



THE UNITED REPUBLIC OF TANZANIA

2019/20 NATIONAL SAMPLE CENSUS OF AGRICULTURE



**KEY FINDINGS REPORT
FOR CROPS AND LIVESTOCK
SECTORS AND FISH FARMING**

AUGUST 2021



The United Republic of Tanzania

2019/20 National Sample Census of Agriculture

Key Findings Report for Crops and Livestock Sectors and Fish Farming

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Acronyms

ASDP II	Agricultural Sector Development Programme Phase II
ASLMs	Agricultural Sector Lead Ministries
CAADP	Comprehensive Africa Agriculture Development Programme
CAPI	Computer Assisted Personal Interview
CSPro	Census and Survey Processing System
EA	Enumeration Area
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
LSF	Large Scale Farms
NBS	National Bureau of Statistics
NSCA	National Sample Census of Agriculture
OCGS	Office of the Chief Government Statistician
PSU	Primary Sampling Unit
SDGs	Sustainable Development Goals
SHF	Smallholder Farmers
ToE	Training of Enumerators
ToT	Training of Trainers
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

Foreword

The 2019/20 National Sample Census of Agriculture (NSCA) is the fifth Census of Agriculture conducted in Tanzania. The first Census was conducted in 1971/72, the second in 1993/94 to 1994/95 in which data on Household characteristics and livestock count were collected in 1993/94 and data on crop area and production were collected in 1994/95. The third Census was conducted in 2002/03, and the fourth in 2007/08.



Hon. Professor Adolf Faustine Mkenda (MP)
Minister for Agriculture

The 2019/20 NSCA was jointly implemented by the National Bureau of Statistics (NBS) and Office of the Chief Government Statistician, Zanzibar (OCGS), in collaboration with Agricultural Sector Lead Ministries (ASLMs). The Census was financially supported by the Government of Tanzania, the European Union (EU) and the United States Agency for International Development (USAID), while technical assistance was provided by the United States Department of Agriculture (USDA) and Food and Agriculture Organization of the United Nations (FAO).

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 through increasing productivity and promoting agro-processing for industrial development and improving farmer's livelihood. Moreover, the results will facilitate monitoring and evaluation of the implementation and contribution of Sustainable Development Goals (SDGs), African Agenda 2063, MALABO declaration, third Five Year Development Plan (2021/22 – 2025/26) and Agricultural Sector Development Programme Phase II (ASDP II).

It is my hope that, this Key Findings Report will provide important data and information on Agricultural Sector to Government, Policy makers, Planners, and other stakeholders to support the development of agriculture sector in the country.

Hon. Professor Adolf Faustine Mkenda (MP)

Minister for Agriculture

Acknowledgements

The successful execution of this Census is a result of commitment and collaboration of many individuals and institutions. Therefore, I would like to express my gratitude to all persons and institutions that contributed in one way or another in ensuring the 2019/20 NSCA is carried out as planned.



Dr. Albina Chuwa
Statistician General

My gratitude should first go to the Government of United Republic of Tanzania, the European Union (EU) and the United State Agency for International Development (USAID) for their financial and technical support to this Census. Effort made by the Development Partners in ensuring that the 2019/20 NSCA is fully supported technically and financially is greatly appreciated.

I appreciate the technical support provided by United States Department of Agriculture (USDA) and Food and Agriculture Organization of the United Nations (FAO) at all stages of undertaking this Census. I recognize the guidance provided by regional and district officials, as well as local leaders who played a big role in the successful implementation of the Census. I wish to thank all respondents from selected households for supporting census undertaking in the country by providing much-needed information.

Lastly, but by no means least, I would also like to thank the Technical Team composed of professionals from the President's Office, Regional Administration and Local Government; Prime Minister's Office; Ministry of Agriculture; Ministry of Livestock and Fisheries; Ministry of Industries and Trade; Ministry of Agriculture, Natural Resources, Livestock and Fisheries, Revolutionary Government of Zanzibar; National Bureau of Statistics (Department of Agriculture Statistics); and Office of the Chief Government Statistician (Agriculture and Environmental Statistics Section, Tanzania Zanzibar).

This report provides information, that will assist the Government in designing policies and development plans to improve the Agricultural Sector in the country.

Dr. Albina Chuwa
Statistician General
National Bureau of Statistics

Concepts and Definitions

Agricultural year

In Tanzania, agricultural year commences on the 1st October to 30th September of the following year. For this Census, the agricultural year started on 1st October 2019 to 30th September 2020.

Crop only

A household is referred as 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 (Ownership of 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 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 engaged in both crops and livestock, if it has cultivated a piece of land equal or exceeding 25 square meters and 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.

Fish Farming

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

Fingerlings

Refers to a young or baby fish that has reached a size of a finger and can be developed for consumption or commercial purposes. Usually fingerlings are one to three weeks old.

Small Scale Farms

These are farms, with at least 25 square meters of planted land and/or one cattle, five goats/sheep/pigs, 50 chickens/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 to go 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.

Irrigation Farming

It is the application of specific amount of water at particular location of farm in order to meet the requirements of crop planting and growing. In this census, irrigation farming include irrigation that practiced by smallholder farmers only and does not include schemes of irrigation.

1.0 Introduction

Agriculture is the mainstay of the Tanzania's economy as it is the main source of food, employment, raw materials for industries, and it is a source of foreign exchange earnings. Since Tanzania is endowed with big and fertile agricultural land, diversity of climatic and geographical zones, farmers are able to engage in crop production, livestock production and fish farming. The contribution of agriculture to the national Gross Domestic Product (GDP) is estimated at 26.9 percent (The Economic Survey 2020).

The 2019/20 NSCA intended to support and fill in the information gaps necessary for planning and policy formulation by high-level decision-making bodies. Besides, it is meant to provide critical data indicators needed for monitoring the performance of the Agricultural Sector Development Programme Phase II (ASDP II).

This report therefore, presents summary of Key Findings from the 2019/20 National Sample Census of Agriculture. The indicators are presented at the levels of the United Republic of Tanzania (URT), Mainland Tanzania and Tanzania Zanzibar. This report is organized in five sections. The first and second sections presents introduction and Census implementation, the third section presents results on key findings (households agricultural characteristics, crop production, livestock and fish farming). Fourth section presents agriculture constraints for both Mainland Tanzania and Tanzania Zanzibar, while conclusion presented in section five.

1.1 Objectives of the Census

The main objective of the 2019/20 National Sample Census of Agriculture was to provide baseline data on crop production, livestock production and fish farming. Specifically, through:-

- i). Identification of structural changes if any, in the size of farm household holdings, crop and livestock production, farm inputs and 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 Agriculture Sector Development Programme Phase II (ASDP II).

1.2 Reference Period

The reference period for agricultural Surveys and Census follows agricultural calendar. For Tanzania, agricultural calendar starts from 1st October and ends on the 30th September of the subsequent year. This reference period was designed to cut across two agricultural seasons (short and long rainy seasons). For the 2019/20 NSCA, the reference period for production of crop and livestock products was from 1st October 2019 to 30th September 2020, while livestock inventory was taken as of 1st August 2020.

1.3 Confidentiality

The information collected from agricultural households is strictly confidential as per the Statistical Act, [Cap 351R.E 2019] and Office of the Chief Government Statistician Act. No 9 of 2007 and will only be used for statistical purposes.

2.0 Census Implementation

The preparation of 2019/20 NSCA began in August 2018 by establishing a National Technical Team, which included members from NBS, OCGS, PMO, PORALG and ASLMs, who were responsible for planning and implementation of the Census.

2.1 Sampling

The 2019/20 NSCA adopted a two-stage design with census enumeration areas as Primary Sampling Units (PSUs) and households as second-stage units. For each region, a sample of PSUs were selected from the total number of PSUs in the region, classified into rural and urban PSUs, with more weight given to the rural PSUs because of its intensity in agriculture practices.

A total of 2,820 PSUs were selected from the 2012 Population and Housing Census (PHC) frame of which 2,670 PSUs were from Mainland Tanzania and 150 from Tanzania Zanzibar. Out of these, 2,560 PSUs were from rural and 260 from urban areas. The number of households differed from one PSU to another, it ranged from 5 to 30 households, making a total number of 33,808 households (32,008 households from Mainland Tanzania and 1,800 from Tanzania Zanzibar). The probability of selecting a household depended on the total number of households in the PSU.

2.2 Questionnaires

The 2019/20 NSCA was implemented using three questionnaires: -

- i). Small Scale questionnaire which collected information at household level (smallholder farmers);
- ii). Large Scale questionnaire which collected information from large scale farms; and
- iii). Community Questionnaire which collected information at community level (Village/Mtaa).

2.3 Listing

The listing exercise took place in all Districts of Mainland Tanzania and Tanzania Zanzibar in selected EAs, from 15th April to 30th June 2019. The listing exercise was followed by a systematic random selection of households involved in the 2019/20 NSCA.

2.4 Pilot Test

The pilot test took place from 26th August to 15th September 2019. The pilot aimed at testing efficiency of tools, logistics as well as measuring the workload for the whole exercise.

2.5 Recruitment and Training

A total of 323 enumerators were recruited from their respective regions to conduct interviews in the selected households. Training of Trainers (ToT) took place in the last week of June 2020 in Iringa Region, from 29th June to 07th July, 2020. Training of Enumerators (ToE) was then conducted in seven training centers, of which six centers were in Mainland Tanzania and one center in Tanzania Zanzibar. The ToEs in all centers started from 20th to 30th July, 2020.

2.6 Data Collection and Processing

Data collection started from 5th August to 02nd October 2020. This exercise was conducted using electronic questionnaire through tablets, installed with Census and Survey Processing System (CSPro) for android. This was the first agriculture Census to use tablets for data collection in Tanzania. Data from the field were timely transferred to server at NBS Headquarters. Also, the CSPro software was used for data editing including running consistency checks and tabulation of data.

3.0 Key Findings

3.1 Household Agricultural Activities

The 2019/20 National Sample Census of Agriculture results show that, out of 12,007,839 households in Tanzania, 7,837,405 households (65.3 percent) were involved in agricultural activities. Of the total Agriculture households, 5,088,135 (64.9 percent) were involved in crops only, followed by 2,589,156 (33.0 percent) households engaged in crops and livestock whilst the least number of households were involved in fish farming and pastoralism jointly having less than one percent (Table 3.1).

