango harvested was 17,616 tons, out of which Kusini Unguja region reported the largest quantity (6,754 tons; 38.3 percent), followed by Mjini Magharibi (4,383 tons; 24.9 percent) and Kusini Pemba (3,417 tons; 14.9 percent). The least quantity harvested was reported in Kaskazini Pemba (466 tons; 2.6 percent).

3.1.7.5 Sugarcane

Census results show that, there were 2,757 households engaged in growing Sugarcane in the country, equivalent to 1.6 percent of the total crop growing households. The total area planted with sugarcane was 2,637 ha (1,008 ha from smallholder farmers and 1,629 ha from large scale farms). The total area harvested from smallholders was 629.3 ha.

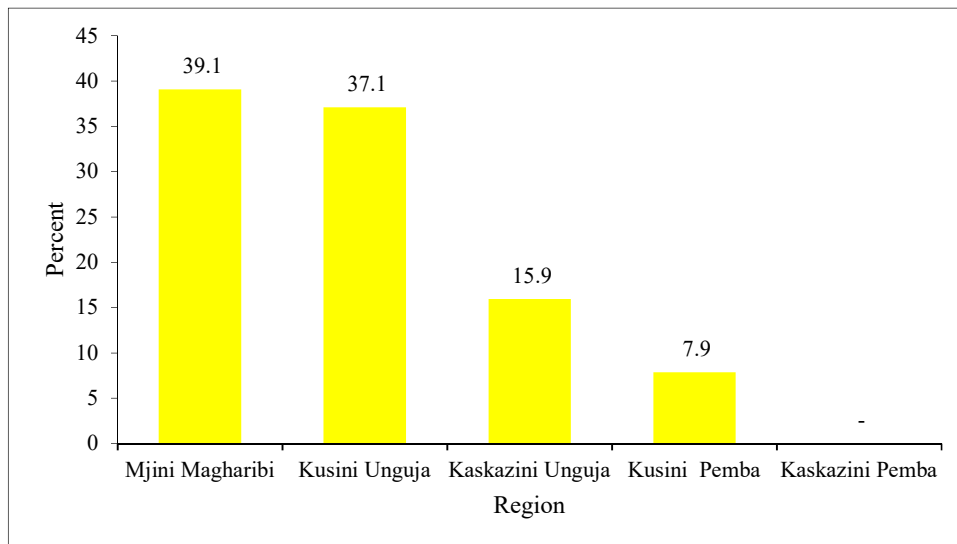
The total sugarcane production 71,719 tons from Zanzibar, of which 12,313 tons were from smallholder farmers and 59,406 tons from large scale farms. From smallholder farmers, Kaskazini Unguja region had the largest Sugarcane planted area (381 ha; 37.8 percent) with a production of 1,963 tons (15.9 percent) from 104 ha harvested (Figure 3.31).

Figure 3.31: Planted and Harvested Area (ha) with Sugarcane by Region During During 2019/20 Agricultural Year



Focusing on production, Mjini Magharibi region with a planted area of 248 ha (24.6 percent), produced 4,812 tons (39.1 percent) from 244 ha harvested with productivity of 19.8 tons/ha. Kusini Unguja with a planted area of 279 ha (27.7 percent), produced 4,569 tons (37.1 percent) from a harvested area of 243 ha (18.8 tons/ha) (Figure 3.32).

Figure 3.32: Percentage of Sugarcane Production by Region During 2019/20 Agricultural Year.



3.1.7.6 Cashewnuts

The 2019/20 Census results show that, in Zanzibar cashewnut is a new emerged crop only 499 households engaged in growing cashewnuts with very few number of trees mixed with other crops. The total area planted with cashewnuts was 59.0 ha from smallholder farmers and none came from large scale farms. The total area harvested 26.0 ha with total production of 9.0 tons all produced from Kusini Pemba region. The crop was only reported in Kusini Pemba and kaskazini Unguja, however the production was only reported in Kusini Pemba (Table 3.6).

Table 3.6: Number of Households, Area Planted and Harvested and Production of Cashewnuts by Region, 2019/20 Agricultural Year, Tanzania

Region	Number of households	Area Planted(ha)	Area harvested (ha)	Quantity harvested (tons)
Kaskazini Unguja	108	-	-	-
Kusini Pemba	391	59	26	9
Total	499	59	26	9

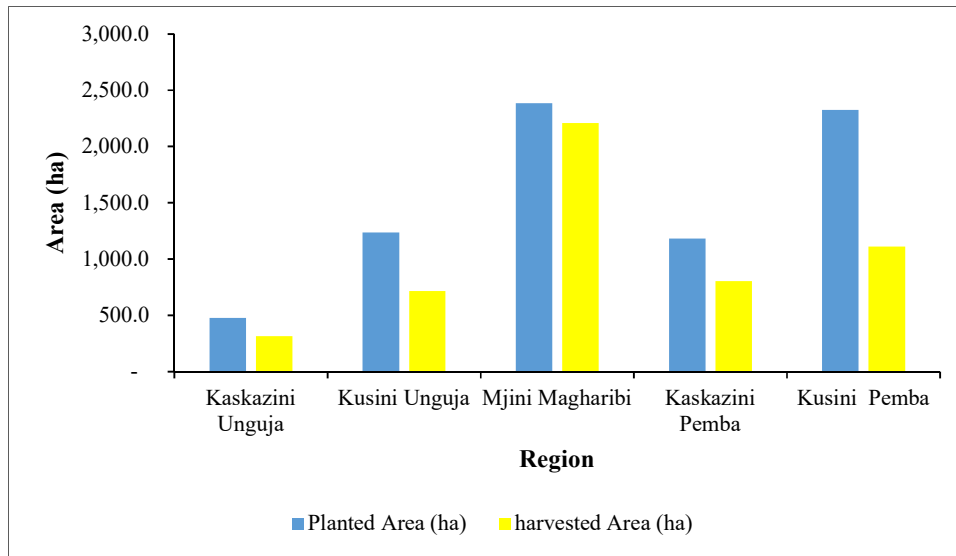
3.1.7.7 Coconut

Coconut is one of the popular oily cash crops grown in Zanzibar. There were 40,635 households engaged in production of coconut, the total area planted with coconut was 7,679 ha (7,607 ha from smallholder farmers and 72 ha from large scale farms).

A total production of 14,910 tons was harvested (14,867 tons from smallholder farmers; 43 tons from large scale farms). However, from smallholder farmers a total of 5,153 ha was harvested which accounted for 67.7 percent of the planted area.

The Census results further show that, Mjini Magharibi region had the largest coconut planted area (2,385 ha; 31.4 percent) with a production of 5,368 tons (40.6 percent) from 2,209 ha harvested. Focusing on production, it was followed by Kusini Unguja with a planted area of 1,236 ha (16.3 percent) and produced 3,040 tons (23.0 percent) from 714 ha harvested, Kaskazini Pemba had 1,183 ha planted area (15.6) and produce 2,338 tons from 803 ha harvested area (Figure 3.33).

Figure 3.33: Planted and Harvested Area with Coconut by Region During 2019/20 Agricultural Year



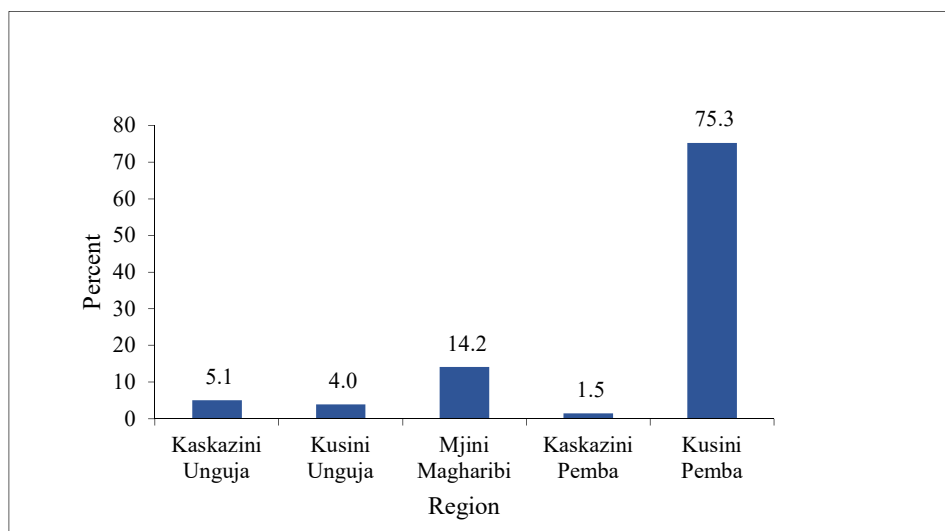
3.2 Agro Processing

The Agro-processing of agricultural crops discussed in this section referred to the crops harvested on the farm and converted into consumable forms by households so as to increase their values for market. During the 2019/20 agricultural year, the main crop products produced from agro-processing by the smallholders were paddy, cassava and coconut.

3.2.1 Households Involved in Agro processing

A total number of agricultural households reported to process their crops was 20,995 households. Kusini Pemba region had the largest number of agricultural households (15,801; 75.3 percent) which processed different crops, followed by Mjini Magharibi (2,972; 14 percent), and Kaskazini Unguja (1,072; 5.1 percent) (Figure 3.34).

Figure 3.34: Percentage of Agricultural Households Reported to process Different Crops by Region During 2019/20 Agricultural



3.2.2 Quantity of Major Crop Products

The census results show that, a total of 20.0 tons of flour/meal were produced, out of which, 0.5 tons' maize and 19.5 from cassava. Moreover, a total of 1,067 tons of grain was produced from paddy. Further the results show that, a total of 11,592 liters of oil were produced from coconut. Furthermore, juice was only reported to be produced from lime with 1,002 litres (Table 3.7).

Table 3.7: Quantity of major Crops Products During 2019/20 Agricultural Year

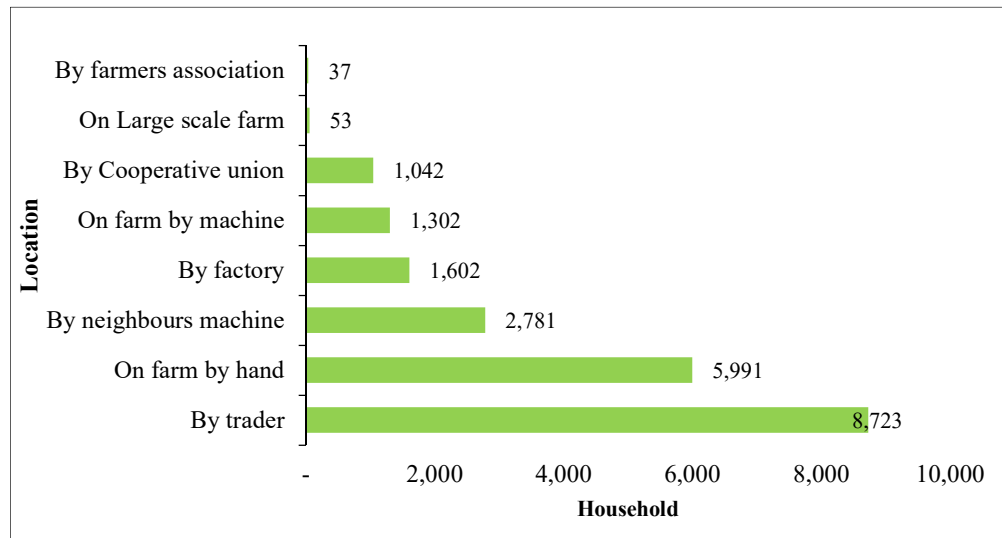
Product name	Unit	Quantity Produced
Flour/meal	Tons	20
Grain	Tons	1,067
Oil	Litres	111,592
Juice	Litres	1,002
Others	Tons	250

3.2.3 Major Outlets Used to Process Different Crops

The results on agro processing methods show that the total of 8,723 (40.5 percent) agricultural households processed their crops by using traders, followed by those who process on farm by

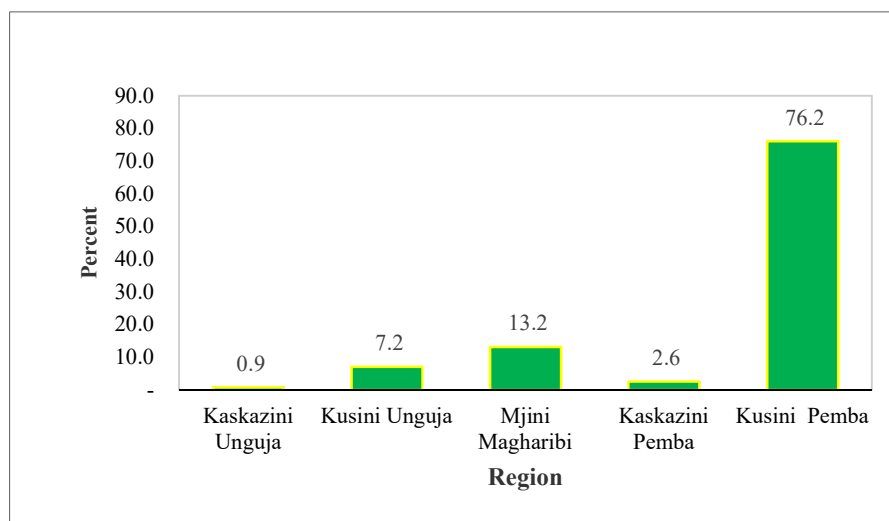
hand (5,991 households, 27.8 percent) and those who use neighbours machines (2,781 households, 12.9 percent). The least processing location was Farmer Association with 37 households (Figure 3.35).

Figure 3.35: Number of Households Processed Crops by Location of Processing During 2019/20 Agricultural Year



The results in Figure 3.36 presents the percentage of households in the regions that processed their harvested crops ‘in the farms by hand. Kusini Pemba had the highest number of households (4,565 households;76.2 percent), followed by Mjini Magharibi (790 households; 13.2 percent). The least region was Kaskazini Unguja with only less than one percent.

Figure 3.36: Percentage of Households Processed Crops On Farm by Hand by Region During 2019/20 Agricultural Year

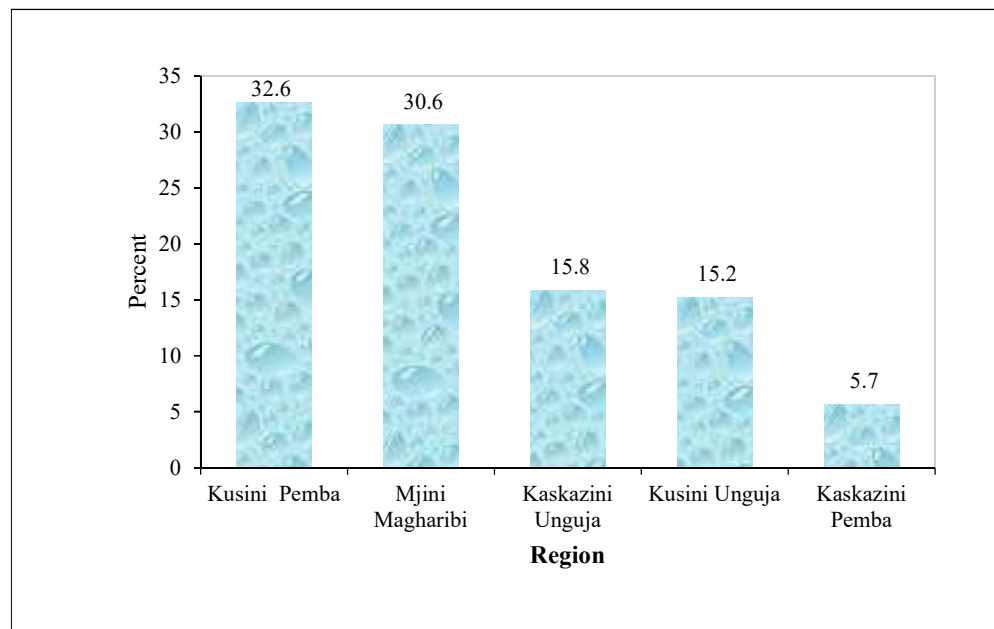


3.3 Irrigation

Irrigation is the application of specific amount of water at particular location in order to meet the requirement of crop growing at that location in amount that are appropriate to the crop's stage of growth. It can also mean application of water in amounts necessary to bring soil to the desired moisture level prior to crop growing. This section presents information on area under irrigation and main crop irrigated by smallholder farmers and the means by which water was extracted from the source and applied to the farms.

The results from 2019/20 NSCA shows that, the number of agricultural households reported practicing irrigation for crop production was 45,618 equivalents to 25.6 percent of the total crop growing households. Kusini Pemba region reported the highest number of households practiced irrigation with 14,886; 32.0 percent), followed by Mjini Magharibi (13,978 households; 30.6 percent) and Kaskazini Unguja (7,213 households; 15.8 percent). The least region was Kaskazini Pemba (2,590 households; present 5.7 percent) (Figure 3.37).

Figure 3.37: Percentage of Households Practicing Irrigation by Region During 2019/20 Agricultural Year



3.3.1 Area Planted with Annual Crops under Irrigation

The total area planted with annual crops was 126,015 ha out of which 66,658 ha (52.9 percent) was cultivated during the short rainy season and 59,357 ha (47.1 percent) was cultivated during the long rainy season. From the total planted area with annual crop, only 16,489 ha equivalent

to 13.1 percent was irrigated (9,068 ha irrigated in short rainy season and 7,421 ha in long rainy season). Irrigation practice didn't vary much between short and long rainy seasons with 13.6 percent and 12.5 percent respectively (Table 3.8).

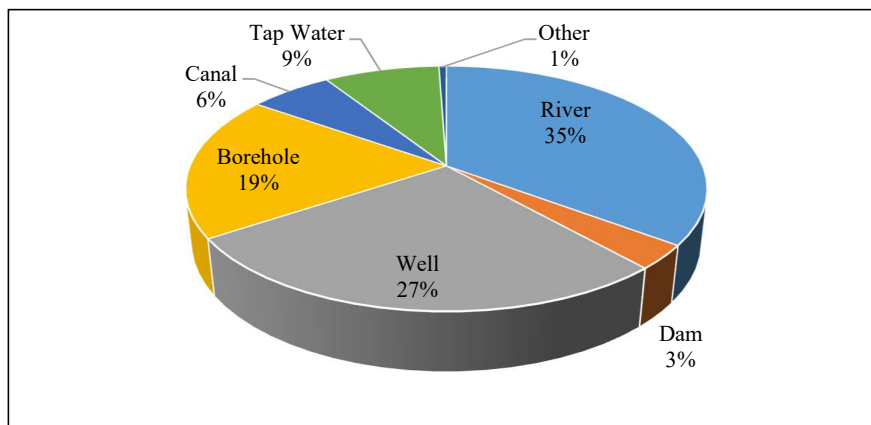
Table 3.8: Annual Crops Planted Area Under Irrigation by Season During 2019/20 Agricultural Year

Season	Area Under Irrigation (ha)	Percentage	Area Under Rain fed (ha)	Total Planted Area (ha)	Percentage of Irrigated Area
Short rainy	9,068	55.0	57,591	66,658	13.6
Long Rainy	7,421	44.0	51,935	59,357	12.5
Total	16,489	100	109,517	126,015	13.1

3.3.2 Households Practiced Irrigation by Source of Irrigation Water

A total of 38,536 households practiced irrigation during the 2019/20 agricultural year by using different source of water for irrigation. The majority of households (13,564 households; 35 percent) used river as their main source of water for irrigation followed by wells and boreholes accounting for 27 and 19 percent of the total households practiced irrigation respectively (Figure 3.38).

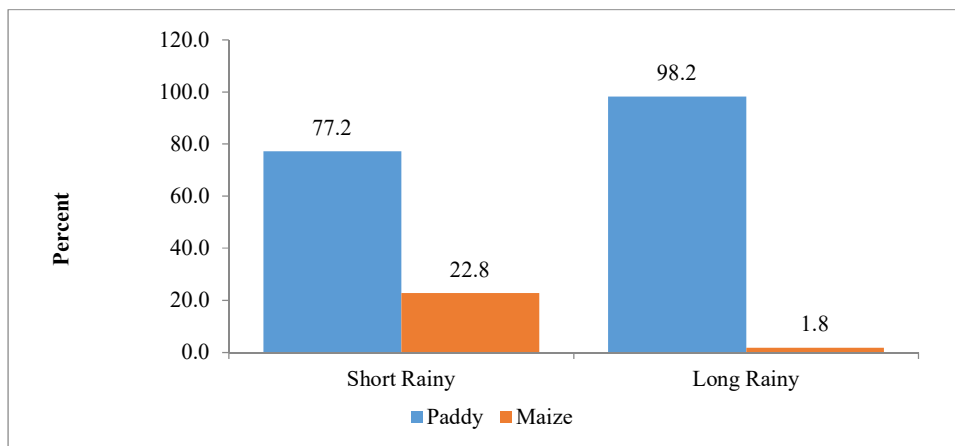
Figure 3.38: Percentage Distribution of Households Used Different Source of Water for Irrigation During 2019/20 Agricultural Year



3.3.3 Cereals Crops Under Irrigation

Census results show that, among cereal crops, only paddy and maize were reported to be irrigated. Paddy was more irrigated during both rainy seasons (2,074 ha; 77.2 percent during short rainy season and 4,698 ha; 98.2 percent during long rainy season) (Figure 3.39).

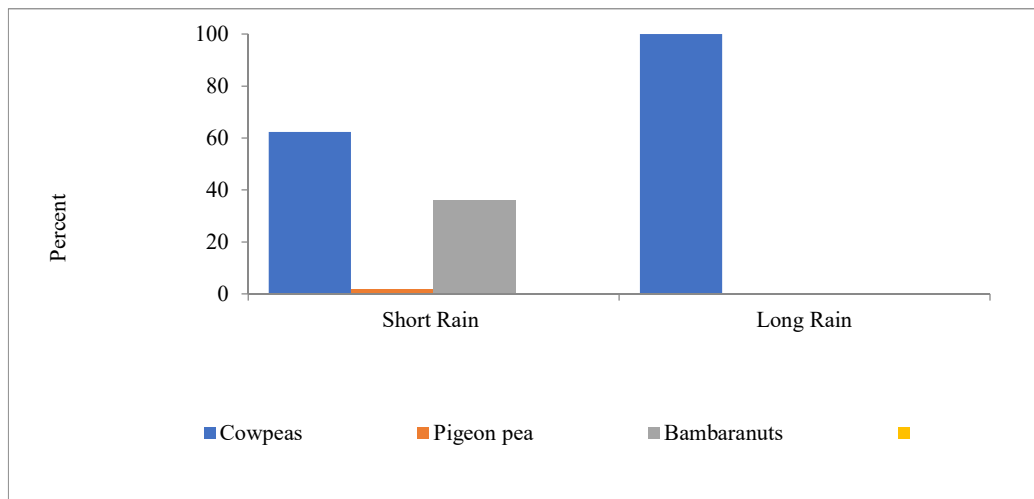
Figure 3.39: Percentage of Irrigated Area Planted with Cereals by Planting Season During 2019/20
Agricultural Year



3.3.4 Pulses Crops Under Irrigation

Census results show that, beans, cow peas, green gram, pigeon peas, were reported to be irrigated. Cow peas occupied the largest area under irrigation (114 ha; 62.4 percent), followed by bambaranut (65 ha; 35.8 percent), while the least irrigated area was occupied by pigeon peas (3 ha; 1.8 percent) during short rainy season. Similarly, during long rainy season, cowpeas was the only pulse crop irrigated, occupying an area of 35 ha (Figure 3.40).

Figure 3.40: Percentage of Planted Area with Pulses under Irrigation During 2019/20 Agricultural Year



3.3.5 Fruits and Vegetables

Census results show that, fruits and vegetables were among crops reported to be irrigated by smallholder farmers. A total of 5,851 ha was irrigated during short rainy season and 2,314 ha in long rainy season. Watermelon occupied the largest area under irrigation (1,468 ha; 25.1 percent), followed by tomato (1,097 ha; 18.7 percent) and okra (935 ha; 16.0 percent), whilst the least irrigated areas was occupied by cabbage (2 ha; 0.03 percent) during short rainy season. On the other, during long rainy season, tomato occupied the largest area under irrigation (462 ha; 20.0 percent), followed by amaranth (398 ha; 17.2 percent), whereas the least irrigated area was occupied by sweet/bell pepper (4 ha; 0.2 percent) (Table 3.9).

Table 3.9: Percentage of Area Planted with Fruits and Vegetables Under Irrigation by Seasons During 2019/20 Agricultural Year

Crop	Season	
	Short Rainy	Long Rainy
Onion	0.2	-
Spinach	0.4	0.5
Carrot	0.1	0.3
Chilies	1.9	10.2
Amaranths	12.2	17.2
Pumpkins	2.9	1.7
Cucumber	9.0	8.4
Egg Plant	7.9	11.1
Watermelon	25.1	17.1
Okra	16.0	8.2
Tomatoes	18.7	20.0
Cabbage	0.03	-
Bitter tomato	2.6	4.4
Sweet/bell pepper	0.2	0.2
Sweet potato leaves	2.6	0.7

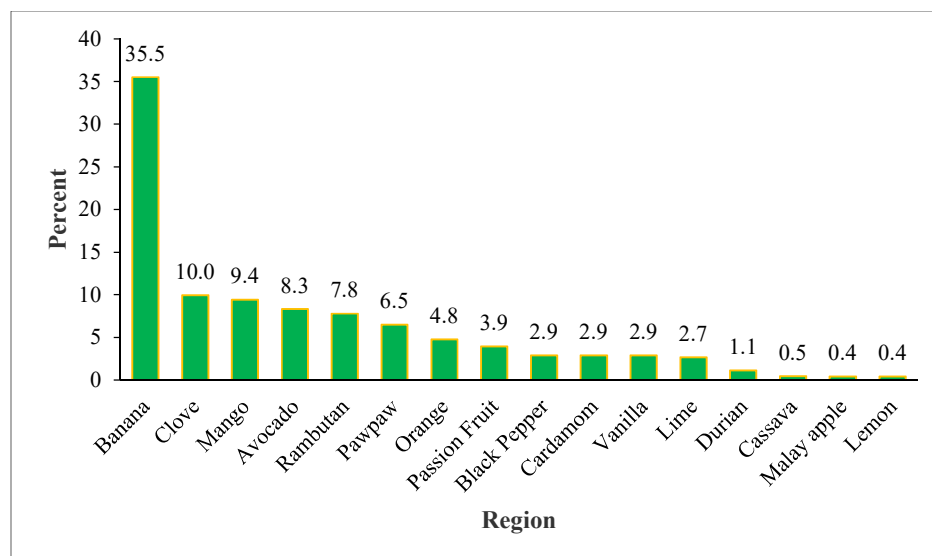
3.3.6 Irrigation for Permanent Crops

Irrigation for permanent crops was done at the seedlings stage and once they developed root system to absorb moisture, there was no further irrigation. The 2019/20 NSCA results show that, the total planted area under irrigation for permanent crops was relatively smaller than the irrigated area for annual crops (16,484 ha). The total planted area for Permanent crops were 59,264.7 ha of which area under irrigation was only 1,945 ha, equivalent to 3.3 percent of the total planted area with permanent crops.

3.3.6.1 Main Crops Irrigated for Permanent Crops

The census results show that the largest planted area under irrigation for permanent crops was planted with Banana 710 ha; 35.5 percent), followed by clove (602.6 ha; 10 percent) and mango (117.0 ha; 9.4 percent). The crop with the smallest area under irrigation was lemon (17.4 ha; 0.4 percent) (Figure 3.41).

Figure 3.41: Percentage of Area Irrigated by Individual Permanent Crops During 2019/20 Agricultural Year



3.4 Inputs Use

This section presents on the use of improved seeds, inorganic and organic fertilizers and pesticides which includes herbicides, fungicide, and insecticides. The results presented in this section are based on the number of households used the inputs for different crops and area of application and not on the quantity applied.

3.4.1 Use of Improved Seeds

Census results show that, the total area planted with improved seeds for both short and long rainy seasons was 29,314 ha equivalent to 23.3 percent of the total area planted with annual crops. Conversely, the area planted with local seeds was 82,975 ha equivalent to 65.8 percent of the total planted area. Area planted jointly with local and improved seeds was 13,439 ha (10.7 percent).

In general, there is a slightly difference in the area planted with improved seed between short and long seasons. In short rainy season the total number of households that planted crops was 153,078 with total planted area of 66,658 ha. Out of this, the number of households that used improved seed was 110,804 households, equivalent to 72.4 percent of the total households that planted crops in this season. The total land area planted with improved seeds was 15,609 ha equivalent to 23.4 percent of the total planted area in short rainy season (Table 3.10).

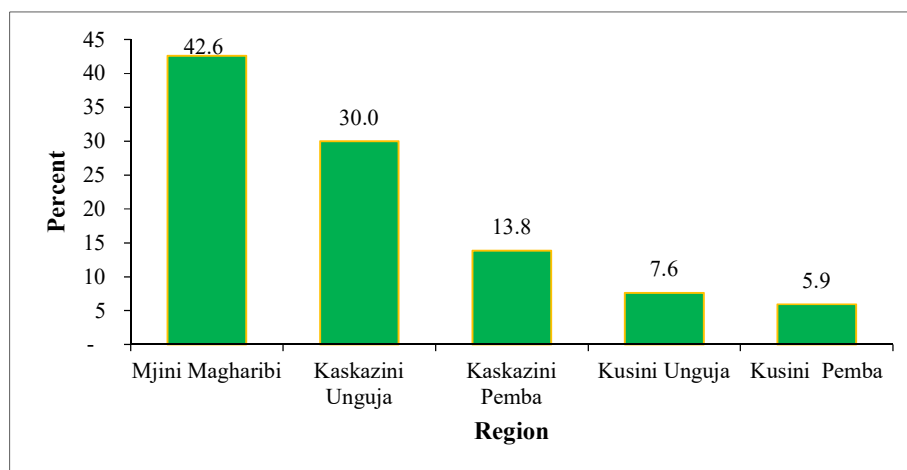
During the long rainy season, the number of households that planted crops was 135,576 with a total planted area of 59,356 ha. The number of households that used improved seeds was 101,874 households, equivalent to 75.1 percent of the total households that planted crops in this season. The total land area planted with improved seeds in the long rainy season was 13,705 ha equivalent to 23.1 percent of the total planted area in that season (Table 3.10).

Table 3.10 Number of Households and Area (ha) Planted with Improved Seeds by Seasons During 2019/20 Agricultural Year.

Season	Total		Improved Seeds Use			
	Number of Households	Planted Area (ha)	Number of Households	Percentage	Area (ha) Used	
					improved seeds	Percentage area used Improved seeds
Short rainy	153,078	66,652	110,804	72.4	15,609	23.4
Long Rainy	135,576	59,350	101,874	75.1	13,705	23.1
Total		126,002			29,314	23.3

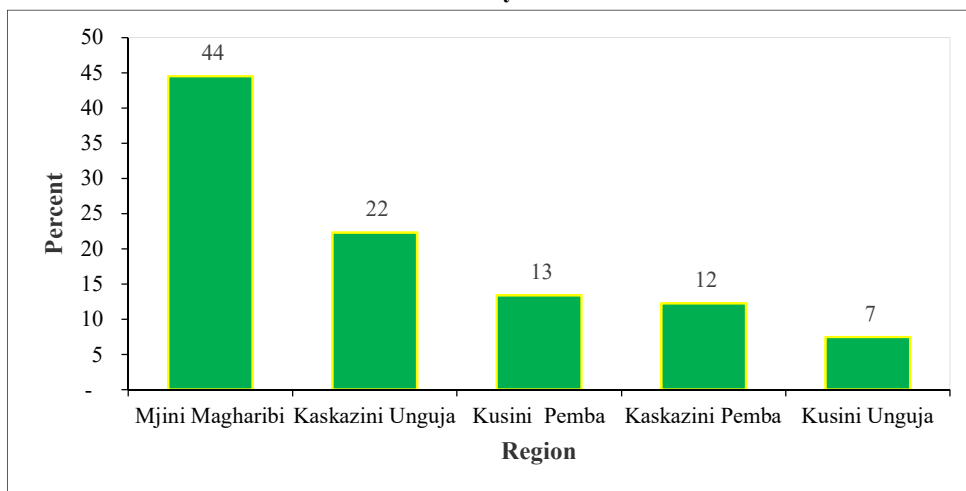
The largest proportion of the planted area with improved seeds was in Mjini Magharibi with 6,650 ha, equivalent to 43 percent of the total planted area in short rain season. Followed by Kaskazini Unguja region with 4,682 ha (30 percent) and Kaskazini Pemba with 2,160 ha (14 percent). The region with lowest proportion of land planted with improved seeds was Kusini Pemba with 926 ha (6 percent) (Figure 3.42).

Figure 3.42: Percentage of Planted Area with Improved Seeds During 2019/20 Agricultural Year – Short Rainy Season



During the long rainy season, Mjini Magharibi had the largest proportion of the planted area with improved seeds of 6,098 ha, equivalent to 44 percent of the total planted area in long rainy season with improved seeds. followed by Kaskazini Unguja with 3,058 ha (22 percent) and Kusini Pemba with 1,840 ha (13 percent). The l region with lowest proportion of land planted with improved seeds was Kusini Unguja with only 1,024 ha (7 percent) (Figure 3.43).

Figure 3.43: Percentage of Planted Area with Improved Seeds During 2019/20 Agricultural Year – Long Rainy Season



3.4.2 Fertilizer Use

The census results on fertilizer reveals that, the total area applied with fertilizer was 31, 613 ha; Out of this 17,424 ha (55.1 percent) were applied organic fertilizer and 14,188 ha (44.9 percent) inorganic fertilizer. Most inorganic fertilizer was used for paddy production. The number of households that applied fertilizer in the short rainy season was 45,310 households, equivalent to 29.6 percent of the total household’s plant crops in this season. The total applied area in short rainy season was 14,679 ha, presents 29.9 percent of the total planted area in this season. In long rainy season, the number of households that applied fertilizers were 48,324 households, equivalent to 35.6 percent of the total household’s plant crops in this season. The total applied area in long rainy season was 16,934 ha, present 12.5 percent of the total in long rainy season. Area applied fertilizer in permanent crops was 8,407 ha (Table 3.11).

Table 3.11: Number and Area Planted with Fertilizer by Season During 2019/20 Agricultural Year

Season	Total		Fertilizer Use			
	Households	Planted Area (ha)	Households	Percentage	Area (ha) Used	Percentage area used
						Improved seeds
Short rainy	153,078	66,658	45,310	29.6	14,679	22.0
Long Rainy	135,576	59,356	48,324	35.6	16,934.0	28.5
Permanent crops	132,582	59,264	28,760	21.7	8,407	35.1
Total		185,278			40,020	26.7

3.4.3 Use of Pesticides

Pesticides are chemicals intended to kill or control pests which includes insects, weeds, fungi etc. This section analyses the use of these chemicals by smallholder farmers during short and long rainy seasons. The results show that, a total area of 27,007.7 ha was applied with pesticides, equivalent to 21.4 percent of the total planted area with crops in short and long rainy seasons. Insecticides was the most common pesticides used in the country accounting for 44.7 percent of the total area applied with pesticides, followed by herbicides (36.2 percent) and fungicides (19.1 percent) (Figure 3.44 & Table 3.12).

Figure 3.44: Percentagete of Distribution of Area Applied with Pesticides During 2019/20 Agricultural Year

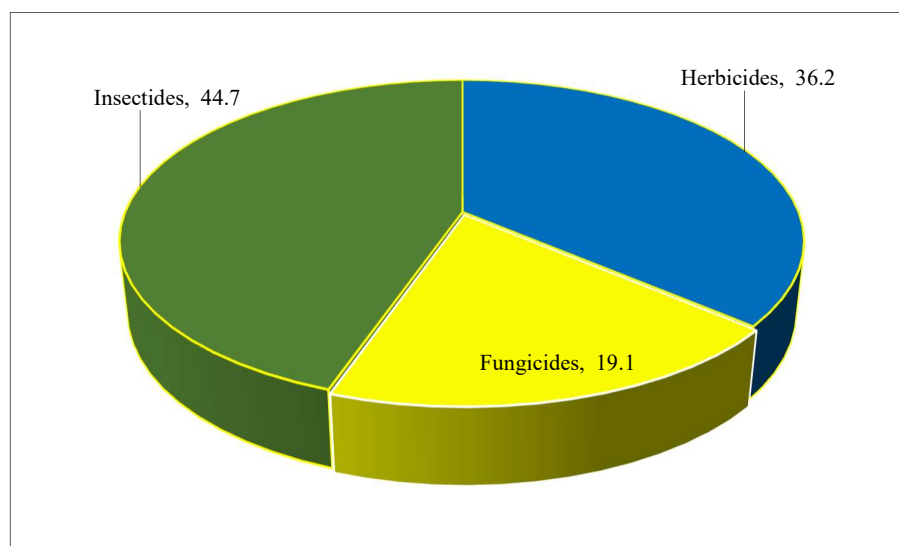


Table 3.12 Area Applied with Pesticides by Type of Pesticides and Planting Season

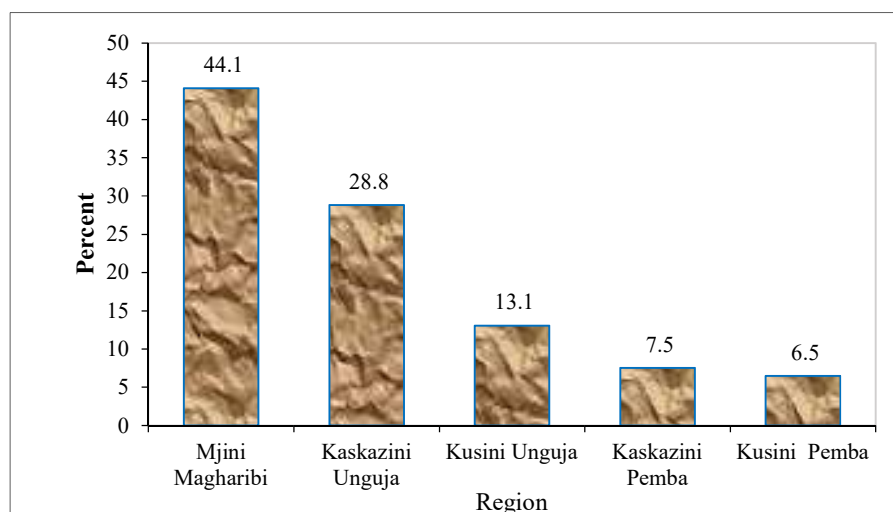
Planting Season	Total Planted Area (ha)	Area Applied with Pesticides						Total Applied with Pesticides (ha)	
		Herbicides		Fungicides		Insecticides		Area (ha)	Percent
		Area (ha)	Percent	Area (ha)	Percent	Area (ha)	Percent		
Short	66,658	3,696	5.5	3,626	5.4	8,205	12.3	15,527	23.3
Long	59,356	6,093	10.3	1,528	2.6	3,859	6.5	11,480	19.3
Total	126,014	9,790	7.8	5,153	4.1	12,064	9.6	27,008	21.4

3.4.3.1 Herbicides

The number of households that applied herbicides for annual crops production was 9,944, equivalent to 6.5 percent of the total households that cultivated crops during the short rainy season and 15,627 households (11.5 percent) that cultivated crops during the long rainy season. The total area applied with herbicide was 3,696 ha, equivalent to 5.5 percent of the total area planted in short rainy season and 6,093.5 ha, (10.3 percent) of the area planted in the long rainy seasons.

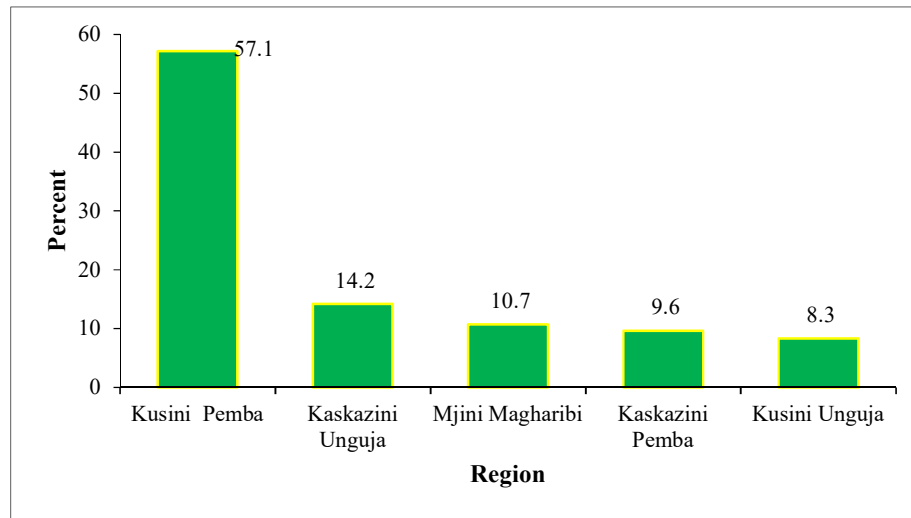
Mjini Magharibi had the largest proportion of the area applied with herbicide with 1,629 ha, equivalent to 44.1 percent of the total planted area applied with herbicide during the short rainy season followed by Kaskazini Unguja with 1,066 ha (28.8 percent) and Kusini Unguja with 483 ha (13.1 percent). The region with the lowest proportion of area applied with herbicide was Kusini Pemba with only 240 ha (6.5 percent) (Figure 3.45).

Figure 3.45: Percentage of Area Applied with Herbicide by Region During 2019/20 Agricultural Year-Short Rainy eason



During the long rainy season, Kusini Pemba had the largest proportion of area applied with herbicide with 3,482 ha, equivalent to 57.1 percent of the total area applied with herbicides in the long rainy season, followed by Kaskazini Unguja with 865 ha (14.2 percent) and Mjini Magharibi with 655 ha (10.7 percent). The region with lowest proportion of area applied with herbicide was Kusini Unguja with only 506 ha (8.3 percent) (Figure 3.46).

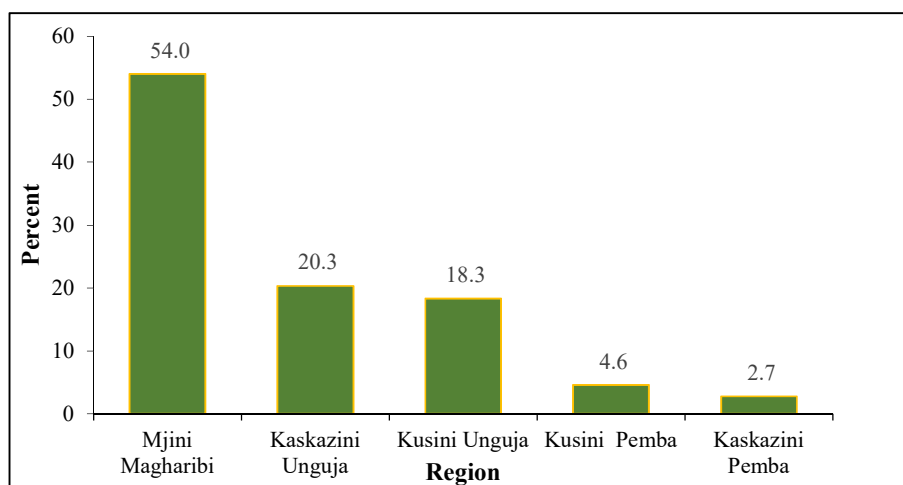
Figure 3.46: Percentage of Area Applied with Herbicide by Region During 2019/20 Agricultural Year-Long Rainy Season



3.4.3.2 Fungicides

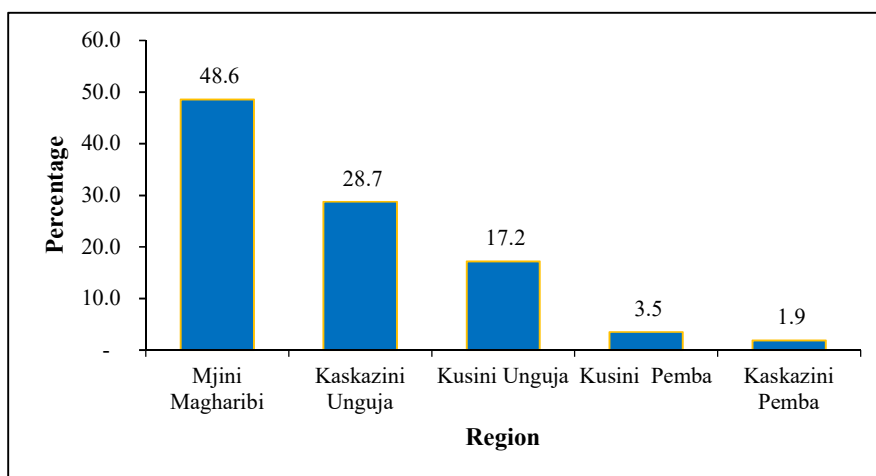
The number of households that applied Fungicide in their annual crops was 9,233 equivalents to 6.0 percent of the total households that cultivated crops during the short rainy season and 5,103 households (3.8 percent) that planted crops in the long rainy season. The total area applied with fungicide was 3,626 ha, equivalent to 5.4 percent of the total area planted during the short rainy season and 1,528 ha, (2.6 percent) of the area planted in the long rainy seasons. Mjini Magharibi had the largest proportion of the area applied with fungicide with 1,959 ha, equivalent to 54.0 percent of the total area planted with fungicide in the short rainy season followed by Kaskazini Unguja with 737 ha (20.3 percent) and Kusini Pemba with 663 ha (18.3 percent). The region with lowest proportion of area applied with herbicide was Kaskazini Pemba with only 100 ha (2.7 percent) (Figure 3.47).

Figure 3.47: Percentage of Area Applied with Fungicide by Region During 2019/20 Agricultural Year- Short Rainy Season



During the long rainy season, Mjini Magharibi had the largest proportion of area applied with fungicide with 742 ha, equivalent to 48.6 percent of the total area applied with fungicide in the long rainy season, followed by Kaskazini Unguja with 439 ha (28.7 percent) and Kusini Unguja with 263 ha (17.2 percent). The region with lowest proportion of area applied with fungicide was Kaskazini Pemba with only 29 ha (1.9 percent) (Figure 3.48).

Figure 3.48: Percentage of Area Applied with Fungicide by Region During 2019/20 Agricultural Year- Long Rainy Season

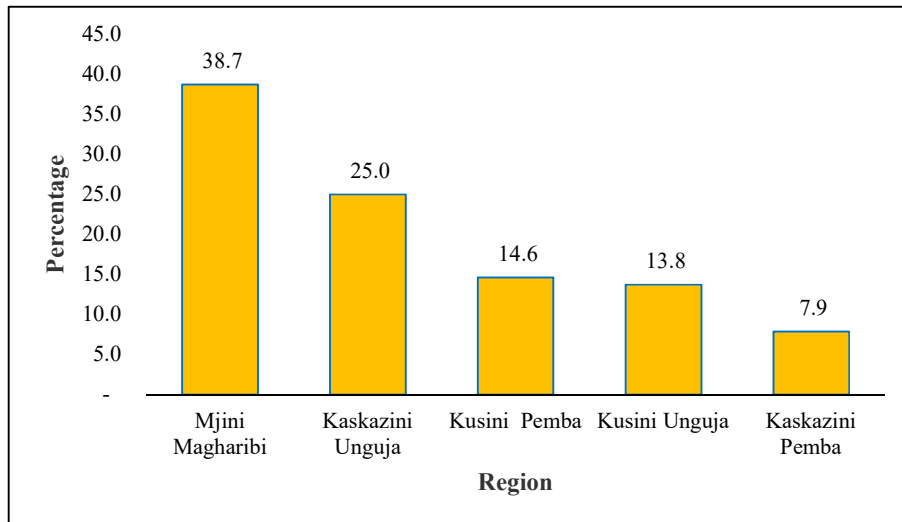


3.4.3.3 Insecticide

The number of households that applied insecticide in their annual crops was 24,134 households, equivalent to 15.8 percent of the total households that cultivated crops during the short rainy season and 13,015 households (9.6 percent) that planted crops during the long rainy season. The total area applied with insecticide was 8,205 ha, equivalent with 12.3 percent of the total area planted in the short rainy season and 3,859 ha, (6.5 percent) of the area planted in the long rainy seasons.

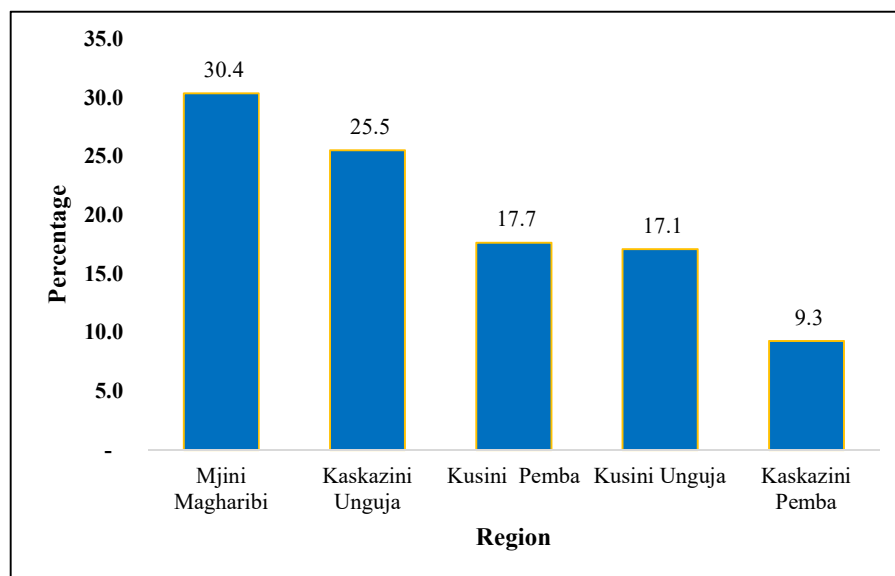
Mjini Magharibi had the largest proportion of the area applied with insecticide with 3,178 ha, equivalent to 38.7 percent of the total planted area applied with insecticide in short rainy season, followed by Kaskazini Unguja with 2,052 ha (25.0 percent) and Kusini Pemba with 1,202 ha (14.6 percent). The region with lowest proportion of area applied insecticide was Kaskazini Pemba with only 645 ha (7.9 percent) (Figure 3.49).

