GHANA CENSUS OF AGRICULTURE

THEMATIC BRIEF

ARABLE CROPS

GHANA STATISTICAL SERVICE
AUGUST 2023

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FOREWORD

The 2017/18 Ghana Census of Agriculture (GCA) is the fourth census of agriculture carried out in the country. Earlier agricultural censuses were conducted in 1950, 1970 and 1984/85. Unlike the previous censuses, the 2017/18 GCA was an electronic census that deployed tablets and the Computer Assisted Personal Interview (CAPI) technique to collect nationwide information on households and institutions engaged in agricultural activities.

The GCA was conducted to provide benchmark data for planning and monitoring the national development agenda-the Coordinated Programme of Economic and Social Development Policies 2017-2024 and the Medium-Term National Development Policy Framework 2018-2021. The census will help policymakers set targets to assess progress towards the attainment of the Sustainable Development Goals (SDGs) and the African Union Agenda 2063. Additionally, the GCA will enhance the understanding of the effectiveness of the various agricultural interventions and other national policy initiatives, such as the "Planting for Food and Jobs" with its five modules by government and development partners to improve the livelihood of citizens and ensure food security for the country.

The census was a collaboration between the Ghana Statistical Service and the Ministry of Food and Agriculture. The data collection consisted of two broad phases. Phase one- the Listing Phase -entailed listing of all structures to identify all agricultural households and institutions. Phase two consisted of the administration of the core and community modules, and the collection of data on all agricultural households and institutions identified in Phase one. Appropriate statistical procedures and controls were put in place during the data collection to ensure that data from the census are of high quality.

ACKNOWLEDGEMENTS

The Ghana Statistical Service (GSS) and the Ministry of Food and Agriculture (MoFA) acknowledge the invaluable contribution of institutions and individuals to the successful implementation of the 2017118 Ghana Census of Agriculture (GCA).

Special gratitude goes to the following: The Food and Agriculture Organisation (FAO), the World Bank (WB), the Government of the Netherlands, and the Department for International Development (DFID) of the United Kingdom for financial and technical support. Further gratitude goes to the Monitoring, Evaluation and Technical Support Services (METSS) of USAID for logistical support. We further acknowledge the Vice-Chancellor of the University of Ghana and the Institute of Statistical, Social and Economic Research (ISSER) of the same University, and the Birth and Death Registry for their material and technical support during the preparation and implementation of the GCA.

We acknowledge with thanks the support of the Ministry of Finance; the Ministry of Communications; the Ministry of Information; the Ministry of Fisheries and Aquaculture Development; and the Ministry of Trade and Industry. In addition, sincere thanks and acknowledgement are extended to the Ministry of Local Government and Rural Development; the Ministry of Lands, Mines and Natural Resources; the Ministry of Gender, Children and Social Protection as well as the Regional and District Management Committees of the GCA.

The Management of GSS is grateful for the exemplary and inspiring leadership provided by the National Steering Committee and in particular the Minister for Food and Agriculture, Honorable Dr. Owusu Afriyie Akoto, the Chairman of the Steering Committee and his co-chair, Honorable Vincent Sowah Odotei (MP) and Deputy Minister for Communications. The passion and technical support provided by the GSS Board made an indelible impact in ensuring the successful conduct of the GCA.

Finally, GSS is particularly grateful to Prof. Simon Mariwah whose reviews and comments have contributed to enriching this report. We are indebted to all who contributed in diverse ways to the successful implementation of the Census, especially management of GSS, the data processing and analysis team and report writers.