For Mainland Tanzania, a total of 7,657,185 households (65.7 percent) were involved in agricultural activities. Out of the total agriculture households, 4,972,373 (64.9 percent) were involved in crops only, followed by 2,526,846 households (33.0 percent) engaged in crops and livestock, 2.0 percent in livestock only, whilst the least number of households were involved in fish farming and pastoralism jointly having less than one percent.

In Tanzania Zanzibar, 180,220 (51.8 percent) were involved in agriculture activities. Out of the total agriculture households, 115,762 (64.2 percent) were involved in crops only, followed by 62,310 households (34.6 percent) engaged in crops and livestock whilst 2,149 (1.2 percent) were involved in livestock only.

Table 3.1: Number and Percentage of Agricultural Households by Type of Agricultural Activity During 2019/20 Agricultural Year, Tanzania

Agricultural Activity	Tanzania		Mainland Tanzania		Tanzania Zanzibar	
	Number	Percent	Number	Percent	Number	Percent
Total Households (Projection from 2012 PHC)	12,007,839		11,659,589		348,250	
Total Households involved in Agriculture	7,837,405	100.0	7,657,185	100.0	180,220	100.0
Crops Only	5,088,135	64.9	4,972,373	64.9	115,762	64.2
Crops and Livestock	2,589,156	33.0	2,526,846	33.0	62,310	34.6
Livestock Only	157,290	2.0	155,141	2.0	2,149	1.2
Fish Farming	1,358	0.01	1,358	0.01	0	0
Pastoralist	1,465	0.02	1,465	0.02	N/A	N/A

"N/A" Not Applicable

"0" insufficient number/percent

Key messages:

- Majority of households were engaged in "Crop only" activities, followed by "Crop and Livestock" activities; and.
- Fewer households were involved in "Fish Farming" and "Pastoralist" activities.

3.1.1 Agricultural Households Trend for 2002/03, 2007/08 and 2019/20 Agriculture Censuses

The number of agricultural households engaged in main agricultural activities has increased from 5.8 million in 2007/08 NSCA to 7.8 million in 2019/20 NSCA. Number of agricultural households involved in “Crops only” has increased from 3.5 million in 2007/08 to 5.1 million in 2019/20 equivalent to 45.7 percent. Similar trend has been observed for households engaged in “Crops and Livestock”, whereby there is an increase of 14.1 percent. On the other hand, “Pastoralists” trend shows the decrease from 3,917 in 2007/08 to 1,465 households in 2019/20 equivalent to 62.6 percent (Table 3.2).

Table 3.2: Number of Households by Main Agricultural Activities in 2002/03, 2007/08 and 2019/20 Agriculture Censuses, Tanzania

Agricultural Activity	2002/03	2007/08	2019/20
Crops only	3,156,060	3,508,581	5,088,135
Crops and Livestock	1,702,750	2,268,255	2,589,156
Livestock only	41,199	57,770	157,290
Fish Farming only	--	--	1,358
Pastoralist	1,828	3,917	1,465
Total	4,901,837	5,838,523	7,837,405

“--” Information not captured

Key messages: Percentage of agricultural households engaged in all categories of agricultural activities has been increasing by 34.2 percent since 2007/08 to 2019/20, whereas, for pastoralists has decline by 62.6 percent.

Policy implication:

- Government policies that aimed at establishing and strengthening the grazing lands, has been successful in decreasing the number of pastoralists; and
- Contribution of Agricultural Sector to the GDP has decreased over time while the number of households engaging in agriculture increasing. This signals low productivity and marginal increase of farmers income.

3.2 Crop Production

3.2.1 Production of Major Cereals

Maize, paddy and sorghum were the major cereal crops grown in Tanzania during 2019/20 agricultural year. Table 3.3 shows that, a total of 7,161,935 hectares were planted with maize, paddy and sorghum in which smallholder farmers planted 7,132,213 hectares and large scale farms planted 29,695 hectares. Maize was planted on the largest area compared to other crops with a total area of 4,946,799 hectares equivalent to 69.1 percent (4,931,111 hectares from smallholder farmers and 15,688 hectares from large scale farms). Paddy occupied an area of 1,700,701 hectares equivalent to 23.7 percent (smallholder farmers 1,688,241 hectares and large scale farms 12,460 hectares) and sorghum 514,435 hectares, which is equivalent to 7.2 percent (512,888 hectares from smallholder farmers and 1,547 hectares from large scale farms). Total production was 10,630,427 tons (smallholder farmers 10,486,912 tons and large scale farms

143,515 tons) of which maize was leading with a total of 6,536,324 tons (smallholder farmers 6,504,727 tons and large scale farms 31,597 tons), followed by paddy 3,443,605 tons (smallholder farmers 3,380,715 tons and large scale farms 62,890 tons) and sorghum 650,498 tons (smallholder farmers 601,470 tons and large scale farms 49,028 tons).

Of the total tons of major cereal crops produced, 10,575,810 tons were produced in Mainland Tanzania and 54,617 tons in Tanzania Zanzibar. Production of maize in Mainland Tanzania was leading (6,532,362 tons), followed by paddy (3,393,029 tons) and sorghum (601,496 tons), while in Tanzania Zanzibar, production of paddy was leading (50,576 tons), followed by maize (3,961 tons) and sorghum (80 tons).

Table 3.3: Planted Area, Harvested Area and Production of Cereal Crops During 2019/20 Agricultural Year, Tanzania

Crop	Planted Area (Hectares)			Harvested Area (Hectares)			Production (Tons)			
	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	
Maize	Total	4,946,799	4,943,417	3,381	4,358,753	4,356,633	2,120	6,536,324	6,532,362	3,961
	SHF	4,931,111	4,927,748	3,363	4,345,266	4,343,160	2,106	6,504,727	6,500,776	3,951
	LSF	15,688	15,669	18	13,487	13,473	14	31,597	31,586	10
Paddy	Total	1,700,701	1,667,393	33,307	1,497,277	1,472,598	24,678	3,443,605	3,393,029	50,576
	SHF	1,688,241	1,655,087	33,154	1,485,125	1,460,571	24,554	3,380,715	3,330,293	50,422
	LSF	12,460	12,306	153	12,152	12,027	124	62,890	62,736	154
Sorghum	Total	514,435	514,313	122	448,738	448,641	93	650,498	601,496	80
	SHF	512,888	512,767	121	447,566	447,474	92	601,470	601,390	80
	LSF	1,547	1,546	1	1,172	1,170	1	49,028	106	0

SHF = Smallholder Farmers; LSF = Large Scale Farms

"0" Insufficient information

3.2.2 Production of Major Roots and Tubers Crops

Total area planted with major roots and tuber crops (cassava, sweet potatoes and irish potatoes) was 1,095,713 hectares (smallholder farmers 1,095,050 hectares and large scale farms was 663 hectares) during 2019/20 agricultural year. Table 3.4 reveals that the largest area was planted with cassava (741,115 hectares), followed by sweet potatoes (289,938 hectares).

The total production of major roots and tubers was 2,596,395 tons (2,594,224 tons from smallholder farmers and 2,171 tons from large scale farms). The production of cassava was 1,771,059 tons, followed by sweet potatoes (504,346 tons) and irish potatoes (320,990 tons).

Of the total production of major roots and tuber crops produced, 2,374,180 tons were produced in Mainland Tanzania and 222,215 tons in Tanzania Zanzibar. In Mainland Tanzania, production of cassava was leading (1,587,033 tons), followed by sweet potatoes (466,157 tons) and irish potatoes (320,990 tons). Similarly, in Tanzania Zanzibar, production of cassava was leading (184,026 tons), followed by sweet potatoes (38,189 tons).

Table 3.4: Planted Area, Harvested Area and Production of Major Roots and Tubers Crops During 2019/20 Agricultural Year, Tanzania

Crop	Planted Area (Hectares)			Harvested Area (Hectares)			Production (Tons)			
	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	
Cassava	Total	741,115	678,221	62,896	225,144	189,410	35,734	1,771,059	1,587,033	184,026
	SHF	740,704	677,910	62,794	225,005	189,309	35,696	1,770,608	1,586,636	183,972
	LSF	411	311	102	139	101	38	451	397	54
Sweet potatoes	Total	289,938	282,784	7,156	234,685	231,220	3,466	504,346	466,157	38,189
	SHF	289,917	282,773	7,144	234,664	231,209	3,455	504,302	466,122	38,180
	LSF	21	11	12	21	11	11	44	35	9
Irish potatoes *	Total	64,660	64,648	12	53,342	53,341	1	320,990	320,990	0
	SHF	64,429	64,418	11	53,115	53,115	0	319,314	319,314	0
	LSF	231	230	1	227	226	1	1,676	1,676	0

* Implies Round potatoes

"0" Insufficient information

3.2.3 Production of Major Pulses

Beans and Cowpeas were the major pulses crops grown in Tanzania during 2019/20 agricultural year. Table 3.5 shows that, a total of 892,786 hectares were planted with beans and cowpeas, in which smallholder farmers occupied 889,557 hectares and large scale farms 3,229 hectares. Beans were planted on the largest area with a total of 826,685 hectares equivalent to 92.6 percent (smallholder farmers 823,485 hectares and large scale farms 3,200 hectares), and cowpeas was 66,101 hectares equivalent to 7.4 percent (smallholder farmers 66,072 hectares and large scale farms 29 hectares).

Total production of major pulses was 804,593 tons (smallholder farmers 802,373 tons and large scale farms 2,214 tons) of which beans was leading with a total of 661,700 tons (smallholder farmers 659,497 tons and large scale farms 2,203 tons), and cowpeas was 142,893 tons (smallholder farmers 142,882 tons and large scale farms 11 tons) (Table 3.5).