Figure 3.49: Percentage of Area Applied with Insecticide by Region During 2019/20 Agricultural Year



During the long rainy season, Mjini Magharibi had the largest proportion of area applied with insecticide with 1,173 ha; equivalent to 30.4 percent of the total area applied with insecticide during the long rainy season, followed by Kaskazini Unguja (985 ha; 25.5 percent) and Kusini Pemba (682 ha; 17.7 percent). The region with lowest proportion of area applied with insecticide was Kaskazini Pemba with only (359 ha; 9.3 percent) (Figure 3.50).

Figure 3.50: Percentage of Area Applied with Insecticide by Region During 2019/20 Agricultural Year- Long Rainy eason



3.5 Access to Inputs

This section report on the number of crops growing households, their access and use of farm inputs, availability and its sources. Type of farm inputs under discussion are inorganic fertilizer, farmyard manure, compost manure, insecticide/fungicide, herbicides and improved seeds.

There were 178,072 crop growing households in Zanzibar during 2019/20 agricultural year. The 2019/20 results reveals that, 87,703 households reported using improved seeds accounting for 49.3 percent of crop growing households in Zanzibar. Also, inorganic fertilizer was used by 42,114 equivalents to 23.7 percent of crop growing households, whilst compost manure was reported by 14,832 households (8.2 percent) (Table 3.13).

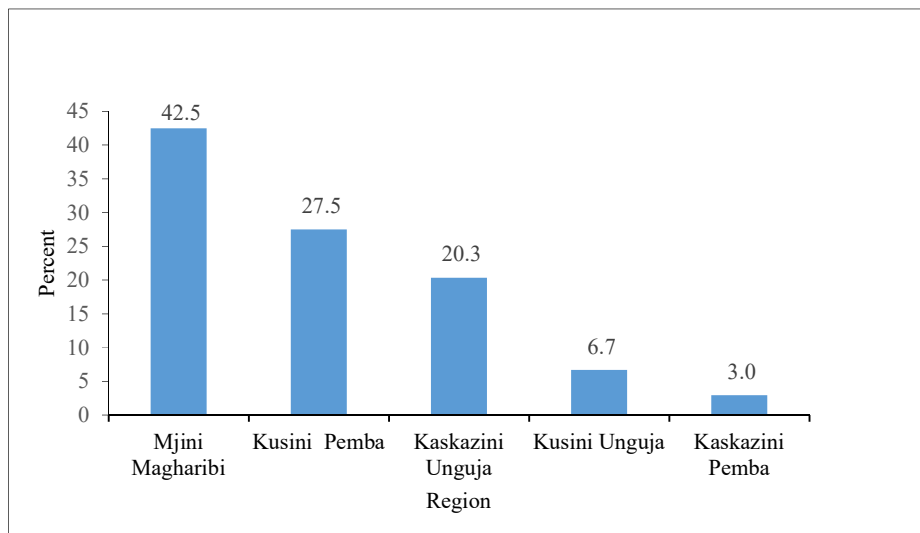
Table 3.13: Number and Percentage of Agricultural Households Reporting the Use of Farm Inputs During 2019/20 Agricultural Year

Type of Input	Number of Households	Percent
Inorganic Fertilizer	42,114	23.7
Farm Yard Manure	51,771	29.1
Compost Manure	14,832	8.3
Insecticide/fungicide	29,091	16.3
Herbicide	22,092	12.4
Improved Seeds	87,703	49.3

3.5.1 Compost Manure

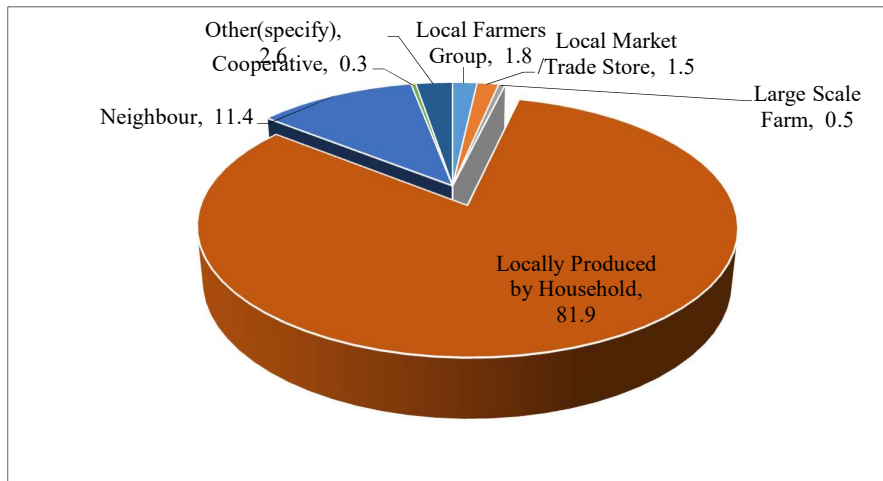
The Census results show that, 14,832 households reported to use compost manure. When comparing regions, the largest number of smallholder farmers using compost manure was reported in Mjini Magharibi region (42.5 percent), followed by Kusini Pemba (27.5 percent), Kaskazini Unguja (20.3 percent). The lowest number of households reported to use compost manure was reported in Kaskazini Pemba region with 3.0 percent (Figure 3.51).

Figure 3.51: Percentage of Households Used Compost Manure by Region During 2019/20 Agricultural Year



Out of the households reported to use compost manure, 81.9 percent reported to use compost manure that was locally produced by their own households, followed by local farmer group (1.8 percent). Few households obtained compost manure from cooperatives (0.3 percent) (Figure 3.52).

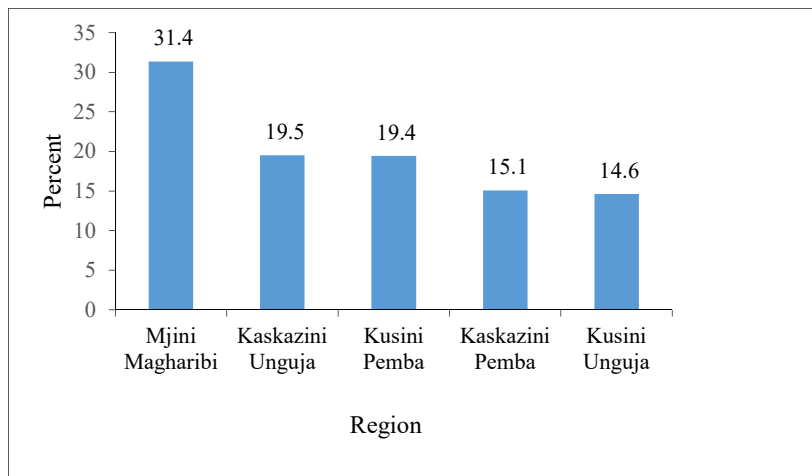
Figure 3.52: Percentage of Distribution of Households by Source of Compost Manure During 2019/20 Agricultural Year



3.5.2 Farmyard Manure

During 2019/20 agricultural year, farmyard manure was reported to be used by 51,771 households. The largest number of households reported to use farmyard manure was Mjini Magharibi region (31.4 percent) and Kaskazini Unguja (19.5 percent), whilst the least number of households was reported in Kusini Unguja (14.6 percent) (Figures 3.53).

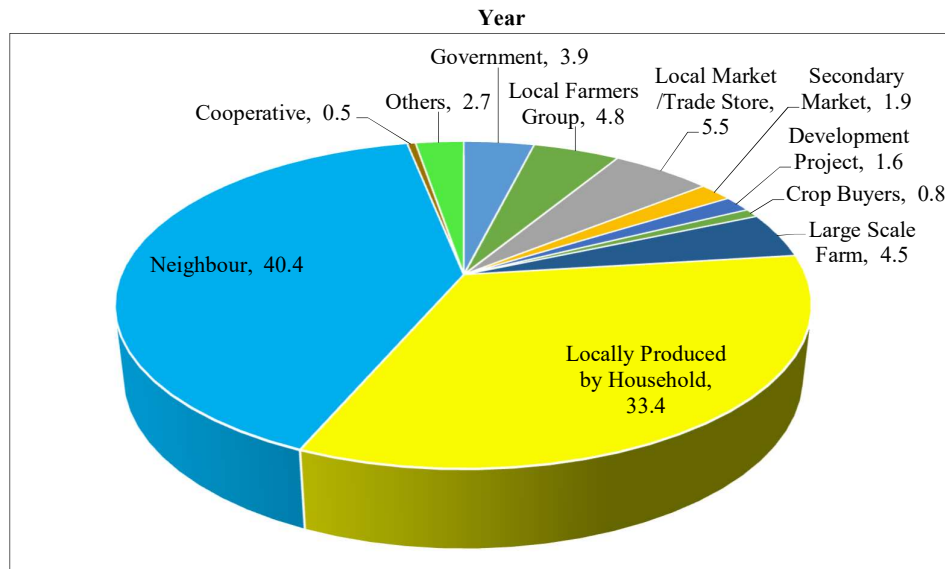
Figure 3.53: Percentage of Households Used Farmyard Manure by Region During 2019/20 Agriculture



Farmyard manure as reported during 2019/20 agricultural year was mainly produced by neighbors (20,912 households; 40.4 percent), followed by farmyard manure produced by the

locally produced (17,316 households; 33.4 percent). A small number of households (238 households, 5.5 percent) obtained farmyard manure from cooperatives (Figure 3.54).

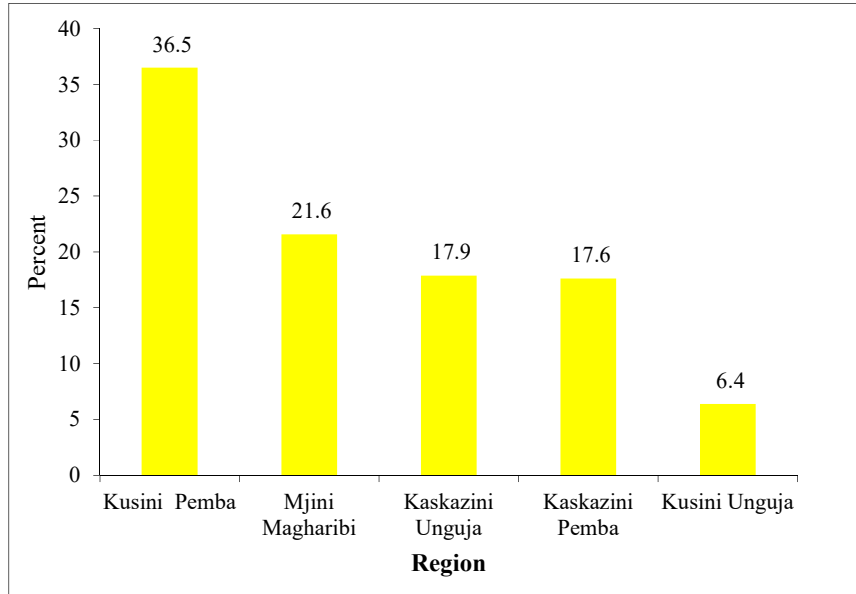
Figure 3.54: Percentage of Distribution of Households by Source of Farmyard Manure During 2019/20 Agricultural



3.5.3 Inorganic Fertilizer

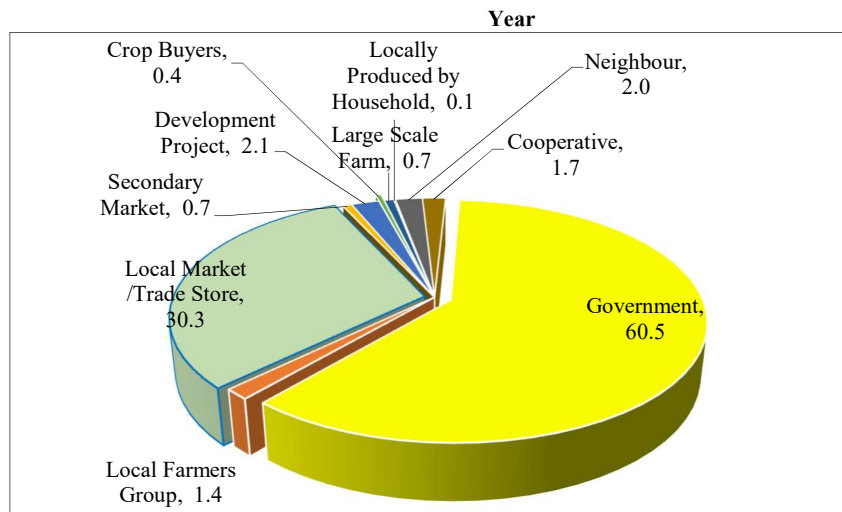
The number of households that applied inorganic fertilizers for crops production was 42,114 households, equivalent to 23.7 percent of the total crop growing households. The highest chemical fertilizer used region was reported by households in Kusini Pemba (36.5 percent), followed by Mjini Magharibi (21.6 percent). Kaskazini Unguja (17.9 percent). The least number of households using inorganic fertilizer was in Kusini Unguja (6.4 percent) (Figures 3.55).

Figure 3.55: Percentage of Households Used Inorganic Fertilizer by Region During 2019/20 Agriculture



Inorganic fertilizer used by smallholder farmers was mostly purchased from Government (25,481; 60.5 percent), followed by Local market/trade store (12,768, 30.3 percent), and Development project (873; 2.1 percent). Fewer households reported to use other sources such as larger scale farms and locally produced by Household (0.7 and 0.1percents respectively) (Figure 3.56).

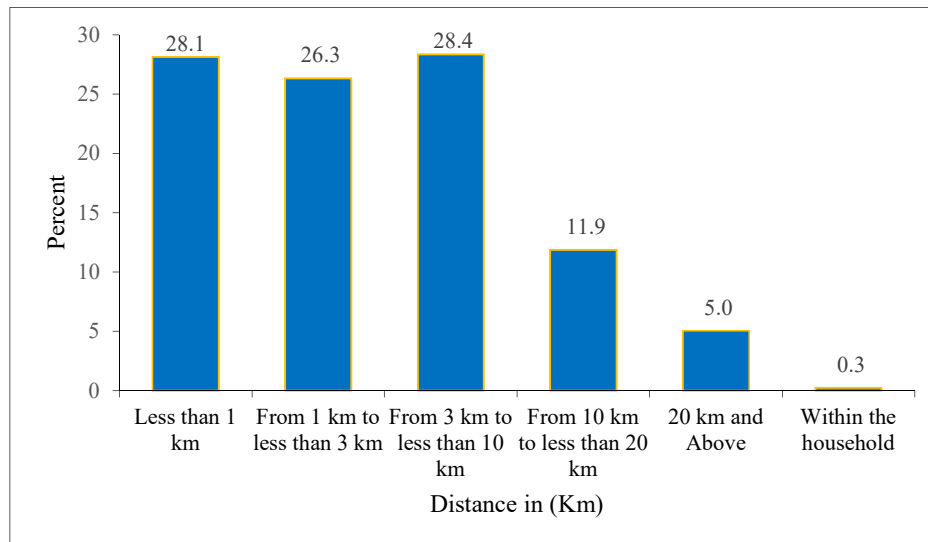
Figure 3.56: Percentage of Distribution of Households by Sorce of Chemical Fertilizer During 2019/20 Agricultural



A total number of 11,947 agricultural households in Zanzibar (28.4 percent) accessed inorganic fertilizers within a distance of 3 to less than 10 kilometers from their homestead, whilst 11,848

households (28.1 percent) accessed inorganic fertilizer within a distance of less than one kilometers (Figure 3.57).

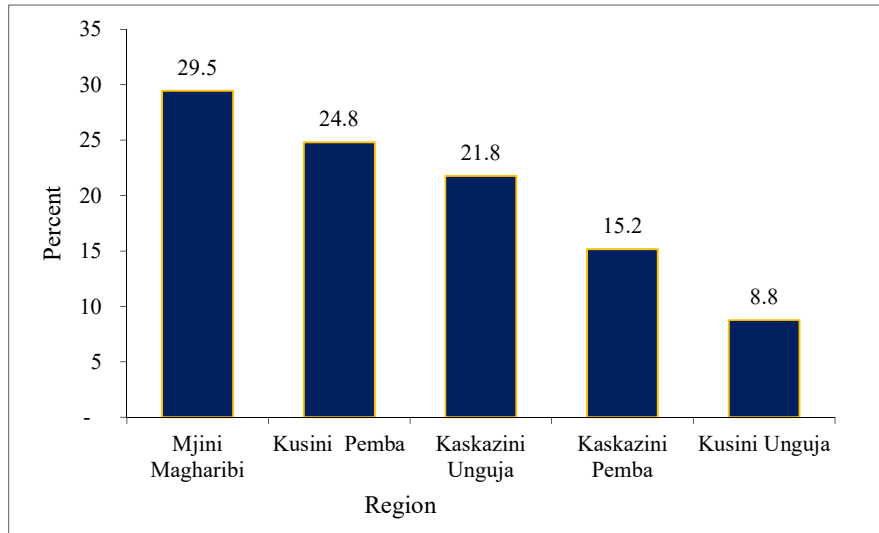
Figure 3.57: Percentage of Agricultural Households Reporting Distance to Chemical Fertilizer During 2019/20 Agriculture



3.5.4 Improved seeds

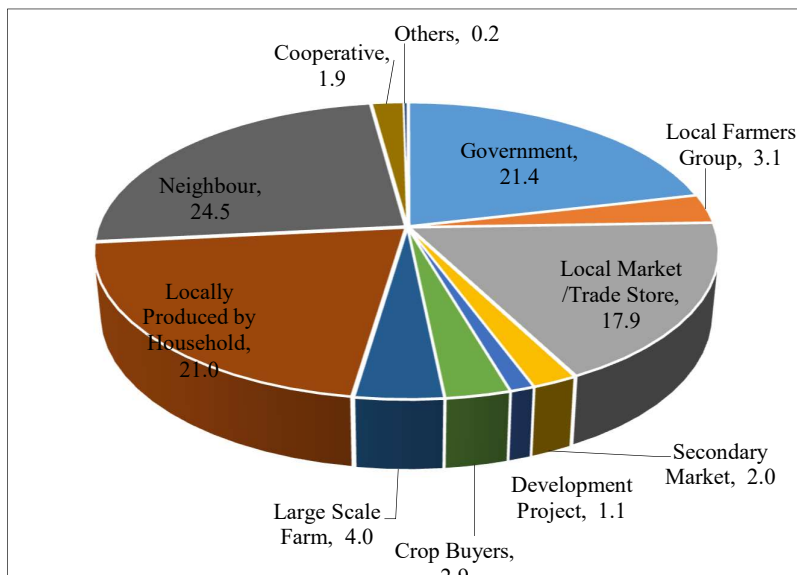
The 2019/20 NSCA findings shows that, a total number of 87,703 crop growing households reported using improved seeds in Zanzibar, equivalent to 49.3 percent of the total number of crops growing households. Mjini Magharibi region reported the largest number of households used improved seeds in Zanzibar with 25,836 households (29.5 percent of households using improved seeds), followed by Kusini Pemba (21,764 households; 24.8 percent). kaskazini unguja (19,097 households; 21.8 percent). The region with the least number of agricultural households used improved seeds was Kusini Unguja (7,698; 8.8 percent) (Figures 3.58).

Figure 3.58: Percentage of Agricultural Households Reporting Used Improved Seeds by Region During 2019/20 Agriculture



Most of the households obtained improved seeds from Neighbour (21,474; 24.5 percent). Other sources of improved seeds were Government (18,750 households; 21.4 percent) and Locally produced (21.0 percent), followed by local market (17.9 percent) and crop buyer (2,560; 2.9 percent) (Figure 3.59).

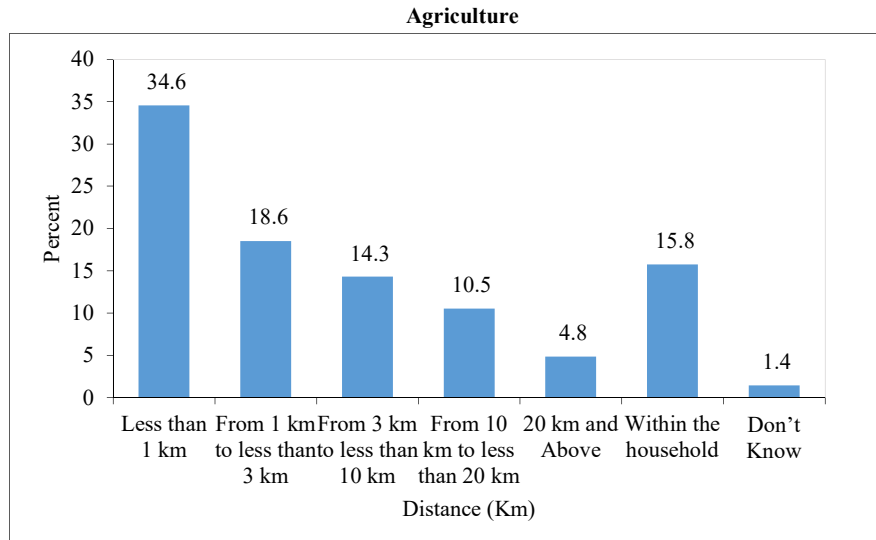
Figure 3.59: Percentage of Distribution of Households by Source of Improved Seeds During 2019/20 Agricultural Year



A total number of 30,323 households in Zanzibar (34.6 percent of total crop farming households reported to use improved seeds) accessed improved seeds within a distance of less

than one kilometer from their homestead, whilst 16,269 households (18.6 percent) accessed the same within a distance of one to less than 3 kilometers (Figure 3.60).

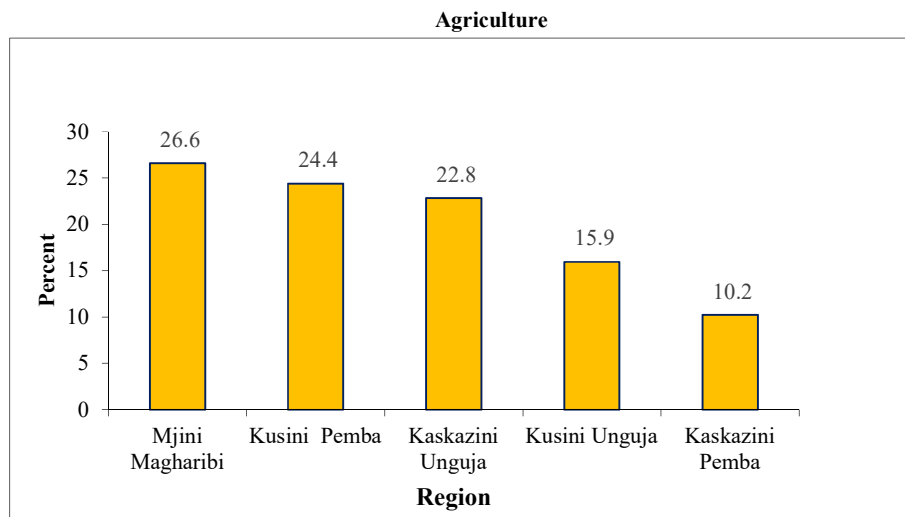
Figure 3.60: Percentage of Agricultural Households Reporting Distance to Improved Seeds During 2019/20



3.5.5 Insecticide/Fungicide

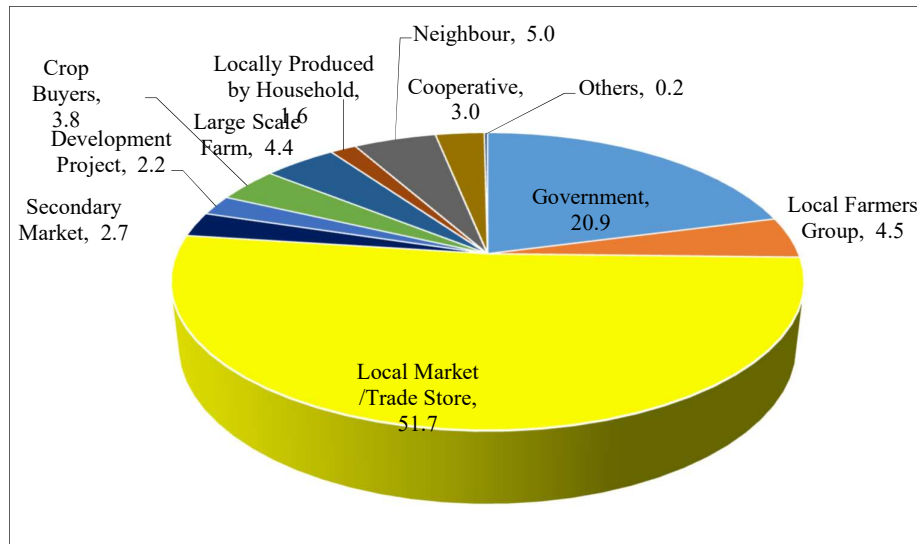
Insecticide use was reported by 29,091 households in Zanzibar, equivalent to 16.3 percent of the total number of crops growing households. Mjini Magharibi region was leading with 7,737 households (26.6 percent of the households used insecticides), followed by Kusini Pemba (7,094 households; 24.4 percent), Kaskazini Unguja (6,644 households; 22.8 percent), whereas the least region was in Kaskazini Pemba (2,977 households; 10.2 percent) (Figure 3.61).

Figure 3.61: Percentage of Agricultural Households Reporting Used Insecticide/Fungicide by Region During 2019/20



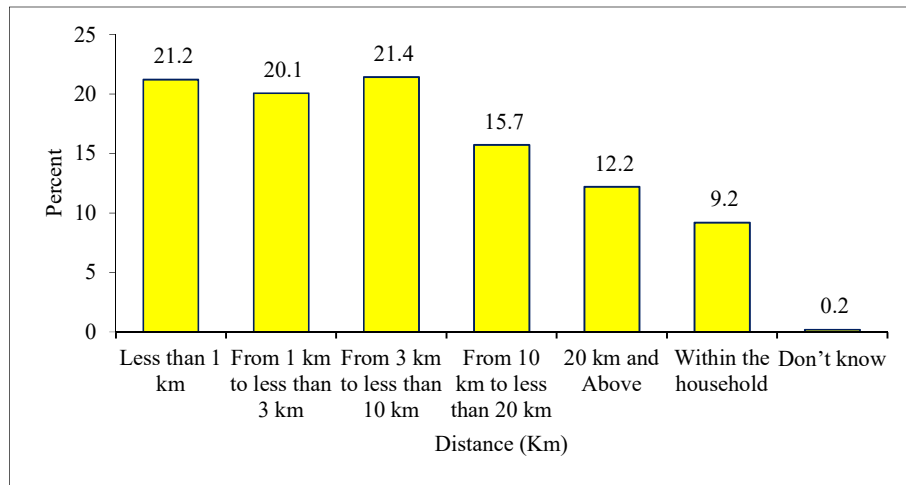
Most of the insecticides applied by smallholder farmers were obtained from local market/trade store (15,036 households; 51.7 percent of the crops growing households that used insecticide/fungicide), followed by Government (6,084 households; 20.9 percent) and local farmers (1,301 households; 4.5 percent) (Figure 3.62).

Figure 3.62: Percentage of Distribution of Households by Source of Insecticide/Fungicide During 2019/20 Agricultural Year



A total number of 6,167 households (21.2 percent) accessed insecticides/fungicides within a distance of less than one kilometer from their homestead, whilst 5,836 households (20.1 percent) accessed the same within a distance of one to 3 kilometers and a total of 6,231 households (21.4 percent) accessed within a distance of 3 to 10 kilometers (Figure 3.63).

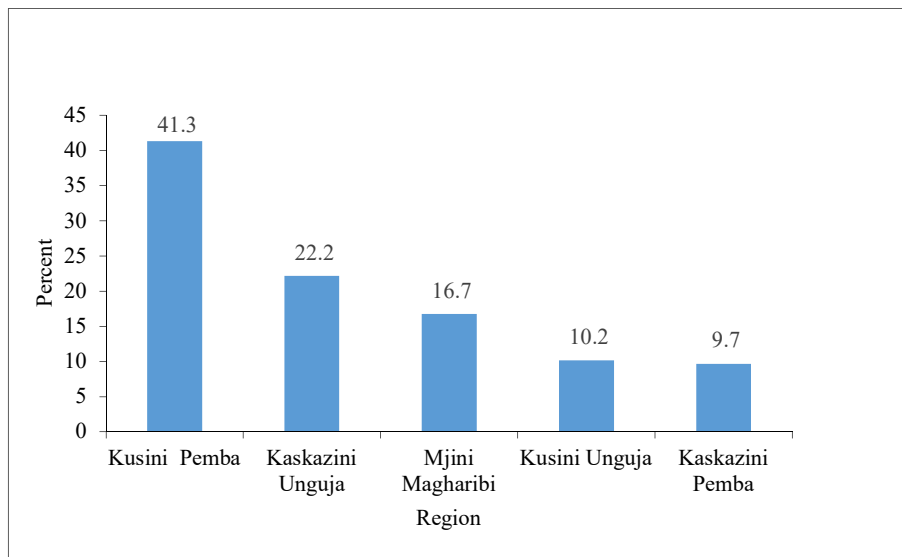
Figure 3.63: Percentage of Agricultural Households Reporting Distance to Insecticide/fungicide During 2019/20 Agriculture



3.5.6 Herbicide

Herbicide use was reported by 22,092 (12.4 percent of the crop growing households). Kusini Pemba region was leading with 9,116 (41.3 percent) of households used herbicides, followed by Kaskazini Unguja (4,897; 22.2 percent), Mjini Magharibi 3,700 households (16.7 percent), whilst, the least percentage was in Kaskazini Pemba (2,134; 9.7 percent) (Figure 3.64).

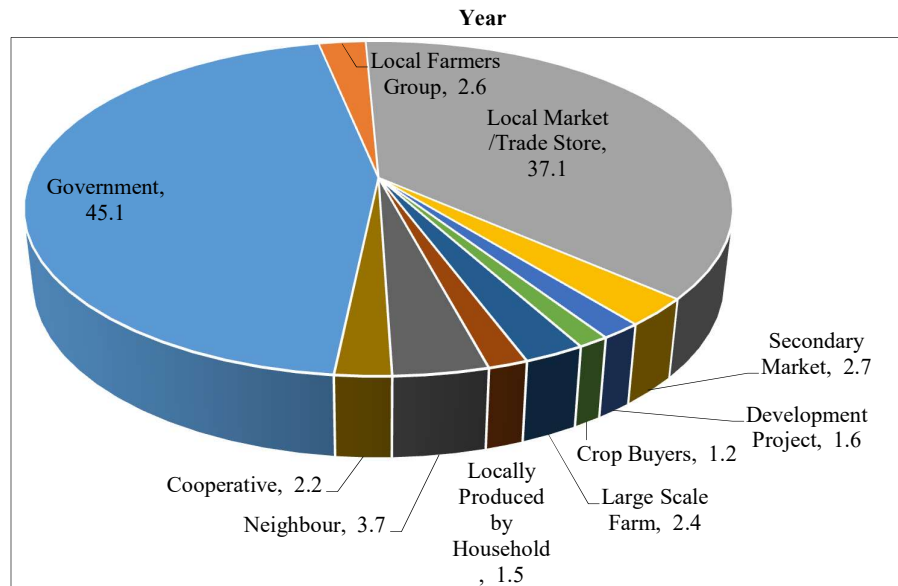
Figure 3.64: Percentage of Agricultural Households Reporting Used Herbicide by Region During 2019/20 Agriculture



As for other inorganic inputs, herbicide was mostly obtained by households through purchasing from Government (9,959; 45.1 percent), followed by Local Market/Trade store

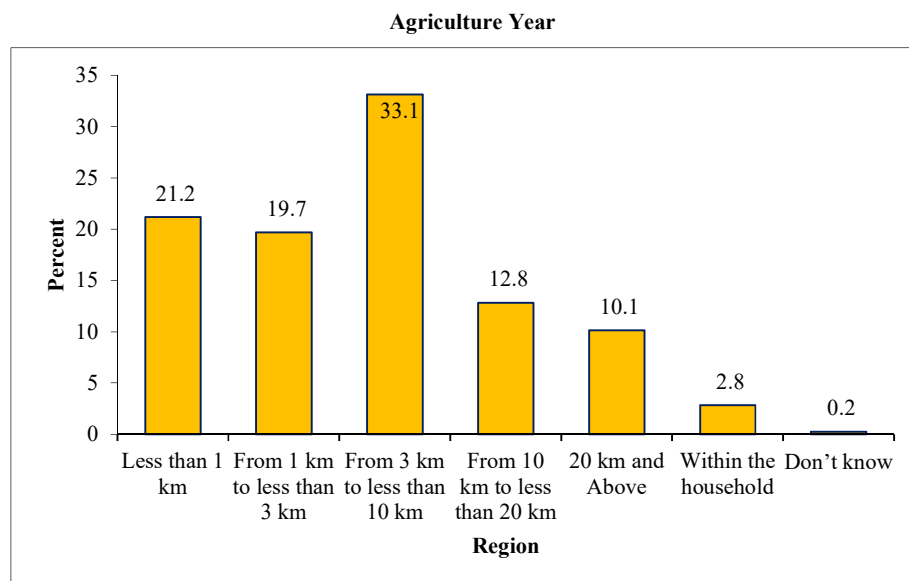
(8,207; 37.1 percent) and local farmers group (8,207; 2.6 percent). Other sources such as development project (348 households; 1.6 percent), Crop buyers 266 households; 1.2 percents, development projects were reported by few households (Figure 3.65).

Figure 3.65: Percentage of Distribution of Households by Source of Hebicide During 2019/20 Agricultural



A total number of 7,320 households in Zanzibar (33.1 percent) accessed herbicide within a distance of 3 to less than 10 kilometers from their homestead, followed by 4,676 households (21.2 percent) reported t access herbicide less than one kilometer. Whilst 2,831 households (12.8 percent) accessed the same within a distance of 10 to 20 kilometers (Figure 3.66).

Figure 3.66: Percentage of Agricultural Households Repoting Distance to Hebicie During 2019/20



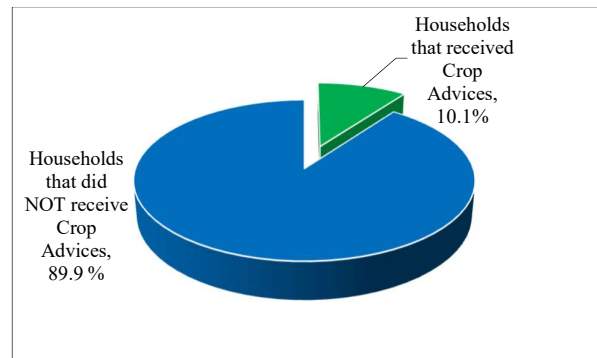
3.6 Crop Extension Services

This section presents information on various extension services received, sources and practices by crop growing households during 2019/20 agricultural year. The extension services discussed in this section include spacing, use of agrochemicals, erosion control, fertilizer and seed use, and marketing to mention the few.

3.6.1 Access to Crop Extension Services

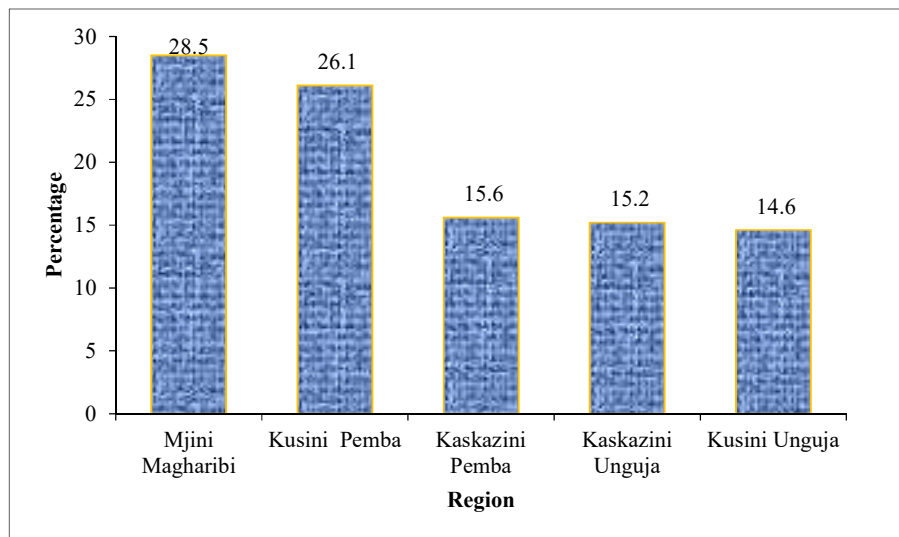
The results of 2019/20 National Sample Census of Agriculture reveals that, out of 178,072 crop growing households in Zanzibar, 17,899 households (10.1 percent) received crop extension service during 2019/20 agricultural year. (Figure 3.67).

Figure 3.67: Percentage Distribution of Agricultural Households Receiving Crop Extension Advices During 2019/20 Agricultural Year



Mjini Magharibi region had the largest number of households reported to receive extension service (5,099; 28.5 percent), followed by Kusini Pemba 4,672 households; 26.1 percent), Kaskazini Pemba (2791; 15.6 percent). Whilst Kusini Unguja region reported the least number of households received extension (2,616; 14.6 percent) (Figure 3.68).

Figure 3.68: Percentage Distribution of Agricultural Households Reported to Receive Crop Extension Services by Region During 2019/20 Agricultural Year

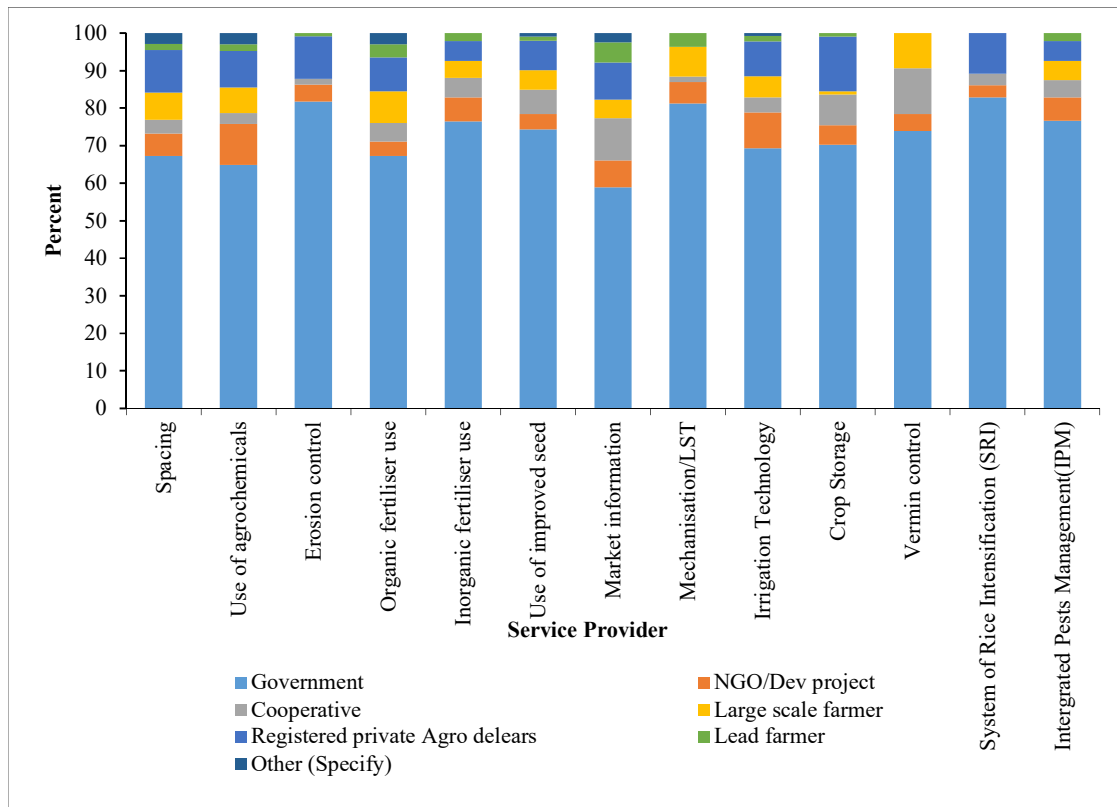


As compared to the 2007/08 Agriculture Census, the proportion of crops growing households that received crop extension service has decreased significantly from 34.0 percent in 2007/08 to 10.1 percent in 2019/20 agricultural years. This might be as a result of an increased number of farming households accompanied with the limited number of extension officers in the country.

3.6.2 Source of Extension Services

The government provided most of the extension advice which accounted for more than 60 percent of majority of the crop growing households while providing different kinds of extension services such as integrated pest management, rice intensification, irrigation technology and organic fertilizer use. NGOs/Development projects were reported to provide extension services by proportional of 3.3 to 10.8 percent of households among all the services reached by smallholders. Other extension service sources reported were cooperatives, large scale farmers and registered private agro dealers (Figure 3.69).

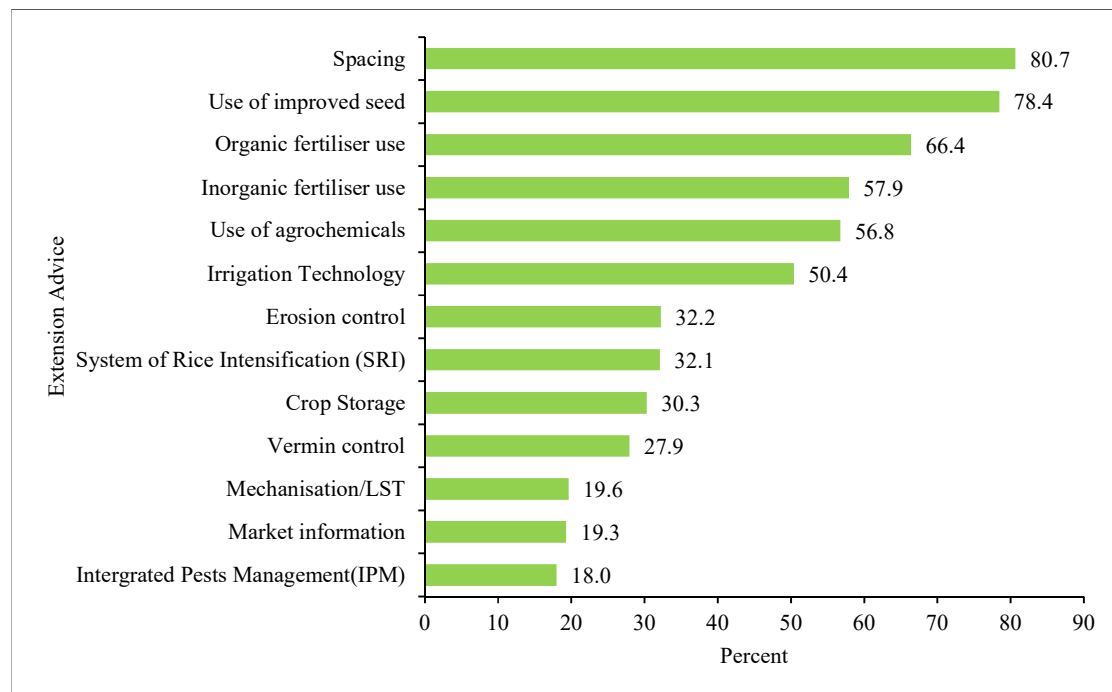
Figure 3.69: Percentage of Agricultural Households Receiving Crop Extension by Type of Extension Service Provider During 2019/20 Agricultural Year



3.6.3 Extension Message Practices

Smallholder farmers that received extension services were asked on whether they have practiced different extension messages advice received during 2019/20 agricultural year. The results show that, among selected extension message received, spacing had the highest proportion (80.7 percent) of the agricultural households reported to practice the advice. Apart from that, use of improved seeds was practiced by 14,040 households (78.4 percent), the use of organic fertilizer (11,886 households; 66.4 percent). The extension advice that was practiced by the least number of crop growing households was Integrated Pest Management (IPM) (3,219 households; 18.0 percent) (Figure 3.70).

Figure 3.70: Percentage of Crop Growing Households Received Extension Message by Type of Extension During 2019/20 Agricultural Year



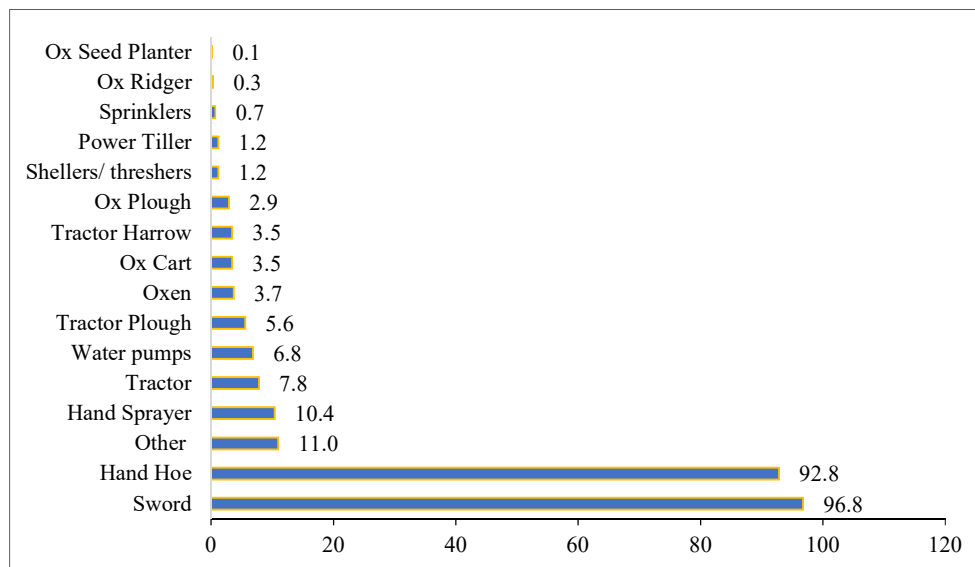
3.7 Agriculture Mechanization

Agriculture mechanization discussed in this section involves the use of different tools and farm implements such as hand hoes, hand sprayers, draft animals, ox plough, tractor plough, tractor harrow, water pumps etc for agricultural activities. These implements range from simple and basic hand tools to more sophisticated and motorized equipment. It simplifies work and reduces labour while improving productivity.

3.7.1 On Farm Investments

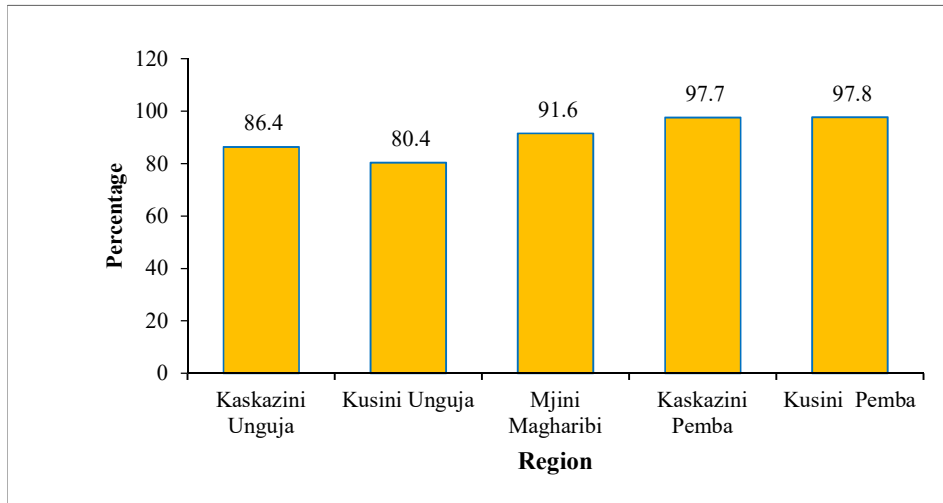
The results of 2019/20 NSCA reveals that the majority of the agricultural households reported using sword (174,394 households, 96.8 percent), followed by hand hoes (167,294 households; 92.8 percent) and hand sprayers (18,694 households; 10.4 percent), Oxen (6,656 households; 3.7 percent). The implement used by least number of households was ox seed planters (265 households; 0.1 percent) (Figure 3.71).

Figure 3.71: Percentage of Agricultural Households that Reported Using Farm Implement/Accesset During 2019/20 Agricultural Year



Proportions of households that used hand hoes in all regions are almost above 80.0 percent of the total agricultural households within the regions. Kusini Pemba had the highest household (53,156 households; 97.8 percent) followed by Kaskazini Pemba (39,830 households; 97.7 percent) and Mjini Magharibi (32,853 households; 91.6 percent). The region with the least proportion of households using hand hoes was Kusini Unguja (14,153; 80.4 percent) (Figure 3.72).

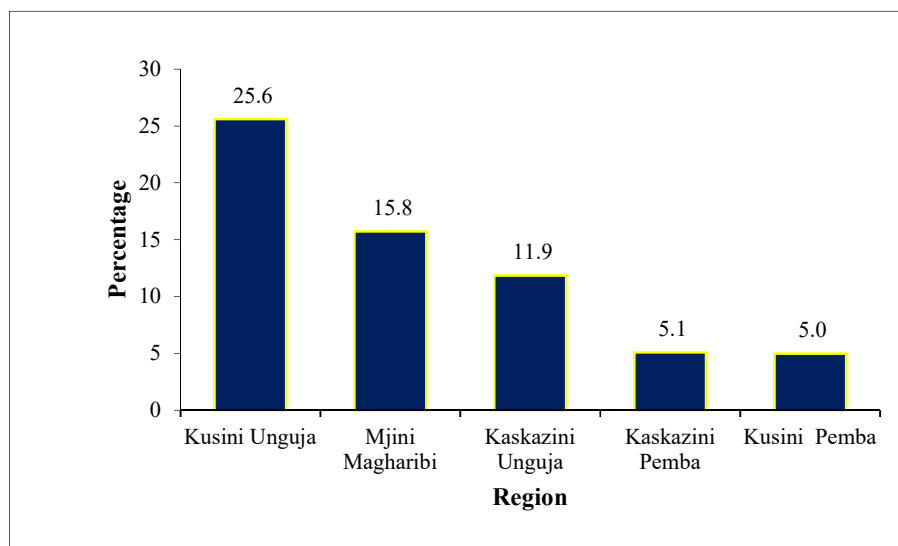
Figure 3.72: Percentage of Household Reported to Use Hand Hoes by Region During 2019/20
Agricultural Year



The use of hand hoes among agricultural household decreased by 6.2 percent and Ox plough increased by 2.8 percent when compared with the result of 2007/08 National Sample Census of Agriculture.