PROF. SAMUEL KOBINA ANNIM

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ACRONYMS

FAO	Food and Agriculture Organization
FASDEP	Food and Agriculture Sector Development Policy
FBS	Food Balance Sheet
GCA	Ghana Census of Agriculture
MoFA	Ministry of Food and Agriculture
Mt	Metric Tons
NDPC	National Development Planning Commission

1.0 INTRODUCTION

Agriculture plays a vital role in Ghana's economy and has a great impact on poverty reduction. It is also critical for rural development and cultural values, social stabilization, environmental sustainability and buffering economic shocks. The sector, which currently provides employment for about 32%[1] of the total workforce in Ghana, is predominantly a smallholder activity. About 90% of farm holdings are less than 2 hectares in size, although there are some relatively large farms and plantations in arable crops production.

The Food and Agriculture Organization (FAO) of the United Nations is deeply involved in various aspects related to arable crops, as part of its broader mission to eliminate hunger, improve nutrition, promote sustainable agriculture, and ensure food security worldwide. FAO collects and maintains comprehensive data on arable crop production, trade, consumption, and other related statistics. This data is used to monitor global trends, identify challenges, and inform policy decisions.

Arable crops are closely linked to several Sustainable Development Goals (SDGs) due to their critical role played in ensuring food security, alleviating poverty, and improving sustainable agricultural practices. Sustainable farming practices associated with arable crops, such as agroforestry, cover cropping, and crop rotation, can enhance soil health, sequester carbon, and mitigate climate change impacts. Further, the cultivation of arable crops is connected to land use and ecosystem health. Thus, implementing sustainable agricultural practices helps prevent soil erosion, maintain biodiversity, and protect natural habitats leading to increase productivity and sustainability of arable crop production to provide nutritious food for the growing population. Arable crop production supports rural livelihoods and creates employment opportunities for millions of people worldwide, contributing to economic growth in many regions.

The National Food and Agriculture Sector Development Policy (FASDEP) is a strategic framework developed by the government of Ghana to guide the growth and development of the country's agricultural sector. FASDEP outlines the priorities, goals, and strategies for achieving sustainable agricultural development, improving food security, and enhancing the livelihoods of farmers and rural communities. Among other objectives of FASDEP, it aims to increase the productivity of agricultural activities, including arable crop

[1] statsghana.gov.gh/gssmain/fileUpload/pressrelease/2021 PHC General Report Vol 3E_Economic Activity.pdf

production, through the adoption of improved technologies, best practices, and modern farming methods.

Further, the policy emphasizes the importance of sustainable agricultural practices, including agroecology, crop rotation, and soil conservation, to ensure the long-term viability of the sector and minimize environmental impact. It also seeks to improve food security by increasing domestic food production, reducing post-harvest losses, and enhancing access to nutritious and diverse foods.

In addition, the government of Ghana has implemented fertilizer subsidy programmes as part of its efforts to increase access to fertilizers for smallholder farmers. These programmes aim to boost soil fertility and crop yields. Among the modules of the programme are ***Food and Horticulture Crops.*** While the food crops module aims to boost food productivity and production, and reduce the importation of selected food commodities, the horticultural module is to establish strong agribusiness in sub-sector to attract Ghanaian youth.

Ghana achieved food self-sufficiency in all the major staple crops except rice and millet in 2017. According to the PFJ operational performance,2018 about 150,000mt of main food items were exported to neighbouring countries, namely Burkina Faso, Togo, Niger etc and over 794 ,944 jobs were created out of 900,000 targets, and over 4.2 million MT of yield from seven crops were recorded (PFJ, 2020)[2].

As a follow up to the GCA report on arable crops, this brief examines the patterns and correlates of arable crop holders as well as exploring the ways in which the identified correlates could help address national policy agendas for the arable crop sector.

[2] Planting for Food & Jobs (mofa.gov.gh)

2.0 DEFINITION OF CONCEPTS AND DATA SOURCES

2.1 DEFINITION OF CONCEPTS

Agricultural activity: Agricultural activities include the cultivation of arable crops, tree crops, forest trees and the rearing of livestock, aquaculture, and capture fisheries.

Agricultural household: A household with at least one of its members engaged in an agricultural activity.