Table 3.5: Planted Area, Harvested Area and Production of Major Pulses Crops During 2019/20 Agricultural Year, Tanzania

Crop	Planted Area (Hectares)			Harvested Area (Hectares)			Production (Tons)			
	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	
Beans	Total	826,685	826,627	58	710,890	710,875	15	661,700	661,675	24
	SHF	823,485	823,427	58	709,108	709,093	15	659,497	659,473	24
	LSF	3,200	3,200	0	1,782	1,782	0	2,203	2,202	0
Cowpeas	Total	66,101	64,077	2,024	54,304	52,986	1,318	142,893	139,217	3,676
	SHF	66,072	64,050	2,022	54,276	52,960	1,316	142,882	139,207	3,675
	LSF	29	27	2	28	26	2	11	10	1

"0" Insufficient number

3.2.4 Production of Major Oil Seeds and Nuts

The main oil seeds and nuts grown in Tanzania during 2019/20 agricultural year were groundnuts, sunflower, sesame and oil palm. The Census results show that, a total of 1,523,008 hectares were planted with main oil seeds and nuts whereby area planted by smallholder farmers was 1,508,207 hectares and that of large scale farms was 14,801 hectares (Table 3.6).

Sunflower occupied 537,785 hectares (524,049 hectares smallholder and 13,736 hectares large scale) which is the largest area covered under oil seeds and nuts, followed by 528,419 hectares occupied with groundnuts (528,373 hectares by smallholder farmers and 46 hectares by large scale farms) and sesame had 443,068 hectares (442,689 hectares by smallholder farmers and 379 hectares by large scale farms). Total production of oil seeds and nuts was 1,278,267 tons (smallholder farmers 1,277,925 tons and large scale farms 342 tons) of which groundnuts was leading with a total production of 621,697 tons (smallholder farmers 621,665 tons and large scale farms 32 tons), followed by sunflower with 503,032 tons (smallholder farmers only) and sesame production of 128,842 tons (smallholder farmers 128,588 tons and large scale farms 254 tons).

Of the total production of major oil seeds and nuts produced, 1,277,577 tons were produced in Mainland Tanzania and 690 tons in Tanzania Zanzibar. The main oil seeds and nuts crop produced in Mainland Tanzania were groundnuts having the production of 621,007 tons, followed by sunflower (503,032 tons) and sesame (128,842 tons), while in Tanzania Zanzibar the main oil seeds and nuts produced was groundnuts which recorded the production of 690 tons (Table 3.6).

Table 3.6: Planted Area, Harvested Area and Production of Oil Seeds and Nuts Crops During 2019/20 Agricultural Year, Tanzania

Crop		Planted Area (Hectares)			Harvested Area (Hectares)			Production (Tons)		
		Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Groundnuts	Total	528,419	527,188	1,231	484,730	483,714	1,017	621,697	621,007	690
	SHF	528,373	527,142	1,231	484,684	483,668	1,017	621,665	620,975	690
	LSF	46	46	-	46	46	-	32	32	-
Sunflower	Total	537,785	524,049	-	495,377	481,641	-	503,032	503,032	-
	SHF	524,049	524,049	-	481,641	481,641	-	503,032	503,032	-
	LSF	13,736	0	-	13,736	0	-	-	0	-
Sesame	Total	443,068	443,068	-	392,481	392,481	-	128,842	128,842	-
	SHF	442,689	442,689	-	392,110	392,110	-	128,588	128,588	-
	LSF	379	379	-	371	371	-	254	254	-
Oil Palm	Total	13,736	13,736	-	7,067	7,067	-	24,696	24,696	-
	SHF	13,096	13,096	-	6,861	6,861	-	24,640	24,640	-
	LSF	640	640	-	206	206	-	56	56	-

"-" Not available

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3.2.5 Production of Major Cash Crops

Among the main cash crops grown in Tanzania during 2019/20 agricultural year were coffee, tea, cloves, cashewnuts and cotton. Results show that, a total of 1,311,035 hectares were planted with the mentioned major cash crops, whereby area planted by smallholder farmers was 1,291,751 hectares and that of large scale farms was 19,284 hectares (Table 3.7). Cashewnuts occupied 811,733 hectares (808,143 hectares smallholder farmers and 3,590 hectares large scale farms) which was the largest area covered under cash crops followed by cotton which occupied 314,601 hectares (313,370 hectares by smallholder farmers and 1,231 hectares by large scale farms) and coffee occupied 157,999 hectares (151,408 hectares by smallholder farmers and 6,591 hectares by large scale farms).

Total production of cash crops was 875,025 tons (smallholder farmers 825,156 tons and large scale farms 49,869 tons) of which cashewnuts was leading with a total of 391,119 tons (smallholder farmers 390,412 tons and large scale farms 707 tons), followed by cotton with 331,524 tons (smallholder farmers 330,845 tons and large scale farms 679 tons) and coffee 82,478 tons (smallholder farmers 75,323 tons and large scale farms 7,155 tons).

Of the total quantity of major cash crops produced, 872,578 tons were produced in Mainland Tanzania and 2,447 tons in Tanzania Zanzibar. The main cash crop produced in Mainland Tanzania were cashewnuts having the production of 391,110 tons, followed by cotton (331,524 tons) and coffee (82,478 tons), while in Tanzania Zanzibar the main cash crop produced was cloves having the production of 2,438 tons (Table 3.7).

Table 3.7: Planted Area, Harvested Area and Production of Main Cash Crops During 2019/20 Agricultural Year, Tanzania

Crop		Planted Area (Hectares)			Harvested Area (Hectares)			Production (Tons)		
		Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Coffee	Total	157,999	157,999	-	122,455	122,455	-	82,478	82,478	-
	SHF	151,408	151,408	-	117,535	117,535	-	75,323	75,323	-
	LSF	6,591	6,591	-	4,920	4,920	-	7,155	7,155	-
Tea	Total	15,118	15,118	-	13,375	13,375	-	66,540	66,540	-
	SHF	7,246	7,246	-	5,621	5,621	-	25,295	25,295	-
	LSF	7,872	7,872	-	7,754	7,754	-	41,245	41,245	-
Cloves	Total	11,584	2,754	9,510	3,526	1,217	2,973	3,364	926	2,438
	SHF	11,584	2,754	8,830	3,526	1,217	2,309	3,281	926	2,355
	LSF	0	0	680	0	0	664	83	0	83
Cashewnuts	Total	811,733	811,673	59	562,860	562,834	26	391,119	391,110	9
	SHF	808,143	808,083	59	560,728	560,702	26	390,412	390,403	9
	LSF	3,590	3,590	0	2,132	2,132	-	707	707	0
Cotton	Total	314,601	314,601	-	247,761	247,761	-	331,524	331,524	-
	SHF	313,370	313,370	-	246,534	246,534	-	330,845	330,845	-
	LSF	1,231	1,231	-	1,227	1,227	-	679	679	-

"-" Not available

"0" insufficient number

Key message:

- There is an increase in production of maize and paddy in 2019/20 agriculture year, this has been attributed to crop land expansion and number of households involved in crop farming rather than intensification;
- There is a decrease in production of sweet potatoes, Irish potatoes and beans, this is probably due to shift and increased interest by farmers to grow other crops such as cereals, pulses and horticultural crops;
- Production of all crops continue to be dominated by smallholder farmers with very low productivity and there is no significant difference between Mainland Tanzania and Tanzania Zanzibar for SHF; and
- Productivity is higher in large scale farmers, almost double that of SHF in case of paddy.

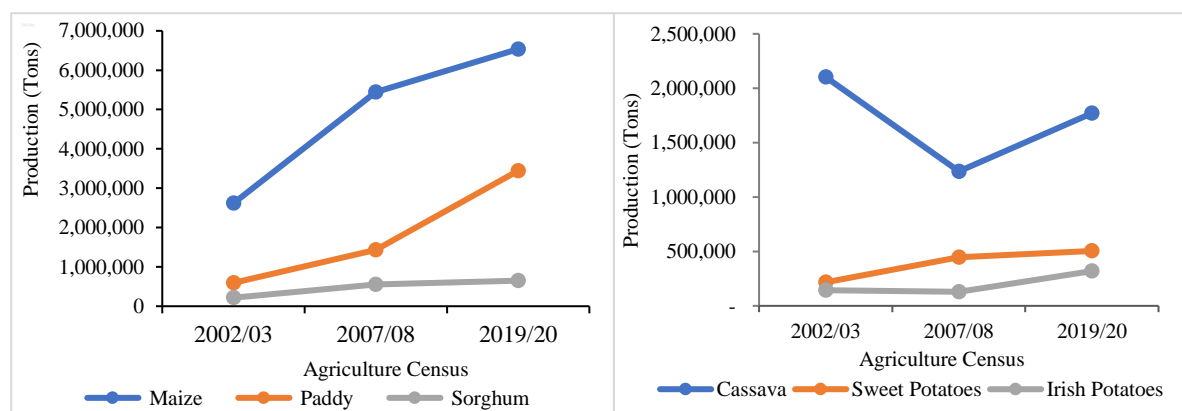
Policy implication:

- There might be low adoption of improved technologies. In that regard, policy intervention should be directed in areas that favours both application of appropriate technology and market driven intensification necessary to increase crop productivity; and
- Promoting large scale farming with high productivity is key in increasing crops production without expanding farming area. This should go hand in hand with transforming smallholder farmers to increase productivity in all crops.

3.2.6 Trend of Crop Production for 2002/03, 2007/08 and 2019/20 Agriculture Censuses

The trend of the three consecutive censuses shows an increase in the production of maize, paddy and sorghum, while there is a fluctuation in the production of cassava, sweet potatoes and irish potatoes as shown in Figure 3.1.