On the other hand, from the total 180,220 agricultural households, the hand sprayer was used only 8,694 households equivalent to 10.4 percent of the total agricultural households. Kusini Unguja recorded the highest number of households using hand sprayer (4,507 households; 25.6 percent), followed by Mjini Magharibi (5,561 households; 15.8 percent) and Kaskazini Unguja (3,748 households; 11.9 percent). The region with lowest number of households that used hand sprayer was Kusini Pemba (2,713 households; 5.0 percent) (Figure 3.73).

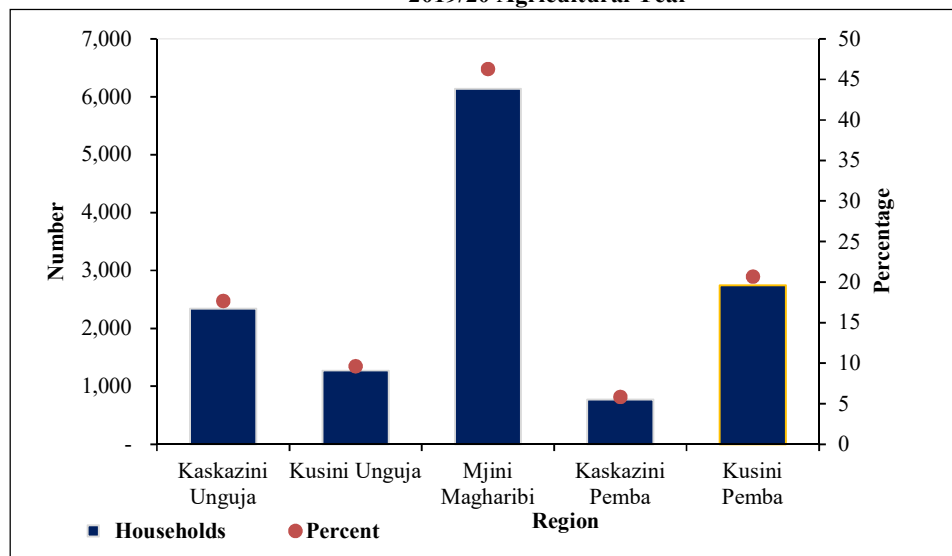
Figure 3.73: Percentage of Household that Used Hand Sprayer by Region During 2019/20
Agricultural Year



3.7.2 Use of Tractors and Draft Animals

The total number of 13,273 agricultural households equivalent to 7.4 percent of the total agricultural households, reported to used tractors/ draft animals for farming during 2019/20 agricultural year. Mjini Magharibi region had the largest proportion of the households with 6,142 households (46.3 percent), followed by Kusini Pemba (2,743 households; 20.7 percent) and Kaskazini Unguja (2,343 households; 17.7 percent). The region with the least proportion was Kaskazini Pemba (772 households; 5.8percent) (Figure 3.74).

Figure 3.74: Number and Percentage of Households Used Tractor/Draft Animals by Region During 2019/20 Agricultural Year



3.8 Crop Marketing

This section presents the results on crop commercialization and main marketing challenges. crop commercialization focuses on cereals, roots and tubers, fruit and vegetables, pulses, and oils seeds and nuts. Crop commercialization is defined here as the production of agricultural crops for sale in the market, rather than for family consumption. The degree of commercialization is determined using the crop commercialization index. Commercialization index of “0” implies that a household is completely engaged in crop production for subsistence (for family consumption), while commercialization index of “100” implies that a household is completely engaged in crop production for market (full commercialization).

3.8.1 Crop commercialization

Census results show that, the level of crop commercialization depends on the type of the crop produced. In Zanzibar, the average commercialization index for fruit and vegetables was 36.1 percent, pulses were 0.7 percent, oils seeds and nuts 45.7 percent, cereals 5.2 percent and roots and tubers were 8.7 percent.

The higher crop commercialization index recorded for Oil Seeds and Nuts (45.7 percent) is an indication that on average most quantity of Oils Seeds and Nuts produced were marketed and only 54.3 percent were not sold. On the other hand, low crop commercialization indices recorded for cereals, roots and tubers, pulses indicate that, on average these crops were mostly produced for household consumption.

However, census results at regional level show that, some regions recorded commercialization index of more than 40 percent. Kaskazini Unguja (49.8 percent for Oil Seeds and Nuts) and Kusini Unguja (41.2 percent for Oil Seeds and Nuts), Kaskazini Pemba (50.3 percent, Oil Seeds and Nuts). In terms of fruit and vegetables it was higher in Kaskazini Unguja (49.4 percent), Kusini Unguja (49.3 percent). In general, only Kaskazini Pemba recorded commercialization index of more than 50.3 percent for oils seeds and nuts (Table 3.14).

Table 3.14: Crop Commercialization Index by Crop Type and Region During 2019/20 Agricultural Year

Region	Crop Commercialization Indices (Percent)				
	Cereals	Roots and Tubers	Fruit and Vegetables	Pulses	Oils Seeds and Nuts
Kaskazini Unguja	7.4	17.5	49.4	0.4	49.8
Kusini Unguja	7.8	12.0	49.3	2.3	41.2
Mjini Magharibi	12.8	9.6	25.8	0.0	23.4
Kaskazini Pemba	0.3	0.8	28.3	0.0	50.3
Kusini Pemba	0.2	13.0	24.5	0.8	46.3
Zanzibar	5.2	8.7	36.1	0.7	45.7

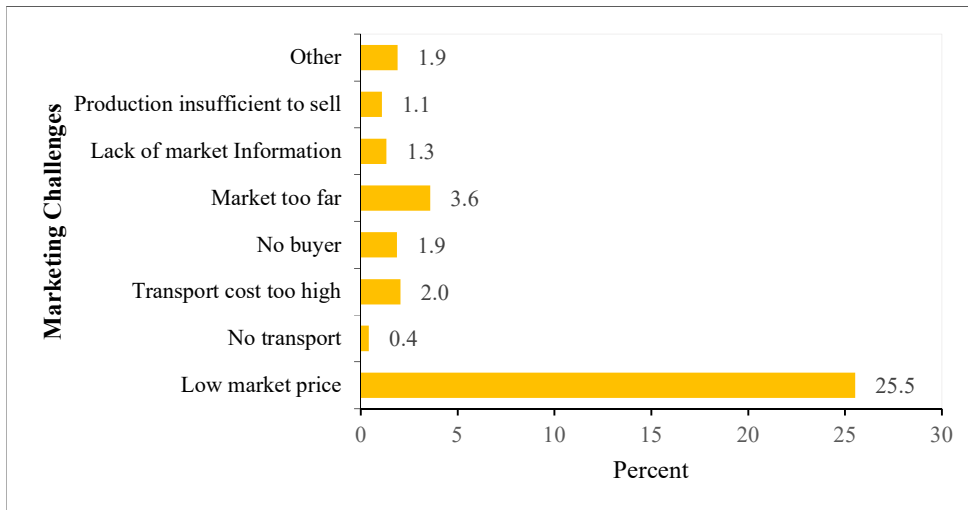
3.8.2 Main Marketing Challenges

Households reported various marketing challenges encountered during both short and long rainy seasons. Majority of households (25.5 percent during short and 8.4 percent long rains) indicated low market price was the most important marketing challenge. The magnitude of low

market price was felt more during the short rainy than in long rainy. This might be the results of all fruits and vegetables were sold during this season.

Other reported marketing challenges were minor, cited by 2 percent or less of the households growing crops. This included transport cost too high, no buyers and lack of market information, (Figure 3.75).

Figure 3.75: Percentage of Households Reported Marketing Challenges by Type of Challenge During 2019/20 Agricultural Year, Short Rainy Season



CHAPTER FOUR

LIVESTOCK, FISH FARMING AND BEEKEEPING RESULTS

4.0 Introduction

Livestock rearing is one of the main agricultural activities in the country that is contributing towards the the National economy. In the year 2020, the livestock sub-sector contributed 7.9 percent to the National Gross Domestic Product and grew by 8.2 percent (Zanzibar Statistical Abstract 2020).

Furthermore, the livestock sub-sector plays a significant role in the economy of agricultural households in Zanzibar as it provides best source of animal protein, food security, cash income, manure for the crop and vegetable production, draught animal power, and other socio – economic functions. The main types of livestock raised in Zanzibar are cattle, goats, sheep, pigs, chicken, other birds including ducks and turkeys; and other livestock (rabbits, donkeys). Livestock products produced include milk and eggs, hides and skins.

This chapter presents the results in relation to the livestock population at national and regional levels. Other livestock variables discussed in this chapter include livestock diseases, methods of cattle identification, livestock products (milk and eggs), extension services and pests and parasites control. Moreover, it includes data from large scale farms to enable national estimation of livestock population, production and products. The reference date for livestock population was as of 1st August 2020, while other livestock related variables were collected based on the 2019/20 agricultural year. Whenever possible the 2019/20 census results are compared with previous Agriculture Censuses over the period between 2002/03 and 2007/08.

4.1 Livestock Population

The main types and number of livestock covered in the 2019/20 Agricultural Sample Census were categorized into three areas; i) Main livestock raised includes cattle, goats, sheep and pigs; ii) Poultry which comprises of chicken, ducks and turkeys; and iii) Other livestock that were recorded includes rabbits, donkeys and dogs.

During the 2019/20 agriculture year, out of the total agriculture households reported, 64,459 households equivalent to 35.8 percent of the total agricultural households were involved in the livestock rearing. The distribution of the regions raised livestock and poultry in Zanzibar were

predominant found in Kusini Pemba with the highest number of livestock households (23,887 households; 37 percent), followed by Kaskazini Pemba (15,412; 24 percent) and the lowest number of livestock households was reported in Kusini Unguja (7,468; 12 percent). (Table 4.1 and Figure 4.1).

Figure 4.1 Percentage Distribution of Households Livestock Activity by Region During 2019/20 Agricultural Year

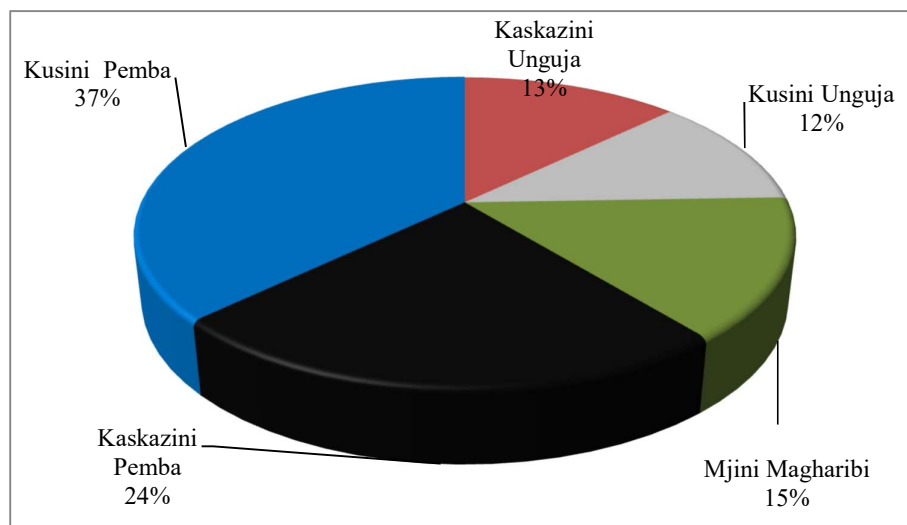


Table 4.1: Agricultural Households by Type of Activity and Total Households Rearing Livestock by Region During 2019/20 Agricultural Year

Region	Total Agricultural Households	Households Rearing Livestock	Percent	Livestock only	Crops and Livestock
Kaskazini Unguja	31,594	8,295	13	571	7,724
Kusini Unguja	17,593	7,468	12	328	7,140
Mjini Magharibi	35,873	9,397	15	826	8,571
Kaskazini Pemba	40,781	15,412	24	106	15,306
Kusini Pemba	54,379	23,887	37	318	23,569
Total	180,220	64,459	100	2,149	62,310

Households Raising Livestock

As at 1st August, 2020, the numbers of households raising cattle were 55,925, goats 18,480, sheep 192 and pigs 145. Poultry were reared by 103,382 households and other livestock were raised by 7,639 households. Furthermore, the distributions of cattle raising households were predominant in Kusini Pemba region with 19,337 households, followed by Kaskazini Pemba 13,965 households and the least was Kusini Unguja with 5,976 households. Goat raising

households were predominant in Kusini Pemba region 7,973 households, followed by Kaskazini Pemba 2,858 households and the least was Kaskazini Unguja with 2,437 households.

Sheep raising households were reported in Kusini Pemba with 142 households followed by Mjini Magharibi 50 households. Pigs raising households were reported in Mjini Magharibi with 88 households and Kusini Unguja 57 households. Poultry rearing is mostly found in Zanzibar, were as the total households keeping poultry were 103,342 households. The highest number of households were reported in Kusini Pemba with 37,152 households, followed by Mjini Magharibi 23, 860 households and the least was reported in Kaskazini Pemba with 10,503 households. (Table 4.2).

Table 4.2: Number of Households Keeping Livestock by Type and Region as of 1st August, 2020

Region	Household Keeping Cattle	Household Keeping Goat	Household Keeping Sheep	Households Keeping Pigs	Household Keeping Poultry	Households Keeping Others livestock
Kaskazini Unguja	7,150	2,437	-	-	20,722	955
Kusini Unguja	5,976	2,694	-	57	11,105	245
Mjini Magharibi	9,497	2,518	50	88	23,860	3,953
Kaskazini Pemba	13,965	2,858	-	-	10,503	190
Kusini Pemba	19,337	7,733	142	-	37,152	2,296
Total	55,925	18,480	192	145	103,342	7,639

4.1.1 Cattle Population

The Census results show that, there were 270,998 cattle, of which Smallholder farmers raised 270,707 cattle and large-scale farms raised 291 cattle. The distribution by regions for smallholders farmer were leaded by Kaskazini Pemba with the largest number of cattle of 69,457 heads (26 percent), followed by Kusini Pemba 67,486 heads (25 percent), while. Kusini Unguja accounted for the lowest cattle population of 36,497 heads (13 percent).

Moreover, Kaskazini Unguja and Kusini Unguja had the highest number of cattle per household with 6 herds size each, while Kusini Pemba had the lowest number of cattle per household with 3 herds size each. (Table 4.3 and & Map 4.1).

Table 4.3: Number of Cattle and Herds Size; as of 1st August 2020 – Smallholder Farmer

Region	Number of Cattle	Percent	Number of Cattle per Household
Kaskazini-Unguja	43,331	16	6
Kusini - Unguja	36,497	13	6
Mjini Magharibi	53,936	20	5
Kaskazini-Pemba	69,457	26	5
Kusini-Pemba	67,486	25	3
Total	270,707	100	5

Cattle by Herds Size

The average herd size of cattle per household in smallholder farmers was 5 heads. Out of the total 55,925 cattle keeping households, 95 percent reared 1 to 10 heads per household, 3 percent of the households reared 11 to 15 heads and there were few households with 2 percent reared more than 15 heads (Table 4.4).

Table 4.4: Number of Households rearing cattle, Herd of Cattle and Average cattle per Household by Herd size as 1st August 2020

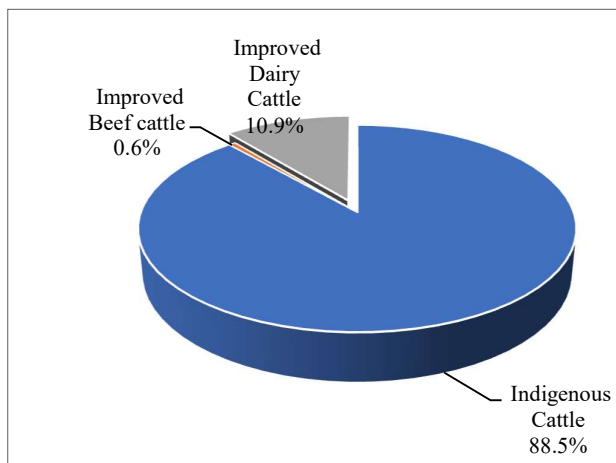
Herd Size	Cattle rearing households		Herd of Cattle		Average per household
	Number	Percent	Number	Percent	
1 - 5	43,485	78	133,316	49	3
6 - 10	9,698	17	90,513	33	9
11 - 15	1,711	3	24,144	9	14
16 - 20	529	1	9,659	4	18
21 - 30	150	0	6,952	3	46
31 - 40	352	1	6,122	2	17
41 - 50	-	-	-	-	-
51 - 60	-	-	-	-	-
61 - 100	-	-	-	-	-
101 - 150	-	-	-	-	-
151+	-	-	-	-	-
Total	55,925	100	270,706	100	5

4.1.1.1 Types of Cattle

There were three main types of cattle raised in Zanzibar during 2019/20 agricultural year namely; indigenous cattle and improved dairy cattle and improved beef cattle.

The total of 270,707 cattle was raised, out of which, indigenous cattle had the highest number of 239,554 heads (88.5 percent), followed by dairy cattle (29,572 heads; 10.9 percent), and beef cattle (1,580 heads; 0.6 percent).

Figure 4.2: Percentage of Cattle by Type During 2019/20 Agricultural Year



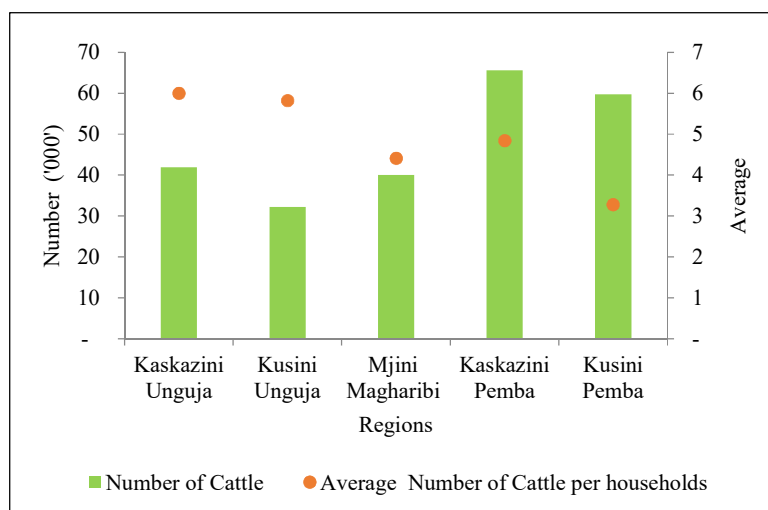
Moreover, the average numbers of cattle per households were 5 (Figure 4.2).

4.1.1.2 Indigenous Cattle Population

The cattle population is mainly dominated by the indigenous with 239,554 cattle (88.5 percent)

of the total cattle population. The results show that Kaskazini Pemba region had the highest number of indigenous cattle (69,509; 27.4 percent) followed by Kusini Pemba (59,710 heads; 24.9 percent), while Kusini Unguja had the least number of cattle (32,259 heads; 13.5 percent). Moreover, the three regions, Kaskazini Unguja, Kusini Unguja and Mjini Magharibi had an average of 6 heads per household each, while Kusini Pemba region recorded the lowest average number of 3 heads per household (Figure 4.3).

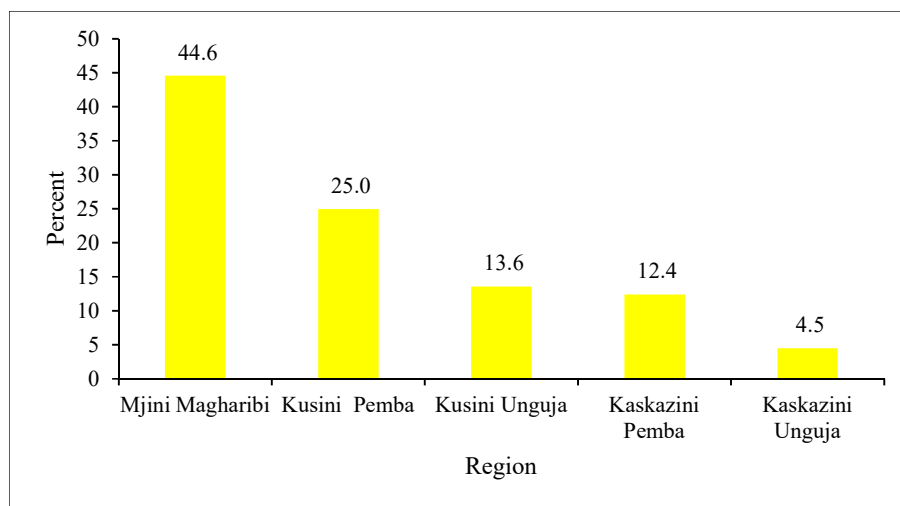
Figure 4.3: Indigenous Cattle Population and Average Number of Cattle per Household by Region as of 1st August 2020



4.1.1.3 Improved Cattle Population

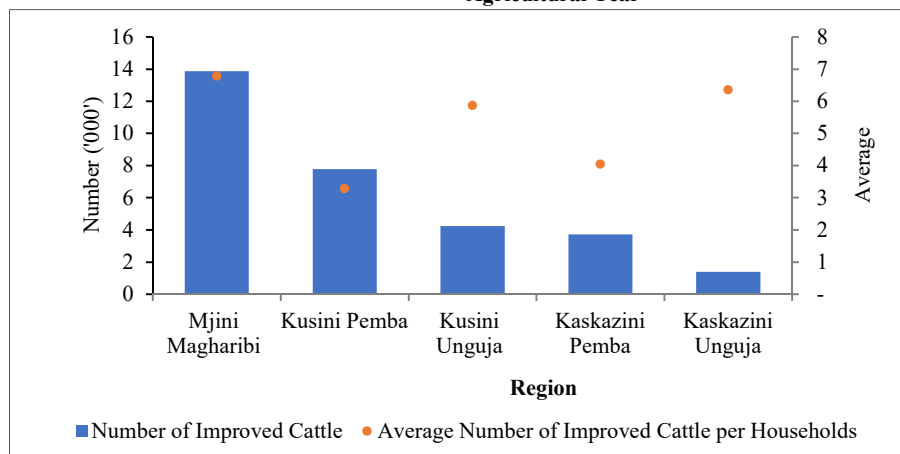
Improved cattle breed, in this census is categorized as beef or dairy breeds. During the 2019/20 agricultural Census there were 6,376 households reared improved cattle in Zanzibar. The number of improved cattle recorded was 31,152 of which beef cattle were 1,580 (5.1 percent) of the total improved cattle and dairy cattle was 29,572 (94.9 percent). Mjini Magharibi region had the highest number of improved cattle 13,879 (44.6 percent), followed by Kusini Pemba (7,776 heads; 25.0 percent) whereas Kaskazini Unguja had the lowest number of improved cattle (1,392 heads; 4.5 percent) (Figure 4.4).

Figure 4.4: Percentage of Improved Cattle by Region as of 1st August 2020



The average number of improved cattle per household was five heads. However, slightly different existing crosses the regions. Mjini Magharibi had an average of 7 heads per household each, while Kusini Pemba region recorded the lowest average number of 3 heads per household (Figure 4.5).

Figure 4.5: Number of Improved Cattle and Average Number per Household by Region During 2019/20 Agricultural Year



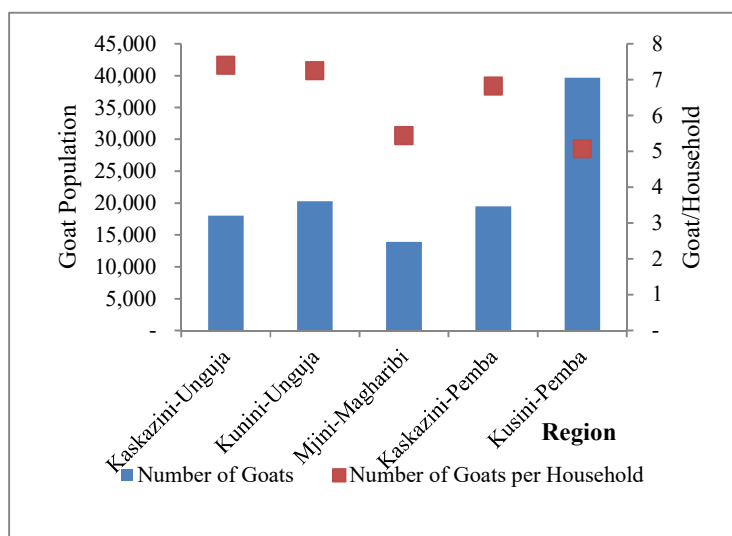
Map 4.1: Cattle Population Reported by Smallholders by Region as of 1st August 2020.



4.1.2 Goat Population

The 2019/20 agricultural census results show that, during 2019/20 agricultural year, the number of households in Zanzibar engaged in goat rearing was 18,480 households kept 111,623 goats, whereby Smallholder farmers raised 111,429 goats and large scale farms raised 194 goats. Kusini Pemba had the largest number of goat 39,716 heads (35.6 percent), followed by Kusini Unguja with 20,289 heads (18.2 percent), while Mjini Magharibi accounted for the lowest number of goat population with 13,911 heads (12.5 percent) (Figure 4.6 and Map 4.2).

Figure 4.6 Number of Goats and Goats per Household by Region During 2019/20 Agricultural Year



Goats by Herd Size

The results show that, the average number of goats per household was 6 goats. Most of the households (96 percent) raised 1 to 14 goats. The rest households (4 percent) raised more than 15 goats (Table 4.6).

Table 4.5: Number of Households rearing Goats and Heads of Goats by Herd size as of 1st August 2020

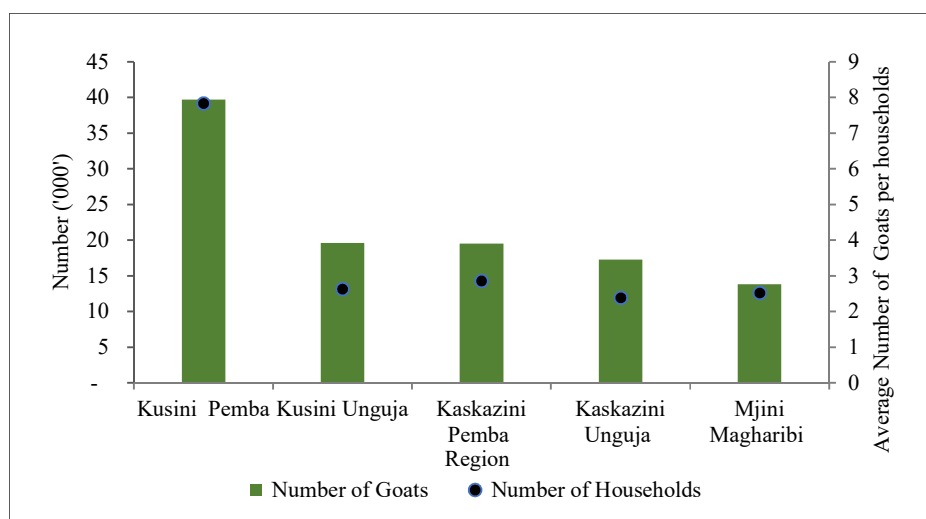
Herd size	Goat rearing households		Heads of Goats		Average per households
	Number	%	Number	%	
01 - 04	10,156	55.4	30,832	28	3
05 - 09	6,279	34.2	46,812	42	7
10 - 14	1,298	7.1	18,122	16	14
15 - 19	365	2.0	6,409	6	18
20 - 24	-	-	-	-	-
25 - 29	123	0.7	4,323	4	35
30 - 34	77	0.4	3,121	3	41
35 - 39	-	-	-	-	-
40+	43	0.2	1,810	2	42
Total	18,341	100	111,429	100	6

Comparatively, the average number of goats per household has increased from 5 goats in 2007/08 agricultural census to 6 goats in 2019/20 agricultural census.

4.1.2.1 Indigenous Goats

The number of households engaged in indigenous goat rearing was 18,219. The total number of indigenous goats raised by smallholder farmers were 109,864 heads, equivalent to 98.6 percent of the total goat population. Kusini Pemba region had the highest number of indigenous goats (39,716 heads; 36.2 percent), followed by Kusini Unguja (19,610 heads; 17.8 percent) while, Mjini Magharibi had the lowest number (13,790 heads 12.5 percent) (Figure 4.7).

Figure 4.7: Number of Indigenous Goats and Average Goat per Households by Region as of 1st August, 2020



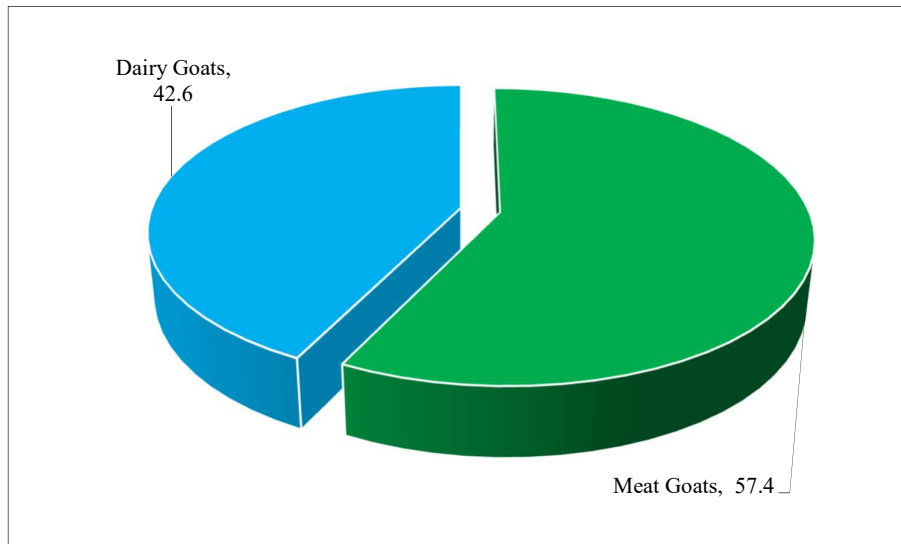
The Agricultural census results show a steady increase on the number of indigenous goats from 57,004 in year 2008 to 109,864 in 2020 representing approximately 92.7 percent increase.

4.1.2.2 Improved Goats

The number of households engaged in improved goats rearing during 2019/20 agricultural year was 266. Out of this 101 households (38.0 percent) kept improved goats for meat and 165 households (62.0 percent) kept improved goats for milk. The number of improved goat's population was 1,565 heads, out of this improved goat for meat accounted for 899 heads,

equivalent to 57.4 percent and improved goats for milk account only 42.6 percent (Figure 4.8).

Figure 4.8: Percentage and Types of Improved Goats as of 1st August, 2020



The results further reveals that, improved goats were raised in three regions only. Kaskazini Unguja with 765 heads (48.9 percent), followed by Kusini Unguja (679 heads; 43.4 percent) and Mjini Magharibi 121 heads; 7.7 percent).

Map 4.2: Goat Population Reported by Smallholders by Region as of 1st August 2020.



4.1.3 Sheep Population

The NSCA 2019/20 reported that, the numbers of sheep were 934, whereby; smallholder's farmers raised 871 sheep and large scale farms kept 63 sheep. In Zanzibar, only two regions reported raising sheep; Kusini Pemba with 570 heads and Mjini Magharibi 301 heads (Table 4.6).

Table 4.6: Number of Households rearing Goats and Herd size as 1st August 2020

Region	Number of Sheep	Number of Sheep per Household
Mjini Magharibi	301	6
Kusini Pemba	570	4
Total	871	5

Sheep by Herd Size

The average number of sheep per household was 5 heads. Most of the households (74 percent) raised 1 to 4 sheep. The remaining households raised 5 to 9 heads of sheep (Table 4.7).

Table 4.7: Number of Households Rearing Sheep and Heads of Sheep by Flock Size as of 1st August 2020

Flock size	Sheep rearing households		Total Sheep		Average number of Sheep per household
	Number	Percent	Number	Percent	
1 - 4	142	74.0	569	65.4	4
5 - 9	50	26.0	301	34.6	6
10 - 15	0	-	0	-	
15 - 19	0	-	0	-	
20 - 24	0	-	0	-	
25 - 29	0	-	0	-	
30 - 34	0	-	0	-	
35 - 39	0	-	0	-	
40+	0	-	0	-	
Total	192	100.0	870	100.0	5

4.1.4 Pig Population

The number of pigs was 2,209 raised mainly by smallholder farmers; The two regions that reported the pig population, were Mjini Magharibi which accounted for the highest population with 1,281 heads followed by Kusini Unguja 928 heads. (Table 4.8 and Figure 4.9).

Figure 4.9 Number of Pigs and Pigs per Household by Region as 1st 2020

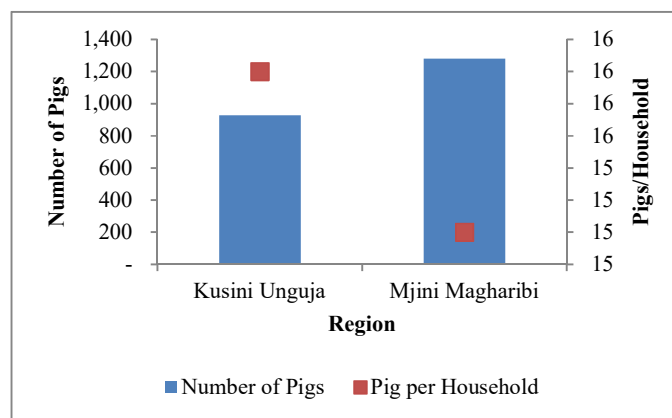


Table 4.8: Number of Households rearing Goats and Heads of Goats by Herd size as 1st August 2020

Region	Number of Pigs	Percent	Pig per Household
Kusini Unguja	928	42	16
Mjini Magharibi	1,281	58	15
Total	2,209	100	15

Pigs by Herd Size

The average number of pigs per household was 15 heads. Most of the households (69.0 percent) raised 5 to 14 heads. The remaining households (31.0 percent) raised 20 to 24 heads (Table 4.9).

Table 4.9: Number of Households Rearing Pigs and Heads of Pigs by Flock Size as of 1st August 2020

Herd size	Pig rearing households	Percent	Number of pigs	Percent	Average Pigs per household
1 - 4	-	-	-	-	-
5 - 9	44	30	265	12	6
10 - 14	57	39	930	42	16
15 - 19	-	-	-	-	-
20 - 24	44	30	1,014	46	23
25 - 29	-	-	-	-	-
30 - 34	-	-	-	-	-
35 - 39	-	-	-	-	-
40+	-	-	-	-	-
Total	145	100	2,209	100	15

4.1.5 Chicken Population

The number of chicken reported in Zanzibar was 3,764,184 chicken, of which 3,705,505 chicken was smallholder farmers and 58,679 chicken were large scale farms. From the total chicken owned by Smallholder farmers indigenous chicken accounted for 1,508,540 birds (40.7 percent), Layers (2,116,994 birds; 57.1 percent) and Broiler (79,971 birds; 2.2 percent). Kusini Unguja accounted for the highest number with 1,878,890 birds (52.7 percent), followed by Kusini Pemba with 643,026 birds (17.4 percent) and the lowest number of chicken was reported in Kaskazini Pemba with 154,401 birds (4.2 percent) (Figure 4.10 & Figure 4.11).

Figure 4.10: Percentage Distribution of Chicken by Type as of 1st August 2020

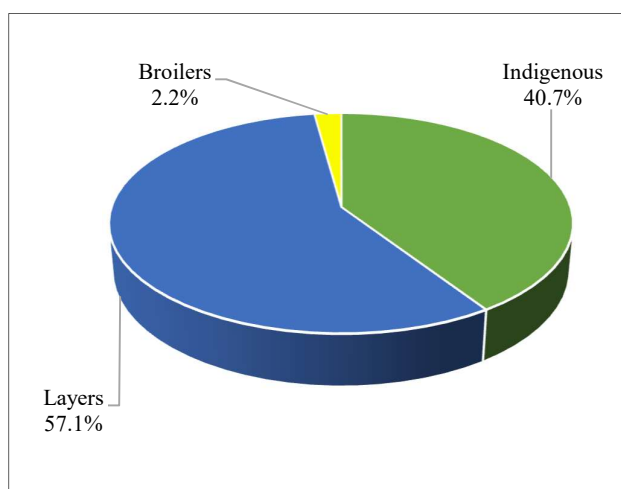


Figure 4.11 Number and Percentage of Chicken Population by Region as of 1st August 2020

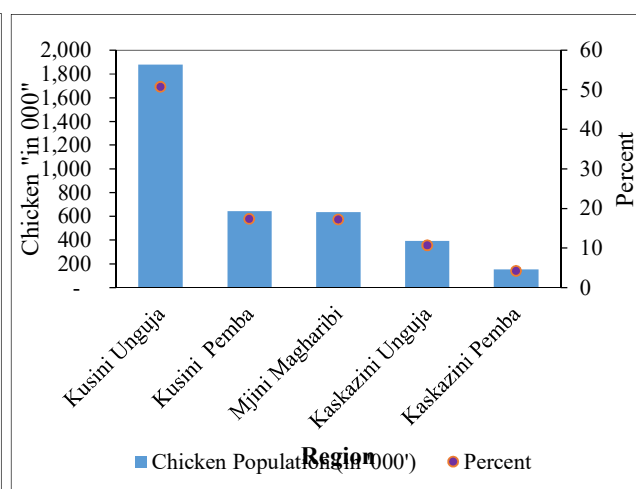


Table 4.10: Number of Households Rearing Chicken and Heads of Chicken by Flock Size as of 1st August 2020

Region	Keeping Chicken		Number of Chicken		Chicken per Household
	No. of Households	Percent	Number	Percent	
Kaskazini Unguja	20,722	20.1	393,274	10.6	19
Kusini Unguja	11,105	10.7	1,878,890	50.7	169
Mjini Magharibi	23,860	23.1	635,914	17.2	27
Kaskazini Pemba	10,503	10.2	154,401	4.2	15
Kusini Pemba	37,152	36.0	643,026	17.4	17
Total	103,342	100	3,705,505	100	36

Chicken by Flock Size

Out of the total households keeping chicken, majority of the households (93 percent) kept chicken at an average of 1 to 49 flock size, and few households (7 percent) raised more than 49 chicken (Table 4.11).

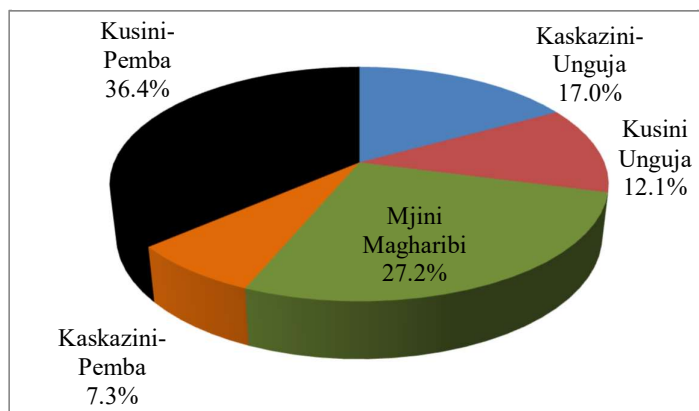
Table 4.11: Number of Agricultural Households Keeping Chickens and Average Number of Chicken per Household by Type and Flock Size as of 1st August 2020

Flock Size	Keeping Chicken		Number of Chicken		Average Chicken per household
	Chicken keeping Households	Percent	Number	Percent	
01-49	95,824	92.7	1,112,099	30.0	12
50-99	4,921	4.8	308,089	8.3	63
100-299	1,673	1.6	268,532	7.2	161
300-499	571	0.6	198,839	5.4	348
500-699	197	0.2	103,492	2.8	525
700+	156	0.2	1,714,454	46.3	10,990
Total	103,342	100.0	3,705,505	100.0	36

4.2.5.1 Indigenous Chicken Population

The NSCA 2019/20 show that, there were 1,508,540 indigenous chicken (41.0 percent) of the total chicken raised. Kusini Pemba had the highest number of chicken with (548,940 chicken; 36.4 percent), followed by Mjini Magharibi (410,875 chicken; 27.2 percent), while Kaskazini Pemba was the least region with 110,243 chicken (7.3 percent) (Figure 4.12)

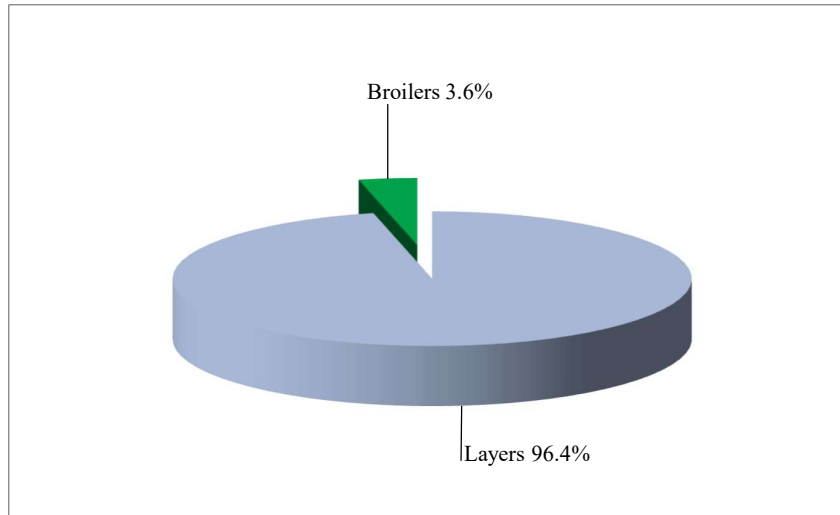
Figure 4.12 Percentage Distribution of Indigenous Chicken by Region



4.2.5.2 Improved Chicken Population

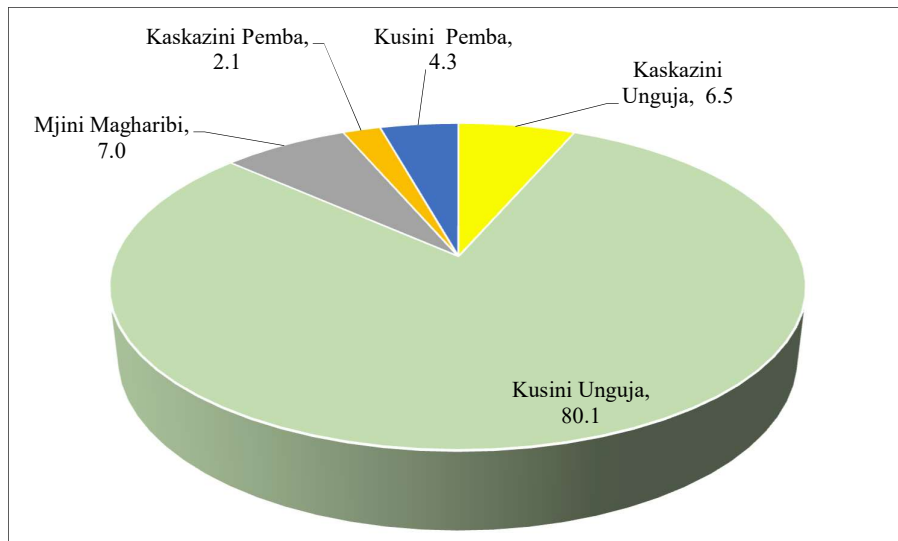
The number of improved chicken from smallholder farmers were 2,196,965 chicken, equivalent to 59.3 percent of the total chicken population. From the total improved chicken, Layer accounted 2,116,994 (96.4 percent) and Broiler 79,971 chicken (3.6 percent) (Figure 4.13).

Figure 4.13: Percentage Distribution of Improved Chicken as of 1st August 2020



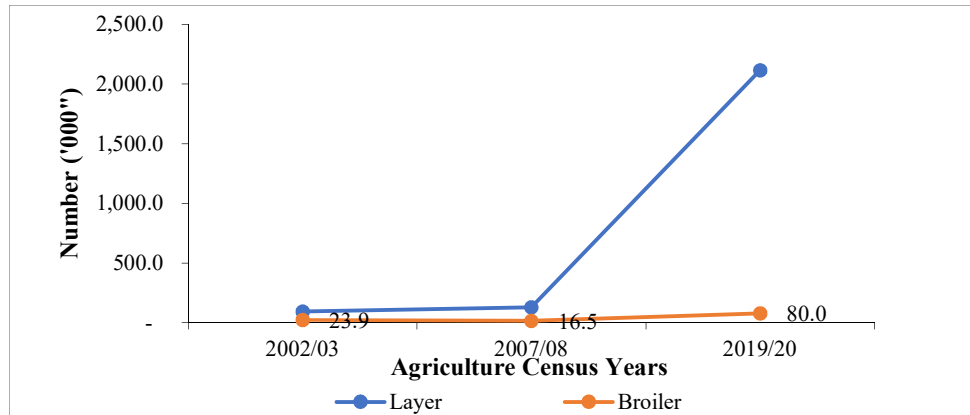
The census results further show that, Kusini Unguja had the largest number of layers (1,696,341 chicken; 80.1 percent), followed by Mjini Magharibi (147,610 birds; 7.0 percent), while the lowest number of layers were reported in Kaskazini Pemba (44,158 birds; 2.1 percent) (Figure 4.14).

Figure 4.14: Percentage Distribution of the Improved Layer by Region



The number of layers has increased from 130,034 chicken in 2007/08 to 2,116,994 in 2019/20 agriculture censuses, which is more than 100 percent increase. Similarly, the number of broilers has increased from 16,459 to 79,971 more than 100 percent increase over the same period (Figure 4.15).

Figure 4.15: Improved Chicken Population Trend for the 2002/03, 2007/08 and 2019/20 Agricultural Censuses,



4.2.6 Other Poultry and Poultry Population

Other poultry namely, ducks, turkeys and guinea fowls were reported in the 2019/20 agriculture census, though they were kept in small number as compared to chicken. A total of 126,732 ducks had the highest number, followed by 12,080 dogs, 10,783 rabbits, 3,028 turkeys (Table 4.12).

Table 4.12: Number of Other Livestock and Poultry as of 1st August 2020

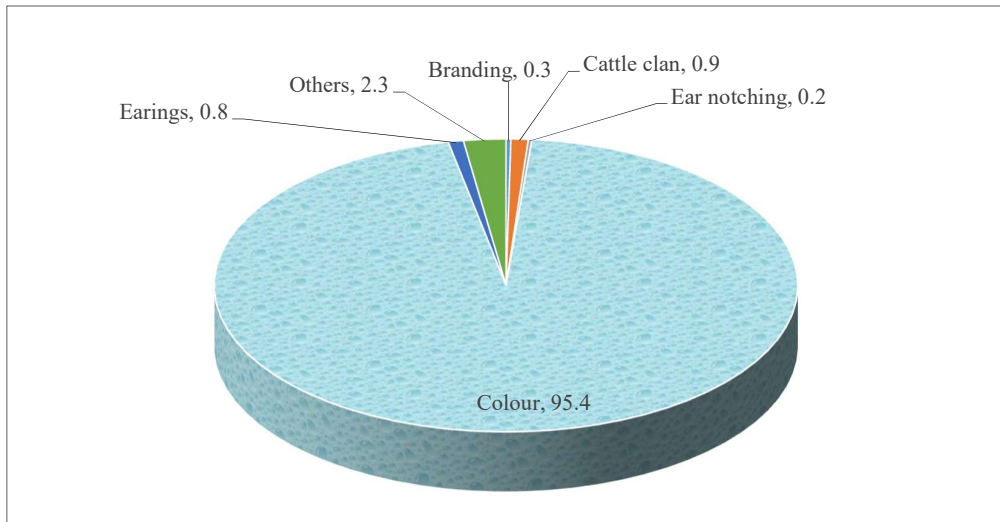
Region	Rabbits	Donkeys	Dogs	Guinea pigs	Ducks	Turkeys
Kaskazini Unguja	-	66	1,924	-	28,368	-
Kusini Unguja	3,099	-	2,891	1,550	12,263	109
Mjini Magharibi	3,571	-	5,303	2,368	43,304	1,050
Kaskazini Pemba	286	459	-	-	5,939	-
Kusini Pemba	3,827	-	1,962	-	36,858	1,869
Total	10,783	525	12,080	3,918	126,732	3,028

4.3 Method of Cattle Identification

The importance of cattle identification is to allow agricultural households keep records on their livestock on births, production of livestock products, animal health and any other important management information. Identification is also important to indicate ownership of a particular animal or to indicate the herd/flock of origin.

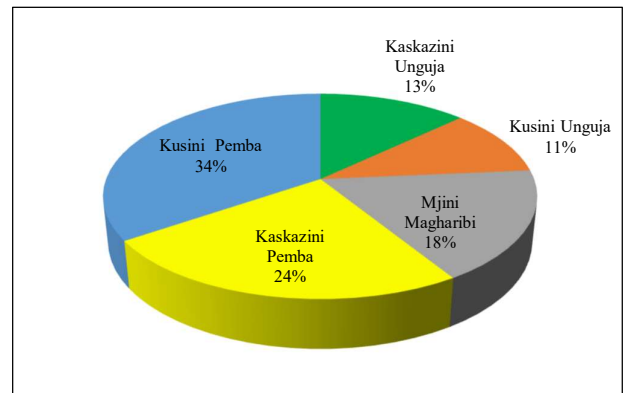
In Zanzibar, different methods are employed while identifying livestock. They include using colour of animal, clan and earrings. Cattle identification by colour was mostly reported by 54,031 households (96.6 percent), followed by cattle clan (538 households; 0.9 percent) and earring (474 households; 0.8 percent) (Figure 4.16).

Figure 4.16: Percentage of Households and Type of Method of Cattle Identification Used During 2019/20 Agricultural Year



Among the household used colour method, Kusini Pemba region had the largest number of households 18,634 (34.5 percent), followed by Kaskazini Pemba (13,182 households; 24.4 percent) whereas the least reported region was Kusini Unguja (5,718 households; 10.6 percent) (Figure 4.17).