Agricultural land: This is defined as the sum of arable land, land under permanent crops and land under permanent pastures.

Agricultural institution: An institution engaged in an agricultural activity.

Arable crops: Crops that mature within a short period, usually less than one year. Examples of arable crops are plantain, cocoyam, cassava, yam, etc.

Arable land: refers to all land generally under rotation whether it is under temporary crops, left temporary fallow or used as temporary pastures.

Disability: refers to those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

Field: A piece of land in a parcel separated from the rest of the parcels by easily recognisable demarcation lines, such as paths, cadastral boundaries and/or hedges. A field may consist of one or more plots.

Holder: Agricultural holder (Farm owner) is a person who takes the major decisions regarding resource use and exercises management control over the holding.

Household: A person or group of persons who normally live together and are catered for as one unit. Members of the household may or may not be related.

Institution: A non-household entity engaged in commercial or non-commercial agricultural activities.

Land tenure: The relationship, whether legally or customarily defined, among individuals or groups that define how access is granted to rights to use, control, and transfer land, as well as associated responsibilities and restraints. (FAO).

Large-scale farming: Land area greater than or equal to 5 acres for arable crops and greater than or equal to 10 acres for tree crops.

Leasehold: A piece of land that can be used for a limited period of time according to the arrangement in the lease.

Literacy: Ability to read and write in any language with understanding in any language.

Locality: A distinct population cluster (also designated as inhabited place, populated centre, settlement) which has a NAME or LOCALLY RECOGNISED STATUS. It includes fishing hamlets, mining camps, ranches, farms, market towns, villages, towns, cities and many other types of population clusters, which meet the above criteria.

Medium-scale farming: Land area greater than 2 acres but less than 5 acres for arable crops and greater than 5 acres but less than 10 acres for tree crops

Mixed-cropping: The growing of two or more different crops on the same parcel of land.

Mono-cropping: The cultivation of a single crop at a time on a parcel of land.

Parcel of land: A piece of land under one land tenure arrangements, entirely surrounded by features such as other land (not under the same land tenure arrangement), water, road, or forest. A parcel may consist of one or more fields or plots adjacent to each other.

Plot: The section of a parcel or field used for cultivating a specific crop or a mix of crops.

Share-cropping: A system of land-use arrangement that functions in two main prominent ways, namely, abunu and abusa. Abunu: the completed farmland is physically divided into two with the tenant and the landlord taking equal shares of the harvest or the cropped land. Abusa: the proceeds of the land are shared in the ratio of 1:2 with the landlord taking one part and the tenant two-thirds.

Small-scale: Land area of sizes that are less than 2 acres for arable crops and less than or equal to 5 acres for tree crops.

Squatting: The practice where a holder is using a parcel of private or public land without any clear ownership and/or permission of the owner.

Trusteeship: A situation in which someone's land or property is managed by another person or organisation on behalf of the owner.

2.2. DATA SOURCES

The statistics presented in this report are generated from the 2017/2018 Ghana Census of Agriculture Regional Thematic Table on Arable crops.

3.0 JUSTIFICATION FOR THE SELECTION OF CORRELATES OF ARABLE CROPS

3.1 Sex

Agriculture is generally classified as men's activity. Besides, biologically and physically, men have more strength relative to that of their female counterparts which enable them to engage in more vigorous activities such as farming than females. However, female farmers produce less than men not because they are less efficient farmers, but because they lack equal access to resources such as credit facilities, land, and other productive inputs.

3.2 Age

The point is often made that young people in Ghana are generally not interested in farming (Solidaridad, 2020)[3]. The situation is attributed to a lack of the enabling environment, including easy access to affordable credit, land and other inputs that will make farming attractive and profitable to the youth. It is estimated that over half of Ghanaian farmers are between 50 to 60 years old. This report, therefore, presents yet another opportunity to examine how the "age" factor interrelates specifically with arable crop holdings and would help us understand whether those earlier assertions are equally hold for arable crop farming. For sustainable arable crop farming, the youth must be very much involved. All efforts must therefore be made to attract them if they are not into it already.