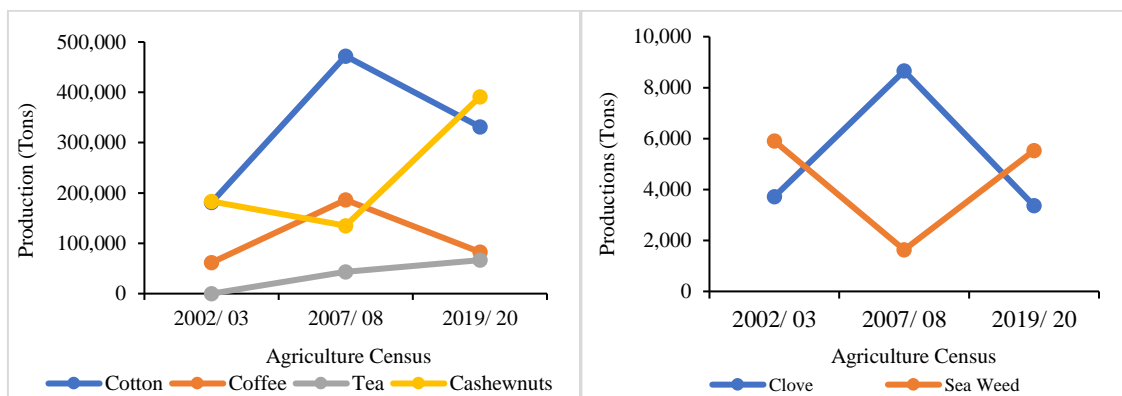
Figure 3.1: Food Crops Production in 2002/03, 2007/08 and 2019/20 Agriculture Censuses, Tanzania



The trend of three Censuses for cash crops production shows more or less similar pattern, at most production of all crops increased during 2007/08 Agriculture Census and decreased during 2019/20 Agriculture Census (Figure 3.2).

Key Message: There is an increasing trend in production of key cereal crops (maize and paddy), while production of sweet potatoes, cassava and irish potatoes has been fluctuating in the three consecutive agricultural censuses. An increase in production in the agricultural year 2019/20 was attributed to increased crop land and number of households involved in crop farming as opposed to the previous census.

Figure 3.2: Cash Crops Production in 2002/03, 2007/08 and 2019/20 Agriculture Censuses, Tanzania

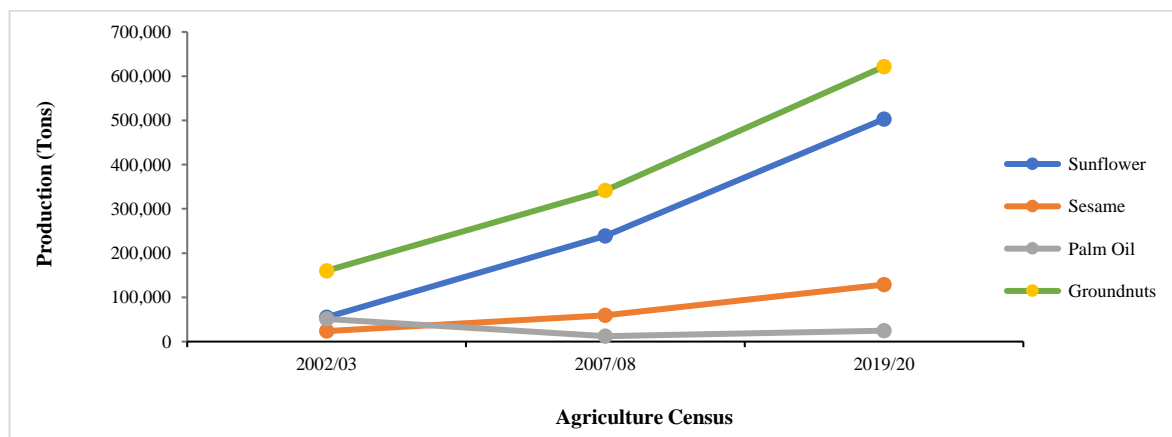


Key Message: Production of cash crops (cashewnuts, cotton, coffee, tea, clove and seaweed) seem to fluctuate between the three Censuses likely driven by the world market demand and prices.

Policy Implications: Since almost all of the cash crops produced in the country are exported raw, the world price fluctuations affect domestic prices and consequently production in the following season. Therefore, value addition to these produces is critical in arresting some of global market and demand shocks, stabilizing domestic prices and production.

The production trend for oil seeds for three censuses show that, the production of sunflower and sesame has been increasing while that of oil palm is fluctuating (Figure 3.3).

Figure 3.3: Oil Seed and Nuts Crop Production in 2002/03, 2007/08 and 2019/20 Agriculture Censuses, Tanzania



Key Message: There is an increasing trend of production for groundnuts, sunflower and sesame for the three consecutive censuses, while the oil palm production fluctuates. However, this increase has not managed to reduce the importation of cooking oil which continue to use much of needed foreign earnings.

Policy implications: Implementation of policy and programs to increase production of oil seed, has shown a positive effect in the production of sunflower and sesame. Nevertheless, more efforts are needed to increase production of oil seed and gradually eliminate cooking oil importation.

3.2.7 Irrigation Farming

The 2019/20 NSCA results show that, total area irrigated was 289,386 hectares of which 272,897 (94.3 percent) were reported in Mainland Tanzania and 16,489 (5.7 percent) in Tanzania Zanzibar. Out of 7.8 million agricultural households, 411,108 (5.2 percent) households practiced irrigation in Tanzania. Of the total households used irrigation, 363,243 households (88.4 percent) were in Mainland Tanzania and 47,865 (11.6 percent) in Tanzania Zanzibar (Table 3.8).

Table 3.8: Number of Households and Area Used for Irrigation During 2019/20 Agricultural Year, Tanzania

Selected Characteristics	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Households involved in Agricultural activities	7,837,405	7,657,185	180,220
Households involved in Irrigation	411,108	363,243	47,865
Area Planted (ha)	11,765,077	11,639,063	126,014
Area Irrigated (ha)	289,386	272,897	16,489

Key Message: Area under irrigation has increased marginally from 280,597 hectares in 2007/08 to 289,386 hectares in 2019/20.

Policy implications: An increase of 8,784 ha of area under irrigation in 10 years, signals slow implementation of Irrigation and Agriculture Policies which advocate for increase in the area under irrigation by promoting Public and Private Sector participation in irrigation development in the country. With climate change, investment in irrigation infrastructure as it is stated in the pillar one of ASDP II becomes critical and important if agriculture transformation has to happen.

3.2.8 Seed Use

During the 2019/20 agricultural year, both local and improved seeds were used to produce variety of crops. The Census results show that, 76.0 percent of the total cultivated area (13.8 million hectares) were planted with local seeds, 20.0 percent with improved seeds, while 2.5 percent with both local and improved seeds (Table 3.9).

Table 3.9: Area Planted by Type of Seed Used During 2019/20 Agricultural Year, Tanzania

Selected Characteristics	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Cultivated Area (ha)	13,750,597	13,565,319	185,278
Area Planted with Local seeds (ha)	10,451,688	10,325,036	126,654
Area planted with Improved Seeds (ha)	2,751,386	2,717,036	34,350
Area Planted with Local and Improved Seeds (ha)	339,179	319,961	19,216

Key Message: Local seeds are predominantly used in crop production over improved seeds.

Policy implications: Despite the efforts towards promoting the use of improved seeds in crop production, there has been low adoption. This might be due to low availability/accessibility and perceived high prices of improved seeds due to limited knowledge of high productivity resulting from using improved seed among smallholder farmers.

3.2.9 Fertilizer Use

During the 2019/20 agricultural year, 2.8 million hectares, which is equivalent to 20.1 percent of total cultivated area was applied with fertilizers, of which 2.7 million hectares were in Mainland Tanzania and 40,020 hectares in Tanzania Zanzibar. Out of the total area applied with fertilizers, 60.6 percent was applied with organic fertilizers and 39.4 percent was applied with inorganic fertilizers (Table 3.10).

Table 3.10: Area Planted by Type of Fertilizer Used During 2019/20 Agricultural Year, Tanzania

Area (ha)	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Total Cultivated Area	13,750,597	13,565,319	185,278
Total Area Applied with Fertilizer	2,762,729	2,722,709	40,020
Area Applied with Organic Fertilizer	1,673,211	1,655,311	17,900
Area Applied with Inorganic Fertilizer	1,089,517	1,067,398	22,119

Key Message: *There is low use of fertilizers in crop production. Organic fertilizers are predominantly used in crop production over inorganic fertilizers.*

Policy implications:

- *Despite the efforts towards promoting the use of fertilizers in crop production, there has been low adoption, partly due to high costs of inorganic fertilizers which are imported. Low uses of fertilizers contribute to low productivity. Policies should be geared towards attracting investment into production of fertilizers in the country to lower the prices and attracts more farmers to use; and*
- *The intense use of organic fertilizers can be taken as an opportunity to explore niche markets which are willing to pay premium prices for organic foods.*

3.2.10 Agro-processing

Table 3.11 shows the number of households involved in agro-processing of various crops. In Tanzania, the number of households involved in processing maize was 706,602, followed by paddy (193,462 households) and sunflower (113,289 households). In Mainland Tanzania, majority of households (706,602) reported to process maize as compared to other crops, while in Tanzania Zanzibar, most of the households reported to process paddy (19,180).

Table 3.11: Number of Households Practiced Agro-processing for Market by Crops During 2019/20 Agricultural Year, Tanzania

Crop	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Maize	706,602	706,262	340
Paddy	193,462	174,282	19,180
Sorghum	39,517	39,517	-
Cassava	48,524	47,293	1,231
Coffee	7,938	7,938	-
Cashewnut	2,939	2,939	-
Sunflower	113,289	113,289	-
Sesame	1,267	1,267	-
Groundnut	6,758	6,758	-
Coconut	597	128	469

Key Message: Many households engage in processing of food crops - cereals (maize and paddy), tubers (cassava) and oil seed (sunflower) compared to cash crops, although processing in general remains low.

Policy implications: The industrialization agenda which has been a focus over the past few years should give agro-processing special treatments such special incentives which will encourage processing of both food and cash crops to minimize post-harvest losses, gauge against global price shocks and increase employment.

3.2.11 Agriculture Mechanization

The 2019/20 agricultural census results show that, a total of 105,403 tractors were owned by agricultural households in Mainland Tanzania. Similarly, a total of 94,814 power tillers were owned by households, of which 94,403 reported in Mainland Tanzania and 411 reported in Tanzania Zanzibar (Table 3.12).

Moreover, 5,172,067 draft animals that includes oxen, bulls, cows and donkeys were owned by agricultural households in Tanzania. Out of the total, 5,169,433 draft animals were reported in Mainland Tanzania and 2,634 in Tanzania Zanzibar.