Figure 4.17: Percentage of Households and Type of Method of Cattle Identification Used During 2019/20 Agricultural Year



4.4 Livestock and Poultry Products

This section presents the result of livestock and poultry products reported during the 2019/20 Agriculture Census. The products include milk and chicken eggs.

4.4.1 Milk Production

Cow Milk

The results show that, 39.8 percent of the total cattle keeping households reported to produce. For smallholder farmers, the total of 55,394 cows were on milk in wet season of which 11,429 cows were improved dairy cattle (20.6 percent) and 43,965 cows were indigenous cows (79.4 percent). A total of 45, 084 cows were milked during dry season of which improved type was 22,829 cows (50.6 percent) and indigenous cows (22,255 cows; 49.4 percent). The total milk production from cow was 36,710,092 liters (259,455 liters from large scale farms and 36,450,637 liters from smallholders) (Table 4.13).

Table 4.13 Cow and Goat Milk Production for Large Scale Farms and Smallholder Farmers During 2019/20
Agricultural Year

Livestock	Smallholder Farmers	Large Scale Farms	Total
Cow Milk	36,450,637	259,455	36,710,092
Goat Milk	112,800	1,620	114,420

From the total milk produced from the smallholders 23,343,263 liters (64.0 percent) were produced during wet season and 13,107,374 liters (36.0 percent) during dry season. Improved dairy cattle produce 14,433,119 liters (39.6 percent) and indigenous cattle produce 22,017,518 liters (60.4 percent).

Kaskazini Pemba ranked the highest production of 11,671,080 liters (32.0 percent), whereby, 8,421,793 liters produced in wet season and 3,249,287 liters in dry season. It was followed by Mjini Magharibi with total production of 10,986,916 liters (30.1 percent), whereby 5,844,042 liters produced in wet season and 5,142,874 liters in dry season. Kusini Pemba produced 6,765,749 liters (18.6 percent), whereby 4,576,714 liters in wet season and 2,189,035 liters in dry season. The least region was Kaskazini Unguja with 2,808,635 liters (7.7 percent), whereby 1,818,652 liters produced in wet season and 989,983 liters in dry season (Table 4.14).

Table 4.14 Total Milk Production (liters) by Category of Cattle, Season and Region During the 2019/20 Agricultural Year - Smallholder

Region	Wet Season			Dry Season			Total Milk Production (liters)
	Improved Dairy cattle	Indigenou s Cattle	Total	Improved Dairy cattle	Indigenous Cattle	Total	
Kaskazini							
Unguja	211,431	1,607,221	1,818,652	109,631	880,352	989,983	2,808,635
Kusini							
Unguja	1,293,898	1,388,164	2,682,062	559,865	976,330	1,536,195	4,218,257
Mjini							
Magharibi	3,821,217	2,022,825	5,844,042	3,097,369	2,045,505	5,142,874	10,986,916
Kaskazini							
Pemba	1,078,287	7,343,506	8,421,793	1,445,648	1,803,639	3,249,287	11,671,080
Kusini							
Pemba	2,342,052	2,234,662	4,576,714	473,721	1,715,314	2,189,035	6,765,749
Total	8,746,885	14,596,378	23,343,263	5,686,234	7,421,140	13,107,374	36,450,637

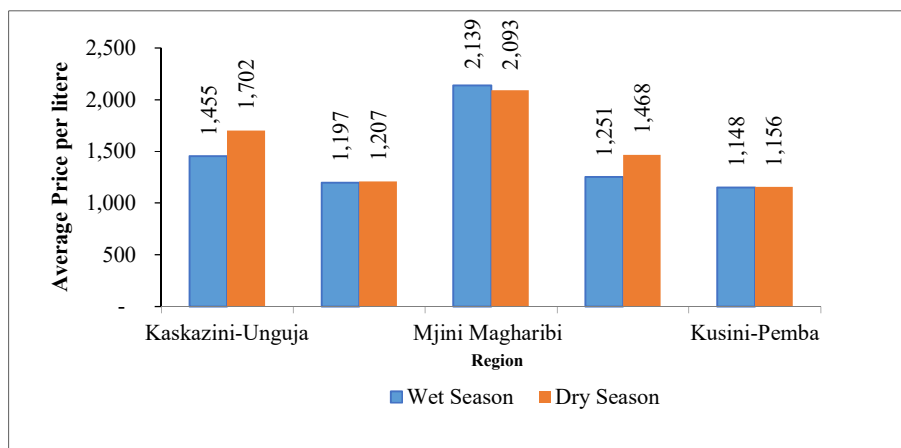
Moreover, the average milk production per cow per day was 9 liters and 7 liters for improved dairy type during wet and dry seasons respectively, while the average milk production for indigenous cow was 3 liters during both the wet and dry seasons (Table 4.15).

Table 4.15: Average Milk Production per Cow per Day by Type of Cattle and Season During 2019/20 Agricultural Year

Type of Cattle	Season	Milk (litres)
Indigenous Cattle	Wet Season	3
	Dry Season	3
Improved Cattle	Wet Season	9
	Dry Season	7

Kaskazini Pemba region had the highest production of milk (11,671,080 litres; 32 percent), followed by Mjini Magharibi (10,986,916 litres; 30.1 percent) and the least production was reported in Kaskazini Unguja (2,809,505 litres; 7.7 percent). The highest milk price per litre was TZS 2,139 in Mjini Magharibi during wet season and TZS 2,093 during dry season. The lowest price was TZS 1,148 in Kusini Pemba during wet season and TZS 1,156 during dry season (Figure 4.18).

Figure 4.18: Average Price of Cow Milk by Region and Season During 2019/20 Agricultural Year



Cow Milk Market

The price of milk varied between regions and seasons. During the wet season the average price of milk was TZS 1,395 which was slightly lower than that of dry season TZS 1,496. During the wet season, highest price per liter was recorded in Mjini Magharibi (TZS 1,885), followed by Kaskazini Unguja (TZS 1,476), Kaskazini Pemba (TZS 1,253), Kusini Unguja (TZS 1,196) and Kusini Pemba (TZS 1,166). Similarly, pattern was observed during the dry season of which the highest price per liter was recorded in Mjini Magharibi (TZS 2,862), followed by Kaskazini Unguja (TZS 1,717), Kaskazini Pemba (TZS 1,525), Kusini Unguja (TZS 1,210) and Kusini Pemba (TZS 1,168).

Moreover, the total milk produced in Zanzibar during wet season was 23,343,263 liters, out of this 11,777,731 liters (50.5 percent) were sold. In dry season a total of 13,107,374 liters of milk were produced. Out of this 6,894,293 liters (52.6 percent) were sold (Table 4.16).

In general, most of the households traded their milk to trade at farm (8,236; 38.8 percent), followed by those who sold to neighbor (7,538; 35.5 percent). The least number of households reported to sell their milk to other places (51; 0.2 percent).

Table 4.16: Number of Milked Cows, Quantity Produced, Consumed, Sold and Average Price in Wet and Dry Season

Region	Wet Season						Dry Season					
	Quantity of milk Produced (liters)	Indigenous milk production per cow per day (Lts)	Improved milk production per cow per day (Lts)	Milk Consumed by Household (Lts)	Sold (Lts)	Average price (TZS /Ltr)	Quantity of milk Produced (liters)	Indigenous Milk Production per cow per day (Lts)	Improved Milk production per cow per day (Lts)	Milk Consumed by Household (Lts)	Sold (Lts)	Average price (TZS /Ltr)
Kaskazini Unguja	1,818,652	3	6	297,221	1,074,903	1476	989,983	3	5	82,397	485,333	1,717
Kusini Unguja	2,682,062	3	8	297,239	1,922,990	1196	1,536,195	4	6	262,787	619,988	1,210
Mjini Magharibi	5,844,042	4	10	383,902	5,301,297	1,885	5,142,874	3	9	265,505	4,704,164	1,862
Kaskazini Pemba	8,421,793	3	10	640,279	1,604,342	1,253	3,249,287	3	7	593,727	532,451	1,525
Kusini Pemba	4,576,714	3	10	919,128	1,874,199	1,166	2,189,035	3	10	285,641	552,357	1,168
Total	23,343,263	3	10	2,539,769	11,777,731	1,395	13,107,374	3	9	1,390,057	6,894,293	1,496

Goat Milk

The Zanzibar had a total of 376 milked goats during the wet and dry season in 2019/20 agricultural year. The total milk production was 112,702 liters reported in Kusini Unguja, (40.0 percent in produced in wet and 60.0 percent in dry season), the average milk production per goat per day was 2 liters in wet and 3 liters in dry season (Table 4.17).

Table 4.17: Number of Milked Goats, Total Milk Production, Average Milk Production per Season by Region During 2019/20 Agricultural Year

Region	Number of Milked Goat		Average milk Production per Goat per Day		Milk Production per Season (liters)		Total Milk Production (Liters)
	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	
Kaskazini Unguja	-	-					-
Kusini Unguja	376	376	2	3	45,081	67,621	112,702
Mjini Magharibi	-	-					-
Kaskazini Pemba	-	-					-
Kusini Pemba	-	-					-
Total	376	376	2	3	45,081	67,621	112,702

Goat Milk Market

The census result reveals that, the average price of milk from goat was TZS 2,000 for both wet season and dry season. Moreover, the total goat milk produced in Zanzibar during wet season was 45,081litres, while that sold was 22,540 liters; this is equivalent to 50.0 percent of the produced in this season; while in dry season, the goat milk production was 67,621 liters, whereas 22,540 liters were sold; this is equivalent to 33.3 percent of the total milk production. (Table 4.18).

Table 4.18: Quantity of Goat Milk Produced, Consumed by Household, Sold and Average Price/liter by Season and Region During 2019/20 Agricultural Year

Region	Wet Season (Liters)				Dry Season (Liters)			
	Quantity produced	Milk consumed by the Household	Amount of milk sold	Average price per liter	Quantity produced	Milk consumed by the Household	Amount of milk sold	Average price per liter
Kaskazini Unguja	-	-	-	-	-	-	-	-
Kusini Unguja	45,081	-	22,540	2,000	67,621	-	22,540	2,000
Mjini Magharibi	-	-	-	-	-	-	-	-
Kaskazini Pemba	-	-	-	-	-	-	-	-
Kusini Pemba	-	-	-	-	-	-	-	-
Total	45,081	-	22,540	2,000	67,621	-	22,540	2,000

4.4.2 Chicken Eggs Production

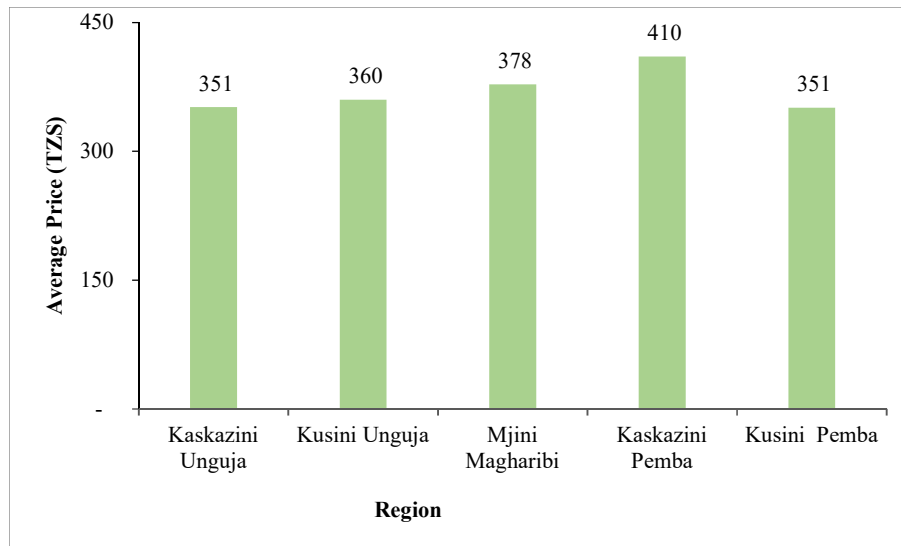
The 2019/20 NSCA results show that, a total of 223,778,301 eggs were produced. Out of this 10.5 percent were produced from indigenous chicken and 89.5 percent from improved chicken. Mjini Magharibi had the largest number of eggs (77,332,136 eggs; 34.6 percent) produced, followed by Kaskazini Pemba (63,342,386 eggs; 28.3 percent), Kaskazini Unguja (29,372,270 eggs; 13.1 percent), while the least number of eggs production was recorded in Kusini Unguja (25,437,234 eggs; 11.4 percent) (Table 4.19).

Table 4.19: Number and Percentage of Eggs Production by Region During 2019/20 Agricultural Year

Region	Eggs Production		Total Eggs Production	
	Indigenous Chicken	Improved Chicken	Number	Percent
Kaskazini Unguja	3,906,808	25,465,462	29,372,270	13.1
Kusini Unguja	7,310,775	18,126,459	25,437,234	11.4
Mjini Magharibi	5,295,382	72,036,754	77,332,136	34.6
Kaskazini Pemba	1,530,538	61,811,848	63,342,386	28.3
Kusini Pemba	5,355,604	22,938,671	28,294,275	12.6
Total	23,399,106	200,379,195	23,778,301	100

The average price per egg was TZS 365, however, the minimum price per egg was TZS 351 in Kusini Pemba region and Kaskazini Unguja, and the maximum was TZS 410 in Kaskazini Pemba (Figure 4.19).

Figure 4.19: Average Price of an Egg by Region During 2019/20 Agricultural Year



4.5 Outlet for Sales of Livestock and Livestock Product

4.5.1 Cattle Outlets

The 2019/20 NSCA results show that, most of the households reported to sell their cattle to at farm (25,530; 65.6 percent), followed by those sold at primary market (7,619; 19.6 percent). The least number of households reported to sell their cattle to ranch (55; 0.1 percent).

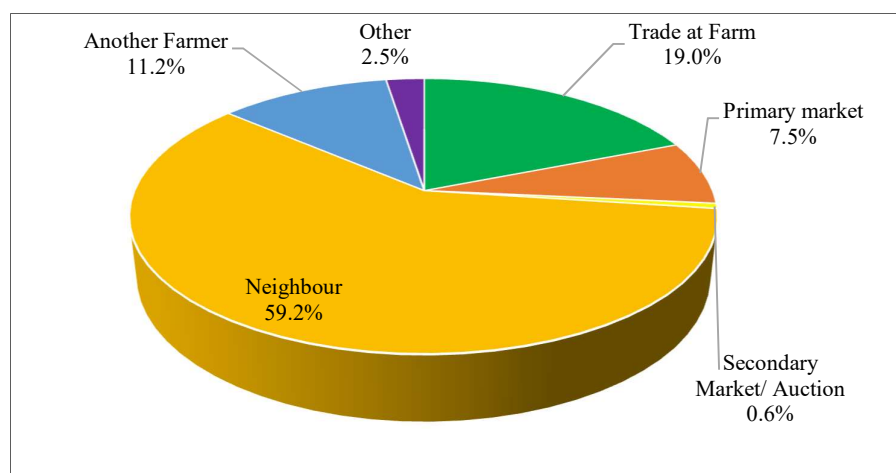
4.5.2 Goats Outlets

The results reveal that, the majority of households traded their goats at farm (8,916; 56.4 percent), followed by those sold at primary market (2,783; 17.6 percent). The least number of households reported to sell their goats to secondary market (564; 3.6 percent).

4.5.3 Chicken Outlets

During 2019/20 Agricultural year, majority of the households reported to sell their chicken to neighbor (38,878; 59.2 percent), followed by those traded at farm (12,523; 19.0 percent). The least number of households reported to sell their chicken to secondary market (409; 0.6 percent) (Figure 4.20).

Figure 4.20: Percentage Distribution of Households Reported Outlet for Sale of Chicken During 2019/20 Agricultural Year,



4.6 Livestock Pests and Parasites Control

Livestock pests and parasites pose a great threat to livestock causing illness and hence reduced production, growth and sometimes deaths. Their control is most important in livestock rearing. In the 2019/20 agricultural year, the results on pests and disease control is presented in two segments. The first segment presents the results on common livestock diseases whilst the second segment presents the results on the control methods of specific types of pests and parasites.

4.6.1 Common Livestock Diseases

The livestock diseases and pests control focused on species of cattle, goats, sheep, pigs and chickens. The most common livestock diseases reported for these animals include Tick Borne Diseases, Contagious Bovine Pleura Pneumonia (CBPP), Contagious Caprine Pleuropneumonia (CCPP), trypanosomiasis, lumpy skin disease, helmenthioitis, Foot and Mouth Disease (FMD), brucellosis, black quarter, anthrax, and Newcastle Disease (NCD).

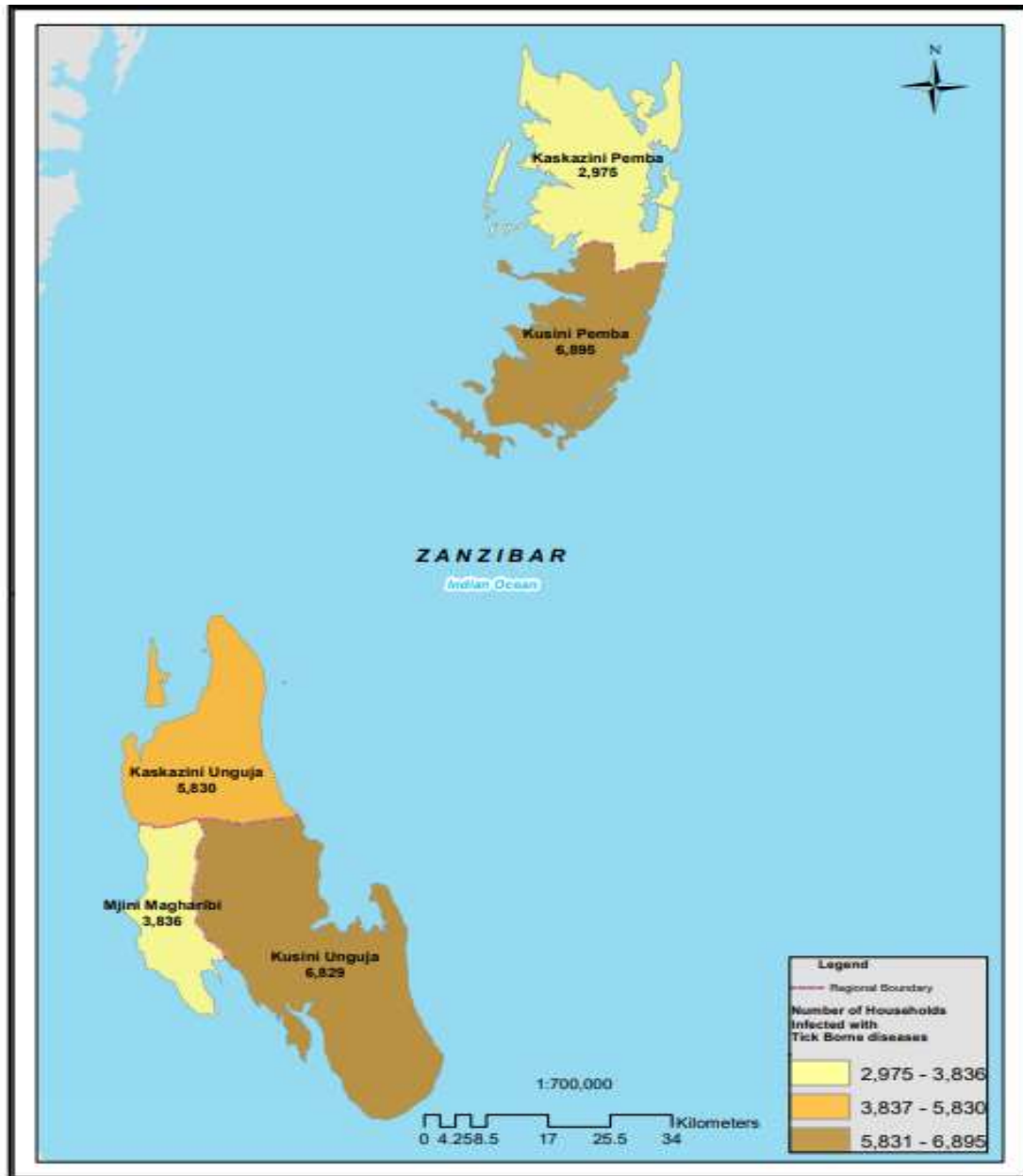
4.6.1.1 Cattle Diseases

a) Tick Borne Diseases

The total number of households reported tick borne diseases infection to their cattle was 11,120 households, which represents 19.9 percent of the total cattle keeping households during 2019/20 agricultural year.

A total of 26,365 cattle were infected with tick borne disease, whereby; Kusini Pemba region had the highest number of cattle infected by tick borne disease (6,895 heads; 26.2 percent), followed by Kusini Unguja (6,829 heads; 25.9 percent) and Kaskazini Unguja (5,830 heads; 22.1 percent). The lowest proportion of tick borne disease infection was reported in Kaskazini Pemba region (2,975; 11.3 percent). (Map 4.3).

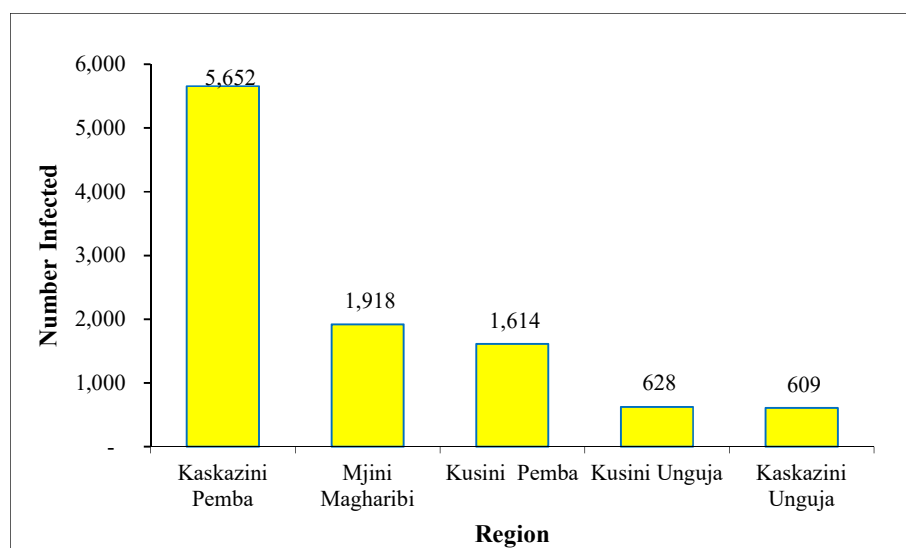
Map 4.3: Number of Households Reported Tick Borne Diseases Infections During 2019/20 Agricultural Year



b) Contagious Bovine Pleura Pneumonia (CBPP)

The total number of households reported infections with CBPP disease to their cattle were 4,694 households equivalent to 8.4 percent of the total households rearing cattle. A total of 10,421 cattle were reported to be infected with the disease. Kaskazini Pemba region had the highest number of cattle infected by CBPP problem (5,652 heads; 54.2 percent), followed by Mjini Magharibi (1,918 heads; 18.4 percent) and Kusini Pemba (1,614 heads; 15.5 percent). The lowest proportion of infection was reported in Kaskazini Unguja region (609; 5.8 percent) (Figure 4.21).

Figure 4.21 Number of Cattle Infected with Contiguous Bovine Pleura Pneumonia (CBPP) by Region During 2019/20 Agricultural Year



c) Trypanosomiasis Disease

The total number of households reported infection of Trypanosomiasis to their cattle was 439 households and a total number of 748 cattle were infected with the disease in Zanzibar. Mjini Magharibi region had the highest number of cattle infected by Trypanosomiasis disease (339 heads; 45.3 percent), followed by Kusini Unguja (235; 31.4 percent) and Kaskazini Unguja (174 heads; 23.3 percent). The lowest proportion was reported in Kaskazini Unguja region (174; 23.3 percent) (Figure 4.22).

Figure 4.22: Number of Cattle Infected with Trypanosomiasis by Regions During 2019/20 Agricultural Year

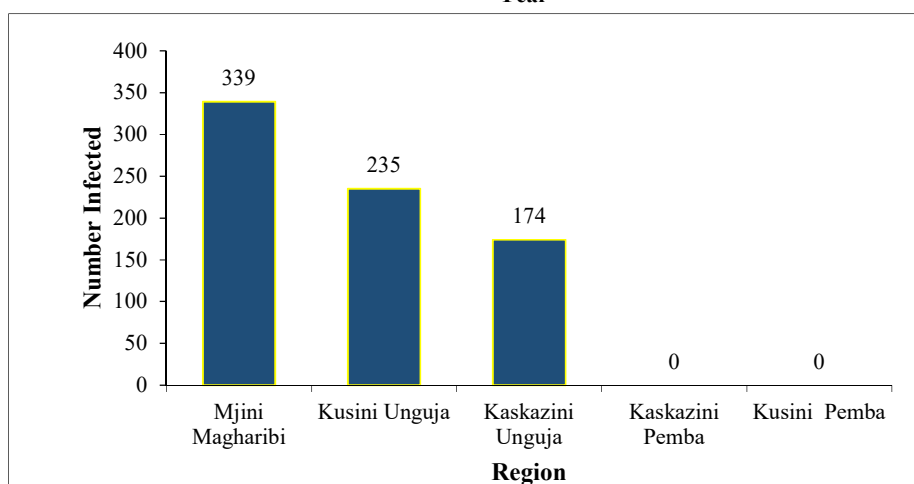


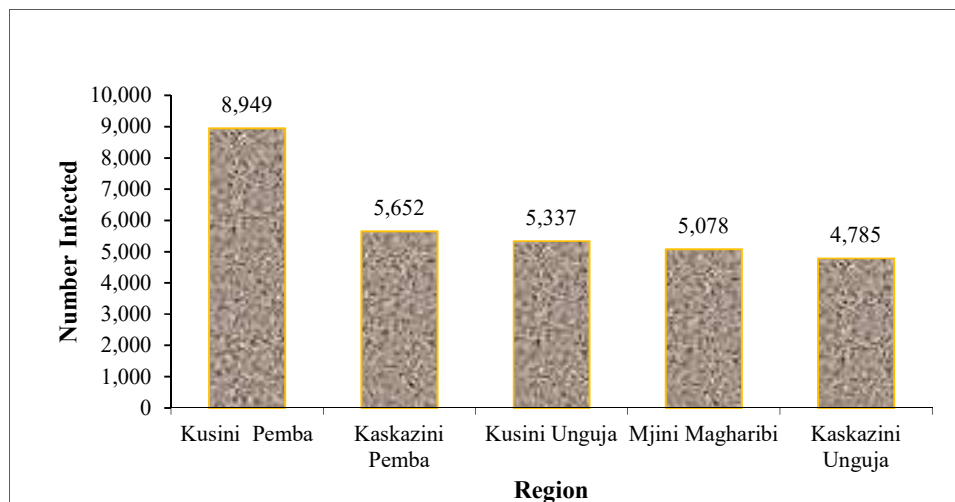
Table 4.20: Number of Reported Cases of Cattle Diseases Occurrence by Type and Region During 2019/20 Agricultural Year

Region	Diseases							
	Trypanosomiasis		Lumpy Skin Disease		Helmenthiosis		Black Quarter	
	Number Infected	Percent	Number Infected	Percent	Number Infected	Percent	Number Infected	Percent
Kaskazini Unguja	174	23.3	4,785	16.1	5,308	9.0	2,958	39.4
Kusini Unguja	235	31.4	5,337	17.9	7,221	12.3	1,256	16.7
Mjini Magharibi	339	45.3	5,078	17.0	13,428	22.9	2,708	36.0
Kaskazini Pemba	-	-	5,652	19.0	22,904	39.0	595	7.9
Kusini Pemba	-	-	8,949	30.0	9,829	16.7	-	-
Total	748	100	29,801	100	58,690	100	7,517	100

d) Lumpy Skin

The total number of households reported infection of Lumpy Skin disease to their cattle was 13,406 households and a total number of 29,801 cattle were infected with the disease. In Zanzibar, Kusini Pemba region had the highest number of cattle infected with Lumpy Skin disease (8,949 heads; 30 percent), followed by Kaskazini Pemba (5,652 heads; 19.0 percent) and Kaskazini Unguja (5,337 heads; 17.9 percent). The lowest proportion of cattle infected was reported in Kaskazini Unguja region (4,785; 16.1percent) (Figure 4.23).

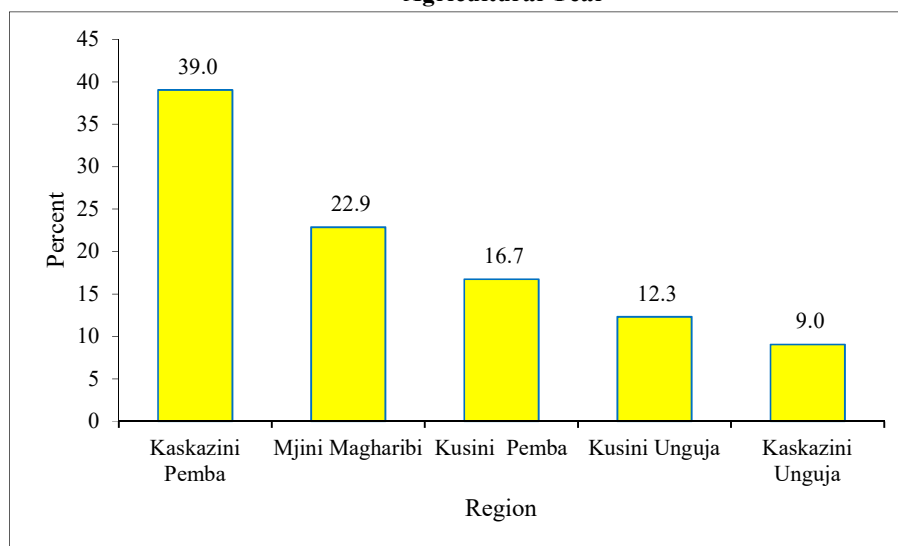
Figure 4.23: Number of Cattle Infected with Lumpy Skin by Regions During 2019/20 Agricultural Year



e) Helmenthiosis

The total number of households reported infection with Helminthiosis disease to their cattle was 17,295 households and a total number 58,690 cattle in Zanzibar infected with Helminthiosis. In Zanzibar, Kaskazini Pemba region had the highest number of cattle infected with Helminthiosis (22,904 heads; 39.0 percent), followed by Mjini Magharibi (13,428 heads; 22.9 percent) and Kusini Pemba (9,829 heads; 16.7 percent). The lowest proportion of cattle infected was reported in Kaskazini Unguja region (5,308 heads; 0.9 percent) (Figure4.24).

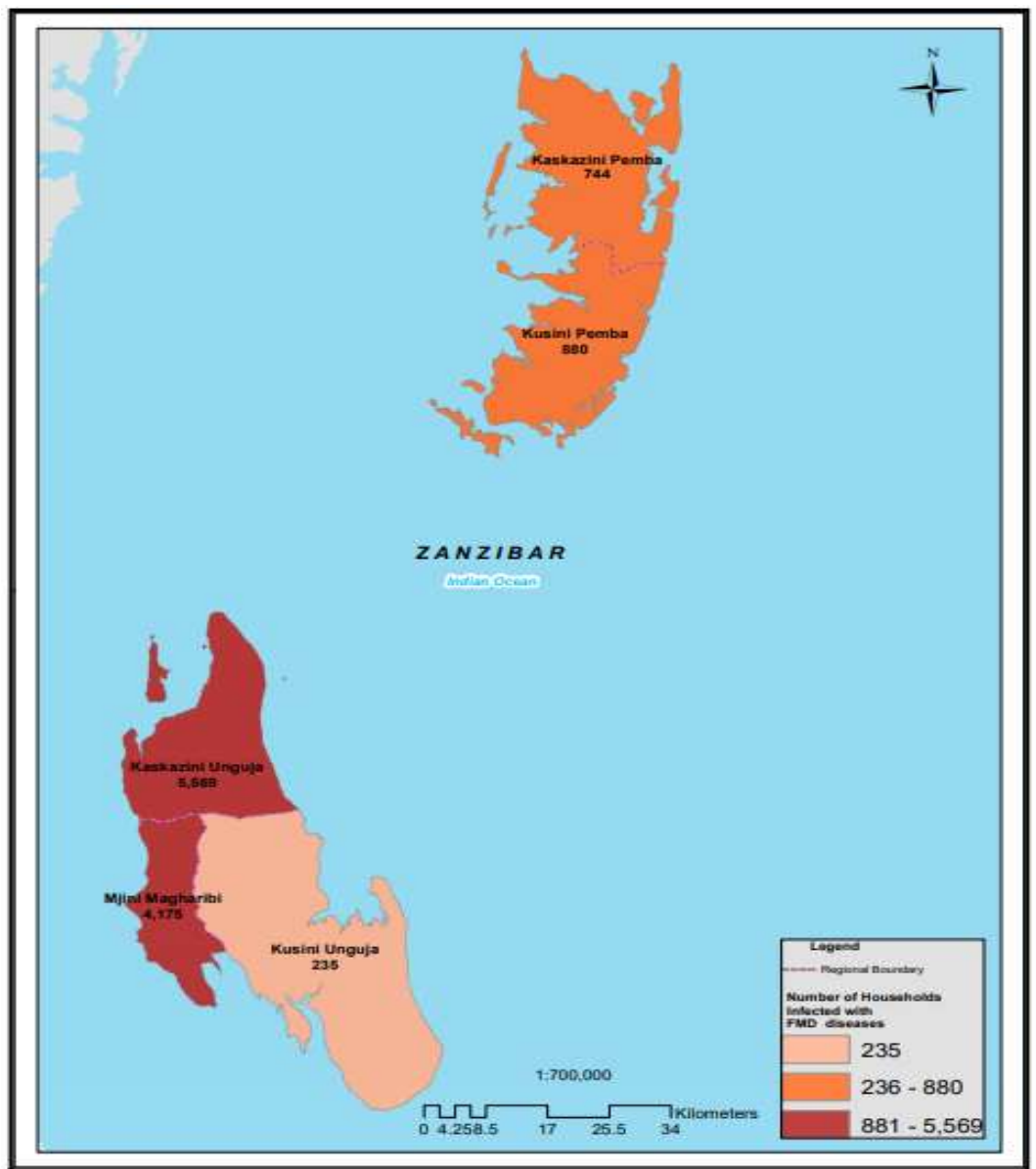
Figure 4.24: Percentage of Cattle Infected with Helminthiosis by Regions During 2019/20 Agricultural Year



f) Foot Mouth Disease (FMD)

The total number of households reported infection with FMD to their cattle was 4,485 households and a total number of 11,603 heads of cattle were infected. In Zanzibar, Kaskazini Unguja region had the highest number of cattle infected by FMD problem (5,569 heads; 48.0 percent), followed by Mjini Magharibi (4,175 heads; 36.0 percent) and Kusini Pemba (880 heads; 7.6 percent). The lowest proportion of cattle infected with the disease was reported in Kusini Unguja region (235 heads; 2 percent) (Map 4.4).

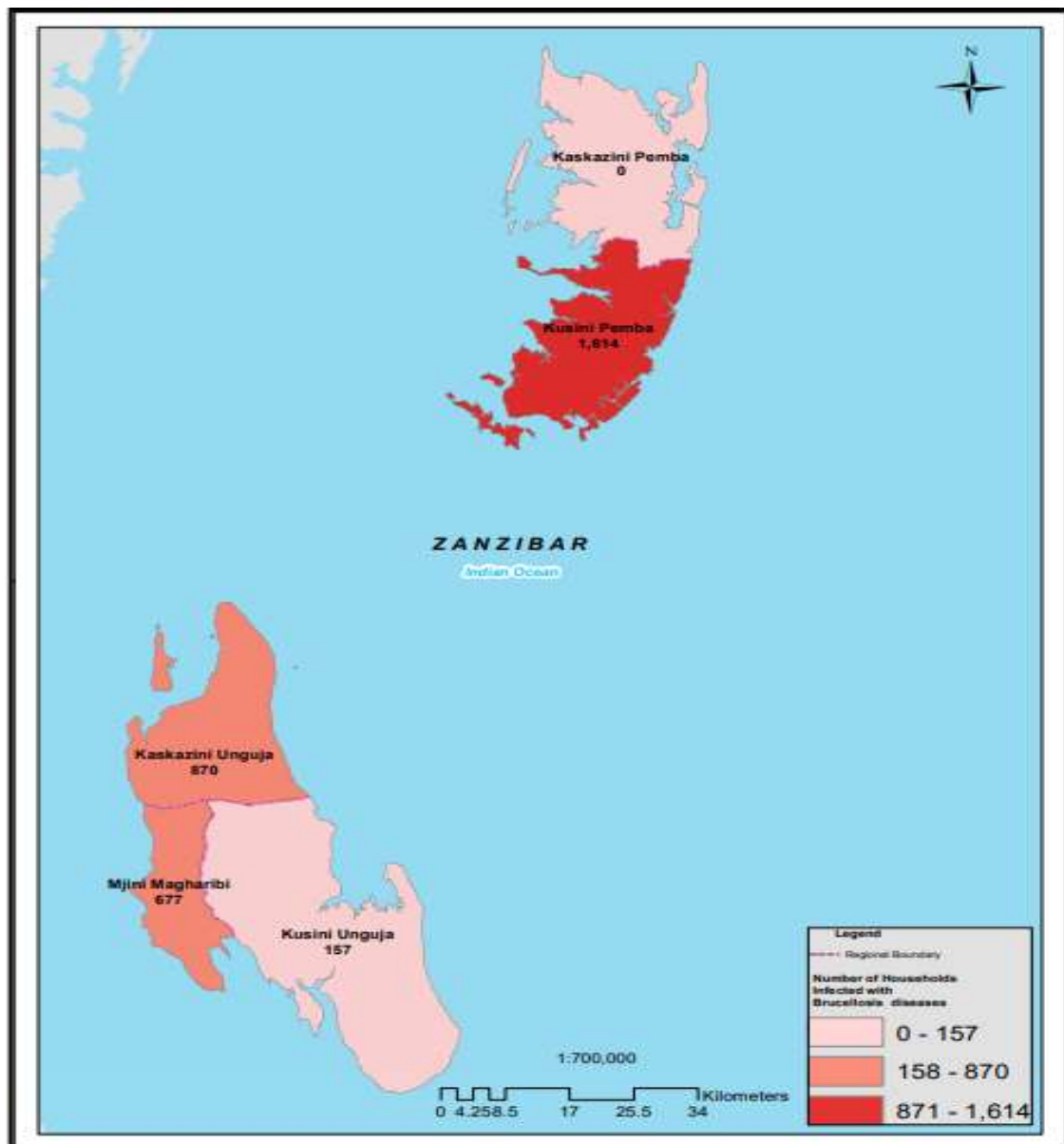
Map 4.4: Number of Cattle infected with Foot Mouth Disease (FMD) by Regions; During 2019/20 Agricultural Year



g) Brucellosis Disease

The total number of households reported infection with Brucellosis to their cattle was 2,497 households in Zanzibar and a total number of 3,318 cattle were reported to be infected with Brucellosis. In Zanzibar, Kusini Pemba region had the highest number of cattle infected by Brucellosis disease (1,614 heads; 48.6 percent), followed by Kaskazini Unguja (870; 26.2 percent) and Mjini Magharibi (677 heads; 20.4 percent). The lowest proportion of cattle infected by the disease was reported in Kusini Unguja region (157 heads; 4.7 percent) (Map 4.5).

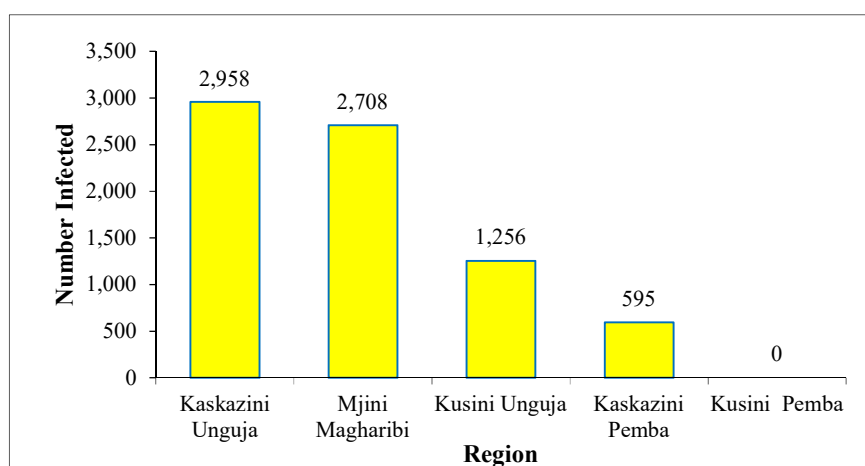
Map 4.5: Number of Cattle Infected with Brucellosis Disease by Regions; During 2019/20 Agricultural Year



h) Black Quarter Disease

The total number of households reported infection with Black Quarter disease to their cattle was 2,485 households and a total number of 7,517 cattle heads were reported to be infected with Black Quarter. In Zanzibar, Kaskazini Unguja region had the highest number of cattle infected by Black Quarter disease (2,958 heads; 39.4 percent), followed by Mjini Magharibi (2,708 heads; 36.0 percent) and Kusini Unguja (1,256 heads; 16.7 percent). The lowest proportion of cattle infected with the disease was reported in Kaskazini Pemba region (595 heads; 7.9 percent) (Figure 4.25).

Figure 4.25: Number of Cattle Infected with Black Quarter Disease by Regions During 2019/20 Agricultural Year



4.6.1.2 Goat Diseases

a) Foot Rot Disease

The total number of households reported infection with Foot Rot disease to their goats was 507 households and a total number of 1,394 goats were infected. Kusini Unguja region had the highest number of goats infected by Foot Rot disease (529 heads; 37.9 percent), followed by Kaskazini Unguja (400 heads; 28.7 percent) and Kaskazini Pemba (330 heads; 23.7 percent). The lowest proportion of goats infected was reported in Mjini Magharibi region (135 heads; 9.7 percent). The disease was not reported to infect goats in Kusini Pemba region (Table 4.21 & Figure 4.26).

Figure 4.26 Number of Goats Infected with Foot Rot Disease by Regions During 2019/20 Agricultural Year

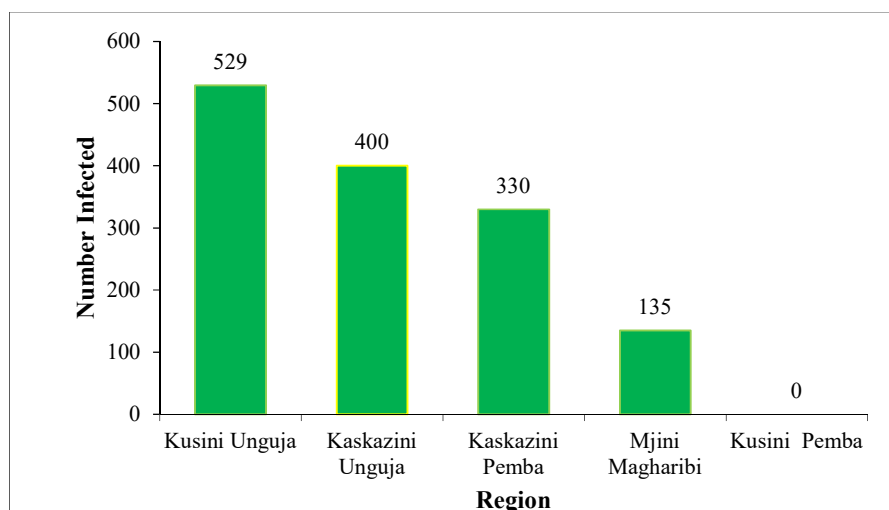


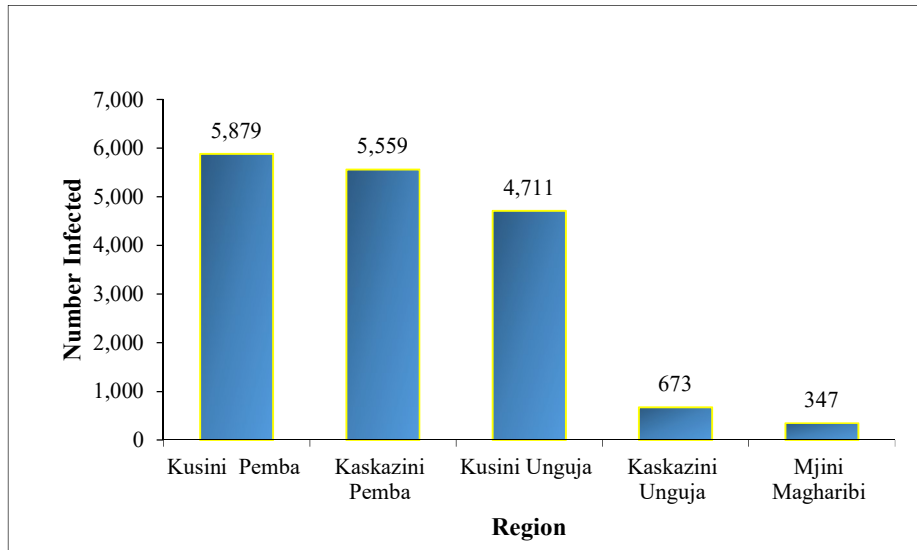
Table 4.21: Number of Reported Cases of Goat Disease Occurrences by Type and Region During 2019/20 Agricultural Year

Region	Goat Disease									
	Foot Rot		Helminthiosis		Tetanus		Mange		Black Quarter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Kaskazini Unguja	400	28.7	673	3.9	-	-	553	23.9	-	-
Kusini Unguja	529	37.9	4,711	27.4	141	100.0	150	6.5	982	47.6
Mjini Magharibi	135	9.7	347	2.0	-	-	-	-	130	6.3
Kaskazini Pemba	330	23.7	5,559	32.4	-	-	1,268	54.9	825	40.0
Kusini Pemba	-	-	5,879	34.2	-	-	339	14.7	127	6.2
Total	1,394	100	17,169	100.0	141	100.0	2,310	100.0	2,064	100.0

b) Helminthiosis

The total number of households reported infection with Helminthiosis disease to their goats was 3,919 households and a total number of 17,169 goats in Zanzibar were infected. Kusini Pemba region had the highest number of goats infected with Helminthiosis disease (5,879 heads; 34.2 percent), followed by Kaskazini Pemba (5,559 heads; 32.4 percent) and Kusini Unguja (4,711 heads; 27.4 percent). The lowest proportion of goats infected was reported in Mjini Magharibi region (347 heads; 2 percent) (Figure 4.27).

Figure 4.27: Number of Goats infected with Helminthiosis Disease by Regions During 2019/20 Agricultural Year



c) Tetanus Disease

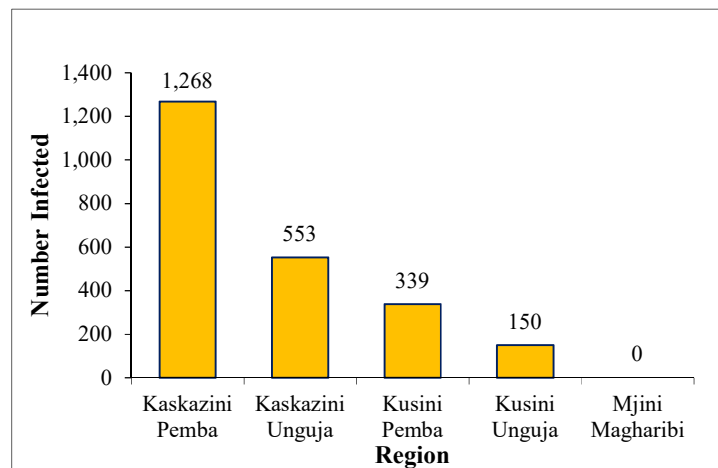
The total number of households reported infection by Tetanus disease to their goats was 104 households and a total number 141 goats were infected. The disease was only reported in Kusini Unguja region.

d) Mange Disease

The total number of households reported infection with Mange disease to their goats 961 households and a total number of 2,310 goats were reported to be infected with Mange disease, of which, Kaskazini Pemba region had the highest number of goats infected by Mange disease (1,268 heads; 54.9 percent), followed by Kaskazini Unguja

Figure 4.28: Number of Goats infected with Mange Disease by Regions During 2019/20 Agricultural Year

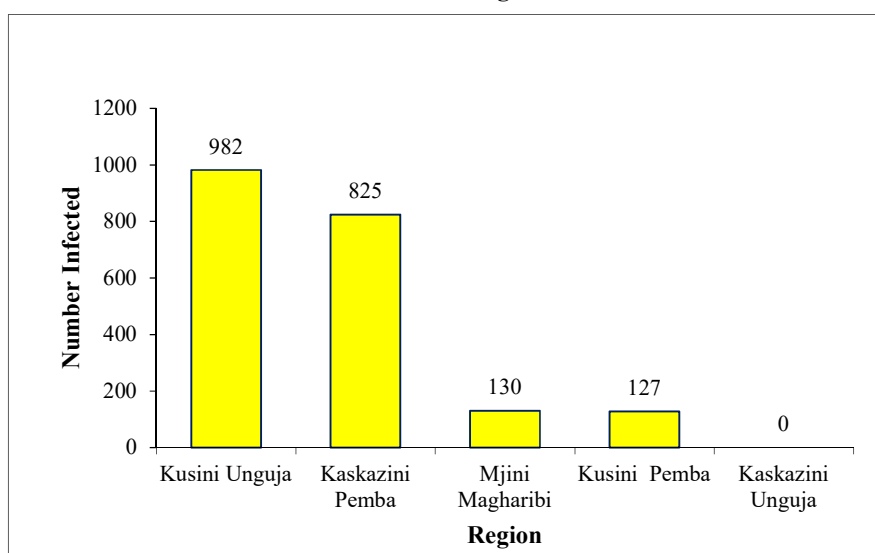
(553 heads; 23.9 percent) and Kusini Pemba (339 heads; 14.7 percent). The lowest proportion of goats infected by the disease was reported in Kusini Unguja region (150 heads; 6.5 percent). The disease was not reported to infect goats in Mjini Magharibi region (Figure 4.28).



e) Black Quarter Disease

The total number of households reported infection with Black Quarter disease to their goats was 407 households and a total number of 2,064 goats were infected. Kusini Unguja region had the highest number of goat's infections by Black Quarter disease (982 heads; 47.6 percent) followed by Kaskazini Pemba (825 heads; 40.0 percent) and Mjini Magharibi (130 heads; 6.3 percent). The lowest proportion of goats infected was reported in Kusini Pemba region (127 heads; 6.2 percent). The disease was not reported to infect goats in Kaskazini Unguja region (Figure 4.29).