3.3 Locality of Residence

Locality or place of residence has great influence on farming activities in Ghana. Generally, farming activity is believed to be the preserve of the rural folks. This confirms the fact that, agriculture provides employment opportunities to most of the rural dwellers compared to their counterparts in the urban areas.

3.4 Educational Attainment

There is a negative correlation between the level of educational attainment and agriculture activity. Once individuals acquire high level of education, farming becomes less attractive hence the level of participation in agricultural

[3] https://www.solidaridadnetwork.org/news/spotlighting-youth-in-agriculture-in-ghana/ Accessed on June 15, 2023

activity consequently or invariably declines. Educational attainment provides opportunity to learn, understand and adopt modern technological practices to improve agricultural yields, land use and sound environmental practices for the purposes of environmental conservation.

3.5 Literacy status

In times past, the discourse on literacy was mainly about language. In recent times, however, several other dimensions of literacy have evolved, including financial, digital, statistics, numeracy, and environmental literacy. Even though it might make sense to assume that language literacy influences the other dimensions of literacy, the question of how these dimensions are interrelated has not been adequately addressed through empirical studies. The need to examine if, for instance, language literacy has some effects on environmental literacy and consequent actions such as tree crop farming would be of interest to this study. The specific question to answer is, "Is one to expect many more literates who have arable crop holdings than their illiterate counterparts, possibly, because literates are more likely to understand the positive effects of these arable crop holdings on the household, economy, environment, among other benefits?

3.6 Disability Status

Persons with disabilities usually face challenges including discrimination, stigmatization and even exclusion from life-sustaining opportunities in society, rendering them very vulnerable. Unless the government makes targeted policies to support people with disability, it will be difficult for them to participate or compete effectively for the limited social and economic opportunities Persons with disability are often disadvantaged in terms of ownership and access to land and other properties; a challenge that could limit their ability of engaging in arable crop farming in a way compared with persons without disability.

3.7 Scale of Production

The production capacity of arable crop can differ from small, medium to large scale depending on the size of the crop holding. Before one engages in production, one is required to make an initial capital outlay in the form of land, labour and machinery. How large or small the size of this initial outlay will determine whether the holder can either be in a large, medium or small-scale

production. Large scale production requires a large capital outlay and the availability and access to capital, especially land for agriculture, is often identified as a major limiting factor for investment in many parts of this country. Persons or institutions that have access to capital are more likely to have arable crop plantations that are into large scale production.

3.8 Land Tenure Arrangement

The type of tenure arrangement through which one gains access to land may inform the decision on what the land is used for. Some tenurial arrangements may be more favourable for long term investment than others. For instance, it may be deemed riskier to use land accessed through trusteeship, renting, and squatting for arable crops though require a short-time investment, compared to freehold, inheritance and others. An assessment of the various tenurial arrangements will help determine which form of arrangements are suitable and commonly used for arable crops.