Table 3.12: Number of Tractors and Draft Animals Owned by Agricultural Households by Region During 2019/20 Agricultural Year, Tanzania

	Tractor	Power Tiller	Draft Animals
Mainland Tanzania	105,403	94,403	5,169,433
Tanzania Zanzibar	0	411	2,634
Tanzania	105,403	94,814	5,172,067

A total of 600,438 agricultural households used tractors to cultivate 1,500,654 ha (25.7 percent of total cultivated area) in Tanzania, out of which, 1,497,975 ha were cultivated in Mainland Tanzania and 2,679 ha in Tanzania Zanzibar. Likewise, power tillers were used by 65,718 households to cultivate 142,080 ha (2.4 percent of total cultivated area) in Tanzania, out of which, 141,914 ha were cultivated in Mainland Tanzania and 166 ha in Tanzania Zanzibar (Table 3.13).

Moreover, a total of 1,758,750 households were used draft animals to cultivate 4,196,023 ha equivalent to 71.9 percent of total cultivated land in Tanzania, out of which, 4,194,629 ha were cultivated in Mainland Tanzania and 1,395 ha in Tanzania Zanzibar.

Table 3.13: Number of Households Used Tractors and Draft Animals and Area Cultivated During 2019/20 Agricultural Year, Tanzania

	Tractors		Power Tillers		Draft Animals		Total Area Cultivated (Ha)
	Number of Household	Area Cultivated (Ha)	Number of Household	Area Cultivated (Ha)	Number of Household	Area Cultivated (Ha)	
Mainland Tanzania	592,233	1,497,975	65,010	141,914	1,753,813	4,194,629	5,834,518
Tanzania Zanzibar	8,205	2,679	708	166	4,937	1,395	4,240
Tanzania	600,438	1,500,654	65,718	142,080	1,758,750	4,196,023	5,838,757

Key Message: Draft animals make a greater contribution in cultivated area (71.6 percent) than tractors and power tillers during the 2019/20 agricultural year.

3.2.12 Extension Services

Crop Extension Services

Out of 7,677,291 crop growing households in Tanzania, 538,656 households (7.0 percent) received crop extension advices during 2019/20 agricultural year (Figure 3.4). Moreover, from 7,499,219 crops growing households in Mainland Tanzania, 520,757 households (6.9 percent) received extension services. For the case of Tanzania Zanzibar, out of 178,072 households; 17,899 households equivalent to 10.1 percent reported to receive extension services (Figure 3.4).

Figure 3.4: Percentage Distribution of Agricultural Households Receiving Crop Extension Advices During 2019/20 Agricultural Year, Tanzania

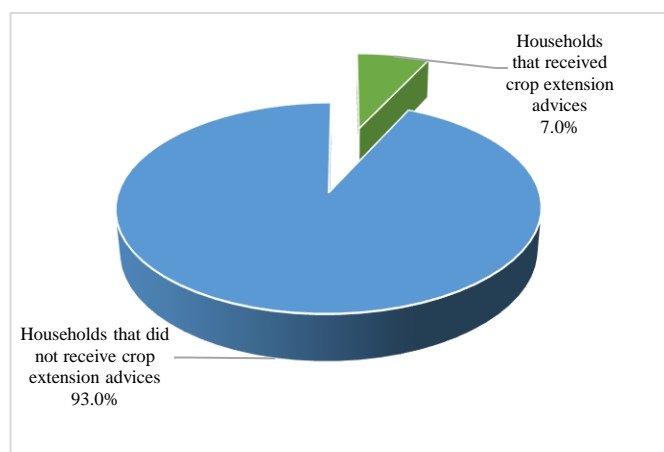
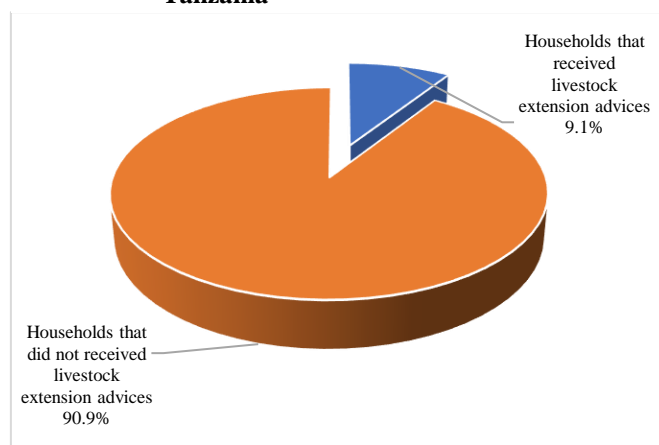


Figure 3.5: Percentage Distribution of Agricultural Households Receiving Livestock Extension Advices During 2019/20 Agricultural Year, Tanzania

Livestock Extension Services

During 2019/20 NSCA the total number of households engaged in rearing livestock was 2,747,910, whereby 2,683,454 households were in Mainland Tanzania and 64,456 households in Tanzania Zanzibar. Only 9.1 percent of the total households rearing livestock received livestock extension services and 90.9 percent did not receive extension services on livestock at all (Figure 3.5).



Key message: The percentage of households received extension service on crop production decreased from 67 percent in 2007/08 to 7.0 percent in 2019/20. The same was observed for keeping livestock, whereby extension services received by households decreased from 55 percent in 2007/08 to 9.1 percent in 2019/20.

3.3 Livestock

The 2019/20 NSCA covered different types of livestock kept in the country. The main types of livestock covered in this report are cattle, goats, sheep, pigs and chicken. The reference date for livestock population estimates was as of 1st August 2020, while, information on other production parameters were collected based on the 2019/20 agricultural year.

The Census results show that, there were 33.9 million cattle, of which smallholder farmers raised 33.8 million cattle and large scale farms raised 142,968 cattle. The number of goats reported was 24.5 million for smallholder farmers and 33,847 from large scale farms, while the number of sheep for smallholder farmers was 8.5 million and 24,075 for large scale farms. Furthermore, number of pigs was 3.2 million for smallholder farmers and 5,123 for large scale farms; while the total number of chicken reported was 87.7 million, of which 75.1 million were recorded from smallholders farmers and 12.5 million from large scale farms (Table 3.14).

The total cattle population reported in Mainland Tanzania was 33.7 million and 270,998 in Tanzania Zanzibar; goat population in Mainland Tanzania was 24.5 million and 111,623 in Tanzania Zanzibar; chicken was 83.9 million in Mainland Tanzania and 3.8 million in Tanzania Zanzibar.

Table 3.14: Livestock Population as of 1st August 2020, Tanzania

Livestock Type	Tanzania	Smallholder Farmers		Large Scale Farms	
		Mainland Tanzania	Tanzania Zanzibar	Mainland Tanzania	Tanzania Zanzibar
Cattle	33,928,391	33,514,716	270,707	142,677	291
Goat	24,568,396	24,423,120	111,429	33,653	194
Sheep	8,516,990	8,492,044	871	24,012	63
Pig	3,208,495	3,201,163	2,209	5,123	0
Chicken	87,659,580	71,414,297	3,705,505	12,481,099	58,679

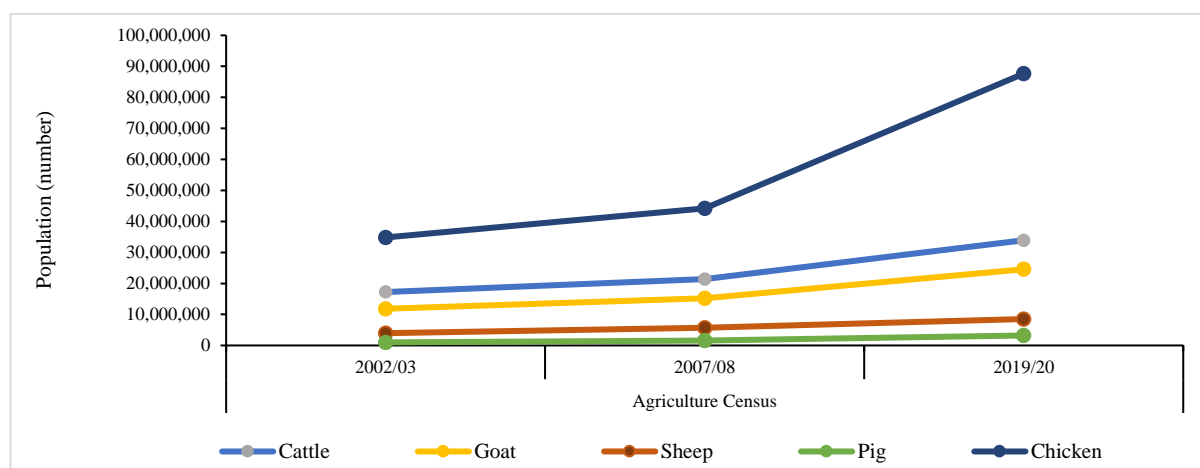
3.3.1 Livestock Population Trend for the 2002/03, 2007/08 and 2019/20 Agriculture Censuses

The livestock population trend for the three consecutive agricultural censuses conducted in Tanzania shows an increasing pattern over time (Table 3.15 and Figure 3.6).

Table 3.15: Livestock Population Trend for the 2002/03, 2007/08 and 2019/20 Agriculture Censuses, Tanzania

Type of Livestock	Tanzania			Mainland Tanzania			Tanzania Zanzibar		
	2002/03	2007/08	2019/20	2002/03	2007/08	2019/20	2002/03	2007/08	2019/20
Cattle	17,220,981	21,400,889	33,928,391	17,058,338	21,245,265	33,657,393	162,643	155,624	270,998
Goat	11,831,475	15,178,315	24,568,396	11,779,151	15,109,343	24,456,773	52,324	68,972	111,623
Sheep	3,957,802	5,734,158	8,516,990	3,957,502	5,733,584	8,516,056	300	574	934
Pig	984,693	1,592,727	3,208,495	984,158	1,589,712	3,206,286	535	3,015	2,209
Chicken	34,827,675	44,240,371	87,659,580	33,763,884	43,161,409	83,895,395	1,063,791	1,078,962	3,764,184

Figure 3.6: Livestock Population Trend for the 2002/03, 2007/08 and 2019/20 Agriculture Censuses, Tanzania



Key message: Livestock population has been increasing across three consecutive censuses (2002/03, 2007/08 and 2019/20), again dominated by the smallholder farmers.