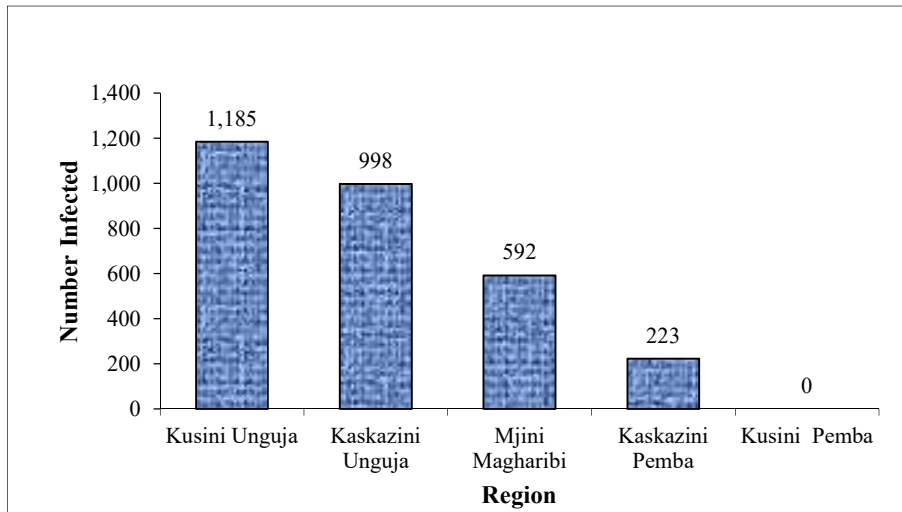
Figure 4.29: Number of Goats Infected with Black Quarter Disease by Regions During 2019/20 Agricultural Year



f) Contagious Caprine Pleuropneumonia (CCPP) Disease

The total number of households reported infection with CCPP disease to their goats was 858 households and a total number of 2,998 goats in Zanzibar were infected. In Zanzibar, Kusini Unguja region had the highest number of goats infected with CCPP disease (1,185 heads; 39.5 percent), followed by Kaskazini Unguja (998 heads; 33.3 percent) and Mjini Magharibi (592 heads; 19.7 percent). The lowest proportion of goats infected with the disease was reported in Kaskazini Pemba region (223 heads; 7.4 percent). The disease was not reported to infect goats in Kusini Pemba region (Figure 4.30).

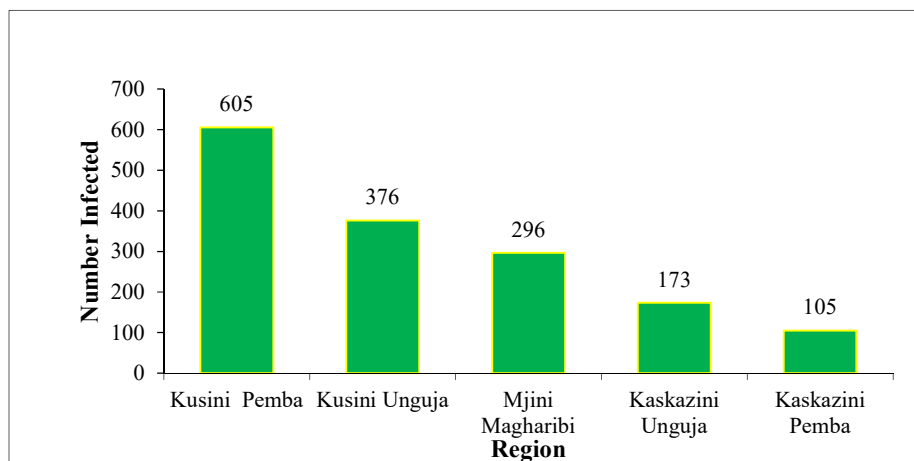
Figure 4.30: Number of Goats Infected with Contagious Caprine Pleuropneumonia (CCPP) Disease by Regions During 2019/20 Agricultural Year



g) Brucellosis Disease

The total number of households reported infection with Brucellosis disease to their goats was 1,010 households and a total number of 1,555 goats were infected by disease. Kusini Pemba region had the highest number of goats infected by Brucellosis disease (605 heads; 38.9 percent), followed by Kusini Unguja (376 heads; 24.2 percent) and Mjini Magharibi (296 heads; 19.0 percent). The lowest proportion of goats infected was reported in Kaskazini Pemba region (105 heads; 6.8 percent) (Figure 4.31).

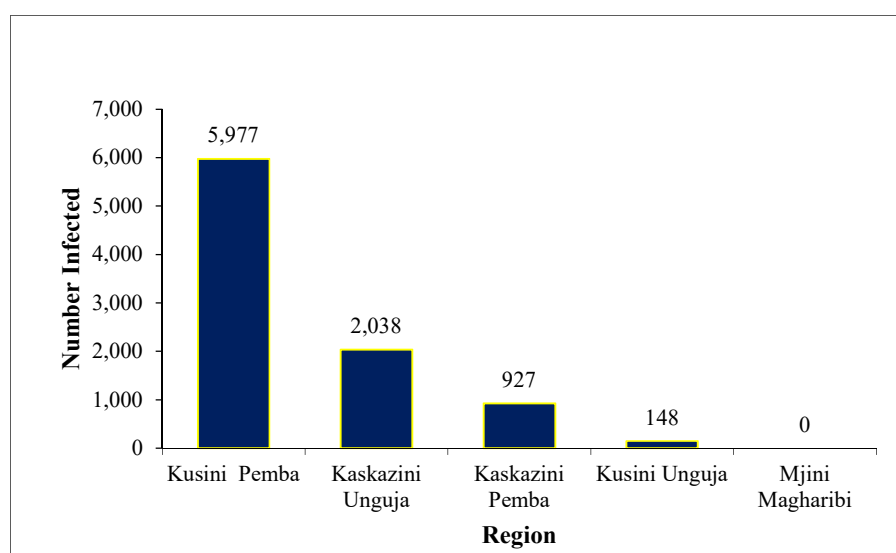
Figure 4.31: Number of Goats Infected with Brucellosis Disease by Regions During 2019/20 Agricultural Year



h) Foot and Mouth Disease (FMD)

The total number of households reported infection with FMD to their goats was 2,753 households in Zanzibar; and a total number of 9,090 goats were infected. Kusini Pemba region had the highest number of goats infected with FMD disease (5,977 heads; 65.8 percent), followed by Kaskazini Unguja (2,038; 22.4 percent) and Kaskazini Pemba (927; 10.2 percent). The lowest proportion of goats infected was reported in Kusini Unguja region (148; 1.6 percent). The disease was not reported to infect goats in Kaskazini Unguja region (Figure 4.32).

Figure 4.32: Number of Goats infected with Foot and Mouth Disease (FMD) by Regions During 2019/20 Agricultural Year



4.6.1.3 Sheep Diseases

a) Contagious Caprine Pleuropneumonia (CCPP) Disease

The total number of households reported infection with CCPP disease to their sheep was 50 households and a total number of 100 sheep were infected. However, the disease was only reported in Mjini Magharibi region with 100 sheep reported to be infected.

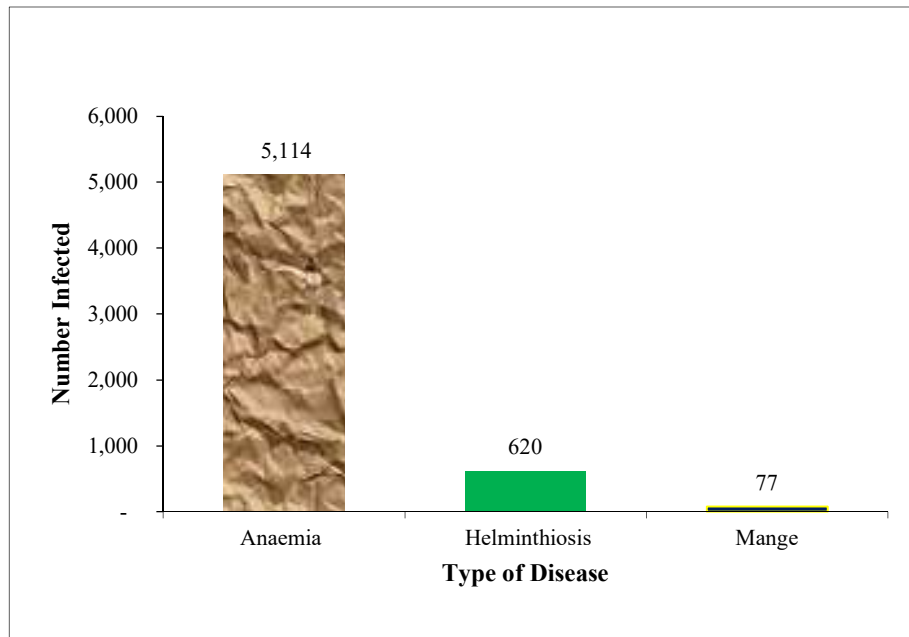
4.6.1.4 Pig Diseases

a) Anaemia, Helminthiosis and Mange Diseases

The total number of households reported infected with Anaemia, Helminthiosis and Mange Diseases to their pigs were 57 households for each disease, equivalent to 39.3 percent of the total households keeping pigs (145 households). The highest number

of pigs were infected with Anaemia with 5,114 heads (88.0 percent), followed by Helminthiosis (620 heads; 10.7 percent). The lowest number of pigs were reported to be infected with Mange (77 heads; 1.3 percent). All diseases were reported in Kusini Unguja region (Figure 4.33).

Figure 4.33: Number of Pigs Infected with Anaemia, Helminthiosis and Mange Diseases in Kusini Unguja Region During 2019/20 Agricultural Year



4.6.1.5 Poultry Diseases

The census results show that, Newcastle Disease was mostly reported by households (60,312; 58.3 percent) to affect poultry during 2019/20 agriculture year, followed by coryza (18,088; 17.5 percent) and fowl pox (8,500; 8.2 percent). Coccidiosis (430; 0.4 percent) had the least number of households reported to affect poultry, followed by fowl pox (8,500; 8.2 percent). Similarly, the number of poultry infected by Newcastle Disease was higher (1,122,208) compared to other diseases. Coryza was the second disease with large number (346,734 birds) of poultry infected, followed by fowl pox (73,255), while coccidiosis (5,211) had the least number of poultry infected (Table 4.22).

Table 4.22: Number of Households Reported Occurrence of Diseases and Number of Poultry Infected by Type of Disease During 2019/20 Agricultural Year

Disease Type	Household reported		Number of Poultry Infected
	occurrence of disease	Percent	
Newcastle Disease	60,312	58.3	1,122,208
Gumboro	1,394	1.3	12,196
Coccidiosis	430	0.4	5,211
Coryza	18,088	17.5	346,734
Fowl pox	8,500	8.2	73,225
Fowl typhoid	2,439	2.4	31,709
Total Poultry Keeping Households	103,382	100	

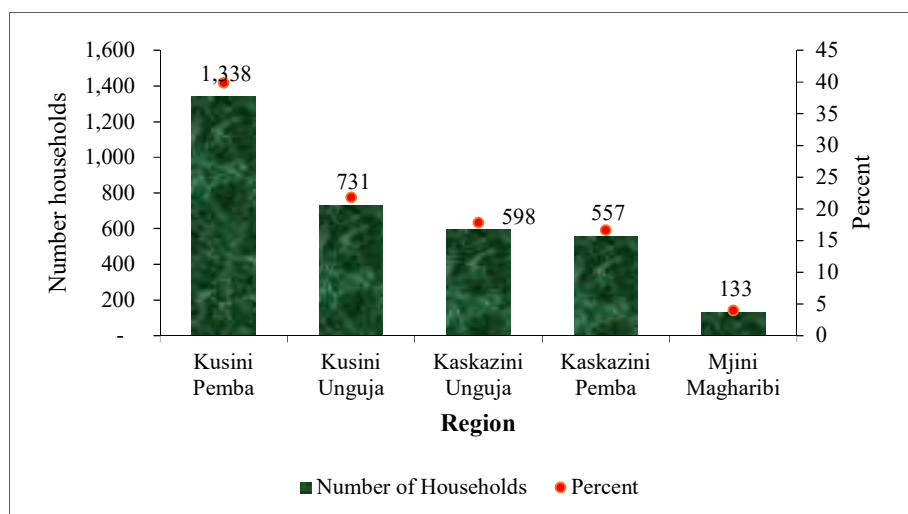
4.6.2 Livestock Vaccination

4.6.2.1 Vaccine Against Various Livestock Diseases

a) Foot and Mouth Disease (FMD)

The census results show that, 3,357 households keeping livestock reported to apply vaccination against FMD. The region with the largest number of households keeping livestock reported to vaccinate their livestock was Kusini Pemba (1,338 households; 39.9 percent), followed by Kusini Unguja (731 households; 21.8 percent) and Kaskazini Unguja (598 households; 17.8 percent). The region with the least proportion of households who reported to vaccinate livestock against FMD was Mjini Magharibi (133 households; 4.0 percent) (Figure 4.34).

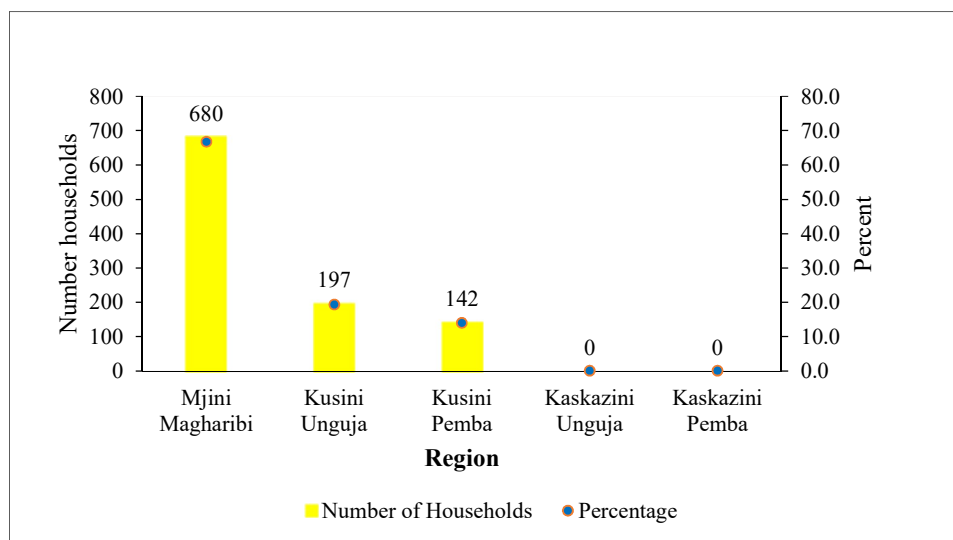
Figure 4.34: Number and Percent of households Vaccinated Livestock Against FMD by Region



b) Rabies

The census results show that, 1,019 livestock rearing households applied vaccination against rabies and the vaccination was conducted in three regions. The region with the largest number of livestock keeping households vaccinated their livestock against rabies, was Mjini Magharibi (680; 66.7 percent), followed by Kusini Unguja (197; 19.3 percent). The region with the least proportion was Kusini Pemba (142; 13.9 percent) (Figure 4.35).

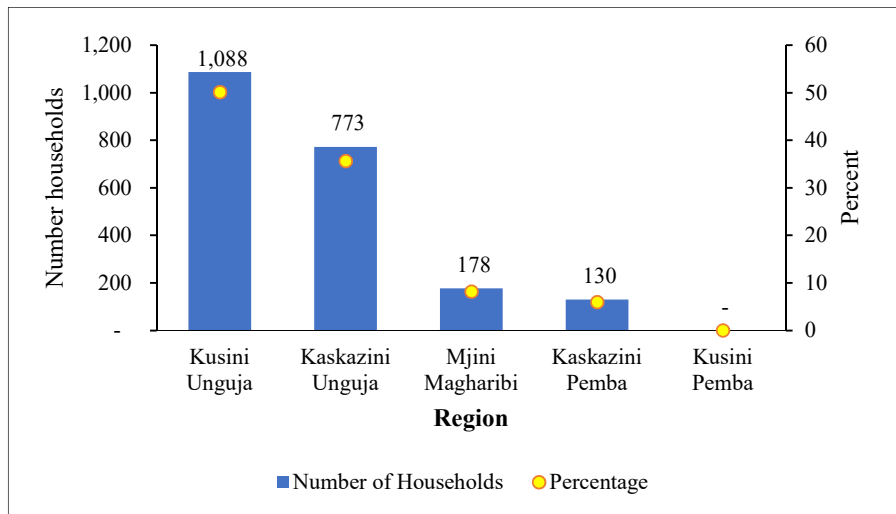
Figure 4.35: Number of Households Keeping Livestock Reported Vaccinated their Livestock against Rabies by Regions During 2019/20 Agricultural Year



c) Black Quarter

Black Quarter vaccination was also applied in cattle, goats, sheep, and pigs during 2019/20 Agricultural year. The results show that, a total of 2,169 households keeping livestock reported to vaccinate their livestock against Black Quarter disease. The region with the largest number of households keeping livestock reported to vaccinate livestock against Black Quarter, was Kusini Unguja (1,088 households; 50.2 percent), followed by Kaskazini Unguja (773 households; 35.6 percent) and Mjini Magharibi (178 households; 8.2 percent), whereas the region with the least number of households reported vaccination against Black Quarter was Kaskazini Pemba (130 households; 6.0 percent) (Figure 4.36).

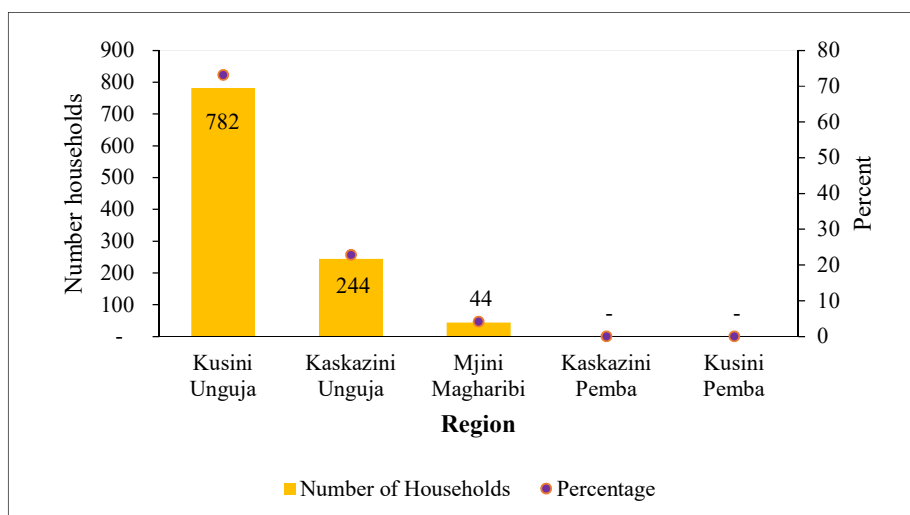
Figure 3.36: Number and Percent of Households Vaccinated Livestock Against Black Quarter by Region During Agricultural Year 2019/20



d) Anthrax

The census results show that, 1,070 livestock keeping households reported to receive vaccination on Anthrax disease. The vaccination was conducted in three regions, the region with the largest number of livestock keeping households vaccinated their livestock against Anthrax was Kusini Unguja (782 households; 73.1 percent), followed by Kaskazini Unguja (244 households; 22.8 percent) and Mjini Magharibi (44 households; 4.1 percent) (Figure 4.37).

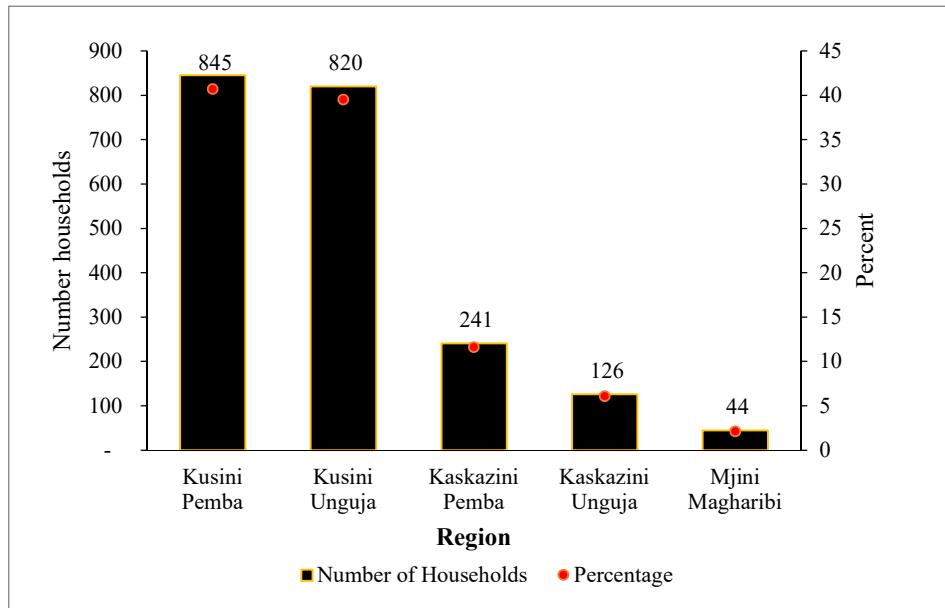
Figure 4.37: Number and Percent of households Vaccinated Livestock Against Anthrax by Region During Agricultural Year 2019/20



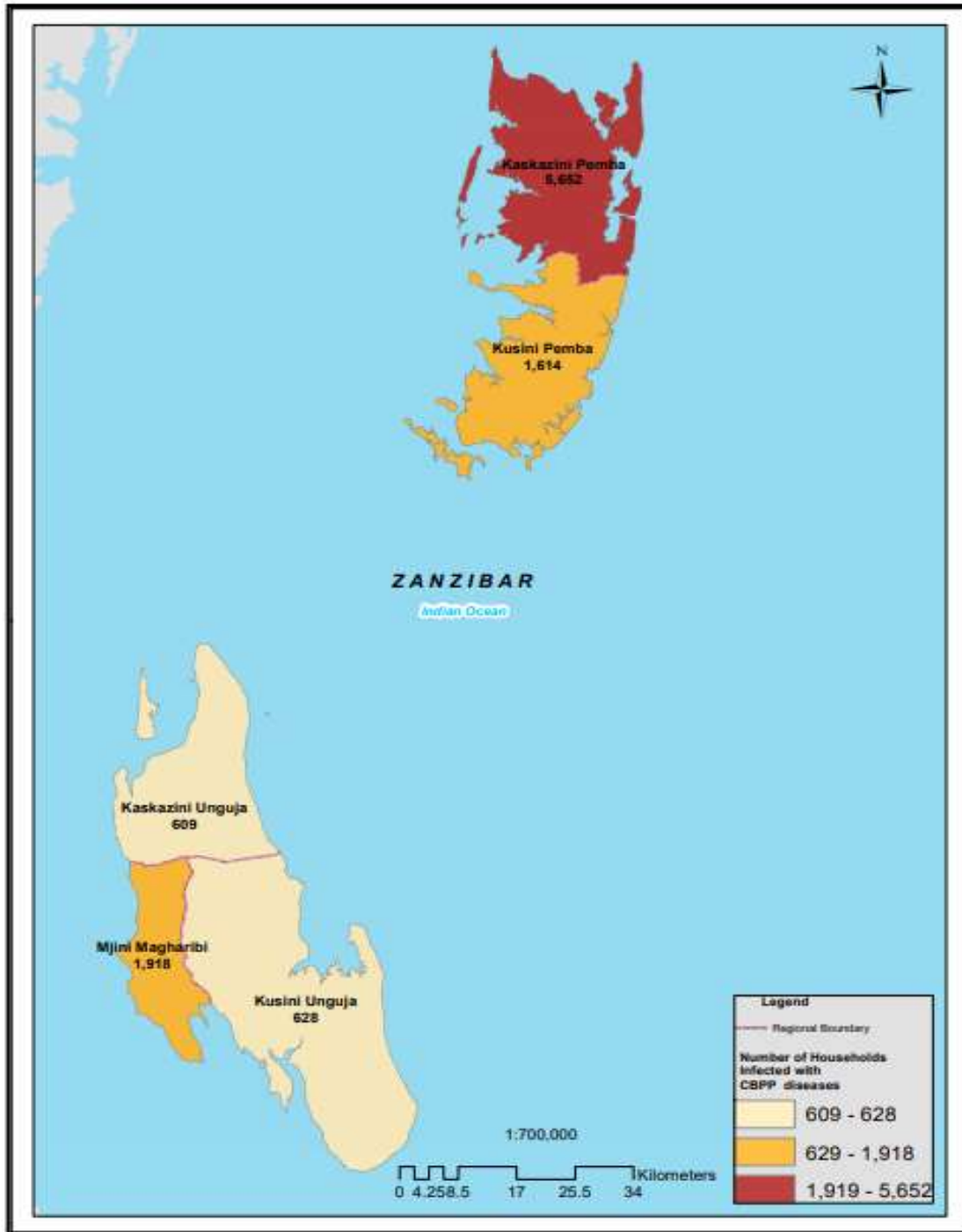
d) Contagious Bovine Pleuro-Pneumonia (CBPP)

The census results show that, a total of 2,076 households keeping livestock reported to receive vaccination against CBPP. The region with the largest number of households keeping livestock vaccinated against CBPP was Kusini Pemba (845 households; 40.7 percent), followed by Kusini Unguja (820 households; 39.5 percent) and Kaskazini Pemba (241 households; 11.6 percent), whereas the region with the least proportion of households that vaccinated animals against CBPP was Mjini Magharibi (44 households; 2.1 percent) (Figure 4.38 & Map 4.6)

Figure 4.38: Number of Livestock Keeping Households Vaccinated their Livestock Against CBPP by Regions During 2019/20 Agricultural Year



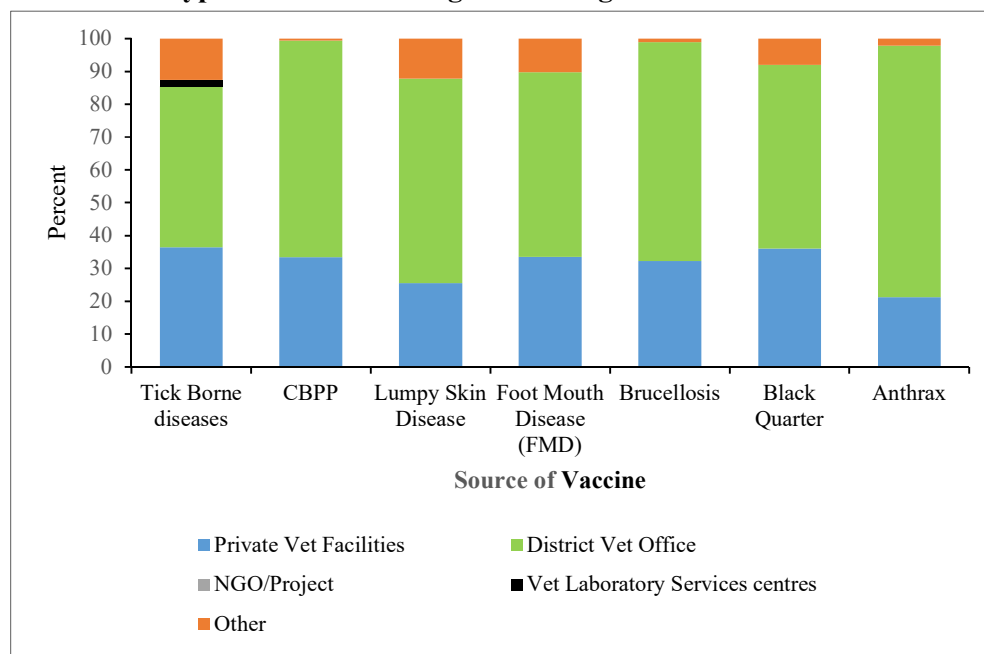
Map 4.6: Zanzibar Number of Cattle Reported to be Infected with CBPP by Regions During 2019/20 Agricultural Year



4.6.2.2 Source of Vaccines

During 2019/20 agricultural year, livestock rearing households reported different sources of obtaining vaccine for their animals. The Census results show that, District Vet Office was the main source of vaccine reported by more than 49 percent of the households for various livestock diseases. Private Vet facilities were reported to provide vaccine by proportional of 21.3 to 36.5 percent of households among other sources used by livestock keepers. Other sources reported were Vet Laboratory Services centres (1.8 percent) and other sources (0.6 to 12.6 percent) (Figure 4.39).

Figure 4.39: Percentage of Cattle Rearing Households Reported Sources of Vaccine by Type of Disease During 2019/20 Agricultural Year



4.6.3 Livestock Pest and Parasites control methods

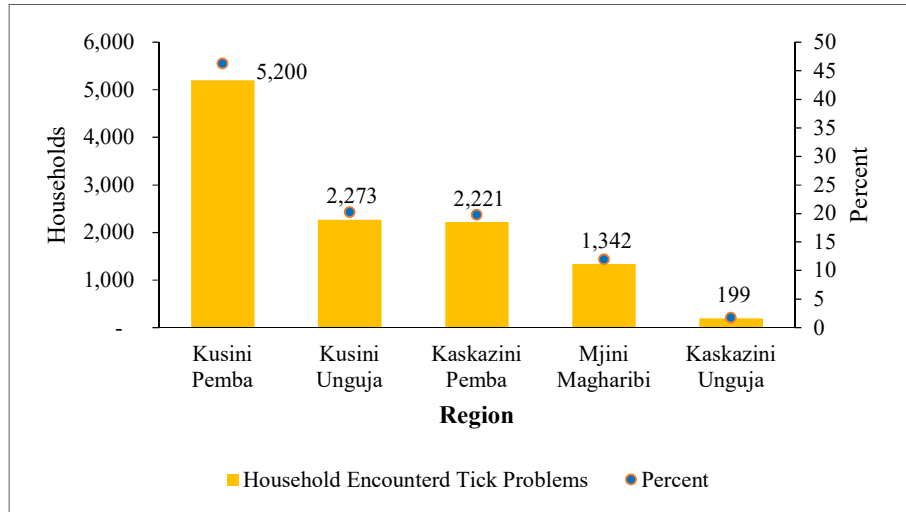
Specific Livestock pest and parasites control methods discussed in this section includes tick problem, tsetse flies and Newcastle Disease (NCD).

4.6.3.1 Tick Control Methods

Tick Borne Diseases were amongst the diseases reported to infect livestock during 2019/20 Agricultural year. From the total 64,459 households raising livestock 17.4 percent (11,235) reported to be encountered with tick problem. Kusini region had the highest number of household reported to encounter tick borne disease (5,200 households; 46.3 percent), followed by Kusini Unguja (2,273 households; 20.2 percent) and Kaskazini Pemba (2,221 households;

19.8 percent). Kaskazini Unguja was the least region with 199 households; 1.8 percent) (Figure 4.40).

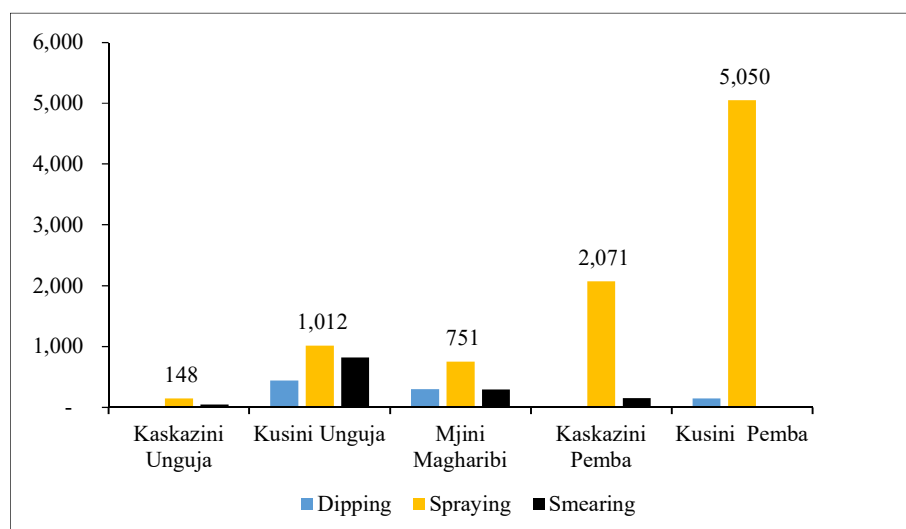
Figure 4.40: Number and Percentage of Households Reported to be Encounter with Tick borne Diseases by Region During 2019/20 Agricultural Year



The results in figure 4.41 show that, households encounter tick problem used different methods to control Tick problem. Three common methods used were Spraying, Smearing and Dipping. The dominant reported method was Spraying of which used by 9,032 households (80.4 percent) of the total households report to encounter tick problem. Kusini Pemba region had the highest number of household report to use spraying method to control tick problem with 5,050 households, followed by Kaskazini Pemba (2,071 households; 22.9 percent), Kusini Unguja (1,012 households; 11.2 percent). Kaskazini Unguja was the lowest region (148 households; 1.6 percent).

The second method used by significant number of households was Smearing with 1,314 households, equivalent to 11.7 percent of the total household keeping livestock that report to encounter tick problem. Kaskazini Unguja had the highest number (822 households; 62.6 percent), followed by Mjini Magharibi (290 households; 22.1 percent). Kaskazini Unguja was the lowest region (51 households; 3.9 percent). Dipping was reported to be used by 891 households, equivalent to 7.9 percent of the total households keeping livestock report to encounter tick problem. Kusini Unguja had the highest number of households (440 households; 49.4 percent), followed by Mjini Magharibi (301 households; 33.8 percent) and Kusini Unguja record the lowest number 9150 households; 16.8 percent) (Figure 4.41).

Figure 4.41: Number of Livestock Keeping Households used Different Tick Control Methods During 2019/20 Agricultural Year



4.6.3.2 Tsetse Fly Control Methods

Tsetse flies also was a challenge that infected livestock raising households during Agricultural year 2019/20. The control methods for tsetse flies disease include dipping 150 households (75.0 percent) and spraying 49 households (25.0 percent). Dipping method was reported to be used in Kusini Pemba region with 150 households and Spraying was reported in Mjini Magharibi region with 49 households (Table 4.23).

Table 4.23: Number of Livestock Keeping Households used Tsetse fly Control Methods During 2019/20 Agricultural Year

Region	Dipping	Spraying	Trapping
Kaskazini-Unguja	0	0	0
Kusini Unguja	0	0	0
Mjini Magharibi	0	49	0
Kaskazini-Pemba	0	0	0
Kusini-Pemba	150	0	0
Total	150	49	0

4.6.3.3 The Control Methods of Newcastle Disease (NCD)

The highest numbers of households encountered by NCD problem were in regions of Mjini Magharibi and Kusini Unguja. The control methods for NCD included Vaccination that was applied by 2,728 households (34 percent), local herbs 2,515 households (31 percent); those who applied nothing and others jointly accounted for 35 percent (Table 4.24).

Table 4.24: Number of Livestock Keeping Households used New Castle Disease (NCD) Control Methods During 2019/20 Agricultural Year

Region	Vaccination	Local herbs	None	Others
Kaskazini-Unguja	113	737	740	0
Kusini Unguja	326	925	549	0
Mjini Magharibi	1,382	232	735	44
Kaskazini-Pemba	278	332	528	0
Kusini-Pemba	629	289	292	0
Total	2,728	2,515	2,844	44

4.6.4 Deworming Practices

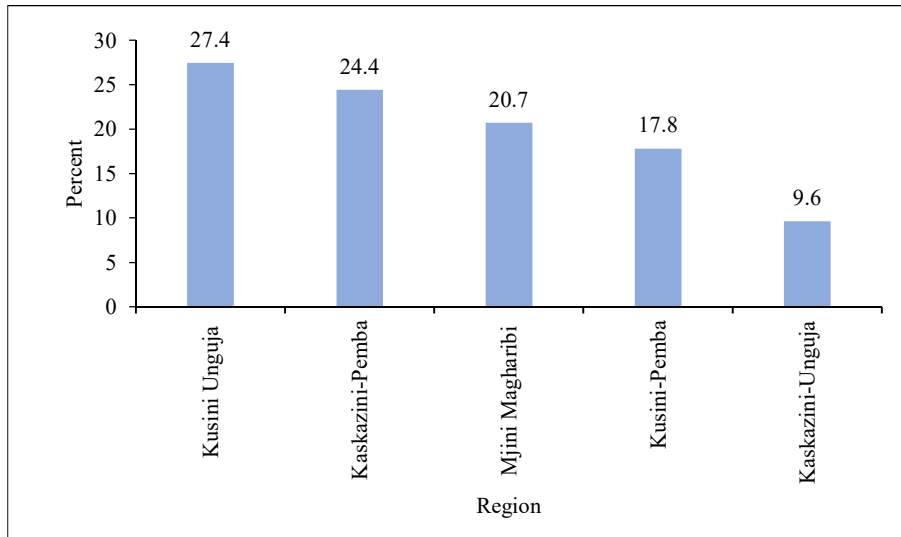
The Census results show that, during 2019/20 agricultural year, the total number of households reported to deworm their livestock in Tanzania was 14,115 in Tanzania Zanzibar. The largest number of households (11,115; 38.5 percent) reported to deworm their cattle, followed by chicken (3,819; 13.2 percent) and goat (3,294; 11.4 percent). There were no households reported to deworm pig and sheep (Table 4.25).

Table 4.25: Number and Percentage of Households Reported to Deworm Livestock During 2019/20 Agriculture Year

Category	Households Reported to Deworm	
	Number	Percent
Households practiced Pest and Parasite control	28,884	100
Cattle	11,115	38.5
Goat	3,294	11.4
Sheep	0	0
Pig	0	0
Chicken	3,819	13.2

The highest number of households reported to practice deworming was in Kusini Unguja region (3,872; 27.4 percent), followed by Kaskazini Pemba (3,449; 24.4 percent), while the least was in Kaskazini Unguja region (1,359; 9.6 percent) (Figure 4.42).

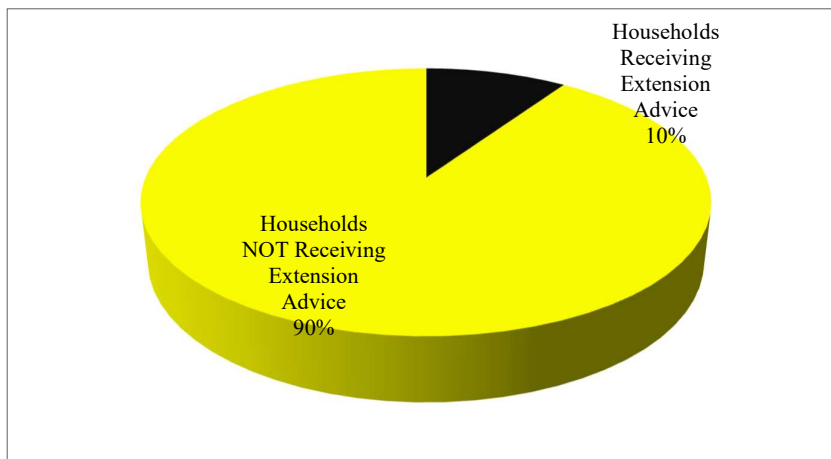
Figure 4.42: Percentage of Households Reported to Deworm Livestock During 2019/20 Agricultural Year



4.7 Livestock Extension Services

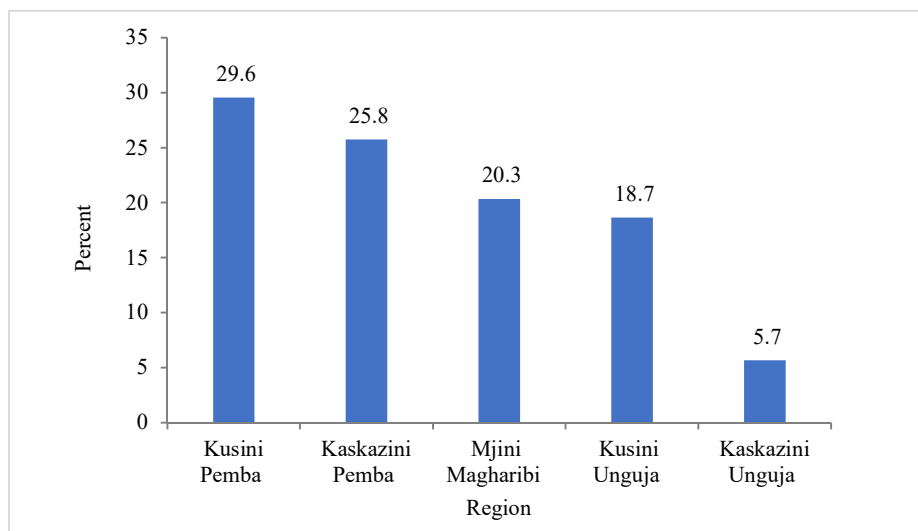
During 2019/20 NSCA the total number of households involved in rearing livestock was 64,456 households. From the total households rearing livestock, 6,149 households (10.0 percent) received extension advice (Figure 4.43).

Figure 4.43: Percentage of Agricultural Households Received and those did not Receive Extension Advice for Livestock



Kusini Pemba region had the highest number of households received extension advice (1,818 households; 29.6 percent), followed by Kaskazini Pemba (1,584 households; 25.8 percent), while Kaskazini Unguja region had the least households (349 households; 5.7 percent) (Figure 4.44).

Figure 4.44: Number of Households Received Extension Service Advices for Livestock by Region During 2019/20 Agricultural Year

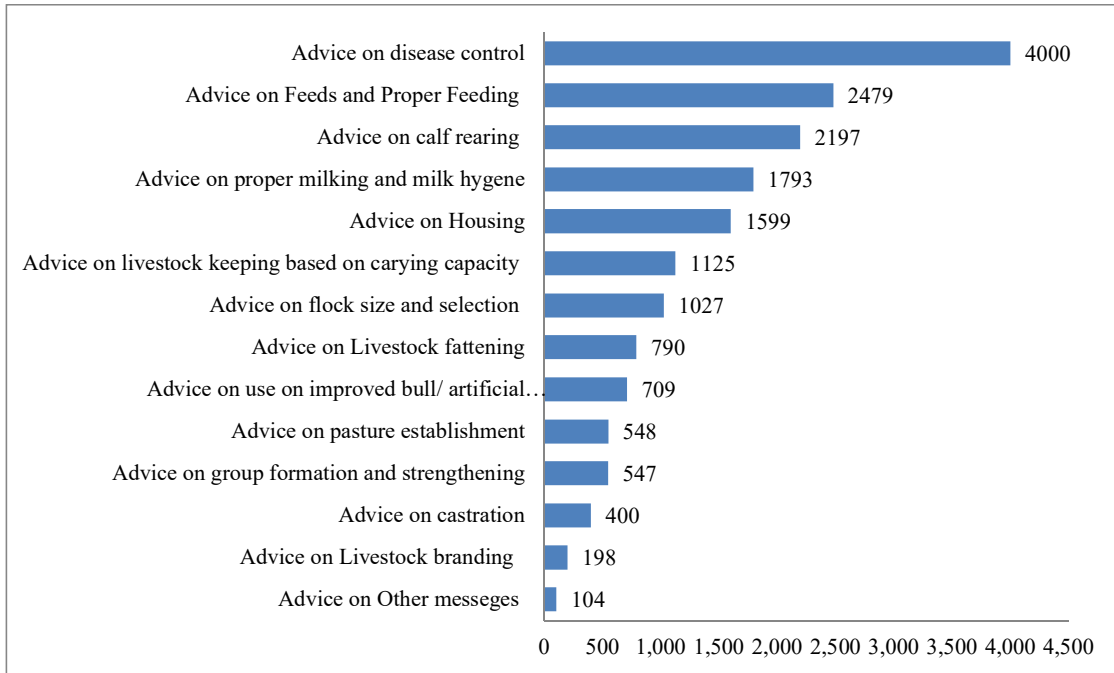


4.7.1 Extension Service Received by Households

The 2019/20 NSCA results show that, during 2019/20 Agriculture year different extension advice were given to household rearing livestock.

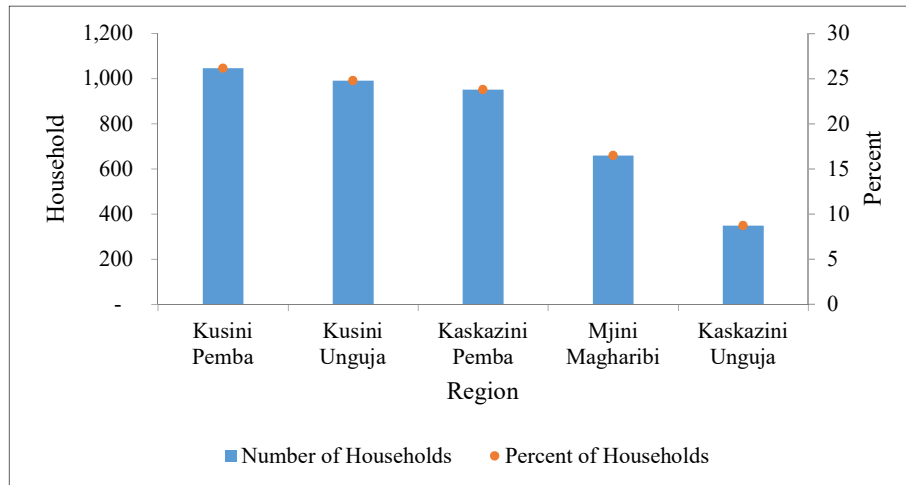
The extension advice received by most of households was Disease Control with 4,000 households (22.8 percent), followed by Advice on Feeds and Proper Feeding with 2,479 households (14.2 percent), Advice on calf rearing with 2,197 households (12.5 percent), Advice on proper milking and milk hygiene with 1793 households (10.2 percent) and the least was Advice on Other messages with 104 households (0.6 percent) (Figure 4.45).

Figure 4.45: Number of Agricultural Households Receiving Advice by Source and Region During 2019/20
Agricultural Year



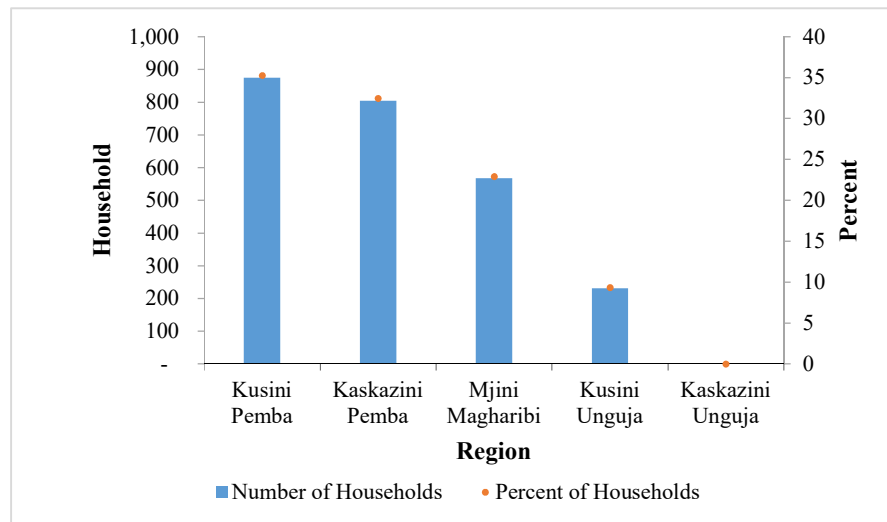
Kusini Pemba region reported the largest number of households (1,047; 26.2 percent) that received extension advice on disease control, followed by Kusini Unguja (992; 24.8 percent) and Kaskazini Pemba (952; 23.8 percent). The least number of households received advice on disease control was reported in Kaskazini Unguja region (349; 8.7 percent) (Figure 4.46).

Figure 4.46: Number and Percentage of Households Received Extension Advice on Disease Control for Livestock by Region During 2019/20 Agricultural Year



Likewise, Kusini Pemba region reported the largest number of households that received advice on feed and proper feeding (875; 35.3 percent), followed by Kaskazini Pemba (805; 32.5 percent). The least number of households received advice on feed and proper feeding of livestock was reported in Kusini Unguja region (232; 9.4 percent) (Figure 4.47).