3.9 Cropping System

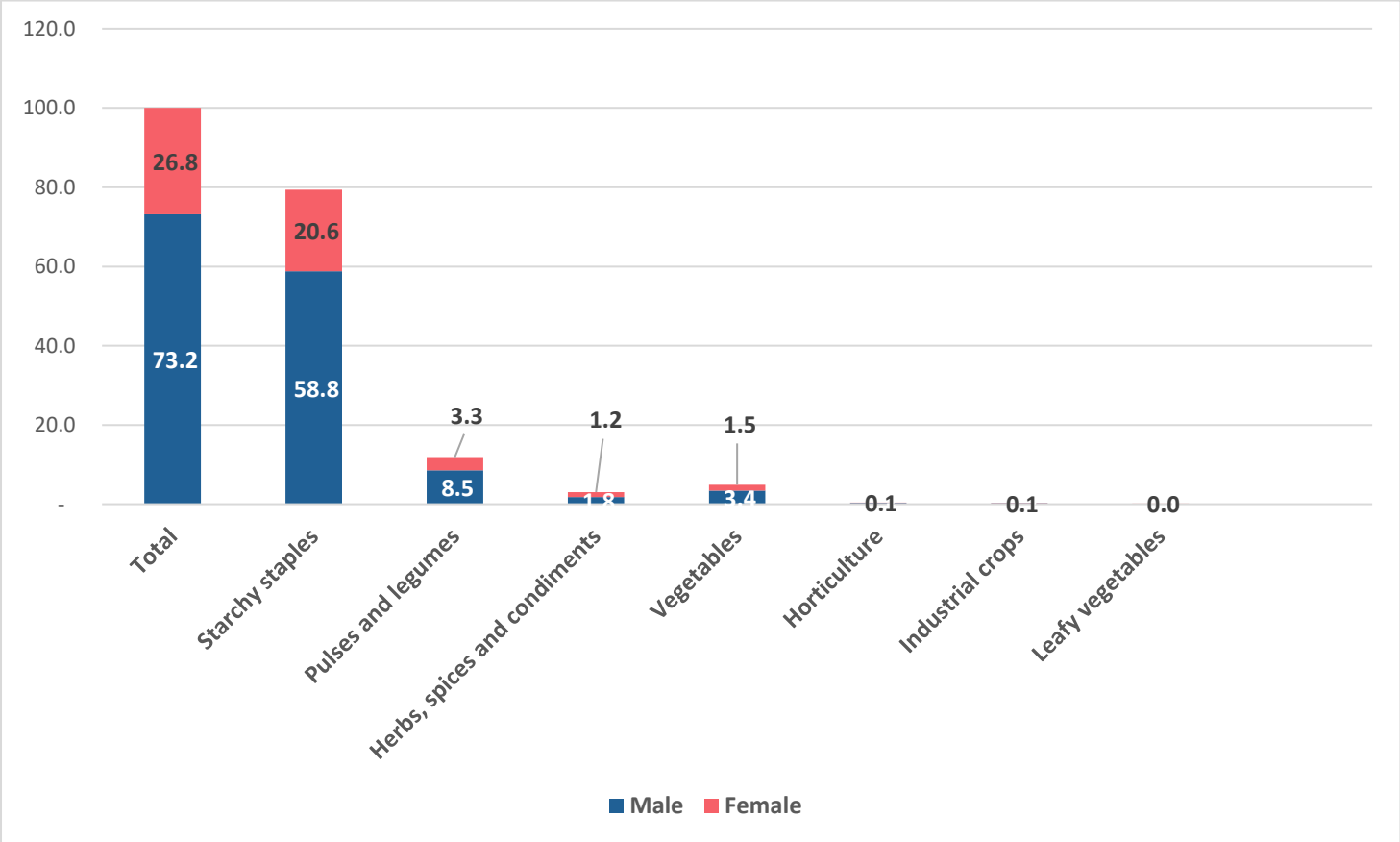
Mono cropping and mixed cropping are the main cropping systems used under arable crop cultivation. Arable crops draw soil nutrients at different levels of the soil depending on their root systems. Information on the cropping system provides a useful guide on the optimum combination of arable crops, especially in the case of mixed arable cropping to inform the right combination of arable types to maximize benefits on crop lands and crop yields.

4.0 KEY FINDINGS

4.1 Patterns and correlates

More than seven out of ten male holders (73.2%) predominate in the cultivation of arable crops. Majority of arable crop holders (58.8%) are males, while females (20.6%) are into the cultivation of starchy staples. This is followed by pulses and legumes.