Policy implications:

- An increase in livestock population might be attributed to the policy which aims at increasing commercially oriented production of quality and quantity of livestock to meet standard for domestic and external markets, raised income of livestock keepers and improve their living standard. However, an increase in a number of livestock does not reflect its contribution to GDP, which is less than 2 percent. Transformation of the livestock sub- sector remains key future policy priority; and
- With an increase threats of climate change, growing number of livestock increase land pressure and environmental degradation. Therefore, land policies that allocate land to livestock keepers according to land carrying capacity have to be put in place/reviewed and implemented.

3.3.2 Cattle Identification

Different methods used by households to identify cattle were applied during 2019/20 Agricultural year. These includes branding, color, cattle clan, ear notching and ear tag. The Census results show that, in Mainland Tanzania, the dominant method used for cattle identification was branding (948,845 which is 49.2 percent), while in Tanzania Zanzibar most households (54,031 which is 95.4 percent) used cattle’s color as their method of cattle identification (Figure 3.7 and 3.8).

Figure 3.7: Percentage Distribution of Cattle Identification Methods During 2019/20 Agricultural Year, Mainland Tanzania

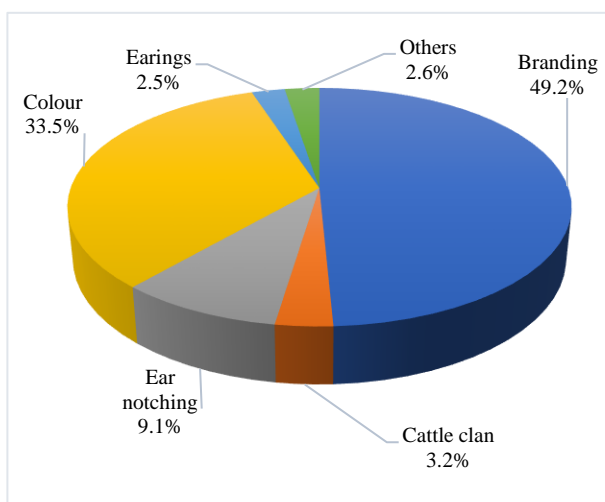
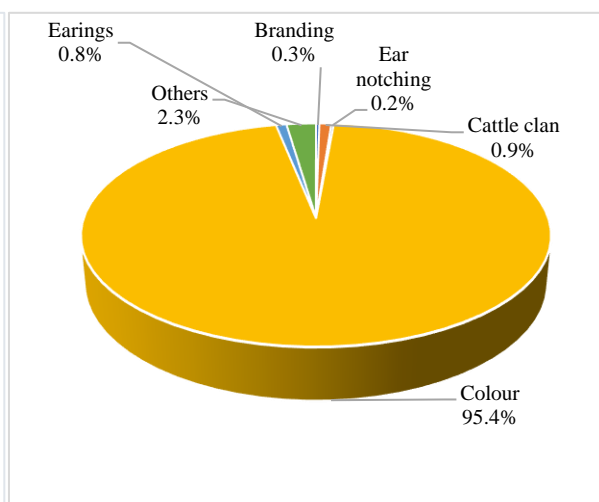


Figure 3.8: Percentage Distribution of Cattle Identification Methods During 2019/20 Agricultural Year, Tanzania Zanzibar



Key message: More than half of households keeping cattle use recommended methods of cattle identification.

Policy implications:

- The Government effort to promote and create awareness on identification, registration and trace-ability for livestock and livestock products has shown positive results; and
- Livestock traceability is one of the key criteria in accessing foreign markets of livestock products. Therefore, continuous implementation of strategies to identification of livestock will support market promotion of the products.

3.3.3 Milk Production

Production of cow milk during the 2019/20 Agricultural year was 3.13 billion litres of which 3.11 billion litres (99.4 percent) were from smallholder farmers and 17.8 million litres (0.6 percent) from large scale farms. Goat milk production in Tanzania for the 2019/20 agricultural year was 25.7 million litres whereby 25.6 million litres were produced from smallholder farmers and 12,515 litres from large scale farms (Table 3.16).

Table 3.16: Annual Milk Production (Litres) During 2019/20 Agricultural Year, Tanzania

Livestock Type	Tanzania	Smallholder Farmers		Large Scale Farms	
		Mainland Tanzania	Tanzania Zanzibar	Mainland Tanzania	Tanzania Zanzibar
Cow	3,130,774,084	3,076,489,371	36,450,637	17,574,621	259,455
Goat	25,690,876	25,565,561	112,800	10,895	1,620

Key message: Cow milk production has increased from 2.5 billion litres in 2007/08 to 3.1 billion litres in 2019/20 equivalent to 24.5 percentage increase, dominated by the smallholder farmers.

Policy implications: An increase in cattle milk might be due to implementation of policy, which aims at utilizing the available resources for commercialization and market-oriented dairying in order to raise income of dairy stakeholders and improve their living standard. However, importation of processed milk and other milk products remains high. More efforts are required to increase domestic processing of milk and stimulate domestic consumption of milk and its products.

3.3.4 Livestock Pest and Disease Control

In this report, livestock pest control focused mainly on cattle, goat, sheep and chicken. Methods used to control ticks for cattle, goat and sheep were spraying, dipping and smearing. On the other hand, number of chickens immunized against New Castle Disease (NCD), Gumboro and Fowl Pox diseases is reported.

3.3.4.1 Tick Control

During the 2019/20 Agricultural year, different methods were used to control tick problem on cattle, goat and sheep. The highest reported method in Tanzania at household level was spraying (72.4 percent), followed by dipping (21.0 percent). Both Mainland Tanzania and Tanzania Zanzibar reported frequent use of the spraying method to control ticks (72.2 and 79.9 percent respectively) (Table 3.17).

Table 3.17: Number and Percentage of Households Keeping Livestock and Methods Used to Control Ticks During 2019/20 Agricultural Year, Tanzania

	Number of Households		Method of Tick Control									
	Keeping Livestock	Faced Tick Problem	Dipping		Spraying		Smearing		None		Other	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Tanzania	1,168,003	330,975	69,652	21.0	239,789	72.4	6,323	1.9	6,818	2.1	8,396	2.5
Mainland Tanzania	1,139,118	319,740	68,901	21.5	230,813	72.2	5,009	1.6	6,818	2.1	8,200	2.6
Tanzania Zanzibar	28,883	11,235	751	6.7	8,976	79.9	1,314	12	0.0	0.0	196	1.7

3.3.4.2 Vaccination Against Chicken Diseases

Table 4.5 presents number and percentage of chicken vaccinated against Newcastle Disease (NCD), Gumboro and Fowl pox diseases, during 2019/20 agricultural year. Newcastle disease reported the highest frequency of vaccination rate (50.9 percent), while Gumboro disease had the lowest vaccination rate (11.3 percent) of the total chicken population from smallholder farmers (Table 3.18).

Table 3.18: Number and Percentage of Chicken Vaccinated Against Diseases During 2019/20 Agricultural Year, Tanzania

	Total number of chickens owned	Number Vaccinated Against [...]					
		Newcastle Disease		Gumboro		Fowl pox	
		Number	Percent	Number	Percent	Number	Percent
Tanzania	87,659,579	44,591,494	50.9	9,903,930	11.30	13,560,766	15.5
Mainland Tanzania	83,895,395	43,795,285	52.2	9,402,109	11.21	13,138,219	15.7
Tanzania Zanzibar	3,764,184	796,209	21.0	501,821	13.0	422,547	11.2

3.4 Fish Farming

The Census results show that, fish farming was practiced by smallholder farmers and large scale farms. A total of 26,662 households engaged in fish farming in Tanzania with 26,294 households from Mainland Tanzania and 368 households from Tanzania Zanzibar. The large scale farms were 78, of which 63 farms are in Mainland Tanzania and 15 from Tanzania Zanzibar. The total number of stocked fish by smallholder farmers was 49,379,641 (Mainland Tanzania 49,206,355 fingerlings and Tanzania Zanzibar 173,286 fingerlings) and number of stocked fish from large scale was 3,599,969 fingerlings, (3,442,578 fingerlings from Mainland Tanzania and 157,391 fingerlings from Tanzania Zanzibar).

Tilapia was stocked by majority of households in Mainland Tanzania (21,704 households and 52 large scale farms) compared to other species (8,189 households and 41 large scale farms). On the other hand, milkfish was the only specie stocked by 368 households and 15 large scale farms in Tanzania Zanzibar.

Generally, the total production of fish was 12,936 tons whereby Mainland Tanzania production was 12,873 tons and 64 tons from Tanzania Zanzibar (12,626 tons from smallholder farmers and 310 tons from large scale farms). The number of smallholder farmers practicing fish farming has increased from 10,794 in 2007/08 to 26,662 in 2019/20 which is more than 100 percent increase (Table 3.19 and 3.20).

Table 3.19: Number of Households, Type of Stocked Fish and Weight of Fish Harvested During 2019/20 Agricultural Year, Tanzania

Types of stocked fish	Tanzania			Mainland Tanzania			Tanzania Zanzibar		
	Number of Households	Number of stocked Fish	Weight of fish harvested (Tons)	Number of Households	Number of stocked Fish	Weight of fish harvested (Tons)	Number of Households	Number of stocked Fish	Weight of fish harvested (Tons)
Total	26,662	49,379,641	12,626	26294	49,206,355	12,615	368	173,286	11
Tilapia	21,704	44,407,327	10,510	21,704	44,407,327	10,510	-	-	-
Milkfish	613	234,723	24	246	61,437	12	368	173,286	11
African Catch fish	6,803	4,705,170	1,374	6,803	4,705,170	1,374	-	-	-
Other	1,140	32,421	719	1,140	32,421	719	-	-	-

*One household may be keeping more than one type of fish

Table 3.20: Number of Farms, Type of Stocked Fish and Weight of Fish Harvested During 2019/20 Agricultural Year, Tanzania

Type of Stocked Fish	Tanzania			Mainland Tanzania			Tanzania Zanzibar		
	Number of Farms	Number of stocked Fish	Weight of fish harvested (Tons)	Number of Farms	Number of stocked Fish	Weight of fish harvested (Tons)	Number of Farms	Number of stocked Fish	Weight of fish harvested (Tons)
Tilapia	52	2,449,011	228	52	2,449,011	228	-	-	-
Milkfish	16	159,941	53	1	2,550	-	15	157,391	53
African Catch fish	19	156,767	27	19	156,767	27	-	-	-
Others	6	834,250	3	6	834,250	3	-	-	-

"—" Not available

Key message: The results reveal that, there is an increase in the number of households engaged in fish farming from 10,794 households in 2007/08 to 26,662 in 2019/20.