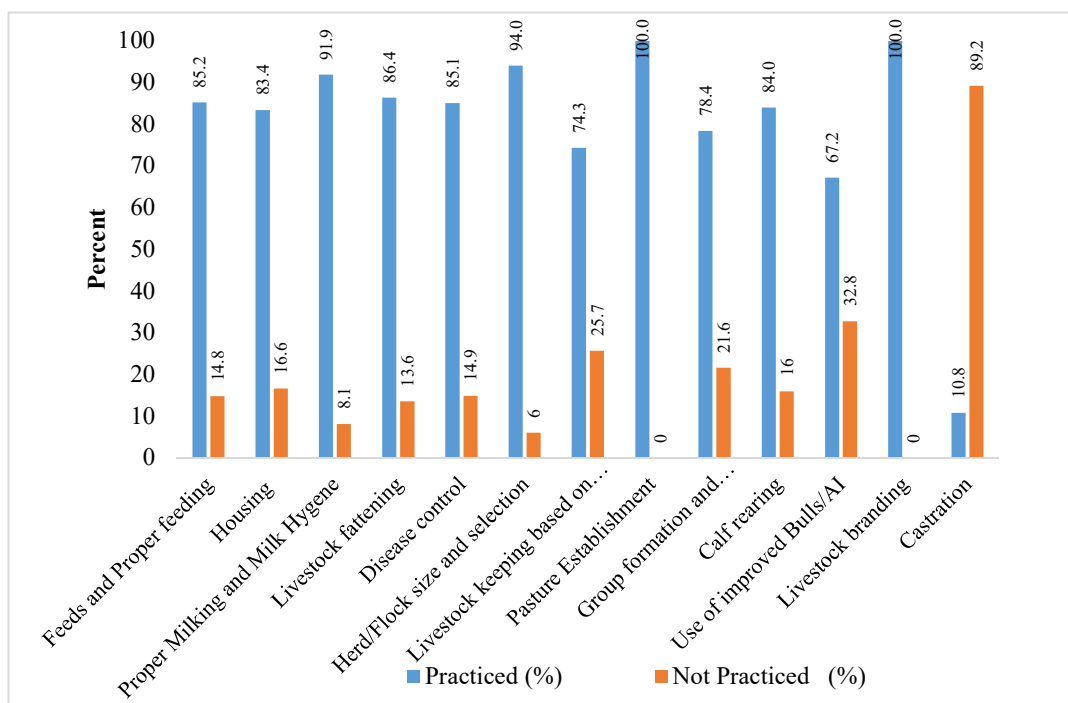
Figure 4.47: Number of Households Received Extension Advice Feed and Proper Feeding for Livestock by Region During 2019/20 Agricultural Year



4.7.2 Advice Practiced

The 2019/20 NSCA results show that, among the received extensions services reported by livestock keeping households, the most practiced extension service reported by livestock keeping households within type of extension advice received was livestock branding of which 198 household received the advice and 100.0 percent practiced the advice and pasture establishment (549 households received the advice, 100.0 percent practiced), followed by herd/flock size and selection (948 households; 94.0 percent) and proper milking and milk hygiene (1,620 households; 91.9 percent). On the other hand, the least practiced extension service reported by livestock keeping households was castration (43 households; 10.8 percent) (Figure 4.48).

Figure 4.48: Percentage Households Reported to Practice Livestock Extension Services During 2019/20 Agricultural Year



4.8 Fish Farming

The Fisheries Sector plays an important role in the economy of Tanzania. During 2020, the sector recorded a growth of 3.5 percent and accounted for 4.9 percent share to GDP (Zanzibar Statistical Abstract, 2020). However, this chapter presents census results on fish farming for both smallholder farmers and large-scale farms, specifically fish production, sources of fingerlings, frequency of stocking, outlet for selling fish and source of fish feeds. The species of fish considered in the census include tilapia, milk fish, prawns and african catfish.

4.8.1 Fish Farming Households

The 2019/20 NSCA results show that, total number of households practicing fish farming was 368 presenting 0.2 percent of the total agricultural households. The number of large scale farms were only 15 farms equivalent to 20 percent of the total large scale farms (75). The majority of fish farmers for smallholders were reported Kusini Pemba region of which 0.7 percent of the total agricultural households (54,379) within the region were engaged in this activity (Table 4.26).

Table 4.26: Number of Agricultural Households Practicing Fish Farming by Region; During the 2019/20 Agricultural Year

Region	Carried out fish farming		Did not carry out Fish Farming		Total Number
	Number	Percent	Number	Percent	
North Unguja	0	0.0	31,594	100.0	31,594
South Unguja	0	0.0	17,593	100.0	17,593
Urban West	0	0.0	35,873	100.0	35,873
North Pemba	0	0.0	40,781	100.0	40,781
South Pemba	368	0.7	54,011	99.3	54,379
Total	368		179,852		180,220
Percentage	<i>0.2</i>		<i>99.8</i>		

From the total 15 large scale farms practicing fish farming, Kusini Pemba region had the highest proportion with 10 farms equivalent to 66.7 percent of the total farms, Kaskazini Pemba (4 farms; 26.7 percent) and Kusini Unguja (1 farms; 6.7 percent). On the other hand, the common aquaculture system used was dugout pond, and the type of water was salt water.

In generally, the number of households reported to practice fish farming has increased tremendously from 26 households reported in 2007/08 to 368 households in 2019/20 agricultural years. The increased may be influenced by the ongoing slogan of blue economy. However; the main constraint reported facing this activity was availability of fingerlings.

4.8.2 Fish Production

The 2019/20 NSCA results show that, the number of stocked fish by smallholders and large scale farms were 330,677 fingerlings (173,286 fingerlings from small holders and 157,391 fingerlings from large scale farms), whereby the total quantity of fish harvested was 64.2 tons of which a total of 59.4 tons were sold with average price of price of TZS 4,628.00 per kilogram (Table 4.27).

Table 4.27: Number of Fish Stocked and Harvested, Quantity (kg) of Harvested and Sold Fish During 2019/20 Agriculture Year.

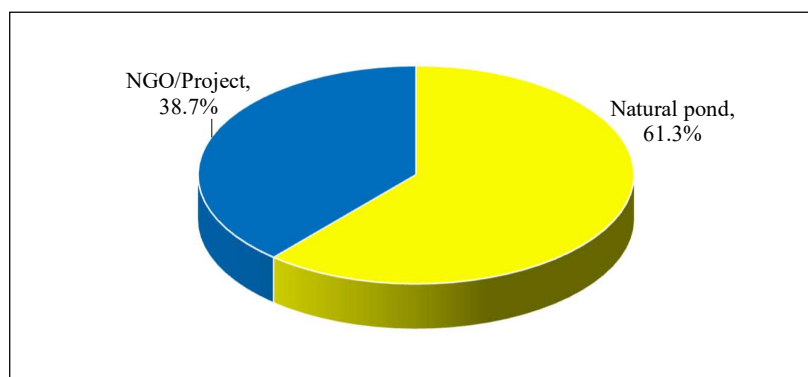
s/n	Number/Quantity	Total	Large Scale Farms	Smallholder Farmers
1.	Number of stocked fish	330,677	157,391	173,286
2.	Number of Fish harvested	101,476	67,300	34,176
3.	Weight of harvested fish(Kg)	64,205	52,813	11,392
4.	Weight of sold fish (Kg)	59,367	47,975	11,392
5.	Value of Fish Sold (TZS in million)	274.8		
6.	Average Price/kg	4,628.0		

4.8.3 Source of Fingerlings

The source of the fish fingerlings is the most important step towards good fish production. Therefore, this section describes the main source of fingerlings reported by fish farming households.

The results reveals that, the main sources of fingerlings reported by the majority of fish farming households were Natural pond and NGO/Project of which each reported by 225 (61.3 percent) and 142 (38.7 percent) respectively. There were no fish farming households or large scale farms reported to receive fingerlings from the Government institution or private trader fish hatchery as the main source (Figure 4.49).

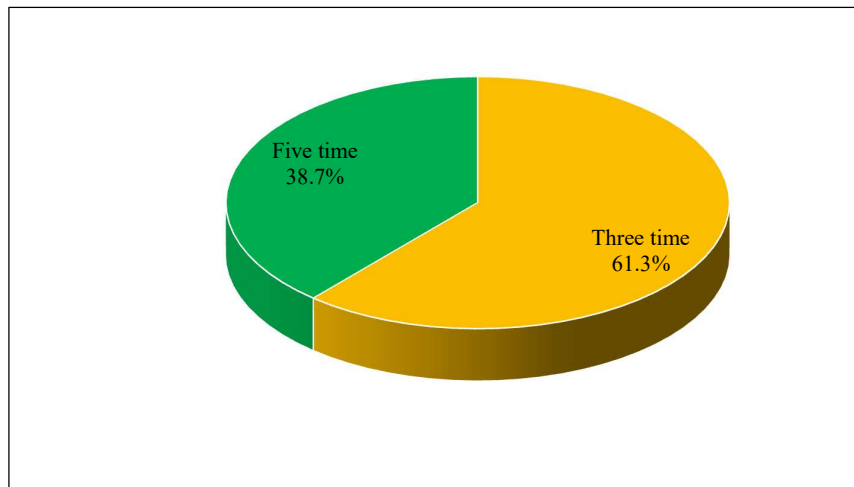
Figure 4.49: Percentage Distribution of Main Sources of Fish Fingerlings Reported by Households During 2019/20 Agricultural Year



4.8.4 Frequencies of Fish Stocking

Most of the fish farming households 225 (61.3 percent) were reported to stock fish fingerlings in their ponds three time per year. Those fish farming households that stocked their ponds five time per year were 38.7 percent. The common type of stocked fish was Milkfish. On the other hand, there was not fish farming household reported to stock fingerlings twice per as it was reported in 2007/08 National Agriculture Sample census (Figure 4.50).

Figure 4.50: Percentage Distribution of Frequency of Stocking Fingerlings During 2019/20 Agricultural Year



4.8.5 Outlets for Selling Fish

The 2019/20 NSCA results show that, most of the households that sold fish, reported to sell fish to their neighbours and this present 100 percent of the total harvested fish.

4.8.6 Fish Feeds

Table 3.3 below show the amount of fish feed used/purchased by fish farming households, the table depict that, the total quantity of fish feeds produced was 2,760 kg of which 2,700 kg (97.8 percent) was locally compounded feeds and 60 kg (2.2 percent) homemade fees. The average price was TZS 1,200.0 for locally compounded feeds.

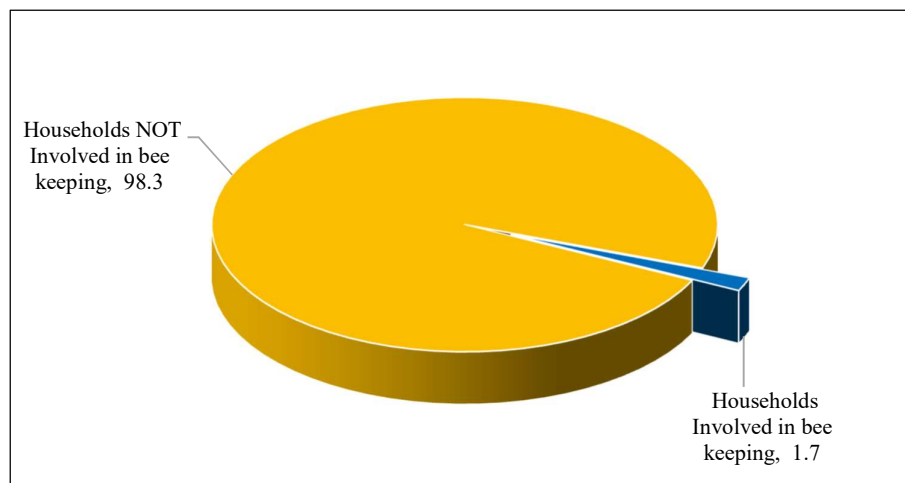
Table 4.28: Number of Households and Quantity of Feeds Used by Main Source of Fish Feeds During 2019/20 Agricultural Year

Source	No. of H/holds	Percent	Quantity (Kg)	Percent	Average Price per kg
Homemade feeds	225	61.3	60	2.2	0
Locally compounded feeds	142	38.7	2,700	97.8	1,200
Imported manufactured feeds	0	0	0	0.0	0
Other source	0	0	0	0.0	0
Total	367	100	2,760	100.0	

4.9 Bee Keeping

The census results reveals that, bee keeping is practiced only in three regions of Zanzibar, a total of 3,064 agricultural households, present 1.7 percent of the total agricultural households were engaged in this activity (Figure 4.51).

Figure 4.51: Percentage of Households Engaged in Beekeeping During 2019/20 Agricultural Year



Kusini Pemba region had the highest number of agricultural households practicing bee keeping with 2,145 households (70.0 percent), followed by Kusini Unguja (731 households; 23.9 percent) and the least was Kaskazini Pemba (188 households; 6.1percent).

In general, the number of households engaged in bee keeping increased from 1,282 households recorded in 2007/08 agricultural census to 3,064 household's equivalent to an increase of more than 100 percent.

The census results further reveals that; Two types of beehives were reported; namely improved and local beehives of which the later used by 889 households (23.1 percent) and local type beehives used by 2,927 households (76.9 percent). However, some households experienced to use both types of beehives. The common type of bees kept were large bees (sting) of which kept by 3,003 households (78.9 percent) and Small bees (stingless) (805 households; 21.1 percent). The results also reveal some bee peeking households some were manage both types of bees (Table 4.29).

Table 4.29: Number of Households Managing Small and Large Bees and Quantity of Honey Harvested During 2019/20 Agricultural Year

Bee Type	Households	Number of Hives	Quantity		Sold Average Price/Liter
			ofHarvested (Liters)	Quantity (Liters)	
Small Bees (Stingless)	805	6,104	1,193	1,025	21,215
Large bees (Sting)	3,003	30,289	9,765	5,916	22,196
Total	3,808	36,393	10,958	6,941	

4.9.1 Honey Production

The total of 10,958 liters of honey was produced during 2019/20 agriculture year. Out of the total 9,765 liters was produced from large bees, equivalent to 89.1 of the total honey harvested. Small bees produced only 1,193 liters (10.9 percent). The quantity honey sold was 6,941 liters (1,25 liters from small bees and 5,916 liters' large bees). The average price per liter of honey for small bees was TZS 21,215.0 and large bees TZS 22,196.0 (Table 4.29).

Table 4.30: Number of Households, Beehives and Quantity of Honey Harvested and Sold with Average Price During 2019/20 Agricultural Year

Bees Type	Honey						
	Number of Households	Percentage	Number of Hives	Harvested (Lts)	Percentage Sold	Amount (Lts)	Average Price/Lts
Small Bees (Stingless)	805	21.1	6,104	1,193	10.9	1,025	21,215
Large bees (Sting)	3,003	78.9	30,289	9,765	89.1	5,916	22,196
Total	3,808	100.0	36,393	10,958	100.0	6,941	

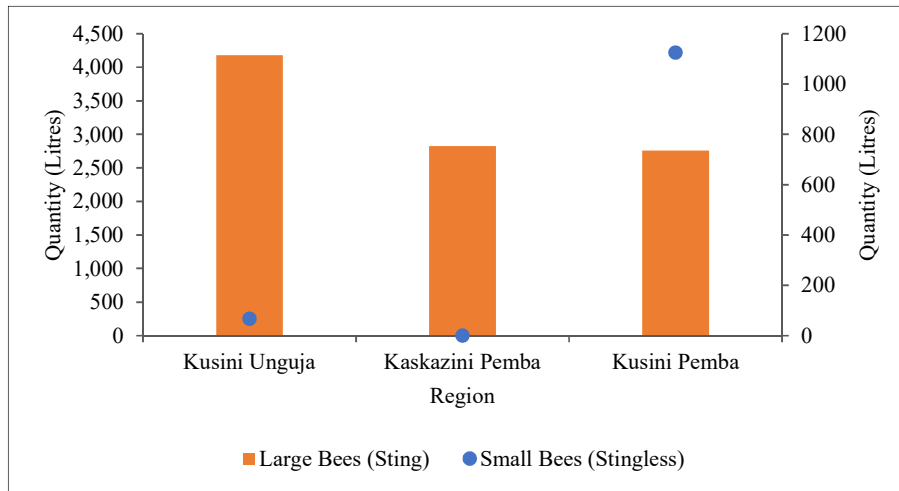
The production of honey from small bees (Stingless) was reported in Kusini Pemba region with 1,126 liters (94.4 percent) and Kusini Unguja 67 liters (5.6 percent). Whilst, the production of honey from Large bees (sting) was reported in Kusini Unguja 4,180 liters (42.8 percent), Kaskazini Pemba 2,826 liters (28.9 percent) and Kusini Pemba regions 2,759 liters (28.3 percent) (Table 4.49 and Figure 4.52).

Table 4.49 Quantity of Honey produced (Its), Sold and Average Price (TZS) by Type of Bees and Region During the 2019/20 Agriculture Year

Region	Small Bees (Stingless)				Large Bees (Sting)			
	Amount produced (liters) per year	Percent	Amount sold (Liters)	Average price per liter (TZS)	Amount produced (Liters) per year	Percent	Amount sold (Liters)	Average price per liter (TZS)
Kaskazini Unguja	-	-	-	-	-	-	-	-
Kusini Unguja	67	5.6	-	-	4,180	42.8	1,866	22,503
Mjini Magharibi	-	-	-	-	-	-	-	-
Kaskazini Pemba	-	-	-	-	2,826	28.9	1,884	20,000
Kusini Pemba	1,126	94.4	1,025	21,215	2,759	28.3	2,166	24,085
Total	1,193	100.0	1,025	21,215	9,765	100.0	5,916	22,196

Note: (-) = no production reported.

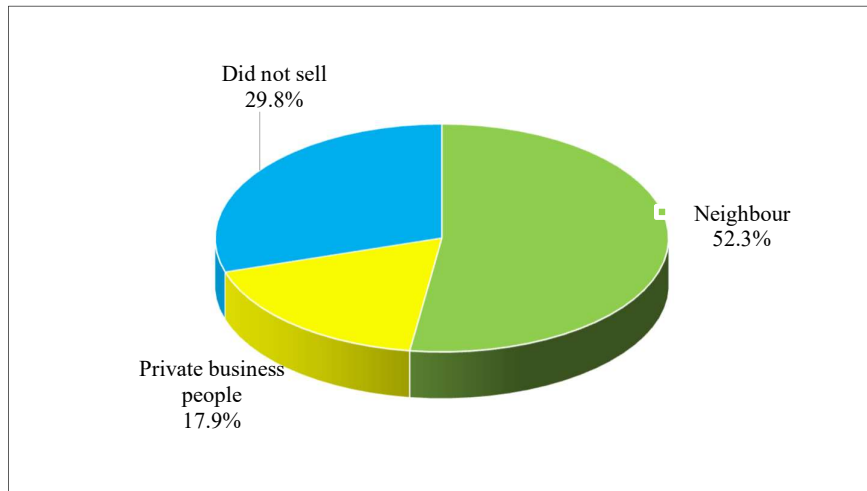
Figure 4.52: Quantity of Honey Produced from Sting and Stingless Bees by Region During 2019/20 Agricultural Year



4.9.2 Sales and Market of Honey

The results show that, the average price per liter of honey for small bees was TZS 21,215.0 and large bees TZS 22,196.0. The common market used to sales harvested honey was Neighbor of which reported by 624 households (52.3 percent) and Private business people (214 households; 17.9 percent). Out of the total households sold honey 356 households (29.8 percent) report didn't sale the harvested honey (Figure 4.53).

Figure 4.53: Percentage of Households Reported the Main Market Place of Honey Sold During 2019/20 Agricultural Year



CHAPTER FIVE

AGRICULTURAL CREDIT

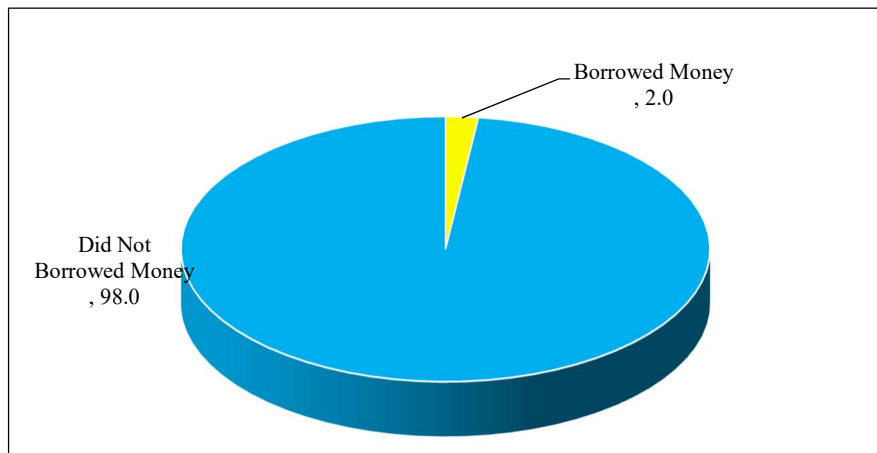
5.0 Introduction

In any agricultural development, farmers or agricultural household members need credits to support their agricultural activities. This can be done by borrowing money from different sources such as bank, individuals, cooperative societies, etc to acquire productive assets, land, machinery and/or any other input in production (fertilizer, seeds, agrochemicals, labor, etc). The major objective is to enhance agricultural operation and improve production of crops, livestock, fisheries and their products.

5.1 Agricultural Households Reported to Borrow Money

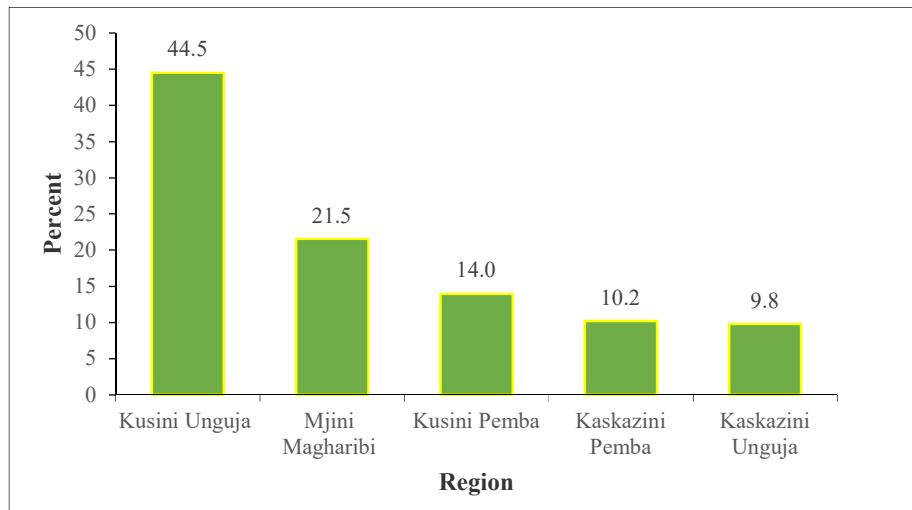
The census results show that, a total of 3,583 agricultural household's members, equivalent to 2.0 percent reported to borrowed money from different sources for agricultural activities during 2019/20 agricultural year (Figure 5.1)

Figure 5.1: Percentage Distribution of Household that Borrowed Money for Agricultural Activities During 2019/20 Agricultural Year



From the total agricultural households that borrowed money for agricultural activities, Kusini Unguja was the leading region having larger number of household members reported to borrow money for agricultural activities (1,595; 44.5 percent), followed by Mjini Magharibi (772; 21.5 percent), whilst Kaskazini Unguja reported to have the lowest proportional of household members (350; 9.8 percent) (Figure 5.2).

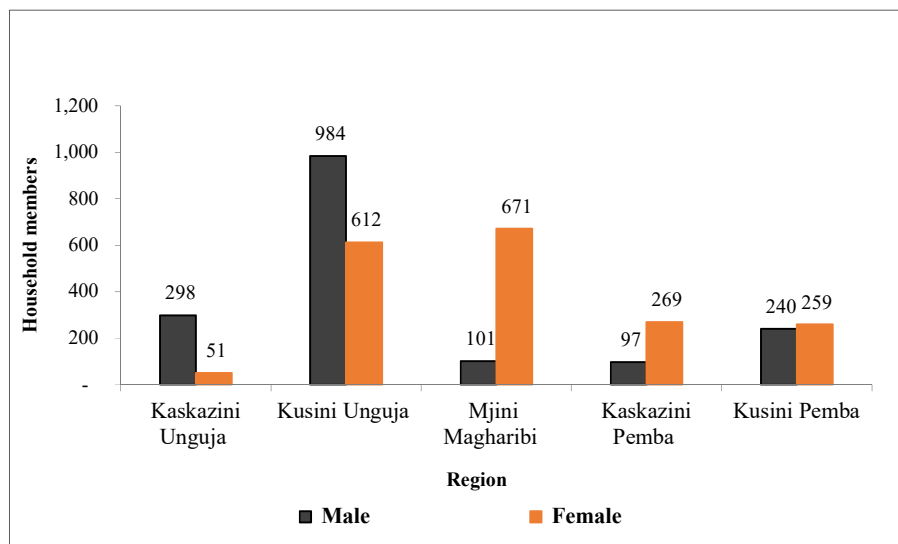
Figure 5.2: Percentage of Agricultural Households Reported to Borrow Money for Agricultural Activities During 2019/20 Agricultural Year



5.2 Agricultural Household Members Received Credit by Sex

The census results show that, a total of 3,582 household members reported to receive credits for agricultural activities of which majority were females (1,862; 51.9 percent) as compared to males (1,720; 48.0 percent). Moreover, Kusini Unguja region was leading with 1,596 members (984 males and 612 females) that received first credit for agricultural activities, followed by Mjini Magharibi having 772 members (101 males and 671 females), while Kaskazini Unguja had the smallest household members 349 (males 298 and females 51) (Figure 5.3).

Figure 5.3: Number of Agricultural Households Member Received First Credit by Sex and Region During 2019/20 Agricultural Year



It should be well noted that, for all household members that received the second credit (i.e., more than one loan) for agricultural activities, there were amongst of the members that received first credit. Thus, a total of 154 household members (4.0 percent) received second credit, out of that, majority were females (93; 60.4 percent) as compared to males (61; 39.6 percent) (Table 5.1).

Table 5.1: Number of Agricultural Household Members Received Second Credit by Sex During 2019/20 Agricultural Year

Sex	Households	
	Number	Percent
Male	2,042	53.3
Female	1,786	46.7
Total	3,828	100.0

5.2.1 Source of Credits

The Credit discussed in this section refers to all types of credit accessed from Private or Government Institutions in term of cash or goods and used for agricultural activities during the 2019/20 agricultural year, after which it is repaid afterwards. Whenever the credit was provided in kind, the really value of the credit was estimated in monetary value. The household was provided a chance to mention three credits if any namely; “First Credit”, Second credit and third credit. In addition to that for each credit received the household was also required to indicate source of the credit, uses and to whom the credit was provided. Therefore, the main source of credit discussed includes, Family, friend or relative, Bank, Cooperative, Savings and Credit Societies (SACCOS), Trader/trade store, Private individual and NGO/Project.

From the total households with members that borrowed money for agricultural activities, the main source of the ‘**first credit**’ was Cooperatives (1,815 members, 50.7 percent) out of which 581 (32.0 percent) were male members and 1,234 (68.0 percent) were female members, followed by Savings and credit Societies (504 members; 14.1 percent) of which 338 (67.1 percent) were male members and 166 (32.9 percent) were female members, Private individual (401 members; 11.2 percent) with 201 (50.1 percent) male members and 200 (49.9 percent) female members, whilst the sources of first credit with lowest number of members of the households was from Trader/trade store and Banks with (205 members; 5.7 percent) and (161 members; 4.5 percent) respectively (Table 5.2).

Table 5.2: Number of Agricultural Household Members Receiving Credit from First Credit by Sex and Region During 2019/20 Agricultural Year

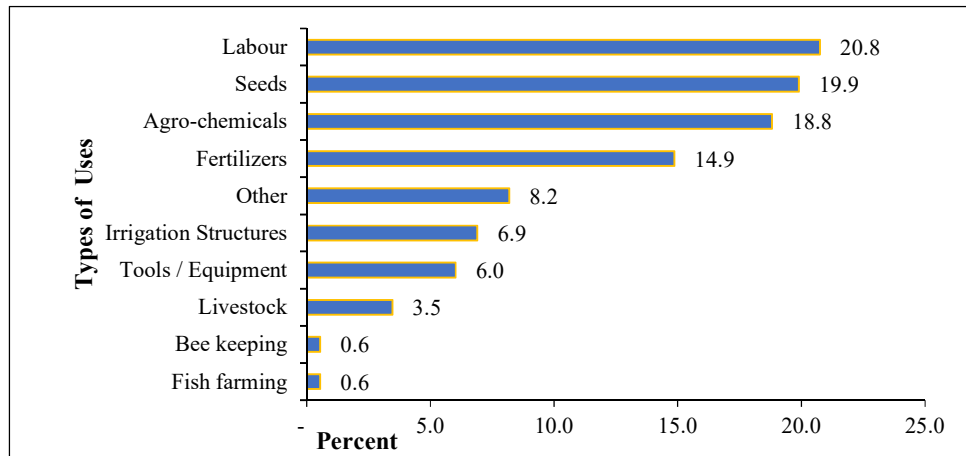
Credit from Source A	Male	Percent	Female	Percent	Total	Percent
Family, friend or relative	288	100.0	0	0.0	288	8.0
Bank	104	64.6	57	35.4	161	4.5
Cooperative	581	32.0	1234	68.0	1,815	50.7
Savings & credit SACCOS	338	67.1	166	32.9	504	14.1
Trader/trade store	55	26.8	150	73.2	205	5.7
Private individual	201	50.1	200	49.9	401	11.2
NGO/Project	153	73.6	55	26.4	208	5.8
Other	1	100.0	0	0.0	1	0.0
Total	1,721	48.0	1862	52.0	3,583	100.0

In the **second credit**, the only source in this category reported by agricultural household members was Cooperative which was reported by 154 household members out of which 39.6 percent were males and 60.4 percent were female members. In general, all members who borrowed the second credit were from Kusini Unguja region.

5.2.2 Uses of Credits

Regardless the source and to whom the credit was provided, members of the agricultural households described different uses of the credits received. The results reveals that, the majority of the household members used the credit in paying labour to perform different agricultural activities and this accounted for 2,066 member's equivalent to 20.8 percent of households that received credit. The second main use of credit was the purchase of seeds (1,981 members; 19.9 percent), followed by the purchase of agro chemical (1,873 members; 18.8 percent) The least uses of agricultural credit was fish farming (55 members; 0.6 percent) (Figure 5.4).

Figure 5.4: Percentage of Households that Received Credit by Type of Uses During 2019/20 Agricultural Year



5.2.3 Value of Credits

In Zanzibar, smallholder farmers reported to receive a total credit of Tanzania Shillings 543.3 million were borrowed by household members with an average of TZS 430,722.0 per household member for their agricultural activities during 2019/20 agricultural year, with the repayment value of was TZS 2,774.0 million. The largest proportion of the value of the credit borrowed from different source was in Kusini Unguja with a credit value of TZS 671.8 million (43.5 percent), followed by Mjini Magharibi (TZS 521.8 million; 33.8 percent) and Kusini Pemba (TZS 166.8 million; 10.8 percent). The region with the lowest credit value was Kaskazini Pemba (TZS 58.9 million; 3.8 percent) (Figure 5.5& Table 5.3).

Figure 5.5: Percentage of the Value of Credit Borrowed by Household Members by Region During 2019/20 Agricultural Year

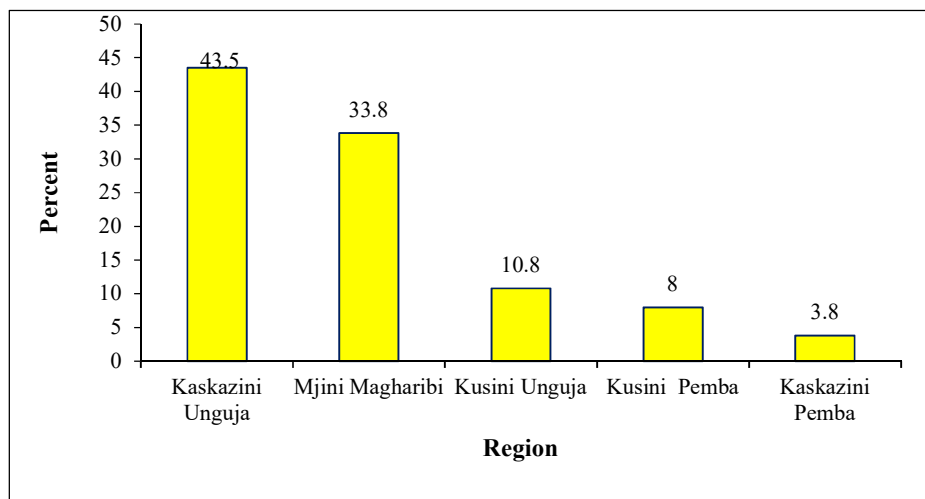


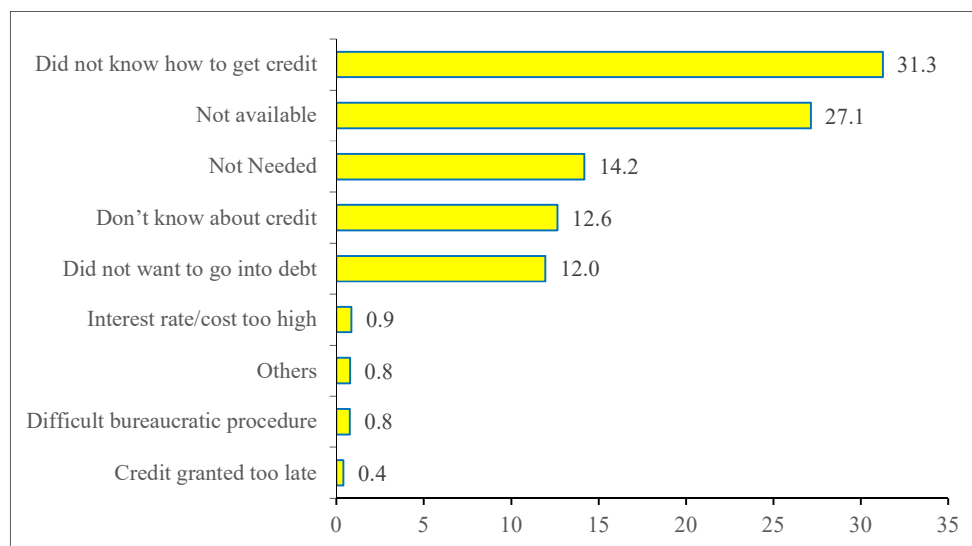
Table 5.3: Value and Percentage of Credits and Repayments by Region During 2019/20 Agricultural Year

Region	Value of Credit		Value of Repayment	
	Total (TZS)	Percent	Total (TZS)	Percent
Kaskazini Unguja	123,976,795	7.9	123,976,795	4.4
Kusini Unguja	690,459,736	44.2	1,728,332,347	61.9
Mjini Magharibi	521,759,366	33.4	693,699,445	24.8
Kaskazini Pemba	58,930,208	3.8	58,930,208	2.1
Kusini Pemba	166,808,105	10.7	187,723,105	6.7
Total	1,561,934,210	100.0	2,792,661,900	100.0

5.2.4 Main Reason for Not Borrowing Credit

The census results show that, a total of 176,638 household members were reported “did not need” credits for their agricultural activities. The majority of household members (55,231 members; 31.3 percent) reported “Did not know how to get credit” for their agricultural activities. This was followed by 47,945 members (27.1 percent) who reported “credits not available” and 25,060 members (14.2 percent) reported “did not need credits”. Additionally, few household members (714; 0.4 percent) reported that “credit granted too late” as their main reason of not borrowing credits (Figure 5.6).

Figure 5.6: Percentage of Agricultural households Reported main Reason for Not Borrowing Credit During 2019/20 Agricultural Year



5.3 Agricultural Constraints

The agricultural constraints for this census are those issues which limits or hinder the production or development of agriculture. There were 175,982 agricultural households who reported five most important agricultural constraints that affect agricultural production during the 2019/20 agricultural year by ranking them.

From the total 180,220 agricultural households, a total of 165,106 households, equivalent to 93.8 percent mentioned to face 32 constraints and 10,876 households (3.2 percent) reported did not face any constraints. In total the majority ‘Crop theft’ was the major constraint reported by 20.8 percent of the agricultural households, followed by access to land (12.0 percent). The destruction of crops by wild animals/birds and pests and diseases destructive, both were ranked third after being reported by 11.0 percent of the households. Among the 10 major constraints mentioned by the household, availability of inputs was the last constraint declared by 3.6 percent of the households (Figure 5.7).

Figure 5.7: Most Important Agricultural Constraints Affected Smallholder Households by Percentage During the 2019/20 Agricultural Year

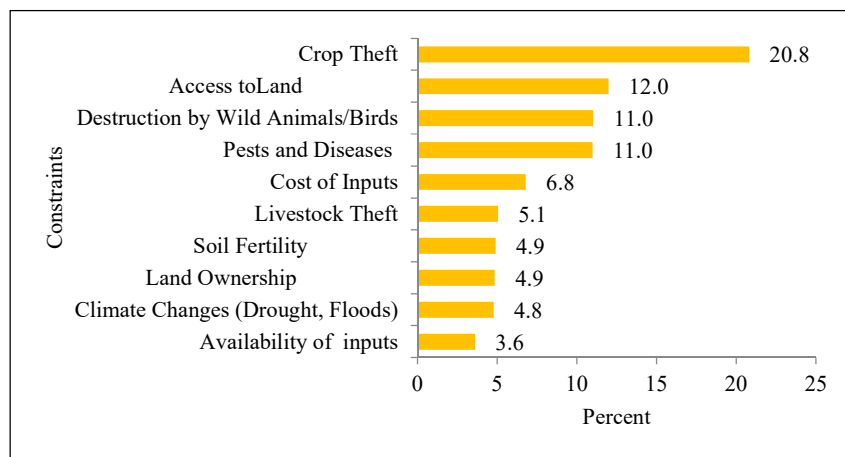


Table 5.4 below shows other constraints faced by agricultural households reported during the 2019/20 agricultural year.

Table 5.4: Number and Percentage of Agricultural Households Reported Major Constraints During 2019/20 Agricultural Year

Constraint	Households	
	Number	Percent
Access to land	19,773	12.0
Land Ownership	8,008	4.9
Soil fertility	8,096	4.9
Availability of quality seeds	3,655	2.2
Irrigation equipments	1,707	1.0
Availability of Agro Chemicals	1,700	1.0
Availability of Veterinary drugs	1,092	0.7
Cost of Inputs	11,216	6.8
Extension Services	3,782	2.3
Availability of forest products	139	0.1
Access to credit	2,876	1.7
Harvesting	387	0.2
Threshing/Dehulling	-	-
Crop Storage	43	0.0
Agro Processing	-	-
Access to Market and marketing Information	392	0.2
Transportation costs	486	0.3
Distraction by wild animals	18,207	11.0
Crop theft	34,360	20.8
Livestock theft	8,344	5.1
Pests and Diseases	18,128	11.0
Cess	57	0.0
Off-farm Income	582	0.4
Conflicts between farmers and livestock keepers	1,241	0.8
Climate change (drought, floods, etc)	7,882	4.8
Availability of inputs	5,968	3.6
Availability of Industrial agrochemicals	830	0.5
Access to water for agricultural activities	1,664	1.0
Low prices of agricultural produces	2,552	1.5
Cost of land ownership	126	0.1
Governmental Policies Laws Regulations and Guidelines	-	-
Availability of quality pasture and Animal feeds	373	0.2
Access to water for domestic use	334	0.2
Lack of capitals/Money	-	-
Lack /Poor infrastructure	-	-
Other	1,106	0.7
Total	165,106	100.0

CHAPTER SIX

POVERTY INDICATORS

6.0 Introduction

Housing characteristics, water and sanitation can be used as indicators of poverty and socio-economic status of the households. This section describes type of material used for roofing, wall and floor; toilet facility, sources of drinking water, energy for cooking and lighting used by households.

6.1 Roofing Materials

The type of building materials for roofing, walls and floor indicates the socio-economic status of the household. The findings show that, out of 180,220 agricultural households in Zanzibar, the majority 157,927 households (87.6 percent) used iron sheets as a roofing material, followed by use of grasses/leaves which accounted for 12.0 percent. Other building materials reported were the use of grasses and muds that accounted for 0.2 percent. Tiles (185; 0.10 percent) and asbestos (270; 0.15 percent) were the least building materials used for roofing, walls and floor (Table 6.1).

Table 6.1: Type of Roofing Materials Used by Agricultural Households During 2007/08 and 2019/20 Agricultural Years

Materials used for Roof construction	2008		2020	
	Number	Percent	Number	Percent
Iron Sheets	79,978	60.5	157,927	87.6
Tiles	2,732	2.1	185	0.1
Concrete	475	0.4	0	-
Asbestos	1557	1.2	270	0.1
Grass/Leaves	46,782	35.4	21,537	12.0
Grass & Mud	554	0.4	301	0.2
Other	15	0.0	0	-
Total	132,093	100.0	180,220	100.0

In generally, the percentage of households using iron sheet for roofing has increased from 60.5 percent in the 2007/08 census to 87.6 percent in the 2019/20 census while for grass/leaves roofing material the percentage has decreased from 35.4 percent in 2007/08 census to 12.0 percent in the 2019/20 census.

6.2 Floor Materials

In 2019/20 agricultural year there were 180,218 households which reported three types of floor material used in their houses which are cement, earth and sand and tiles. Cement was the main

material used for construction of floor and it was reported by 126,364 households (70.1 percent), followed by earth and sand mentioned by 50,892 households (28.2 percent), and the least used was tiles by 2,962 households (1.6 percent).

Kusini Pemba region the use of cement as a floor material was reported by 34,568 households (27.4 percent), followed by Mjini Magharibi 28,912 households (22.9 percent), while the lowest number of households using cement for floor was recorded in Kusini Unguja 14,349 households (11.4 percent).

Similarly, the use of earth/sand for floor construction was highly reported in Kusini Pemba where 19,456 households (35.8 percent) used the material. The second region reported the use earth and sand for construction of floor was Kaskazini Pemba with 15,428 households (37.8 percent) while Kusini Unguja reported the lowest number of 2,423 households (13.8 percent) (Table 6.2).

Table 6.2: Number and Percentage of Households Reported Materials Used for Floor Construction by Region During 2019/20 Agricultural Year

Region	Types of Floor Materials						Total Households
	Earth/ Sand/ Dung		Ceramic Tiles, Terrazzo		Cement		
	Number	Percent	Number	Percent	Number	Percent	
Kaskazini Unguja	7,864	24.9	212	0.7	23,518	74.4	31,594
Kusini Unguja	2,423	13.8	820	4.7	14,349	81.6	17,593
Mjini Magharibi	5,721	15.9	1,239	3.5	28,912	80.6	35,873
Kaskazini Pemba	15,428	37.8	336	0.8	25,017	61.3	40,781
Kusini Pemba	19,456	35.8	355	0.7	34,568	63.6	54,379
Total	50,892	28.2	2,962	1.6	126,364	70.1	180,220

Comparatively, the use of earth/sand for floor in agricultural households has decreased from 55.0 percent in 2007/08 to 28.2 percent in 2019/20 agricultural years. Moreover, the use of cement as the flooring material has increased from 41.0 percent in 2007/08 to 70.1 percent in 2019/20 agricultural year.

6.3 Wall Materials

Cement bricks was reported to be the main material for walls. The survey reveals that there were 64,656 households (35.9 percent) out of 180,220 households, used cement bricks for walls construction. Poles and earth/muds was the second material used for walls and was reported by 59,469 households (33.0 percent), followed by brick stones 19,813 households (11.0 percent). Grass was the least material since it was used only by 200 households (0.1 percent) (Table 6.3).

Table 6.3: Number and Percentage of Households by Type of Wall Material During 2019/20 Agricultural Year

Wall Material	Households	
	Number	Percent
Grass	200	0.1
Poles and earth/Mud	59,469	33.0
Sun-Dried Bricks	17,339	9.6
Baked Bricks	347	0.2
Wood Timber	-	-
Cement Blocks	64,656	35.9
Stones	18,013	10.0
Brick Stones	19,813	11.0
Other	382	0.2
Total	180,220	100.0

In contrast to the first two building materials for roof and floor where Kaskazini Pemba has higher number of households; on cement bricks Kaskazini Unguja was leading with 25,430 households (39.3 percent) reported to use cement bricks for wall construction, followed by Mjini Magharibi (16,886 households; 39.3 percent), while Kusini Unguja (6,928 households; 10.7 percent) had the lowest number of households using cement bricks for wall construction (Table 6.4).

Table 6.4: Percentage of Agricultural Households Reported Materials Used for Wall Construction by Region During 2019/20 Agricultural Year

Region	Wall Materials								
	Grass	Poles and Earth/Mud	Sun-Dried Bricks	Baked Bricks	Wood, Timber	Cement Blocks	Stones	Brick stones	Other
Kaskazini Unguja	65.0	5.4	0.8	-	-	39.3	7.3	6.9	-
Kusini Unguja	35.0	3.7	16.6	-	-	10.7	28.3	0.3	88.2
Mjini Magharibi	-	7.2	81.0	51.6	-	26.1	0.8	1.5	11.8
Kaskazini Pemba	-	28.4	0.7	48.4	-	11.9	54.5	30.7	-
Kusini Pemba	-	55.3	0.9	-	-	11.9	9.0	60.7	-
Total	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0

The census result shows that there is an improvement on the use of wall construction material. The number of households using cement blocks for wall construction increased from 21 percent in 2007/08 to 35.9 percent in 2019/20 while the leading material for poles and earth/mud decreased from 51.0 percent in 2007/08 to 33.0 percent in 2019/20 agricultural years.

6.4 Toilet Facilities

The total of 179,591 households reported the use of different type of toilets facility in Zanzibar. The most commonly used toilet facility used in Zanzibar by households was flush toilet with cistern 64,620 (36.0 percent), followed with those with no toilets (32,944 households; 18.3 percent) and pit latrine with slab/washable (29,297 households; 16.3 percent), Pit latrine without slab/Open pit (17,439 households; 9.7 percent) while composting toilet/ECOSAN latrine was the least reported type of toilet with 340 households (0.3 percent) (Table 6.5).

Table 6.5: Number and Percentage of Agricultural Households by Type of Toilet Facility During 2019/20 Agricultural Year

Toilet Facility	Households	
	Number	Percent
No toilet/bush	32,944	18.3
Pit latrine without slab/open pit	17,439	9.7
Pit latrine with slab/not washable	12,523	6.9
Pit latrine with slab/washable	29,297	16.3
Ventilated improved pit latrine	9,514	5.3
Pour flush toilet	12,914	7.2
Flash toilet with cistern	64,620	35.9
Composting toilet/ECOSAN latrine	340	0.2
Other type	628	0.3
Total	180,220	100.0

Mjini Magharibi had a large number of households 21,076 (32.6 percent) using flush toilet with cistern in Zanzibar, followed by Kaskazini Pemba (15,413 households; 23.9 percent) while Kusini Unguja (4,815 households; 7.3 percent) had a least number of agricultural households using flush toilet (Table 6.6).

Table 6.6: Percentage of Agricultural Households by Type of Toilet Facility and Region During 2019/20 Agricultural Year

Region	No toilet/bush	Pit latrine without slab/Open pit	Pit latrine with slab /Not washable	Pit latrine with slab /washable	Ventilated improved pit latrine	Pour Flush toilet	Flash toilet with cistern	Composting toilet/ECOSAN latrine	Other
Kaskazini Unguja	11.7	10.7	26.6	19.5	10.4	34.1	17.3	0.0	47.8
Kusini Unguja	1.5	8.5	12.9	25.8	10.4	4.8	7.5	0.0	0.0
Mjini Magharibi	0.2	38.9	20.1	11.1	4.2	13.6	32.6	0.0	8.1
Kaskazini Pemba	46.2	18.6	8.7	12.9	14.1	3.6	23.9	35.0	19.1
Kusini Pemba	40.4	23.3	31.7	30.8	60.8	44.0	18.8	65.0	25.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Comparatively, the number of households without toilets facilities has decreased from 49.0 percent in 2007/08 to 18.3 percent in 2019/20 agricultural years.

6.5 Source of Energy for Cooking

The results show that, firewood continued to be a dominant source of energy for cooking. Out of total of 180,220 household reported different source of energy for cooking, 151,659 households (84.2 percent) were used firewood. Charcoal is the second source of energy for cooking (23,202 households; 12.9 percent). Solar was the least source of energy for cooking; as it was reported by only by 334 households (0.2 percent) (Table 6.7).

Table 6.7: Number and Percentage of Agricultural Households Reported Main Source of Energy for Cooking During 2019/20 Agricultural Year

Main Source	Households	
	Number	Percent
Mains electricity	987	0.5
Solar	334	0.2
Gas (Household biogas)	688	0.4
Gas (Industrial)	2,650	1.5
Paraffin/kerosene	465	0.3
Charcoal	23,202	12.9
Firewood	151,659	84.2
Crop Residues	-	-
Livestock dung	-	-
Natural Gas	-	-
Generator/Private source	-	-
Other	234	0.1
Total	180,220	100.0

Fire wood and charcoal, the two sources of energy for cooking jointly were used by 97.1 percent of the total agricultural households. Kusini Pemba region had the highest (45,130 households; 29.8 percent) used fire wood, followed by Kaskazini Pemba (36,101 households; 23.8 percent), while Kusini Unguja had a least number (15,092 households; 10.0 percent). For the case of charcoal, Kusini Pemba had a largest number of household (38.2 percent) used charcoal as source of energy for cooking, followed by Mjini Magharibi (6,922 households; 29.8 percent) while Kaskazini Unguja (959 households; 4.1 percent) had a least number of agricultural households (Table 6.8).

Comparatively, the census results show that, the use of firewood as a source of cooking in agricultural households has slightly reduced from 92.0 percent reported in 2007/08 to 84 percent in 2020 agricultural years.