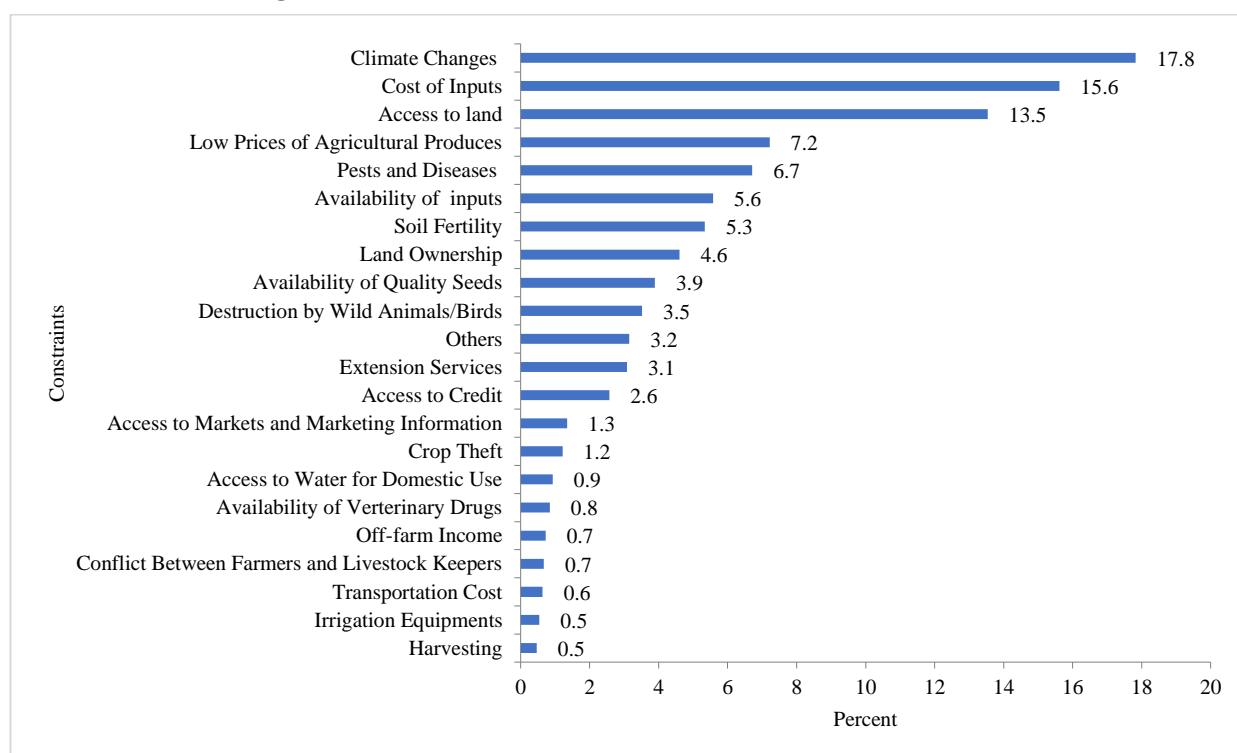
Policy implications:

- Although there has been an increase in the number of households involved in fish farming, but the quantity of fish produced is still low;
- The pace of increase in the number of households engaging in the fish farming calls for more investment into production of feed for fish which are currently unavailable, resulting into high costs of feed importation; and
- Fish farming has to be considered as a key strategy to increase availability of protein-based food in the market given some of challenges of fishing in the natural waters.

4.0 Agricultural Constraints

The 2019/20 NSCA results show that, most of smallholder farmers faced different constraints during 2019/20 agricultural year. The major agricultural constraints reported by agriculture households during 2019/20 agricultural year were climate change (such as drought, floods; 17.8 percent), cost of inputs (15.6 percent), access to land (13.5 percent), low prices of agricultural produces (7.2 percent), pests and diseases (6.7 percent), availability of inputs (5.6 percent) and soil fertility (5.3 percent), to list the few (Figure 4.1).

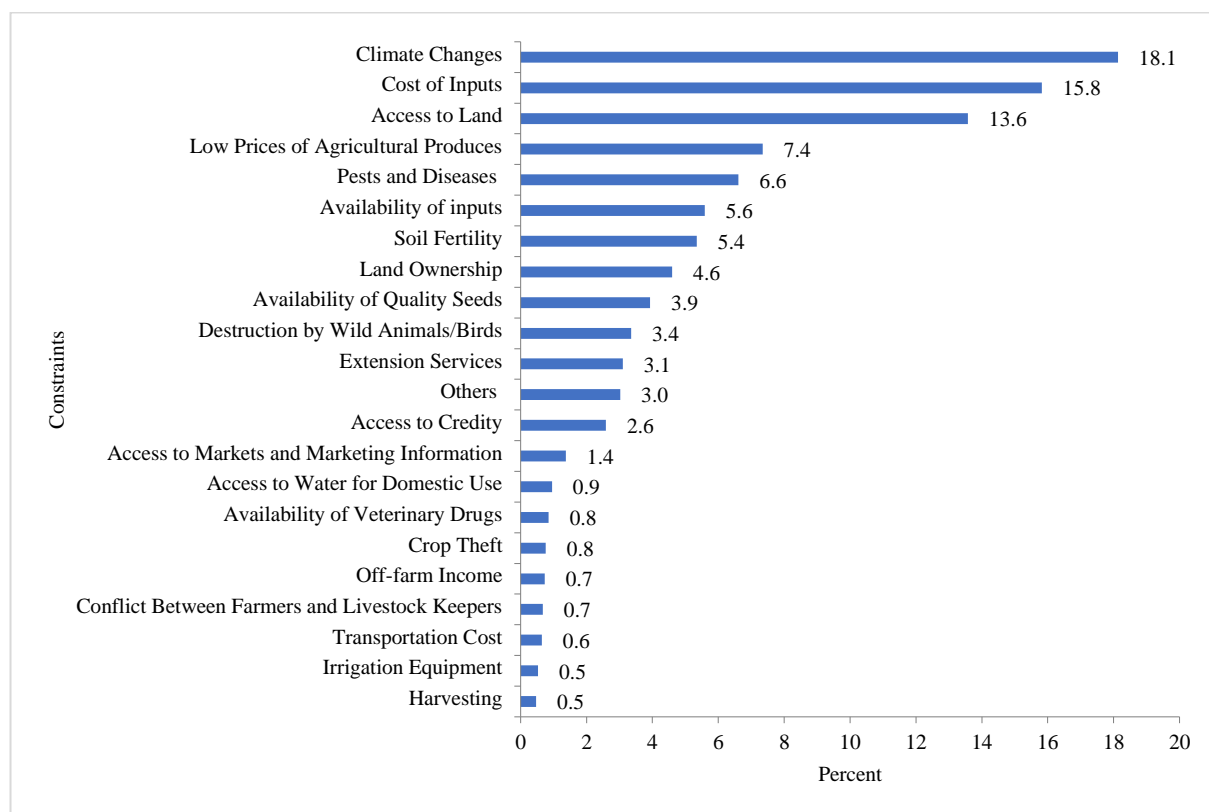
Figure 4.1: Percentage of Major Agricultural Constraints Reported by Agricultural Households During 2019/20 Agricultural Year, Tanzania



4.1 Agricultural Constraints, Mainland Tanzania

In Mainland Tanzania, the results revealed that, the major agricultural constraints reported by agriculture households during 2019/20 agricultural year were climate change (such as drought, floods; 18.1 percent), cost of inputs (15.8 percent), access to land (13.6 percent), low prices of agricultural produce (7.4 percent), pests & diseases (6.6 percent), availability of inputs (5.6 percent) and soil fertility (5.4 percent), to list the few (Figure 4.2).

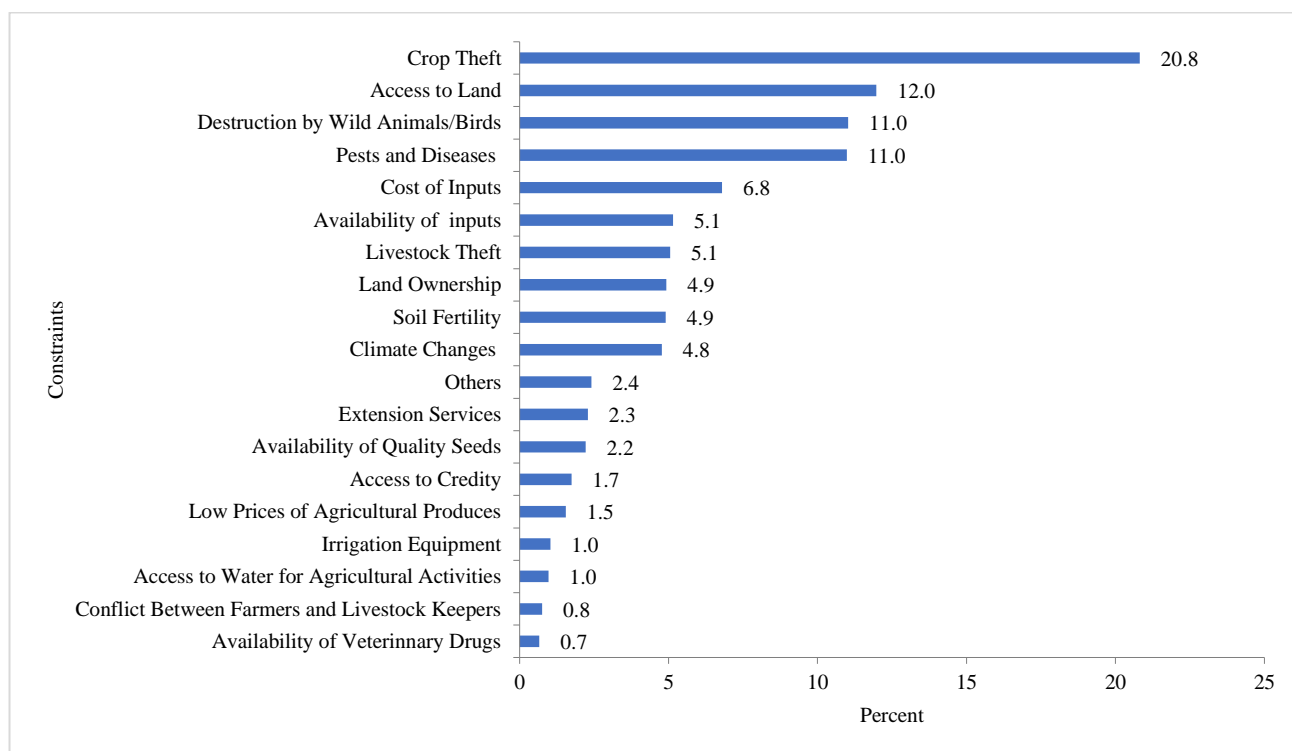
Figure 4.2: Percentage of Major Agricultural Constraints Reported by Agricultural Households During 2019/20 Agricultural Year, Mainland Tanzania



4.2 Agricultural Constraints, Tanzania Zanzibar

In Tanzania Zanzibar, “crop theft” (20.8 percent) was the major constraint reported by households that affected agricultural activities during the 2019/20 agricultural year, followed by access to land (12.0 percent), destruction by wild animals/birds and “pest and diseases” (11.0 percent each), cost of inputs (6.8 percent) and “availability of inputs” and “livestock theft” (5.1 percent each), to mention the few (Figure 4.3).

Figure 4.3: Percentage of Major Agricultural Constraints Reported by Agricultural Households During 2019/20 Agricultural Year, Tanzania Zanzibar



Key message: *The effects of climate change seem to be a key challenge in Mainland Tanzania followed by high costs of inputs compared to Tanzania Zanzibar, whereby, crops theft and access to land are key leading challenges.*

Policy implications:

- *The effect of climate change will continue affecting both crop and livestock sub-sectors, leading to reduced productivity and production due to crops failures. Climate smart agriculture need to be given weight it deserves; irrigation will be key in future; and development of climate resilient seed varieties is important; and*
- *Given land scarcity in Zanzibar, strategies should focus on crop intensification.*

5.0 Conclusion

This section draw attention to few key messages out of many that has revealed from key findings results. The call on implementations of key messages by policy makers is highly encouraged to be taken care of in all planning and policy reviews processes. The highlighted key messages include: -

- (i) Agriculture remain smallholder farmers dominated in crop productions, livestock and fish farming with low productivity and increase in production due to expansion of area under cultivation,
- (ii) Productivity among large scale farms are higher, and in some value chains, twice as much as smallholder farmers, and
- (iii) Climate change is being noted as one of the major constraints to agriculture sector.

All of these require policy interventions which will minimize land expansion by increasing productivity, adapt and mitigation of the effects of climate change.

This Key Findings Report provides a summary of key indicators of the 2019/20 National Sample Census of Agriculture (NSCA). The detailed findings of indicators will be in the Main report (2019/20 NSCA - National Crops, Livestock and Fisheries Report). Data will be available and accessible from Table Retrieval System (TRS) of the National Bureau of Statistics (NBS) and Office of the Chief Government Statistician Zanzibar (OCGS) websites.

Summary of Key Indicators from 2019/20 NSCA

Indicators	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Agricultural Households by Type of Agricultural Activity			
Crop only (%)	64.9	64.9	64.2
Crops and Livestock (%)	33	33	34.6
Livestock Only (%)	2	2	1.2
Fish Farming (%)	0.01	0.01	0.0
Pastoralist (%)	0.02	0.02	0.0
Annual Crop Productivity			
Yield of Major Cereal Crop			
Maize (tons/ha)	1.5	1.5	1.9
Paddy (tons/ha)	2.3	2.3	2.1
Sorghum (tons/ha)	1.3	1.3	0.9
Bulrush Millet (tons/ha)	1.1	1.1	2.4
Finger Millet (tons/ha)	1.2	1.2	-
Wheat (tons/ha)	1.2	1.2	-
Barley (tons/ha)	1.3	1.3	-
Yield of Major Pulses Crop			
Beans (tons/ha)	0.9	0.9	1.6
Cowpeas (tons/ha)	2.6	2.6	2.8
Green gram (tons/ha)	0.4	0.4	0.4
Yield of Major Roots and Tubers Crop			
Cassava (tons/ha)	7.9	8.4	5.2
Sweet potatoes (tons/ha)	2.1	2.0	11.0
Irish potatoes/ round potatoes (tons/ha)	6.0	6.0	-
Cocoyam (tons/ha)	1.6	1.5	2.1
Yield of Major Oil Seeds and Nuts Crop			
Sunflower (tons/ha)	1.0	1.0	-
Sesame/Simsim (tons/ha)	0.3	0.3	-
Groundnuts (tons/ha)	1.3	1.3	0.7
Yield of Major Cash Crop			
Cotton	1.3	1.3	-
Production of Major Cash Crop			
Coffee (tons)	82,478	82,478	-
Tea (tons)	66,540	66,540	-
Cloves (tons)	3,364	926	2,438
Cashew nuts (tons)	391,119	391,110	9
Area			
Cultivated Area (ha)	13,750,597	13,565,319	185,278
Area Planted (ha)	11,765,077	11,639,063	126,014
Area used for irrigation (excludes scheme irrigation) (ha)	289,381	272,897	16,484
Area Planted with Local seeds (ha)	10,451,688	10,325,036	126,654
Area planted with Improved Seeds (ha)	2,751,386	2,717,036	34,350
Area Planted with Local and Improved Seeds (ha)	339,179	319,961	19,216
Total Area Applied with Fertilizer	2,762,729	2,722,709	40,020
Area Applied with Organic Fertilizer	1,673,211	1,655,311	17,900
Area Applied with Inorganic Fertilizer	1,089,517	1,067,398	22,119

Indicators	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Number of households engaged in Agro-processing by crop			
Maize	706,602	706,262	340
Paddy	193,462	174,282	19,180
Sorghum	39,517	39,517	-
Cassava	48,524	47,293	1,231
Coffee	7,938	7,938	-
Cashew nut	2,939	2,939	-
Sunflower	113,289	113,289	-
Sesame	1,267	1,267	-
Groundnut	6,758	6,758	-
Coconut	597	128	469
Agriculture Mechanization			
Number of Tractors and Draft Animals Owned by Households			
Tractors	106,469	105,403	1,066
Power tillers	94,814	94,403	411
Draft animals	5,172,067	5,169,433	2,634
Area cultivated by Tractors and Draft Animals (Ha)			
Tractors	1,500,654	1,497,975	2,679
Power tillers	142,080	141,914	166
Draft animals	4,196,023	4,194,629	1,395
Extension Services			
Household received crop extension advices (%)	7.0	6.9	10.1
Household received livestock extension advices (%)	9.1	10.0	10.5
Livestock Population as of 1st August 2020			
Cattle	33,928,391	33,657,393	270,998
Goat	24,568,396	24,456,773	111,623
Sheep	8,516,990	8,516,056	934
Pig	3,208,495	3,206,286	2,209
Chicken	87,659,579	83,895,395	3,764,184
Methods of Cattle Identification Used by Households			
Branding (%)	48.1	49.2	0.3
Colour (%)	35.4	33.5	95.4
Cattle Clan (%)	3.1	3.2	0.9
Ear Notching (%)	8.9	9.1	0.2
Ear Tag (Earing) (%)	2.5	2.5	0.8
Annual Milk Production			
Cow (litres)	3,130,774,084	3,092,603,992	36,710,092
Goat (litres)	25,690,876	25,576,456	114,420
Methods Used by Households to Control Pests and Parasites			
Ticks Control in Cattle, Goat and Sheep			
Spraying (%)	72.4	72.2	79.9
Dipping (%)	21.0	21.5	6.7
Smearing (%)	1.9	1.6	12.0

Indicators	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Chicken Vaccinated Against Diseases			
Newcastle disease (NCD) (%)	50.9	52.2	21.0
Gumboro (%)	11.3	11.2	13.0
Fowl pox (%)	15.5	15.7	11.2
Fish farming			
Number of Stocked Fish			
Tilapia	44,407,327	44,407,327	-
Milkfish	234,723	61,437	173,286
African Catch fish	4,705,170	4,705,170	-
Other	32,421	32,421	-
Production of Fish (tons)			
Tilapia	10,510	10,510	-
Milkfish	24	12	11
African Catch fish	1,374	1,374	-
Other	719	719	-
Main Agricultural Constraints Reported by Households			
Crop theft (%)	1.2	0.8	20.8
Availability of Veterinary Drugs	0.8	0.8	0.7
Conflict between farmers and livestock keepers (%)	0.7	0.7	0.8
Access to credit (%)	2.6	2.6	1.7
Extension services (%)	3.1	3.1	2.3
Irrigation equipment (%)	0.5	0.5	1.0
Destruction by wild animals (%)	3.5	3.4	11.0
Availability of quality seeds (%)	3.9	3.9	2.2
Availability of Inputs (%)	5.6	5.6	5.1
Land ownership (%)	4.6	4.6	4.9
Soil fertility (%)	5.3	5.4	4.9
Pests and diseases (%)	6.7	6.6	11.0
Low prices of agricultural produces (%)	7.2	7.4	1.5
Access to land (%)	13.5	13.6	12.0
Cost of inputs (%)	15.6	15.8	6.8
Climate change (%)	17.8	18.1	4.8