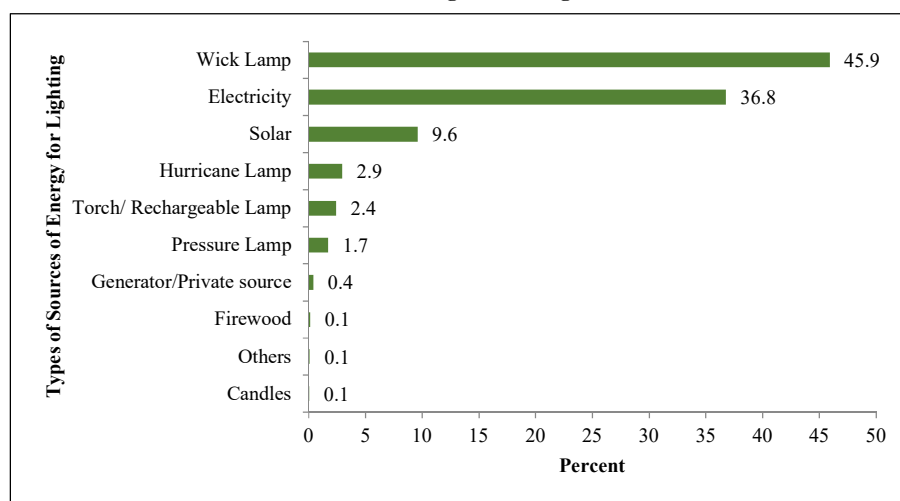
Table 6.8: Percentage of Agricultural Households Reported Main Source of Energy for Cooking by Region During 2019/20 Agricultural Year

Region	Mains electricity	Solar	Gas (household biogas)	Gas (Industrial)	Paraffin/kerosene	Charcoal	Firewood	Crop Residues	Livestock dung	Natural Gas	Generator/Private source	Other
Kaskazini Unguja	6.9	-	35.8	2.5	11.0	4.1	19.9	-	-	-	-	20.5
Kusini Unguja	11.6	-	8.3	2.1	23.9	9.3	10.0	-	-	-	-	-
Mjini Magharibi	43.2	100.0	56.0	95.5	20.9	29.8	16.6	-	-	-	-	-
Kaskazini Pemba	19.3	-	-	-	-	18.6	23.8	-	-	-	-	79.5
Kusini Pemba	19.1	-	-	-	44.3	38.2	29.8	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	-	-	-	100.0

6.6 Source of Energy for Lighting

There are various sources of energy for lighting used in Zanzibar. A total of 180,220 agricultural household reported Main Source of Energy for Lighting during 2019/20 agricultural year in Zanzibar. Wick lamp reported by 82,750 households (45.9 percent) is the leading source of energy for lighting followed by electricity (66,285 households; 36.8 percent) and solar (17,279 households; 9.6 percent). The three sources of energy for lighting were reported to be used by over 92 percent of agricultural households in Zanzibar. The least used source for lighting was candles (0.1 percent) of the households (Figure 6.1).

Figure 6.1: Percentage of Agricultural Households Reporting Main Source of Energy for Lighting by Type During 2019/20 Agricultural Year



Kusini Pemba had the highest number of households 26,352 (31.8 percent) using wick lamp as source of energy for lighting, followed by Kaskazini Pemba (24,333 households; 29.4 percent) and Kaskazini Unguja (17,355 households; 21.0 percent) whereas Kusini Unguja had the lowest number (4,554 households; 5.5 percent). Similarly, Kusini Pemba had the highest number of households 19,601 households using electricity as a source of energy for lighting followed by Mjini Magharibi 18,465 households; 27.9 percent) while Kaskazini Unguja 8,042 households; 12.1 percent) had the least number of households (Table 6.9).

Comparatively, the results show that the number of households using wick lamps has decreases from 72 percent in 2008 to 46 percent in 2020 while the use of electricity as a source for lighting has increased from 12 percent in 2008 to 37 percent in 2020. On the other hand, the results

show the use of solar as source for lighting in 2020.has increased from 0.3 percent households in 2007/08 to 10 percent households in 2019/20 agricultural years.

Table 6.9: Percentage of Agricultural Households Reported Main Source of Energy for Lighting by Region During 2019/20 Agricultural Year, Tanzania

Region	Mains electricity	Solar	Biogas	Hurricane Lamp	Pressure Lamp	Wick Lamp	Candles	Firewood	Torch/ Rechargeable Lamp	Generator/Private source	Other
Kaskazini Unguja	12.1	29.9	-	2.8	2.5	21.0	-	-	15.6	17.1	-
Kusini Unguja	12.8	11.7	-	12.4	-	5.5	55.0	78.5	37.4	-	-
Mjini Magharibi	27.9	23.8	-	20.2	11.1	12.3	45.0	21.5	23.8	82.9	-
Kaskazini Pemba	17.6	16.8	-	25.1	8.8	29.4	-	-	6.2	-	-
Kusini Pemba	29.6	17.7	-	39.5	77.7	31.8	-	-	17.0	-	100.0
Total	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

6.7 Access to Drinking Water

6.7.1 Wet Season

The Census results show that, from the total 180,220 agricultural households, 78.0 percent their main source of drinking water during wet season was piped water, followed by protected well (24,487 households; 13.6 percent) and unprotected well (12,500 households; 6.9 percent). The three sources of drinking water during wet season jointly accounted for 98.5 percent of the agricultural households. The least used source of drinking water during wet season was unprotected spring reported by only 57 households (0.03 percent) reported from Kusini Unguja region (Table 6.10).

Table 6.10: Number and Percentage of Agricultural Households Reported Main Source of Drinking Water in Wet Season During 2019/20 Agricultural Year

Source of Drinking Water	Households	
	Number	Percent
Piped water	140,638	78.0
Protected well	24,487	13.6
Protected/covered spring	367	0.2
Unprotected Well	12,500	6.9
Unprotected spring	57	0.0
Surface water (lake/dam/river/stream)	1,136	0.6
Covered rainwater catchment	57	0.03
Uncovered rainwater catchment	54	0.03
Water Vendor	141	0.1
Tanker truck	114	0.1
Bottled water	-	-
Borehole	667	0.4
Other	-	-
Total	180,220	100.0

Kusini Pemba region had the highest number of households 50,257 (35.7 percent) using pipe water as a source of drinking water during wet season, followed by Kaskazini Pemba (31,654 households; 22.5 percent) and Kaskazini Unguja (27,080 households; 19.3 percent) whereas Kusini Unguja had the lowest number (11,678 households; 8.3 percent). On the other hand, Mjini Magharibi had the highest number of households 12,610 (51.5 percent) using protected well as a source of drinking water during wet season, followed Kusini Unguja (4,091 households; 16.7 percent), while Kaskazini Pemba (3,666 households; 15.0 percent) had the least number of households. The lowest region was Kusini Pemba (1,112; 4.5 percent) (Table 6.11).

Table 6.11: Percentage Distribution of Agricultural Households Reported Main Source of Drinking Water in Wet Season by Region During 2019/20 Agricultural Year

Region	Main Source of Drinking water													
	Piped water	Protected well	Protected/covered spring	Unprotected Well	Unprotected spring	Surface water (lake/dam/river/stream)	Covered rainwater catchment	Uncovered rainwater catchment	Water Vendor	Tanker truck	Bottled water	Borehole	Other	
Kaskazini Unguja	19.3	12.3	-	6.6	-	4.2	-	-	100.0	100.0	-	57.0	-	
Kusini Unguja	8.3	16.7	88.0	10.7	100.0	-	100.0	100.0	-	-	-	-	-	
Mjini Magharibi	14.2	51.5	12.0	16.9	-	95.8	-	-	-	-	-	7.2	-	
Kaskazini Pemba	22.5	15.0	-	43.7	-	-	-	-	-	-	-	-	-	
Kusini Pemba	35.7	4.5	-	22.2	-	-	-	-	-	-	-	35.8	-	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-

6.7.2 Dry Season

The results show that, majority of agricultural households (77.5 percent) used pipe water as the main source of drinking water during dry season, followed by protected wells (24,670 households; 13.7 percent) and unprotected well (13,181 households; 7.3 percent). The least was unprotected springs and uncovered rain water each accounted for 54 households (0.03 percent) (Table 6.12).

Table 6.12: Number and Percentage of Agricultural Households Reported Main Source of Drinking Water in Dry Season During 2019/20 Agricultural Year

Source of Drinking Water	Households	
	Number	Percent
Piped water	139,647	77.5
Protected well	24,670	13.7
Protected/covered spring	697	0.4
Unprotected well	13,181	7.3
Unprotected spring	54	0.03
Surface water (lake/dam/river/stream)	927	0.5
Covered rainwater catchment	-	-
Uncovered rainwater catchment	54	0.03
Water vendor	141	0.1
Tanker truck	178	0.1
Bottled water	-	-
Borehole	667	0.4
Other	-	-
Total	180,220	100

The result is similar to wet season on the source of drinking water during dry season. Kusini Pemba had the highest number of households 49,713 (35.6 percent) using pipe water as a source of drinking water during dry season, followed by Kaskazini Pemba (31,243 households; 22.4 percent), while and Kusini Unguja had the lowest number (11,563 households; 8.3 percent). Furthermore, the result reveals that Mjini Magharibi had the highest number of households 12,334 (51.5 percent) using protected well as a source of drinking water during dry season, followed Kusini Unguja (4,320 households; 17.5 percent), while Kaskazini Pemba (3,997 households; 16.1 percent). The lowest region was Kusini Pemba had the least number of households (1,112; 4.5 percent) (Table 6.13).

In general, the percent of households used piped water as a source of drinking water has increased from an average of 67.0 percent in both seasons (wet and dry) in 2007/08 to 78.0 percent in 2019/20 agricultural years.

Table 6.13: Percentage Distribution of Agricultural Households Reported Main Source of Drinking Water in Dry Season by Region During 2019/20 Agricultural Year

Region	Piped water	Protected well	Protected/covered spring	Unprotected Well	Unprotected spring	Surface water (lake/dam/river/stream)	Covered rainwater catchment	Uncovered rainwater catchment	Water Vendor	Tanker truck	Bottled water	Borehole	Other
Kaskazini Unguja	19.1	11.9	-	9.0	-	10.4	-	-	100.0	100.0	-	57.0	-
Kusini Unguja	8.3	17.5	30.6	10.5	100.0	-	-	100.0	-	-	-	-	-
Mjini Magharibi	14.6	50.0	12.8	16.0	-	89.6	-	-	-	-	-	7.2	-
Kaskazini Pemba	22.4	16.1	-	42.3	-	-	-	-	-	-	-	-	-
Kusini Pemba	35.6	4.5	56.7	22.1	-	-	-	-	-	-	-	35.8	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	-	100.0	-

6.8 Distance to Source of Drinking Water

Distance to water sources during wet and dry season was almost the same regardless of the type of water source. The findings show that, during wet and dry season, about 98 percent of the total agricultural households in Zanzibar obtain drinking water from a distance of less than 1 kilometer. More than 1.3 percent of the households reported to obtain drinking water during dry and wet season from a distance between 1 kilometer and less than 2 kilometers. Only 0.1 percent of the households in Kusini Unguja reported the source of drinking water in both season wet and dry to more than 10 kilometers.

The result shows similar number of households reporting distance to source of drinking water in wet and dry season by region during 2019/20 agricultural year to wet season. Kusini Pemba had the highest number of households more than 30 percent reported the distance to source of drinking water of less than 1 kilometer, followed by Kaskazini Pemba with more than 22.7 percent of households. Whilst Kusini Unguja reported more than 9.5 percent of the households the distance to source of drinking water during wet and dry season is less than one kilometer (Table 6.14& Table 6.15)..

Table 6.14: Number and Percentage of Agricultural Households Reported Distance to Source of Drinking Water in Wet Season by Region during 2019/20 Agricultural Year

Distance (Km)	Households	
	Number	Percent
Less than 1km	176,899	98.2
1.00 - 1.99 Km	2,4298	1.3
2.00 - 2.99 Km	762	0.4
3.00 - 4.99 Km	-	-
5.00 - 9.99 Km	-	-
10 Km and above	130	0.1
Total	180,220	100.0

Table 6.15: Number and Percentage of Agricultural Households Reported Distance to Source of Drinking Water in Dry Season by Region during 2019/20 Agricultural Year

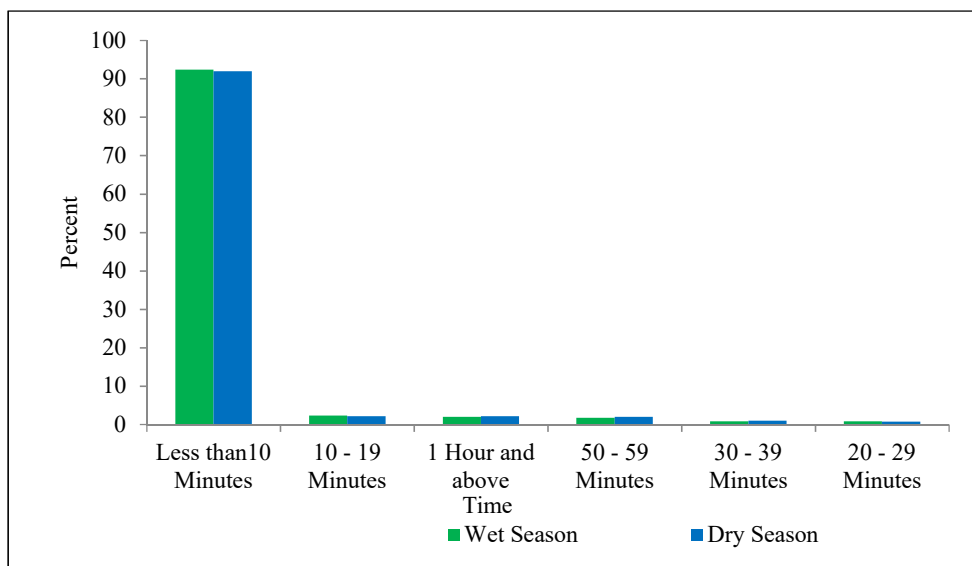
Distance (Km)	Households	
	Number	Percent
Less than 1 km	176,369	97.9
1.00 - 1.99 Km	2,573	1.4
2.00 - 2.99 Km	669	0.4
3.00 - 4.99 Km	135	0.1
5.00 - 9.99 Km	107	0.1
10 Km and above	367	0.2
Total	180,220	100.0

6.9 Time Spent to Main Source of Drinking Water

Time spent to and from source of drinking water in wet and dry season during 2019/20 agricultural year do not vary much. About 166,428 households (92 percent) the time spent to and from source of drinking water in both season were less than 10 minutes. About 4,121 households (2.3 percent) spent 10 to 19 minutes to and from the source of drinking water, while about (3,584 households; 2.0 percent) spent one hour and above to the source of drinking water.

The result shows similar number of households reporting time spent to and from source of drinking water in wet and dry season by region during 2019/20 agricultural year to wet season. Kusini Pemba had the highest number of households more than 31.4 percent (52,215 households) reported time spent to and from source of drinking water in both season less than 10 minutes, followed by Kaskazini Pemba with (40,209 households; 24.2 percent), whereas as Kusini Unguja reported more than 8.6 percent of the households the time spent to and from source of drinking water was less than 10 minutes (Figure 6.2).

Figure 6.2: Percentage of Agricultural Households and Time Spent to and from Source of Drinking Water in Wet and Dry Season During 2018/19 Agricultural Year



6.10 Ownership of Assets

Mobile Telephone was the most commonly owned asset with 166,573 (92.4 percent) of the total agricultural households (180,220) owning the asset during the 2019/20 agricultural year compared to 32 percent in 2007/08 agricultural year. Kerosene lamp was owned by 134,917 households (74.9 percent), Bicycles was owned by 96,449 house (53.5 percent) compared to 51 percent of the agricultural households in 2007/08). Radio/Cassette was owned by 84,412 households (46.8 percent) (Table 6.15).

Table 6.15: Percentage of Agricultural Households Reported Ownership of Assets During 2019/20 Agricultural Year

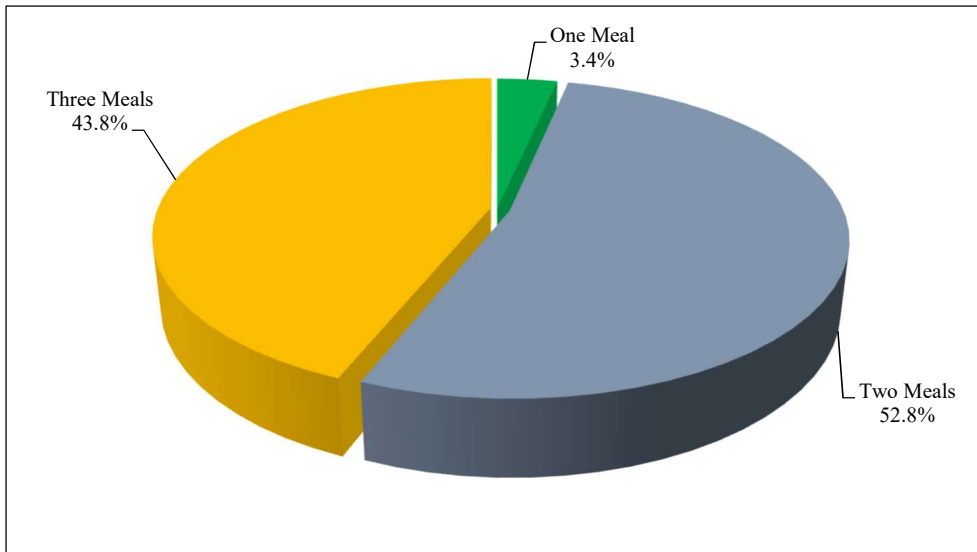
Asset	Percent
Radio / cassette (music system)	46.8
Telephone (landline)	0.2
Telephone (mobile)	92.4
Pressing Iron	23.3
Wheelbarrow	3.3
Bicycle	53.5
Vehicle	4.1
Television	26.2
Refrigerator	18.5
Motor Cycle	13.8
Tricycle	0.2
Personal computer/laptop	2.9
Kerosene lamps	74.9
Solar panel	12.3
Generator	1.2
Electric/ gas stove	12.8
Torch	50.1

6.11 Food Consumption Pattern

6.11.1 Number of Meals per Day

The number of meals normally taken by agriculture household in the Zanzibar was either one, two or three meals. The total of 95,097 households (52.8 percent) take two meals per day and 78,970 households (43.8 percent) take three meals per day. Only 3.4 percent of the agriculture households take one meal per day (Figure 6.3).

Figure 6.3: Percentage of Agricultural Households Reported Number of Meals Normally Taken per Day During 2019/20 Agricultural Year

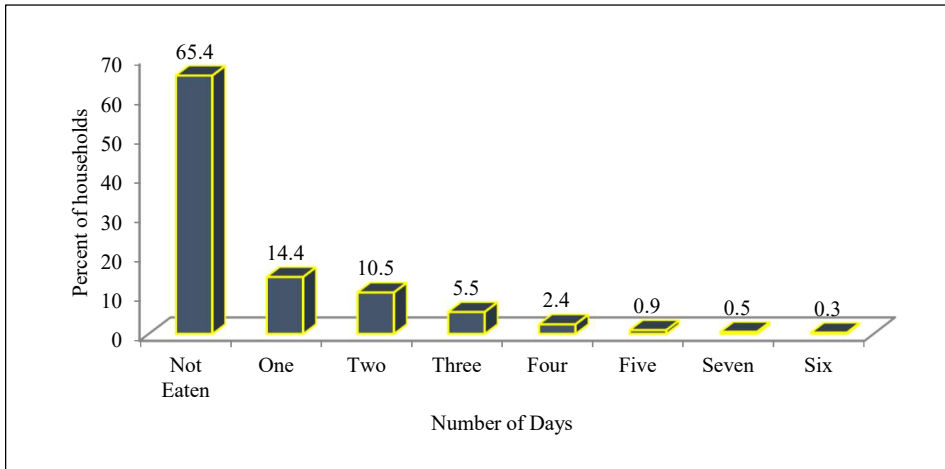


In comparison, the number of households that take three meals per day has increased from 40.5 percent in 2007/08 to 43.8 percent in 2019/20 agricultural years. On the other hand, the number of households that take two meals per day has decreased from 56.6 percent in 2007/08 to 52.8 2019/20.

6.11.2 Meat Consumption

The 2019/20 agricultural census results show that, on average more than 65 percent of agricultural households do not consume meat in seven days in one week. About 25 percent of the households consumed meat twice or thrice in seven days in one week while 5.5 percent of the households consumed meat four times in the same period. (Figure 6.4)

Figure 6.4: Percentage of Households Reported to Consume Meat in Last 7 days During 2019/20 Agriculture Census

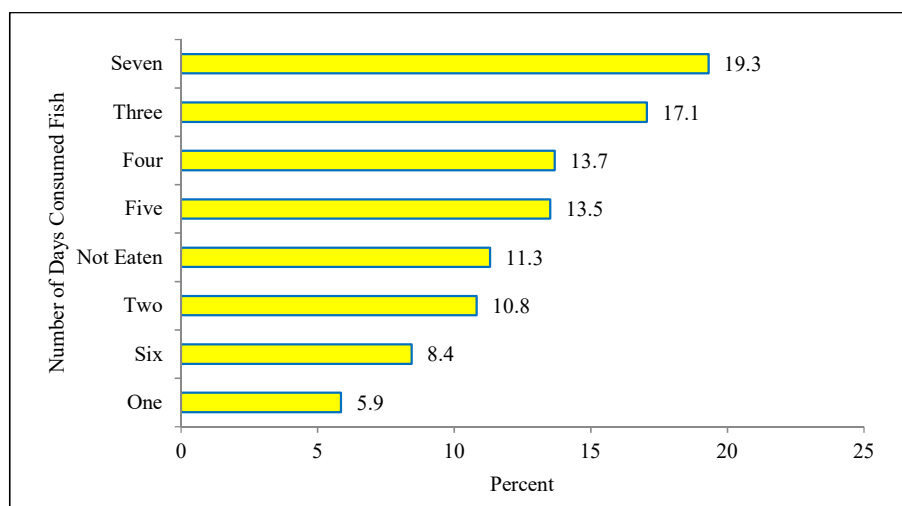


In comparison to 2007/08 agricultural year, percentage of households that reported to consume meat in all days of the last seven days has increased from 0.2 percent in 2007/08 to 0.5 percent in 2019/20.

6.11.3 Fish Consumption

The 2019/20 agricultural census results show that, on average more than 19.0 percent of agricultural households consume fish every day in seven days of a week, followed by the group who consume fish three days in seven days (17.1 percent), households who consume fish four days in seven days of a week (13.7 percent), while 11.3 percent of agricultural households did not consume fish at all in seven days (Figure 6.5).

Figure 6.5: Percentage of Agricultural Households Reported Number of Days the Household Consumed Fish in the Last Seven Days During 2019/20 Agricultural Year

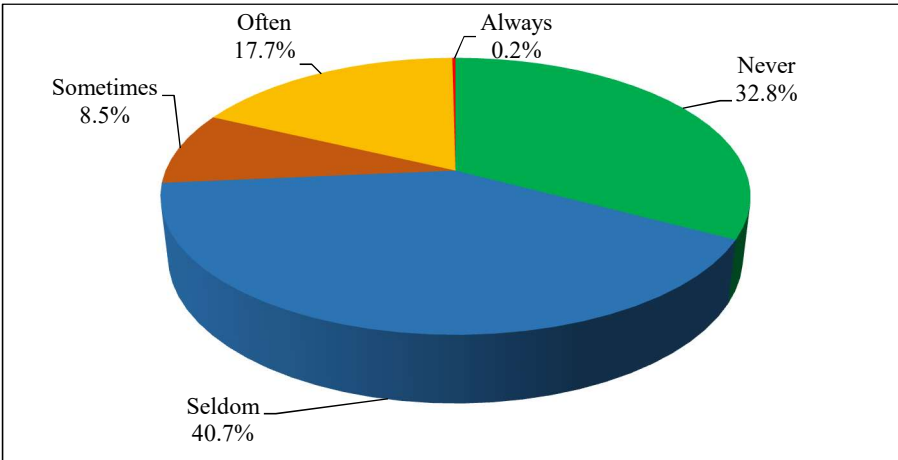


In comparison to 2007/08 agricultural year, the number of households that reported to eat fish on average of three days of the last seven days has increased from 11.7 percent in 2007/08 to 17.1 percent in 2019/20. Conversely, percentage of agricultural households that reported to eat fish in average of seven days in a week has decreased from 23.5 percent in 2007/08 to 19.3 in 2019/20 agricultural years.

6.12.4 Status of Food Satisfaction

The results reveals that, a total of 73,405 agricultural households (40.7 percent) reported seldomly experienced food insufficiency, followed by those reported never to experienced food insufficiency (59,162 households; 32.8 percent), while 373 households (0.2 percent) reported to always experienced food insufficiency (6.3).

Figure 6.6: Percentage of Households Reported Status of Food Satisfaction in the Last Twelve Months During 2019/20 Agricultural Year



Comparatively, in 2019/20 agricultural year 40.7 percent of agricultural households rarely experienced problems in satisfying the household food requirements compared to 41.0 percent households in 2007/08 agricultural year. Only 8.5 percent households reported sometimes experienced problems in satisfying the household food requirements compared to 9.2 percent in 2007/08. About 32.8 percent compared to 41.0 percent, in 2007/08, of the agricultural households never experienced food insufficiency problems (Table 6.16).

Table 6.16: Number and Percentage of Households Reported Status of Food Satisfaction in the Last Twelve Months During 2007/08 and 2019/20 Agricultural Year

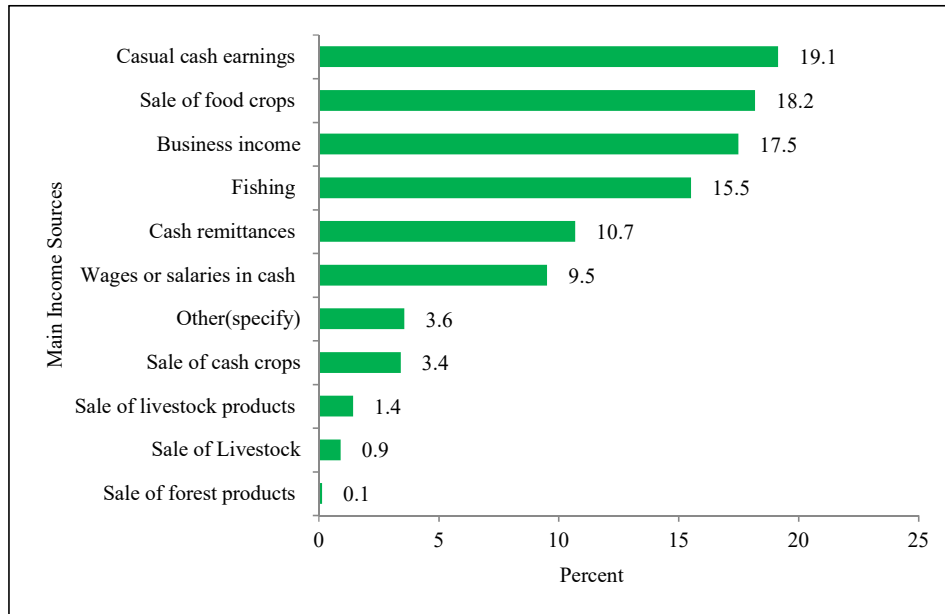
Year	Satisfaction	Households	
		Number	Percent
2019/20	Never	59,162	32.8
	Seldom	73,405	40.7
	Sometimes	15,345	8.5
	Often	31,936	17.7
	Always	373	0.2
	Total	180,221	100
2007/08	Never	54,252	41.0
	Seldom	47,727	36.1
	Sometimes	12,192	9.2
	Often	11,404	8.6
	Always	6,619	5.0
	Total	132,193	100

Generally, the results show that over 70 percent of the agricultural households are food secure while 26 percent of the households experienced food insecurity in 2019/20 agricultural year

6.12.5 Main Source of Household Income

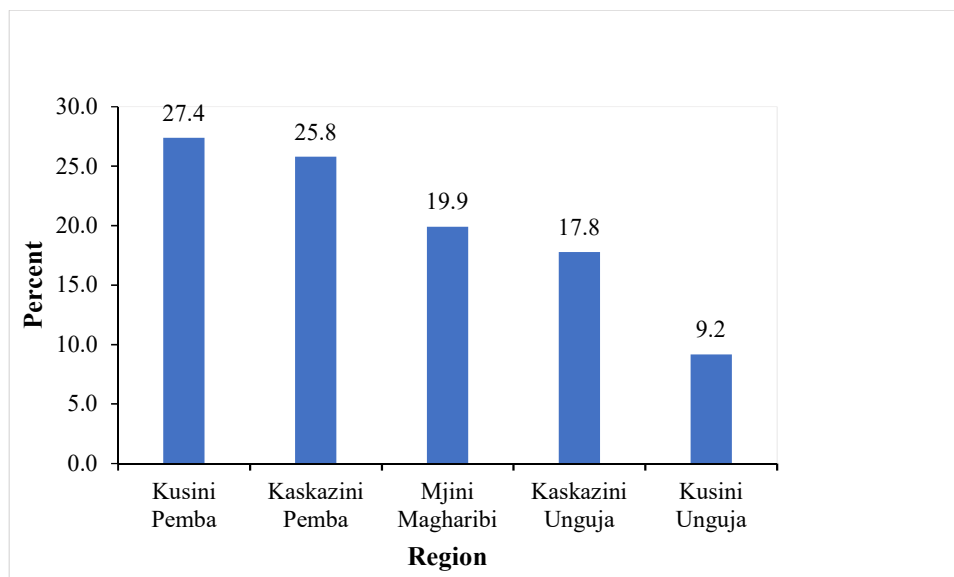
During the 2019/20 agricultural year, a total of 180,220 agricultural households reported different sources of cash income. The census results indicate that, 34,505 households (19.1 percent) reported ‘Other casual cash earnings’ as their main source of income, followed by sales of food crops 32,765 households (18.2 percent) and business income 31,514 households (17.5 percent) as the source of cash income in. Remittances was reported by 19,269 households (10.7 percent) had a significant contribution as a main source of cash income to agricultural households. (Figure 6.7).

Figure 6.7: Percentage of Households by Main Source of Cash Income During 2019/20 Agricultural Year



From the total households depend on casual cash earnings (34,505;19.1 percent), Kusini Pemba region reported the highest number of households (9,447; 27.4 percent), followed by Kaskazini Pemba (8,897; 25.8 percent) and Kusini Unguja had the least number of households (3,161; 9.2 percent) reported casual cash earnings as main source of households' income (Figure 6.8).

Figure 6.8: Percentage of Agricultural Households Reported Casual Cash Earning as a Main Source of Household Income During 2007/08 Agriculture Year



In comparison to 2007/08 agricultural year, the number of households reported casual cash earnings as among of the earning activity was increased from 9.9 percent in 2007/08 to 19.1 percent in 2019/20 agricultural years. Likewise, there was an increase of 12.8 percent fof household that reported business income as the earning activity in 2007/08 to 17.5 percent in 2019/20 agricultural years (Table 6. 20).

Table 6.17: Percentage of Agricultural Households Reported Main Source of Household Income During 2007/08 and 2019/20 Agriculture Censuses

Main Source	2019/20	2007/08
Sale of food crops	18.2	31.4
Sale of Livestock	0.9	1.7
Sale of livestock products	1.4	2.5
Sale of cash crops	3.4	2.9
Sale of forest products	0.1	1
Business income	17.5	12.8
Wages or salaries in cash	9.5	12.6
Casual cash earnings	19.1	9.9
Cash remittances	10.7	8.2
Fishing	15.5	14.9
Fish farming	n/a	n/a
Other	3.6	1.2
Not Applicable	n/a	0.8
Total	100	100

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7.0 Introduction

The 2019/20 National Sample Census of Agriculture collected a large amount of data on, inter alia, crops and livestock production, planted and harvested areas, input use, storage, marketing, farmer's access to extension services, as well as fish farming. The coverage was both for smallholder farmers and large-scale farms. Wherever possible, data for the 2019/20 Census is compared with the previous National Censuses data so as to identify any structural changes between the census periods.

The conclusion is organized into four sections: The first section gives conclusions with respect to the current status of agriculture in Zanzibar in general. It focuses on the agricultural household characteristics; main type of agricultural activities of the household; and land access and use pattern. The second section describes conclusion regarding the current status of crop sub-sector in Zanzibar, and it focuses mainly on production, area under production and productivity, use of inputs, irrigation farming and access to extension services. The third section gives conclusion with regard to the main findings of the livestock sub-sector and focuses on livestock numbers by species, regional distribution of livestock, livestock diseases, access to livestock extension services and their contribution to crop production. The fourth section discusses conclusion in regard to fish farming in terms of fish farming systems, type of stocked fish and production, fish sales and fish feeds.

7.1 Conclusion

7.2.1 Status of the Agriculture in Zanzibar

1. The 2019/20 National Sample Census of Agriculture results show that, a total of 180,220 agricultural households were involved in agricultural activities, of which 162,239 households (90.0 percent) were in rural areas and 17,981 (10.0 percent) households were in urban areas. The number of agricultural households has increased from 132,193 in 2007/2008 to 180,220 in 2019/20 NSCA, present an increase of 36.3 percent. Crop production was the most common agricultural activity at the National level with 115,762 households (64.2 percent), followed by

- 62,310 households (34.6 percent) engaged in crop and livestock, 2,149 households (1.2 percent) engaged in livestock only.
2. It has been observed that, there has been an increasing trend for the households involved in “crop only”, “livestock only” and crop and livestock” activities by 33.8 percent, 16.8 percent and 42.1 percent respectively since the last Agriculture census conducted in 2007/08.
 3. Kusini Pemba region had the large concentration of agriculture households with 54,379 households (30.2 percent), Kaskazini Pemba (40,781 households; 22.6 percent), Mjini Magharibi (35,873 households; 19.9 percent). The lowest number of agricultural households were reported in Kusini Unguja with 17,593.
 4. The population of agricultural smallholder household members was 1,089,888, of which 49.7 percent were males and 50.3 percent were females. The population of agricultural household’s members has increased from 748,668 in 2007/08 to 1,089,888 in 2019/20 Agricultural Sample Censuses. Furthermore, about 43.5 percent of the 2019/20 agriculture population was below 15 years of age while that of the 15 - 64 years’ age group which participates most in production accounted for 52.0 percent of the agricultural population and 4.5 percent of the population was above 65 years.
 5. Taking together the number of agricultural households and the population of agricultural smallholder’s members, one can deduce that the average household size for agricultural household was 6 persons as compared to 5.7 persons recorded in 2007/08. Kusini Pemba region had the largest average household size with 6.4, followed by Mjini Magharibi (6.2), Kaskazini Pemba (6.0). The smallest household sizes were in Kusini Unguja (5.2).
 6. The total usable land available to smallholder farmers was 173,229 ha equivalent to 93.0 percent (exclude unusable land) of the total owned land. The highest proportion of land used was area under temporary mono crops 68,720 ha present, 39.7 percent of the total land, followed by Area under Permanent/temporary mix (41,943; 24.2 percent), Area under Permanent Mono Crops (24,143 ha; 13.9 percent). The lowest land area reported was Area under Fish farming with 19.0 ha (0.01 percent).
 7. At National level, about 51.2 percent of the agricultural households indicated to have sufficient land available for their use while the remaining 48.8 percent considered the land to be insufficient.

8. Land sufficiency varied greatly between regions, Mjini Magharibi and Kaskazini Pemba showed acute land scarcity with land sufficiency below 50 percent.
9. During the 2019/20 agricultural year, most of the agricultural households reported that the main constraints that affect agricultural activities were crop and livestock theft, access to land, pest and diseases, Cost of Inputs, Climate change are among main challenges faced by the agricultural households.

7.1.1 Status of Crop Sub-sector in Zanzibar

1. The crop sub-sector plays an important role in Zanzibar economy create employment, subsistence and income to 180,220 agriculture households. There is a wide variety of crops grown in the country, such as cassava, sweet potatoes, bananas, paddy, maize, beans and groundnuts. Other crops include; cloves, coconut, mangoes, oranges and various types of fruits and vegetables. Maize, paddy and sorghum were the major cereal crops grown in Zanzibar during the 2019/20 agricultural year. Cassava and sweet potatoes occupying the largest planted area.
2. The total production of major cereal crops was 54,602 tons, whereby paddy had the highest production of 50,421 tons (92.3 percent), Maize 3,951 tons (7.2 percent), bulrush 24 tons (0.3 percent). Cassava, sweet potatoes and yams, were reported as major grown roots and tuber crops for 2019/20 agricultural year, occupying the total area of 73,129 hectares with total production of 225,370 tons.
3. The total area planted with pulses was 3,764 ha produced 4,763 tons, while cowpeas accounted for 3,675 tons, pigeon peas 931 tons, green gram 1155 tons and others pulses 2.0 tons.
4. The 2019/20 NSCA results show that, out of the 180,220 agriculture's households growing crops, 45,914 households (25.5 percent) practiced irrigation. The total irrigated area was 126,001 ha (66,647 ha irrigated in short rainy and 59,355 ha in l During the 2019/20 agricultural year, most of the agricultural households reported that the main constraints that affect agricultural activities were crop and livestock theft, access to land, pest and diseases, Cost of Inputs, Climate change are among main challenges faced by the agricultural households.

5. It has been observed that, out of the total area cultivated with annual crops only 23.4 percent and 23.1 percent were used improved seeds for short and long seasons respectively.
6. The census results show that, 31,613 hectares was applied with fertilizer (14,679 ha in short and 16,934 ha long rainy seasons). Area applied with inorganic fertilizers dominated by 52.1 percent when compared to area applied with organic fertilizers (47.9 percent).
7. The main crops processed with the purpose of adding value were paddy, maize, cassava and coconuts compared to other crops.
8. The number of agriculture households received extension service during 2019/20 agricultural year were 17,899 households, present 10.1 percent of the total 178,071 crop growing households.
9. High coverage of extension services was observed in Kusini Unguja region with 15.2 percent of agricultural households within the region reported to receive extension service, Mjini Magharibi (14.5 percent), Kaskazini Unguja (8.8 percent). The lowest was in Kaskazini Pemba region with 6.9 percent of the total agricultural households received extension service within the region.

7.1.2 Status of the Livestock Sub-sector in Zanzibar

1. The 2019/20 NSCA results show that, main livestock species kept by smallholder farmers include cattle, goats, sheep, pigs and chicken. Out of the total agriculture households, 64,459 households equivalent to 36 percent were involved in the livestock keeping. The results reveal that, the dominant agricultural households were engaged in kept chicken, followed by cattle, goats and ducks. The livestock population as of 1st August 2020 were 3,705,505 chicken, 270,706 cattle, 111,429 goats, 870 sheep, and 2,209 pigs.
2. The common cattle identification method used by smallholders were ‘Cattle colour’ was mostly reported by 54,031 households (95.4 percent) of cattle keeping households, followed by cattle clan (538 households; 0.9 percent) and earing (474 households; 0.8 percent).

3. The total milk production was 36,564,209 liters, of which 36,451,507 liters produced from cows and 112,702 liters from goat's milk.
4. Tick Borne Diseases were amongst the diseases infecting livestock during 2019/20 Agricultural year. The common control methods were spraying that was applied by 8,976 households (80 percent), smearing 1,314 households (12 percent), dipping, 751 households (7 percent).

7.1.3 Status of Fish Farming in Zanzibar

1. The total number of households practicing fish farming was 368 presenting 0.2 percent of the total agricultural households. The farmers for smallholders were reported in Kusini Pemba region of which 0.7 percent of the total agricultural households (54,379) within the region were engaged in this activity. Milkfish was the only species stocked by smallholder farmers and large-scale farms with total annual production of 12,936 tons;
2. The number of households reported to practice fish farming has increased tremendously from 26 households reported in 2007/08 to 368 households in 2019/20 agricultural years. The main constraint reported facing fish farming practice was availability of fingerlings and feeds.

7.2 Recommendations

7.2.1 Crop Sub sector

1. Crop Productivity

Crop productivity varied from one crop to another. In general, productivity for most crops was low compared to existing potential.

Recommendation: Steps should be taken to encourage the use of good agricultural practices such as improved seeds, fertilizer application, spacing, agro-chemicals as well as market intensification which aims at increasing productivity of the crop production sub-sector in the country.

2. Use of Inputs

- i) Generally, the use of inputs including improved seeds, fertilizers and pesticides is low (less than 30. percent of planted area) and it varied across regions. Of these inputs, fertilizers were most widely used (19.2 percent of planted areas was applied with fertilizers). The total area applied with fertilizer was 52,387 ha. The proportion of organic and inorganic fertilizer were 35.5 percent and 64.5 percent respectively. The use of insecticide was higher (9.6 percent) compared with fungicide (4.1 percent) and Herbicide (4.6 percent) of the planted area.

Recommendation: Use of improved seeds, fertilizers and pesticides inputs is critical for enhancing crop productivity under smallholder farming setting countrywide. Hence timely availability and access of these inputs is very critical in addressing the prevailing challenge.

- ii) More efforts should be put in place to increase the timely availability/access of inputs in the country, which might promote the use of it for crop production by smallholder farmers.

3. Access to Land

The total agricultural households reported in sufficient land accounted for 48.8 percent. The high proportion of households reporting land insufficiency was reported in Kaskazini Pemba of which 63.7 percent of agricultural households within the region report land insufficient, followed by Mjini Magharibi (57.2 percent), Kusini Unguja and Kusini Pemba (41.7 percent).

Recommendation: Government should work out a strategy to overcome land insufficiency especially in regions with acute problem of land scarcity. Methodologies for increasing crop production should concentrate more on crop intensification rather than increasing area under cultivation.

4. Irrigation Farming

Only a small proportion of crop land (13.1 percent of planted area) was irrigated. Consequently, benefits of using productivity enhancing inputs such as improved seeds, fertilizers and pesticides are not fully exploited.

Recommendation: Efforts must be made to ensure expansion of irrigation facilities and development of new ones in order to assure that majority of farmers have access to these facilities

5. Access to Extension Services

- The total number of agricultural households received crop extension service was only 10.1 percent (17,899

households). In general, for almost all regions, access to extension services was rather limited. Nevertheless, Public staff provided the main source of extension advice to smallholder farmers.

Recommendation: Besides enhancing access to extension services, joint participation of Government and private sector in providing extension service should aim to improve the quality of its services to ensure increased adoption of improved practices for increased crop productivity.

7.2.2 Livestock Sub sector

1. Government efforts of increasing awareness on modern livestock keeping and increase the value of livestock products should be enhanced, in line with reducing constraint of livestock theft;
2. About 95 percent of the cattle keeping households used unrecommended method of livestock identification (colour). Therefore, Government should establish effort on increasing awareness to livestock keeping households on recommended methods of identification (branding and earings);
3. The production of quality milk is vital, so as to catch up domestic and industrial markets, therefore, the Government should establish milk collection centers to improve milk hygiene and income generation for livestock keepers.

7.2.3 Fish Farming

1. More efforts are needed to motivate fish farming households, to increase the number of fishes produced to bridge the existing fish gap demand.
2. The number of agricultural households engaged in fish farming between inter census period had increased tremendously from 26 households reported in 2007/08 to 368 households in 2019/20 agricultural years. However, the constraint faced by households practicing fish farming should be solved in particular source of fingerlings and feeds.

LIST OF APPENDICES

Table 2.1.1: Number of Agricultural Households by Type of Residence and Region During 2019/20 Agriculture Year

Region	Total	Rural	Urban
Kaskazini Unguja	31,594	30,593	1,000
Kusini Unguja	17,593	16,685	908
Mjini Magharibi	35,873	29,130	6,742
Kaskazini Pemba	40,781	37,368	3,413
Kusini Pemba	54,379	48,460	5,918
Total	180,220	162,236	17,981

Table 2.1.2: Number of Agricultural Households by Type of Holding and Region During 2019/20 Agricultural Year

Region	Total Number of Households	Type of Agricultural Activities of the Household				
		Crops only	Livestock only	Fish farming only	Pastoralist	Crops and Livestock
Kaskazini Unguja	31,594	23,503	571	-	-	7,520
Kusini Unguja	17,593	10,175	328	-	-	7,090
Mjini Magharibi	35,873	25,857	826	-	-	9,190
Kaskazini Pemba	40,781	25,370	106	-	-	15,306
Kusini Pemba	54,379	30,491	318	-	-	23,569
Total	180,220	115,396	2,149	-	-	62,675

Table 2.1.3: Number of Agricultural Households by Sex of Household Head and Region During 2019/20 Agricultural Year

Region	Total	Sex of Head	
		Male	Female
Kaskazini Unguja	31,594	25,964	5,629
Kusini Unguja	17,593	14,108	3,484
Mjini Magharibi	35,873	28,933	6,940
Kaskazini Pemba	40,781	32,471	8,310
Kusini Pemba	54,379	44,020	10,359
Total	180,220	145,496	34,722

Table 3 .1: Number of Agricultural Household Members by Sex and Region During the 2019/20 Agricultural Year

Region	Total	Sex	
		Male	Female
Kaskazini Unguja	183,309	91,523	91,786
Kusini Unguja	91,136	46,649	44,487
Mjini Magharibi	222,565	107,573	114,992
Kaskazini Pemba	246,568	130,149	116,419
Kusini Pemba	346,310	166,230	180,080
Total	1,089,888	542,124	547,764

Table 3 .2: Number of Agriculture Household Members by Sex and Age Group during the 2019/20 Agricultural Year

Age Group	Total	Sex	
		Male	Female
0 - 4	145,422	72,026	73,396
5-9	173,704	87,425	86,279
10-14	155,292	79,050	76,242
15 - 19	139,982	72,192	67,790
20 - 24	93,754	47,667	46,088
25 - 29	65,418	30,692	34,726
30 - 34	52,932	22,437	30,495
35 - 39	43,475	18,357	25,118
40 - 44	44,075	19,893	24,183
45 - 49	40,787	19,216	21,571
50 - 54	34,999	18,662	16,338
55 - 59	26,321	13,492	12,829
60 - 64	25,116	13,435	11,681
65 - 69	15,055	8,441	6,614
70 - 74	18,928	11,206	7,723
75 - 79	7,391	4,833	2,558
80 - 84	4,343	2,343	2,000

Above 85	2,892	760	2,133
Total	1,089,889	542,124	547,764

Table 3 .3: Number of Household Members Below 18 Years Reporting Survival of Their Parents Classified by Region During the 2019/20 Agricultural Year

Region	Survival of Mother				Survival of Father			
	Total	Yes	No	Don't know	Total	Yes	No	Don't know
Kaskazini								
Unguja	89,665	88,237	1,259	168	89,665	84,741	4,291	633
Kusini Unguja	41,813	40,767	740	305	41,813	38,212	2,335	1,266
Mjini Magharibi	104,445	100,556	3,846	43	104,445	100,318	3,739	388
Kaskazini Pemba	130,738	128,250	2,488	-	130,738	124,841	5,897	-
Kusini Pemba	192,289	189,944	2,345	-	192,289	186,773	5,516	-
Total	558,950	547,754	10,678	516	558,950	534,885	21,778	2,287

Table 3 .4: Number of Agricultural Household Members, 5 years and Above, Who Can Read and Write by Type of language and Region During the 2019/20 Agricultural Year.

Region	Total	Knows how to read and write in English or Kiswahili or both			
		Swahili	Swahili & English	Any other language	Don't Read/Write
Kaskazini Unguja	157,837	77,016	54,637	969	25,215
Kusini Unguja	81,431	57,030	18,024	476	5,902
Mjini Magharibi	192,805	113,532	56,040	283	22,951
Kaskazini Pemba	216,765	98,625	50,274	844	67,022
Kusini Pemba	295,628	111,325	112,633	2,076	69,594
Total	944,466	457,528	291,608	4,648	190,684

Table 3 .5: Number of Agricultural Household Members by School Status and Region During 2019/20 Agricultural Year.

Region	Total	Schooling Status			
		Attending School	Drop out	Completed	Never attended School
Kaskazini Unguja	157,837	62,833	29,120	43,351	22,533
Kusini Unguja	81,431	31,234	14,888	30,616	4,693
Mjini Magharibi	192,805	79,010	27,834	71,705	14,256
Kaskazini Pemba	216,765	89,656	34,610	39,869	52,630
Kusini Pemba	295,628	136,985	51,796	64,075	42,771
Total	944,466	399,718	158,248	249,616	136,883

Table 3.6 : Number of Agricultural Household Members Aged 5 years and Above by Highest Level of Formal Education Reached and Region During 2019/20 Agricultural Year

Region	Highest level of school reached										
	Total	Under Standard One	Standard One	Standard Two	Standard Three	Standard Four	Standard Five	Standard Six	Standard Seven	Standard Eight	Training after Primary Education
Kaskazini Unguja	135,304	8,265	4,006	6,111	8,002	8,039	8,587	9,275	33,468	3,022	1,070
Kusini Unguja	76,738	5,214	1,695	1,968	2,691	3,760	3,683	5,478	20,938	2,087	858
Mjini Magharibi	178,550	12,616	6,632	4,130	7,547	8,222	12,183	9,159	44,082	2,422	1,037
Kaskazini Pemba	164,220	14,889	4,724	9,372	10,714	10,962	13,896	10,692	27,794	1,714	1,184
Kusini Pemba	252,857	18,250	10,827	14,348	15,680	14,648	21,986	19,385	48,769	2,272	1,818
TOTAL	807,669	59,234	27,884	35,929	44,634	45,631	60,335	53,989	175,051	11,517	5,967

Table 3. 7 Number of Agricultural Households Member Aged 5yrs and Above by Level of Involvement in Farming Activities by Sex and Region

Region	Works full time on farm		Works part-time on farm		Rarely works on farm		Never works on farm	
	Male	Female	Male	Female	Male	Female	Male	Female
Kaskazini Unguja	12,042	11,646	9,737	5,323	10,113	10,856	20,136	27,464
Kusini Unguja	7,424	3,627	6,605	2,896	4,703	5,600	10,323	15,690
Mjini Magharibi	11,387	9,465	12,357	6,306	13,464	12,661	27,811	36,707
Kaskazini Pemba	16,289	14,653	9,711	3,929	19,360	18,440	25,876	29,502
Kusini Pemba	13,642	5,432	20,489	15,664	21,684	25,756	30,469	50,229
Total	60,784	44,823	58,899	34,118	69,324	73,313	114,615	159,592

Table 3.8 : Number of Agricultural Household Members Aged 5years and Above by Main Activity and Region During 2019/20 Agricultural Year

Region	Main Activity						
	Total	Livestock			Fishing	Private-	
		Crop Farming	Keeping/Her ding	Livestock/Pastoralis m		Government/parastat al	NGO/mission/e tc
Kaskazini Unguja	157,837	34,416	946	N/A	5,112	3,259	1,492
Kusini Unguja	81,431	12,703	716	N/A	2,223	1,711	2,048
Mjini Magharibi	192,805	26,696	1,690	N/A	1,239	7,586	9,953
Kaskazini Pemba	216,765	32,612	664	N/A	8,995	2,579	637
Kusini Pemba	295,628	47,230	1,294	N/A	6,859	5,297	1,240
Total	944,466	153,657	5,310	N/A	24,428	20,432	15,370

Note:

N/A= Not Applicable

continue....Table 3.8: Number of Agricultural Household Members Aged 5years and above by Main Activity and Region During 2019/20 Agricultural

Region	Self employed with employees	Self employed without employees	Unpaid family helper (non agriculture)	Not working & available	Not working & unavailable	Housemaker/housewife	Student
Kaskazini							
Unguja	994	13,895	147	1,713	99	7,914	84,856
Kusini Unguja	907	7,787	-	473	61	5,957	44,217
Mjini							
Magharibi	5,562	10,230	301	4,831	376	15,112	106,527
Kaskazini							
Pemba	1,448	10,171	373	2,909	256	18,371	131,471
Kusini Pemba	673	20,759	662	3,502	264	26,459	173,962
Total	9,584	62,842	1,483	13,428	1,056	73,813	541,033

continue....Table 3.8: Number of Agricultural Household Members Aged 5 Years and Above by Main Activity and Region During 2019/20

Region	Unable to work /too old/Retired/sick/disabled	Fish farming	Agro processing	Beekeeping	Seaweed farming	Other (Specify)
Kaskazini Unguja	2,530	-	-	-	77	389
Kusini Unguja	1,693	-	-	-	667	269
Mjini Magharibi	982	-	-	-	48	1,674
Kaskazini Pemba	4,856	-	-	-	1,182	239
Kusini Pemba	6,875	-	-	-	142	410
Total	16,936	-	-	-	2,116	2,981

Note:

- = Not available

Table 3.9: Number of Agricultural Household Members Aged 18 Years and Above Involved in Value Addition by Sex and Region During

Region	Total	Sex
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					Male			
	Total	Yes	No	Not applicable	Total	Yes	No	Not applicable
Kaskazini								
Unguja	93,644	3,463	88,010	2,170	45,698	2,445	42,351	902
Kusini Unguja	49,324	563	43,183	5,577	24,739	97	22,805	1,837
Mjini								
Magharibi	118,119	6,498	109,549	2,072	58,797	3,827	54,193	778
Kaskazini								
Pemba	115,830	5,078	106,937	3,815	59,555	2,388	55,801	1,367
Kusini Pemba	154,021	1,962	115,101	36,958	72,728	1,187	58,809	12,732
Total	530,938	17,564	462,780	50,592	261,517	9,944	233,959	17,616

continue...Table 3.9: Number of Agricultural Household Members Aged 18 Years and Above Involved in Value Addition by Sex and Region During 2019/20 Agricultural Year

Region	Female			
	Total	Yes	No	Not applicable
Kaskazini Unguja	47,945	1,018	45,659	1,268
Kusini Unguja	24,585	467	20,377	3,741
Mjini Magharibi	59,321	2,671	55,356	1,294
Kaskazini Pemba	56,274	2,690	51,136	2,448
Kusini Pemba	81,293	775	56,292	24,226
Total	269,418	7,621	228,820	32,977

Table 3 .10: Number of Agriculture Household Members aged 18 years and above Owning Land by Sex and Region During 2019/20 Agricultural Year

Region	Own Land								
	Total			Male			Female		
	Total	Yes	No	Total	Yes	No	Total	Yes	No
Kaskazini Unguja	93,644	20,453	73,191	45,698	16,022	29,676	47,946	4,431	43,515
Kusini Unguja	49,324	11,102	38,222	24,739	8,886	15,853	24,585	2,216	22,369
Mjini Magharibi	118,119	18,837	99,282	58,797	13,941	44,857	59,322	4,896	54,426
Kaskazini Pemba	115,830	26,907	88,923	59,555	17,947	41,609	56,275	8,961	47,314
Kusini Pemba	154,021	55,702	98,319	72,728	38,328	34,400	81,293	17,373	63,919
Total	530,938	133,001	397,937	261,517	95,124	166,395	269,421	37,877	231,543

Table 3 .11: Number of Agricultural Household Members with Title deed Possession Aged 18 Years and Above by Sex and Region During 2019/20 Agricultural Year

Region	Have a Title deed of the Agricultural Land								
	Total			Male			Female		
	Total	Yes	No	Total	Yes	No	Total	Yes	No
Kaskazini Unguja	20,453	3,520	16,932	16,022	3,199	12,823	4,431	322	4,109
Kusini Unguja	11,102	3,301	7,801	8,886	2,749	6,137	2,216	551	1,665
Mjini Magharibi	18,837	9,978	8,859	13,941	7,610	6,331	4,896	2,369	2,528
Kaskazini Pemba	26,907	10,600	16,307	17,947	8,086	9,860	8,961	2,513	6,447
Kusini Pemba	55,702	6,982	48,720	38,328	5,982	32,346	17,373	999	16,374
Total	133,001	34,381	98,619	95,124	27,626	67,497	37,877	6,754	31,123

Table 3 .12: Number of Agricultural Household Members Aged 18 Years and Above by Tenure Type and Region During 2019/20 Agricultural Year

Region	Type of Tenure				
	Total	Customary Right of Occupancy With certificate of customary right of occupancy	Customary Right of Occupancy Without certificate of customary right of occupancy	Granted Right of Occupancy (with Title Deed)	Other
Kaskazini Unguja	20,453	850	17,765	1,675	163
Kusini Unguja	11,102	1,310	8,087	1,651	54
Mjini Magharibi	18,837	2,019	9,571	6,763	483
Kaskazini Pemba	26,907	3,807	17,055	6,045	-
Kusini Pemba	55,702	1,087	43,645	4,146	6,824
Total	133,001	9,073	96,123	20,280	7,524

Table 3 .13: Number of Agricultural Household Members Aged 18 years and Above Who were Members of Cooperative or Farmers Organization or Both by Sex and Region During 2019/20 Agricultural Year

Region	Member of co-operative or farmers organization					
	Total					
	Total	Farmers Organisation			Not applicable	
		Cooperative	Both	No		
Kaskazini Unguja	93,644	14,771	644	291	76,491	1,447
Kusini Unguja	49,324	6,716	673	158	36,459	5,318
Mjini Magharibi	118,119	6,065	2,713	-	108,352	989
Kaskazini Pemba	115,831	1,372	446	122	112,561	1,330
Kusini Pemba	154,020	5,272	3,473	456	117,319	27,500
Total	530,938	34,196	7,949	1,027	451,182	36,584

continue.....Table 3 .13: Number of Agricultural Household Members Aged 18 years and Above Who were Members of Cooperative or Farmers Organization or Both by Sex and Region during 2019/20 Agricultural Year

Region	Member of co-operative or farmers organization					
	Male					
	Total	Farmers			Not	
Cooperative		Organisation	Both	No	applicable	
Kaskazini Unguja	45,698	4,922	352	-	39,957	467
Kusini Unguja	24,739	2,375	382	-	19,963	2,018
Mjini Magharibi	58,797	2,311	1,492	-	54,994	-
Kaskazini Pemba	59,555	565	-	122	58,516	352
Kusini Pemba	72,728	1,972	1,393	308	60,097	8,958
Total	261,517	12,145	3,619	430	233,527	11,795

Continue...Table 3 .13: Number of Agricultural Household Members Aged 18 Years and Above Who were Members of Cooperative or Farmers Organization or Both by Sex and Region During 2019/20 Agricultural Year

Region	Female					
	Farmers					
	Total	Farmers			Not	
Cooperative		Organisation	Both	No	Applicable	
Kaskazini Unguja	47,946	9,849	292	291	36,534	980
Kusini Unguja	24,585	4,341	291	158	16,495	3,300
Mjini Magharibi	59,322	3,755	1,221	-	53,358	989
Kaskazini Pemba	56,275	806	446	-	54,045	977
Kusini Pemba	81,293	3,300	2,080	148	57,222	18,543
Total	269,421	22,051	4,330	597	217,654	24,789

Table 3.8B : Number of Agricultural Household Members aged 15years and above by Main Activity and Region During 2019/20 Agricultural Year

Region	Main activity				Total
	Crop Farming	Livestock Keeping/Herding	Livestock/Pastoralism	Fishing	
	Kaskazini Unguja	34,416	946	-	
Kusini Unguja	12,703	716	-	2,223	15,641
Mjini Magharibi	26,696	1,690	-	1,239	29,625
Kaskazini Pemba	32,612	664	-	8,995	42,271
Kusini Pemba	47,230	1,294	-	6,859	55,384
Total	153,657	5,310	-	24,428	183,395

Table 3.14: Number of Agricultural Households Members Aged 18 Years and Above Generating off Farm income by Region During 2019/20 Agricultural Year

Region	Total	Generate off farm Income	Do Not Generate off farm Income
Kaskazini Unguja	40,550	18,657	21,893
Kusini Unguja	16,308	11,819	4,488
Mjini Magharibi	29,673	16,768	12,905
Kaskazini Pemba	43,453	30,118	13,335
Kusini Pemba	55,526	37,347	18,180
Total	185,510	114,709	70,801

Table 3.8C : Number of Agricultural Household Members aged 15years and above, Sex and by Main Activity and Region During 2019/20 Agricultural Year

Region	Main activity					
	Crop Farming			Livestock Keeping/Herding		
	Sex		Total	Sex		Total
Male	Female	Male		Female		
Kaskazini Unguja	17,253	17,163	34,416	946	-	946

Kusini Unguja	8,121	4,582	12,703	631	85	716
Mjini Magharibi	14,749	11,947	26,696	1,602	88	1,690
Kaskazini Pemba	15,689	16,923	32,612	483	181	664
Kusini Pemba	25,162	22,068	47,230	1,069	225	1,294
Total	80,974	72,683	153,657	4,731	579	5,310

continue...Table 3.8C : Number of Agricultural Household Members aged 15years and Above,
Sex and by Main Activity and Region During 2019/20 Agricultural Year

Region	Main activity					
	Livestock/Pastoralism			Fishing		
	Sex			Sex		
	Male	Female	Total	Male	Female	Total
Kaskazini Unguja	-	-	-	5,035	77	5,112
Kusini Unguja	-	-	-	1,926	297	2,223
Mjini Magharibi	-	-	-	1,189	50	1,239
Kaskazini Pemba	-	-	-	8,995	-	8,995
Kusini Pemba	-	-	-	6,703	156	6,859
Total	-	-	-	23,848	580	24,428

continue...Table 3.8C : Number of Agricultural Household Members aged 15years
and above, Sex and by Main Activity and Region During 2019/20 Agricultural Year

Region	Total		
	Sex		
	Male	Female	Total
Kaskazini Unguja	23,234	17,239	40,474
Kusini Unguja	10,678	4,963	15,641
Mjini Magharibi	17540	12085	29625
Kaskazini Pemba	25168	17103	42271
Kusini Pemba	32934	22449	55384
Total	109,554	73,839	183,395

**Table 3.8D: Number of Agricultural Household Members Aged 18 Years and Above, Own a piece of land by Sex
and Region During 2019/20 Agricultural Year**

Region	Own any piece of agricultural land					
	Total		Yes		No	
	Sex		Sex		Sex	
	Male	Female	Male	Female	Male	Female
Kaskazini Unguja	45,698	47,946	16,022	4,431	29,676	43,515
Kusini Unguja	24,739	24,585	8,886	2,216	15,853	22,369
Mjini Magharibi	58,798	59,322	13,941	4,896	44,857	54,426
Kaskazini Pemba	59,556	56,275	17,947	8,961	41,609	47,314
Kusini Pemba	72,728	81,292	38,328	17,373	34,400	63,919
Total	261,519	269,420	95,124	37,877	166,395	231,543

Table 4.1.1: Number of Agricultural Households by Type of Land Access/Ownership/Tenure and Region; During 2019/20 Agricultural Year

Region	Land Leased/Certificate of ownership	Land owned		Land Rented from others
		under Customary Law	Land Bought from others	
Kaskazini				
Unguja	4,773	18,615	766	981
Kusini Unguja	3,282	11,437	525	568
Mjini Magharibi	7,556	9,271	1,683	1,466
Kaskazini				
Pemba	6,675	14,228	1,148	321
Kusini Pemba	6,494	39,934	3,050	309
Total	28,780	93,485	7,172	3,645

continue...Table 4.1.1: Number of Agricultural Households by Type of Land Access/Ownership/Tenure and Region; During 2019/20 Agricultural Year

Region	Land Borrowed from others	Land Share - cropped from others	Land under Other forms of tenure
Kaskazini Unguja	9,561	-	4,561
Kusini Unguja	6,519	415	223
Mjini Magharibi	20,190	690	6,495
Kaskazini Pemba	24,704	198	1,124
Kusini Pemba	24,993	1,147	6,061
Total	85,967	2,450	18,464

Table 4.2 : Number of Agricultural Households by Whether All Land Available to the Household Was Used by Region During 2019/20 Agricultural Year

Region	All land was		
	Total	Used	No All Land Used
Kaskazini Unguja	31,594	28,708	2,886
Kusini Unguja	17,593	14,799	2,793
Mjini Magharibi	35,873	31,953	3,920
Kaskazini Pemba	40,781	37,621	3,160
Kusini Pemba	54,379	44,053	10,326
Total	180,220	157,134	23,085

Table 4.3: Number of Agricultural Households by Whether They Consider Having Sufficient Land for the Household and Region During 2019/20 Agricultural Year

Region	Total	Sufficient	Insufficient
Kaskazini			
Unguja	31,594	20,303	11,291
Kusini Unguja	17,593	9,996	7,597
Mjini Magharibi	35,873	15,350	20,523
Kaskazini Pemba	40,781	14,814	25,967
Kusini Pemba	54,379	31,727	22,652
Total	180,220	92,190	88,030

Table 4.4: Number of Agricultural Households By Whether Female Members of the Household Own or Have Customary Right to Land By Region; During 2019/20 Agricultural Year

Region	Have customary right to agricultural land				
	Total	Yes	Percent	No	Percent
Kaskazini Unguja	31,594	11,248	35.6	20,346	64.4
Kusini Unguja	17,592	9,856	56.0	7,736	44.0
Mjini Magharibi	35,873	14,114	39.3	21,759	60.7
Kaskazini Pemba	40,781	28,878	70.8	11,903	29.2
Kusini Pemba	54,379	26,100	48.0	28,279	52.0
Total	180,219	90,196	50.0	90,023	50.0

Table 4.5: Number of Agricultural Households that the Majority of Agricultural Land Located in different Regions; During 2019/20 Agricultural Year

Region	Total	Kaskazini Unguja	Kusini Unguja	Mjini Magharibi	Kaskazini Pemba	Kusini Pemba
Kaskazini Unguja	31,594	31,594	-	-	-	-
Kusini Unguja	17,593	196	17,396	-	-	-
Mjini Magharibi	35,873	99	1,662	34,112	-	-
Kaskazini Pemba	40,781	-	-	-	40,696	85

Kusini Pemba	54,379	-	-	-	148	54,231
Total	180,220	31,889	19,058	34,112	40,844	54,316

Table 5.1 : Area of Land (ha) Operated by Agricultural Households by Forms of Land use and Region During 2019/20 Agricultural Year

Region	Total	Area	Area	Area	Area	Area under	Area
		under Temporary Mono Crops	under Temporary Mixed Crops	under Permanent Mono Crops	under Permanent Mixed Crops	Permanent / temporary mix	under Fish farming
Kaskazini							
Unguja	47,923	11,314	3,264	3,117	1,450	4,575	-
Kusini Unguja	33,425	4,853	1,786	2,620	3,498	3,114	-
Mjini Magharibi	59,751	10,579	2,900	4,136	5,830	6,197	-
Kaskazini Pemba	66,550	20,346	735	5,377	743	5,689	-
Kusini Pemba	127,033	21,629	3,021	8,893	6,957	22,368	19
Total	334,681	68,720	11,706	24,143	18,479	41,943	19

continue..... **Table 5.1: Area of Land (ha) Operated by Agricultural Households by forms of Land Use and Region During 2019/20 Agricultural Year**

Region	Area under Pasture	Area under Fallow	Area under Natural Bush	Area under Planted Trees	Area Rented to Others	Area Unusable	Area of Uncultivated Usable Land(excluding fallow)
Kaskazini							
Unguja	52	236	-	174	19	-	512
Kusini Unguja	134	402	28	1,148	-	28	665
Mjini Magharibi	164	92	-	208	-	43	294
Kaskazini							
Pemba	16	601	-	154	-	-	303
Kusini Pemba	50	737	170	441	32	-	1,586
Total	416	2,068	199	2,125	51	71	3,360

Table 5.2: Number of Agriculture Households by Type of Land Use and Region for the 2019/20 Agriculture Year

Region	Land Use							
	Households under Temporary Mono Crops	Households under Temporary Mixed Crops	Households under Permanent Mono Crops	Households under Permanent Mixed Crops	Households under Permanent / temporary mix	Households under Fish farming	Households under Pasture	Households under Fallow
Kaskazini Unguja	20,818	8,353	12,547	2,933	8,496	-	64	932
Kusini Unguja	9,770	4,864	7,333	4,945	4,286	-	254	780
Mjini Magharibi	24,152	6,443	11,146	8,618	7,313	-	779	496
Kaskazini Pemba	36,026	2,220	16,814	863	6,982	-	78	1,235
Kusini Pemba	39,585	7,008	23,499	12,652	31,851	368	322	1,973
Total	130,351	28,888	71,339	30,011	58,928	368	1,497	5,416

Continue.....Table 5.2: Number of Agriculture Households by Type of Land Use and Region for the 2019/20 Agriculture Year

Region	Land Use				
	Households under Natural Bush	Households under Planted Trees	Households Rented to Others	Households Unusable	Households of Uncultivated Usable Land(excluding fallow)
Kaskazini Unguja	-	641	48	-	1,731
Kusini Unguja	70	727	-	109	1,490
Mjini Magharibi	-	571	-	439	1,270

Kaskazini Pemba	-	330	-	-	811
Kusini Pemba	335	2,018	157	-	4,632
Total	405	4,287	205	548	9,934

Table 6.1: Number of Agricultural households Practicing Conservational Farming by region, During 2019/20 Agricultural Year

Region	Conservational Farming Practices				
	Total	Practicing	Percent	Not Practicing	Percent
Kaskazini					
Unguja	31,594	1,982	6.3	29,612	93.7
Kusini Unguja	17,593	5,349	30.4	12,244	69.6
Mjini Magharibi	35,873	18,130	50.5	17,743	49.5
Kaskazini					
Pemba	40,781	6,213	15.2	34,568	84.8
Kusini Pemba	54,379	25,986	47.8	28,393	52.2
Total	180,220	57,660	32.0	122,560	68.0

Table 6.2: Number of Agricultural Households Practicing Conservational Farming by Methods and Region During 2019/20 Agricultural Year

Region	Contour farming (for sloped lands)	Planting of legumes and other soil conserving plants	Intense use of organic fertilizer over inorganic fertilizers	Covering soil with grasses/leaves	Fallowing	Other (specify)
Kaskazini						
Unguja	200	219	1,318	527	786	142
Kusini Unguja	271	966	4,337	2,746	522	55
Mjini Magharibi	1,658	439	12,570	13,612	5,013	-
Kaskazini						
Pemba	568	2,916	3,176	4,393	1,697	-
Kusini Pemba	3,558	15,429	11,405	8,233	7,672	578
Total	6,255	19,969	32,806	29,511	15,690	775

Table 7.1a: Number of Agricultural Households Reporting Average Distance from the First Fields to the Homestead by Region During 2019/20 Agricultural Year

Region	Distance to Homestead										
	between		Between			Between					10 Not Applicable
	Less than 100m	and 300m	and 500m	300 500 1km	and 2km	1 Between and 3km	2 Between and 5km	3 5 km	and 10 Over km		
Kaskazini Unguja	3,980	1,476	1,244	4,935	8,223	5,415	3,228	1,501	558	1,034	
Kusini Unguja	4,595	1,900	1,630	2,470	3,049	1,351	1,344	445	262	452	
Mjini Magharibi	14,776	3,583	2,506	1,582	3,564	2,249	1,922	1,552	2,969	1,126	
Kaskazini Pemba	3,597	5,336	5,001	8,991	8,761	4,277	3,281	931	422	183	
Kusini Pemba	7,060	5,975	5,897	12,019	8,433	6,245	4,594	2,588	1,042	318	
Total	34,008	18,270	16,278	29,997	32,030	19,537	14,369	7,017	5,253	3,113	

Table 7.1b: Number of Agricultural Households Reporting Average distance From the Second Field to the Nearest Road by Region; During 2019/20 Agricultural Year

Region	Distance to Homestead										
	Between		Between			Between					10 Not Applicable
	Less than 100m	and 300m	and 500m	300 500 1km	and 2km	1 Between and 3km	2 Between and 5km	3 5 km	and 10 Over km		
Kaskazini Unguja	3,493	1,425	1,196	3,298	3,978	3,164	1,717	700	459	-	
Kusini Unguja	2,054	945	1,032	1,074	784	712	549	523	30	-	
Mjini Magharibi	4,645	2,433	1,720	1,826	1,738	741	440	362	1,341	-	
Kaskazini Pemba	1,850	3,040	2,804	4,536	2,771	2,201	1,363	795	242	144	
Kusini Pemba	2,071	2,756	7,905	8,075	9,774	5,204	3,626	2,448	1,016	-	
Total	14,113	10,599	14,657	18,809	19,045	12,022	7,695	4,828	3,088	144	

Table 7.1c: Number of Agricultural Households Reporting Average Distance From the Third Field to the Nearest Market by Region During 2019/20 Agricultural Year

Region	Distance to Homestead									
	Between	Between	Between	Between	Between	Between	Between	Between	Between	Between
	Less than 100m	100m and 300m	300m and 500m	500m and 1km	1km and 2km	2km and 3km	3km and 5km	5km and 10km	10km and Over 10km	Not Applicable
Kaskazini Unguja	1,587	469	849	1,355	2,118	1,155	794	521	463	-
Kusini Unguja	439	109	208	236	432	397	54	103	243	57
Mjini Magharibi	1,065	1,646	44	1,351	911	-	81	43	400	130
Kaskazini Pemba	1,237	995	591	823	985	350	186	89	79	-
Kusini Pemba	3,931	2,281	2,777	2,787	4,033	2,411	3,371	1,659	570	393
Total	8,259	5,500	4,469	6,552	8,479	4,313	4,486	2,415	1,755	580

Table 7.2.a: Number of Agricultural Households Reporting Average Distance from the First Field to the Nearest road by Region; During 2019/20 Agricultural Year

Region	Distance to Nearest road									
	Less than 100m	between 100m and 300m	Between 300m and 500m	Between 500m and 1km	Between 1km and 2km	Between 2km and 3km	Between 3km and 5km	Between 5km and 10km	Over 10km	Not Applicable
	Kaskazini Unguja	8,807	4,820	3,178	4,249	4,513	3,241	1,400	304	-
Kusini Unguja	5,505	3,711	2,035	2,334	1,614	957	477	-	172	696
Mjini Magharibi	15,426	6,183	2,246	3,932	3,202	2,465	241	664	-	1,471
Kaskazini Pemba	5,613	8,847	8,213	9,095	4,859	2,110	1,511	266	84	183
Kusini Pemba	9,497	9,233	7,939	12,688	7,330	4,570	1,834	764	-	318
Total	44,848	32,794	23,611	32,298	21,518	13,343	5,463	1,998	256	3,750

Table 7.2.b: Number of Agricultural Households Reporting Average Distance from the Second Field to the Nearest Road by Region During 2019/20 Agricultural Year

Region	Distance to Nearest road									
	Less than 100m	between 100m and 300m	Between 300m and 500m	Between 500m and 1km	Between 1km and 2km	Between 2km and 3km	Between 3km and 5km	Between 5km and 10km	Over 10km	Not Applicable
	Kaskazini Unguja	4,556	2,677	2,044	3,133	3,719	2,147	942	150	64
Kusini Unguja	2,137	2,016	1,076	584	546	676	322	55	116	173
Mjini Magharibi	5,909	2,033	1,416	3,584	1,449	432	334	44	45	-
Kaskazini Pemba	2,940	3,619	4,425	3,700	3,487	1,044	531	-	-	-

Kusini Pemba	4,288	6,135	7,106	8,660	7,468	5,784	2,727	705	-	-
Total	19,830	16,480	16,067	19,661	16,669	10,083	4,856	954	225	173

Table 7.2.b: Number of Agricultural Households Reporting Average Distance from the Third Field to the Nearest road by Region During 2019/20 Agricultural Year

Region	Distance to Nearest road										
	Less than 100m	between 100m and 300m	Between 300m and 500m	Between 500m and 1km	Between 1km and 2km	Between 2km and 3km	Between 3km and 5km	Between 5km and 10km	Over 10km	Not Applicable	
Kaskazini Unguja	1,529	1,667	620	1,003	2,421	1,082	991	-	-	-	-
Kusini Unguja	392	639	373	268	173	104	54	69	147	57	
Mjini Magharibi	1,401	1,494	625	1,454	91	385	44	45	-	130	
Kaskazini Pemba	1,093	1,086	863	1,012	986	295	-	-	-	-	
Kusini Pemba	4,214	3,822	2,300	3,529	3,798	3,554	1,760	842	-	393	
Total	8,629	8,708	4,781	7,266	7,469	5,420	2,849	956	147	580	

Table 7.3.a: Number of Agricultural Households Reporting Average Distance from the First Fields to the Nearest Market by Region; During 2019/20 Agricultural Year

Region	Distance to Nearest Market										
	Less than 100m	between 100m and 300m	Between 300m and 500m	Between 500m and 1km	Between 1km and 2km	Between 2km and 3km	Between 3km and 5km	Between 5km and 10km	Over 10km	Not Applicable	
Kaskazini Unguja	918	614	622	1,800	4,184	3,446	3,347	4,381	10,628	1,654	
Kusini Unguja	581	264	155	416	521	319	554	1,846	5,687	7,158	
Mjini Magharibi	442	297	49	868	3,110	3,109	4,947	5,029	16,271	1,706	
Kaskazini Pemba	838	1,807	5,298	10,299	10,513	7,023	3,280	1,296	244	183	
Kusini Pemba	332	808	1,521	6,793	8,917	7,483	4,922	10,075	12,862	461	
Total	3,111	3,790	7,645	20,176	27,245	21,380	17,050	22,627	45,692	11,162	

Table 7.3.b: Number of Agricultural Households Reporting Average Distance from the Second Field to the Nearest Market by Region During 2019/20 Agricultural Year

Region	Distance to Nearest Market
--------	----------------------------

	between					Between					Not Applicable
	Less than 100m	Between 100m and 300m	Between 300m and 500m	Between 500m and 1km	Between 1km and 2km	Between 2km and 3km	Between 3km and 5km	Between 5km and 10km	Over 10km		
Kaskazini Unguja	536	428	513	1,413	2,224	2,307	2,136	2,881	6,666	326	
Kusini Unguja	318	99	111	113	270	-	121	747	3,468	2,455	
Mjini Magharibi	52	136	92	630	1,322	2,824	2,487	1,898	5,711	94	
Kaskazini Pemba	511	875	2,484	5,840	4,004	3,861	1,188	829	155	-	
Kusini Pemba	101	582	711	4,803	7,134	4,557	4,867	7,589	12,388	142	
Total	1,518	2,120	3,911	12,799	14,954	13,549	10,799	13,944	28,388	3,017	

Table 7.3.c: Number of Agricultural Households Reporting Average Distance from the Third Field to the Nearest Market by Region During 2019/20 Agricultural Year

Region	Distance to Nearest Market									
	Less than 100m	Between 100m and 300m	Between 300m and 500m	Between 500m and 1km	Between 1km and 2km	Between 2km and 3km	Between 3km and 5km	Between 5km and 10km	Over 10km	Not Applicable
Kaskazini Unguja	509	54	286	172	836	923	1,318	1,061	4,152	-
Kusini Unguja	-	-	-	-	-	-	61	57	1,390	768
Mjini Magharibi	100	-	-	378	706	636	1,938	385	1,397	130
Kaskazini Pemba	220	331	435	1,137	1,822	1,281	109	-	-	-
Kusini Pemba	496	101	1,297	2,165	4,321	2,234	2,865	3,073	7,267	393
Total	1,325	486	2,018	3,852	7,685	5,074	6,291	4,576	14,206	1,291

Table 7.4: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Dry Season During 2019/20 Agricultural Year

Region	Water for domestic use					Water for livestock				
	Dry season					Dry season				
	Less than 1km	(1-3) KM	(4-6) KM	Above 6KM	Not applicable	Less than 1km	(1-3) KM	(4-6) KM	Above 6KM	Not applicable
Kaskazini Unguja	30,241	1,280	-	-	72	14,586	1,793	-	-	15,215
Kusini Unguja	16,606	740	-	-	247	9,003	699	-	-	7,890
Mjini Magharibi	35,252	330	-	-	290	15,960	1,153	-	-	18,760
Kaskazini Pemba	39,793	480	-	-	507	15,988	12,028	-	-	12,765

Kusini Pemba	53,242	987	-	-	150	18,659	14,817	-	-	20,903
Total	175,134	3,817	-	-	1,266	74,196	30,490	-	-	75,533

Table 7.4: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Dry Season; During 2019/20 Agricultural Year

Region	Communal Grazing					Communal Firewood				
	Dry season					Dry season				
	Less than 1km	(1 -3) KM	(4 -6) KM	Above 6KM	Not applicable	Less than 1km	(1 -3) KM	(4 -6) KM	Above 6KM	Not applicable
Kaskazini Unguja	789	1,009	99	127	29,570	1,578	9,790	3,016	-	17,210
Kusini Unguja	1,663	889	-	419	14,622	2,975	4,718	985	-	8,915
Mjini Magharibi	597	87	48	43	35,098	3,046	1,762	-	-	31,064
Kaskazini Pemba	8,483	20,038	1,365	332	10,562	6,848	30,190	-	-	3,743
Kusini Pemba	2,139	8,822	2,132	-	41,285	689	20,437	-	-	33,253
Total	13,671	30,845	3,644	921	131,137	15,136	66,897	4,001	-	94,185

Table 7.4: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Dry Season During 2019/20 Agricultural Year

Region	Building poles					Forest for bees (honey)				
	Dry season					Dry season				
	Less than 1km	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable	Less than 1km	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable
Kaskazini Unguja	260	1,066	179	106	29,983	338	1,141	-	-	30,114
Kusini Unguja	1,420	2,309	813	158	12,891	1,191	1,749	699	168	13,786
Mjini Magharibi	146	-	51	290	35,386	51	99	-	44	35,679
Kaskazini Pemba	1,220	8,097	3,593	727	27,144	1,413	6,693	3,728	399	28,548
Kusini Pemba	-	8,065	5,150	2,863	38,301	142	4,956	1,860	-	47,420
Total	3,046	19,537	9,786	4,144	143,705	3,135	14,638	6,287	611	155,547

Table 7.4: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Dry Season; During 2019/20 Agricultural Year

Region	Area for Hunting					Area for Fishing				
	Dry season					Dry season				
	Less than 1km	(1 -3) KM	(4 -6)KM	Above 6KM	Not applicable	Less than 1km	(1 -3)KM	(4 -6) KM	Above 6KM	Not applicable
Kaskazini Unguja	48	168	151	127	31,099	3,293	8,068	3,794	2,490	13,948

Kusini Unguja	601	1,751	507	380	14,353	2,708	3,156	1,777	693	9,259
Mjini Magharibi	-	-	-	-	35,873	810	2,956	2,586	2,788	26,733
Kaskazini Pemba	1,049	2,939	456	161	36,175	6,550	13,824	6,296	4,659	9,452
Kusini Pemba	-	1,363	1,162	-	51,854	4,369	21,595	13,720	9,015	5,680
Total	1,698	6,221	2,276	668	169,354	17,730	49,599	28,173	19,645	65,072

Table 7.5: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Wet Season during 2019/20 Agricultural Year

Region	Water for domestic use					Water for livestock				
	Wet Season					Wet Season				
	Less than 1	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable	Less than 1	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable
Kaskazini Unguja	30,632	889	-	-	72	14,707	1,644	-	-	15,242
Kusini Unguja	16,703	643	-	-	247	8,716	723	-	-	8,154
Mjini Magharibi	34,483	480	-	-	910	15,961	1,153	-	-	18,759
Kaskazini Pemba	39,914	360	-	-	507	16,553	11,550	-	-	12,679
Kusini Pemba	53,564	815	-	-	-	19,318	15,353	-	-	19,708
Total	175,296	3,187	-	-	1,736	75,255	30,423	-	-	74,542

Table 7.5: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Wet Season During 2019/20 Agricultural Year

Region	Communal Grazing					Communal Firewood				
	Wet Season					Wet Season				
	Less than 1	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable	Less than 1	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable
Kaskazini Unguja	672	1,009	175	51	29,687	1,578	9,716	3,114	-	17,184
Kusini Unguja	1,609	889	-	209	14,886	2,921	4,824	1,239	-	8,610
Mjini Magharibi	633	51	48	43	35,098	3,047	1,806	-	-	31,020
Kaskazini Pemba	8,875	20,780	1,036	85	10,005	6,848	30,946	-	-	2,987
Kusini Pemba	1,834	8,822	2,132	-	41,591	523	20,775	-	-	33,081
Total	13,623	31,551	3,391	388	131,267	14,917	68,067	4,353	-	92,882

Table 7.5: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Wet Season; During 2019/20 Agricultural Year

Region	Building poles					Forest for bees (honey)				
	Wet Season					Wet Season				
	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable	Less than 1)KM	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable	
Kaskazini Unguja	260	1,066	179	106	29,983	338	1,141	-	-	30,114
Kusini Unguja	1,366	2,363	813	267	12,782	1,191	1,737	645	111	13,909
Mjini Magharibi	146	-	51	290	35,386	51	99	-	44	35,679
Kaskazini Pemba	1,220	8,097	3,593	642	27,229	1,413	6,815	3,728	255	28,571
Kusini Pemba	-	8,166	5,150	3,036	38,026	142	4,956	1,860	-	47,420
Total	2,992	19,692	9,786	4,341	143,406	3,135	14,748	6,233	410	155,693

Table 7.5: Number of Agricultural Households Reporting Average Distance to the Nearest Communal Resources in Wet Season During 2019/20 Agricultural Year

Region	Area for Hunting					Area for Fishing				
	Wet Season					Wet Season				
	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable	Less than 1)KM	(1 -3)KM	(4 -6)KM	Above 6KM	Not applicable	
Kaskazini Unguja	48	100	151	179	31,115	3,358	8,140	3,674	2,610	13,812
Kusini Unguja	601	1,751	507	325	14,409	2,699	3,386	1,863	808	8,837
Mjini Magharibi	-	-	-	-	35,873	949	3,045	2,586	2,833	26,461
Kaskazini Pemba	1,049	2,939	456	241	36,096	6,852	14,036	6,385	4,471	9,037
Kusini Pemba	-	1,363	1,162	-	51,854	4,369	21,716	13,914	9,197	5,184
Total	1,698	6,153	2,276	745	169,347	18,227	50,323	28,422	19,919	63,331

Table 7.6: Main Use for Communal Resources by the Household During 2019/20 Agricultural Year

Region	Main Use for Water for Domestic							
	Home or farm Consumption/U tilisation	Sold to Neighbours	Sold to trader on the farm	Sold to village market	Sold to wholesale at local market	Sold to wholesale at major market	Not used by household	Not available
	Kaskazini Unguja	31,521	-	-	-	-	-	-
Kusini Unguja	17,076	-	-	-	-	-	270	-

Mjini Magharibi	35,187	-	-	-	-	-	395	-
Kaskazini Pemba	40,274	-	-	-	-	-	-	-
Kusini Pemba	54,379	-	-	-	-	-	-	-
Total	178,437	-	-	-	-	-	665	-

continue...Table 7.6: Main use for Communal Resources by the Household During 2019/20 Agricultural Year

Region	Water for livestock								
	Main Household in Use								
	Sold to Sold to								
	Home or farm Consumption/ut ilisation	Sold to Neighbour s	Sold to trader the farm	Sold to village market	Sold to wholesale at market	Sold to local at market	Sold to major by household	Not used	Not available
Kaskazini Unguja	16,214	-	-	-	-	-	64	148	
Kusini Unguja	8,403	-	-	-	-	-	661	825	
Mjini Magharibi	15,280	-	-	-	-	-	1,744	133	
Kaskazini Pemba	17,154	-	-	-	-	-	10,862	86	
Kusini Pemba	27,957	-	-	-	-	-	6,542	172	
Total	85,008	-	-	-	-	-	19,873	1,364	

continue...Table 7.6: Main use for Communal Resources by the Household; During 2019/20 Agricultural Year

Region	Communal Grazing								
	Main Household in Use								
	Sold to Sold to								
	Home or farm Consumption/ut ilisation	Sold to Neighbours	Sold to trader the farm	Sold to village market	Sold to wholesale at market	Sold to local at market	Sold to major by household	Not used by	Not available
Kaskazini Unguja	1,615	-	-	-	-	-	308	100	
Kusini Unguja	1,721	-	-	-	-	-	381	925	
Mjini Magharibi	628	-	48	-	-	-	56	43	
Kaskazini Pemba	19,413	-	-	-	-	-	11,042	433	
Kusini Pemba	10,165	101	-	-	-	-	2,206	621	
Total	33,542	101	48	-	-	-	13,993	2,122	

continue...Table 7.6: Main use for Communal Resources by the Household During 2019/20 Agricultural Year

Region	Communal Firewood									
	Main Household in Use									
	Sold to					Sold to				
	Home or farm Consumption/ utilisation	Sold to Neighbours	Sold to trader on farm	Sold to on the village market	Sold to wholesale local market	Sold to at major market	Sold to wholesale at major by household	Not used by household	Not available	
Kaskazini Unguja	14,168	51	102	-	-	-	110	52		
Kusini Unguja	7,572	426	210	-	-	-	160	724		
Mjini Magharibi	4,805	-	-	-	-	-	48	43		
Kaskazini Pemba	37,154	-	-	-	-	-	640	-		
Kusini Pemba	21,001	-	-	-	-	-	298	-		
Total	84,700	477	312	-	-	-	1,256	819		

continue...Table 7.6: Main use fo Communal Resources by the Household During 2019/20 Agricultural Year

Region	Building poles									
	Main Household in Use									
	Home or farm					Sold to				
	Consumption/ utilisation	Sold to Neighbours	Sold to trader on farm	Sold to on the village market	Sold to wholesale local market	Sold to at major market	Sold to wholesale at major by household	Not used by household	Not available	
Kaskazini Unguja	1,014	76	193	-	-	-	327	-		
Kusini Unguja	2,896	52	54	-	-	-	877	931		
Mjini Magharibi	393	-	-	-	-	-	51	43		
Kaskazini Pemba	1,632	-	-	-	-	122	11,883	-		
Kusini Pemba	8,672	-	101	-	-	-	7,201	585		
Total	14,607	128	348	-	-	122	20,339	1,559		

continue...Table 7.6: Main use fo Communal Resources by the Household During 2019/20 Agricultural Year

Region	Forest for bees (honey)									
	Main Household in Use									
	Home or farm					Sold to				
	Consumption/ utilisation	Sold to Neighbours	Sold to trader on farm	Sold to on the village market	Sold to wholesale at local market	Sold to wholesale at major market	Sold to wholesale at major by household	Not used by household	Not available	

Kaskazini Unguja	-	-	99	129	49	375	699	129
Kusini Unguja	255	214	157	77	-	-	2,204	955
Mjini Magharibi	51	-	99	-	-	-	44	-
Kaskazini Pemba	321	883	106	-	-	-	10,569	444
Kusini Pemba	132	189	150	957	132	97	5,303	-
Total	759	1,286	611	1,163	181	472	18,819	1,528

continue...Table 7.6: Main use for Communal Resources by the Household During 2019/20 Agricultural Year

Region	Area for Hunting									
	Main Household in Use									
	Consumption/utilisation	Sold to Neighbours	Sold to trader on farm			Sold to village market			Sold to wholesale at market	
			to on farm	the village market	wholesale at local market	at market	major by household	Not used	Not available	
Kaskazini Unguja	52	-	-	-	-	-	-	495	-	
Kusini Unguja	335	141	-	-	-	-	-	2,102	660	
Mjini Magharibi	-	-	-	-	-	-	-	-	-	
Kaskazini Pemba	1,349	-	-	-	-	-	-	2,863	634	
Kusini Pemba	943	-	-	-	-	-	-	1,582	-	
Total	2,679	141	-	-	-	-	-	7,042	1,294	

continue...Table 7.6: Main use for Communal Resources by the Household During 2019/20 Agricultural Year

Region	Area for Fishing									
	Main Household in Use									
	Consumption/utilisation	Sold to Neighbours	Sold to trader on farm			Sold to village market			Sold to wholesale at market	
			to on farm	the village market	wholesale at local market	at market	major by household	Not used	Not available	
Kaskazini Unguja	7,187	224	536	1,073	874	2,424	5,463	-	-	
Kusini Unguja	1,203	1,422	956	1,080	420	163	2,899	611	-	
Mjini Magharibi	1,457	96	793	104	-	413	6,247	301	-	
Kaskazini Pemba	13,730	3,241	-	4,293	632	155	9,687	84	-	
Kusini Pemba	10,115	455	1,025	3,586	5,584	5,633	22,798	-	-	
Total	33,692	5,438	3,310	10,136	7,510	8,788	47,094	996	-	

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Maize					Paddy				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	2,587	617	293	660	2.3	6,772	1,971	1,488	3,780	2.5
Kusini Unguja	1,056	172	87	74	0.8	1,134	242	189	529	2.8
Mjini										
Magharibi	2,738	577	558	1,153	2.1	11,593	3,504	2,743	7,326	2.7
Kaskazini										
Pemba	457	110	110	240	2.2	8,028	2,240	1,970	4,640	2.4
Kusini Pemba	2,012	366	299	192	0.6	2,122	486	444	777	1.7
Total	8,850	1,844	1,348	2,319	1.7	29,649	8,444	6,835	17,051	2.5

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Sorghum					Bulrush Millet				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	-	-	-	-	-	-	-	-	-	-
Kusini										
Unguja	-	-	-	-	-	-	-	-	-	-
Mjini										
Magharibi	-	-	-	-	-	-	-	-	-	-
Kaskazini										
Pemba	85	8,499	-	-	-	541	54	17	15	0.9
Kusini										
Pemba	-	-	-	-	-	343	47	39	126	3.3
Total	85	8	-	-	-	884	101	55	142	2.6

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Cassava	Sweet potatoes
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	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	26,273	5,881	4,277	26,056	6.1	3,691	1,098	859	8,949	10.4
Kusini										
Unguja	10,777	2,472	2,041	14,173	6.9	1,573	344	235	2,451	10.4
Mjini										
Magharibi	21,361	4,796	3,680	23,462	6.4	5,781	1,280	875	10,852	12.4
Kaskazini										
Pemba	36,971	10,764	9,805	66,848	6.8	1,488	258	201	2,400	12.0
Kusini										
Pemba	52,232	15,730	11,924	27,010	2.3	1,749	162	128	1,375	10.7
	147,61									
Total	4	39,643	31,726	157,549	5.0	14,282	3,142	2,297	26,027	11.3

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Yams					Coco yams				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	3,440	491	97	184	1.9	688	50	31	61	2.0
Kusini										
Unguja	2,089	338	297	488	1.6	891	152	79	198	2.5
Mjini										
Magharibi	4,181	485	267	530	2.0	2,674	295	183	445	2.4
Kaskazini										
Pemba	-	-	-	-	-	278	44	21	42	2.0
Kusini										
Pemba	371	11	1	3	4.2	3,292	304	247	484	2.0
Total	10,081	1,324	661	1,204	1.8	7,823	845	562	1,231	2.2

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region during 2019/20 agricultural Year - Short Rain SEASON

Region	Beans					Cowpeas				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	74	45	15	24	1.6	972	124	80	266	3.3
Kusini										
Unguja	-	-	-	-	-	124	9	1	1	0.9
Mjini										
Magharibi	-	-	-	-	-	56	3	3	10	3.4
Kaskazini										
Pemba	-	-	-	-	-	1,748	307	190	414	2.2
Kusini										
Pemba	123	13	-	-	-	7,599	1,301	1,014	2,915	2.9
Total	197	58	15	24	1.6	10,499	1,744	1,287	3,606	2.8

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Green gram					Pigeon pea				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)

Kaskazini										
Unguja	423	63	54	22	0.4	1,718	279	146	216	1.5
Kusini Unguja	367	66	51	19	0.4	1,333	180	115	158	1.4
Mjini										
Magharibi	-	-	-	-		397	17	17	28	1.6
Kaskazini										
Pemba	89	18	18	9	0.5	122	6	6	8	1.4
Kusini Pemba	2,082	287	245	96	0.4	142	15	15	21	1.5
Total	2,961	434	367	145	0.4	3,712	497	299	431	1.4

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Bambaranuts					Fiwi				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini Unguja	-	-	-	-	-	-	-	-	-	-
Kusini Unguja	-	-	-	-	-	67	7	7	2	0.2
Mjini Magharibi Kaskazini	-	-	-	-	-	-	-	-	-	-
Pemba Kusini	-	-	-	-	-	-	-	-	-	-
Pemba	275	65	7	5	0.8	-	-	-	-	-
Total	275	65	7	5	0.8	67	7	7	2	0.2

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Groundnut					
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity (Tons)	Harvested	Yield (tons/ha)
Kaskazini Unguja	219	15	15	14	1.0	
Kusini Unguja	184	37	19	11	0.6	
Mjini Magharibi	338	39	39	9	0.2	
Kaskazini Pemba	526	256	256	179	0.7	
Kusini Pemba	3,926	633	570	362	0.6	
Total	5,193	979	898	575	0.6	

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Cabbage					Spinach				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini Unguja	-	-	-	-	-	121	12	6	1	0.2

Kusini										
Unguja	-	-	-	-		113	14	14	6	0.4
Mjini										
Magharibi	44	2	2	2	1.1	-	-	-	-	
Kaskazini										
Pemba	-	-	-	-		-	-	-	-	
Kusini										
Pemba	-	-	-	-		-	-	-	-	
Total	44	2	2	2	1.1	234	26	20	7	0.3

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Chilies					Carrot				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	181	18	15	92	6.0	-	-	-	-	-
Kusini										
Unguja	516	105	98	1,223	12.4	-	-	-	-	-
Mjini										
Magharibi	142	3	3	20	6.0	351	10	2	45	18.6
Kaskazini										
Pemba	201	16	11	32	2.9	-	-	-	-	-
Kusini										
Pemba	-	-	-	-	-	-	-	-	-	-
Total	1,040	142	128	1,366	10.7	351	10	2	45	18.6

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Amaranths					Pumpkins				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	1,438	136	133	567	4.3	978	180	121	871	7.2
Kusini										
Unguja	1,192	187	170	892	5.3	878	177	177	1,164	6.6
Mjini										
Magharibi	2,060	210	210	1,037	4.9	865	49	12	74	6.3
Kaskazini										
Pemba	429	85	75	357	4.8	291	32	8	50	5.8
Kusini										
Pemba	1,234	115	95	396	4.2	156	1	1	19	23.1
Total	6,353	733	683	3,249	4.8	3,168	438	319	2,177	6.8

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Cucumber					Egg Plant				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini Unguja	1,039	344	276	778	2.8	1,351	149	144	832	5.8
Kusini Unguja	178	31	19	40	2.1	954	161	123	773	6.3
Mjini Magharibi	936	135	135	607	4.5	933	78	78	590	7.6
Kaskazini Pemba	106	11	11	106	10.0	534	60	49	266	5.5
Kusini Pemba	300	76	76	115	1.5	1,073	100	78	577	7.4
Total	2,559	597	517	1,646	3.2	4,845	548	471	3,038	6.5

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Water Mellon					
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	
Kaskazini Unguja	888	464	247	3,380	13.7	
Kusini Unguja	447	92	81	1,485	18.3	
Mjini Magharibi	791	789	244	4,512	18.5	
Kaskazini Pemba	299	60	30	409	13.5	
Kusini Pemba	375	64	17	336	19.3	
Total	2,800	1,469	620	10,122	16.3	

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Okra					Tomatoes				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini										
Unguja	1,376	161	144	671	4.7	2,979	449	386	2,309	6.0
Kusini										
Unguja	1,150	180	110	697	6.3	2,202	410	321	2,124	6.6
Mjini										
Magharibi	2,927	690	620	9,053	14.6	2,236	392	392	2,279	5.8
Kaskazini										
Pemba	-	-	-	-		169	17	8	44	5.2
Kusini Pemba	831	74	69	324	4.7	2,337	301	187	908	4.9
Total	6,284	1,105	943	10,746	11.4	9,923	1,569	1,295	7,665	5.9

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Bitter tomato					Sweet/bell pepper				
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)
Kaskazini Unguja	662	88	57	99	1.7	55	3	3	19	6.8
Kusini Unguja	521	77	44	68	1.6	-	-	-	-	-
Mjini Magharibi	1,194	85	85	179	2.1	51	11	11	75	7.1
Kaskazini Pemba	-	-	-	-	-	-	-	-	-	-
Kusini Pemba	150	8	8	60	7.8	-	-	-	-	-
Total	2,527	259	194	406	2.1	106	13	13	94	7.1

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Seaweed					
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	
Kaskazini Unguja	-	-	-	-	-	-
Kusini Unguja	140	39	39	315	8.0	
Mjini Magharibi	48	19	19	128	6.6	
Kaskazini Pemba	1,795	266	262	2,300	8.8	
Kusini Pemba	427	72	72	538	7.5	
Total	2,410	397	393	3,280	8.3	

8.1.9 & 8.2.9: Number of Agricultural Households, Planted Area, Harvested Area, Quantity Harvested (Tons) and Yield by Crop and Region During 2019/20 Agricultural Year - Short Rain Season

Region	Other crop					
	Number of Households	Planted Area (Ha)	Harvested Area (Ha)	Quantity Harvested (Tons)	Yield (tons/ha)	
Kaskazini Unguja	67	7	7	23	3.4	
Kusini Unguja	-	-	-	-	-	
Mjini Magharibi	43	4	4	43	9.8	
Kaskazini Pemba	-	-	-	-	-	
Kusini Pemba	158	16	16	285	17.6	
Total	268	28	28	352	12.8	

LONG RAIN SEASON