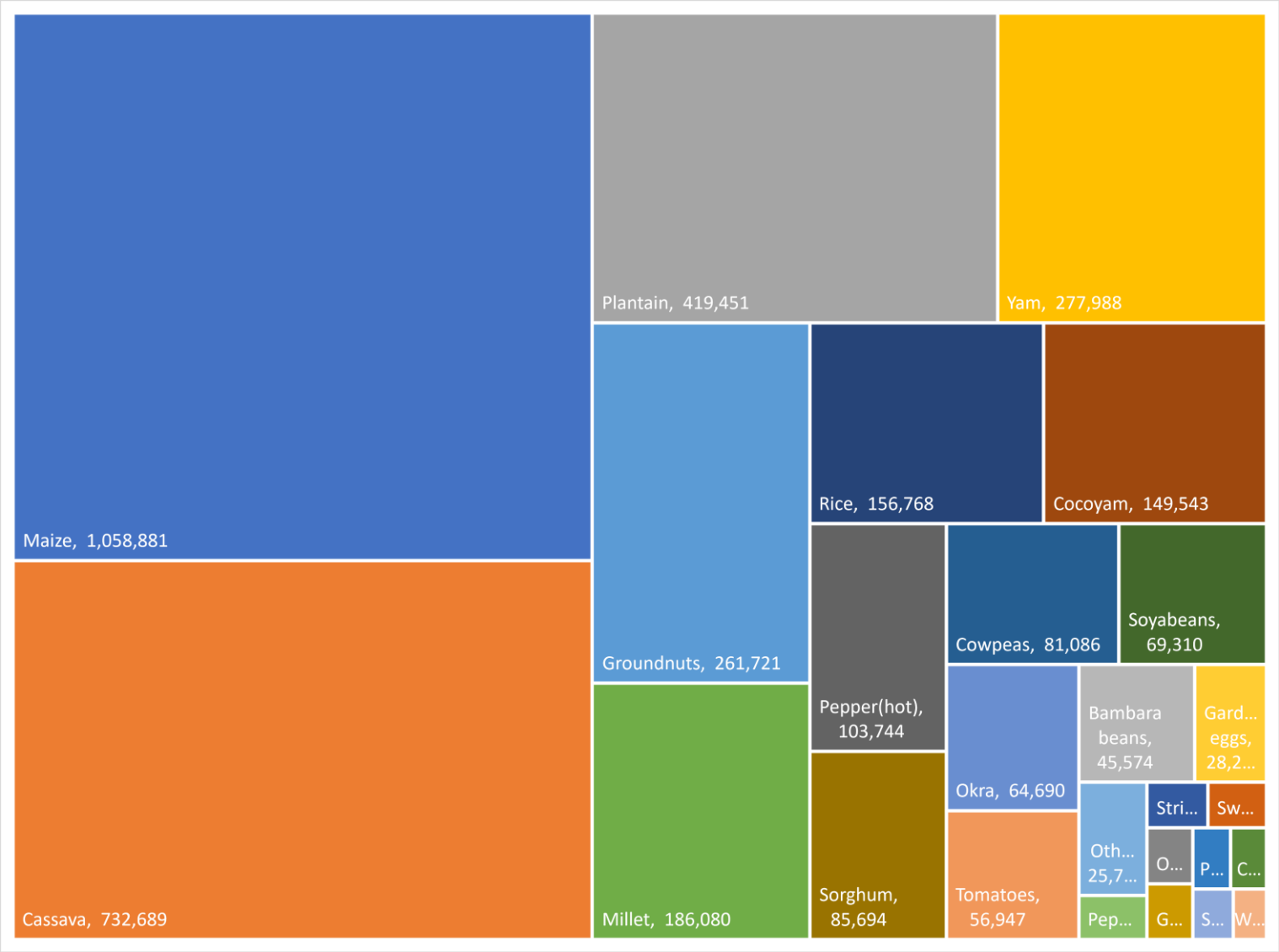
Figure 1: Arable crop holders 15 years or older by type of arable crop* and sex



*A holder may be engaged in more than one agriculture activity.

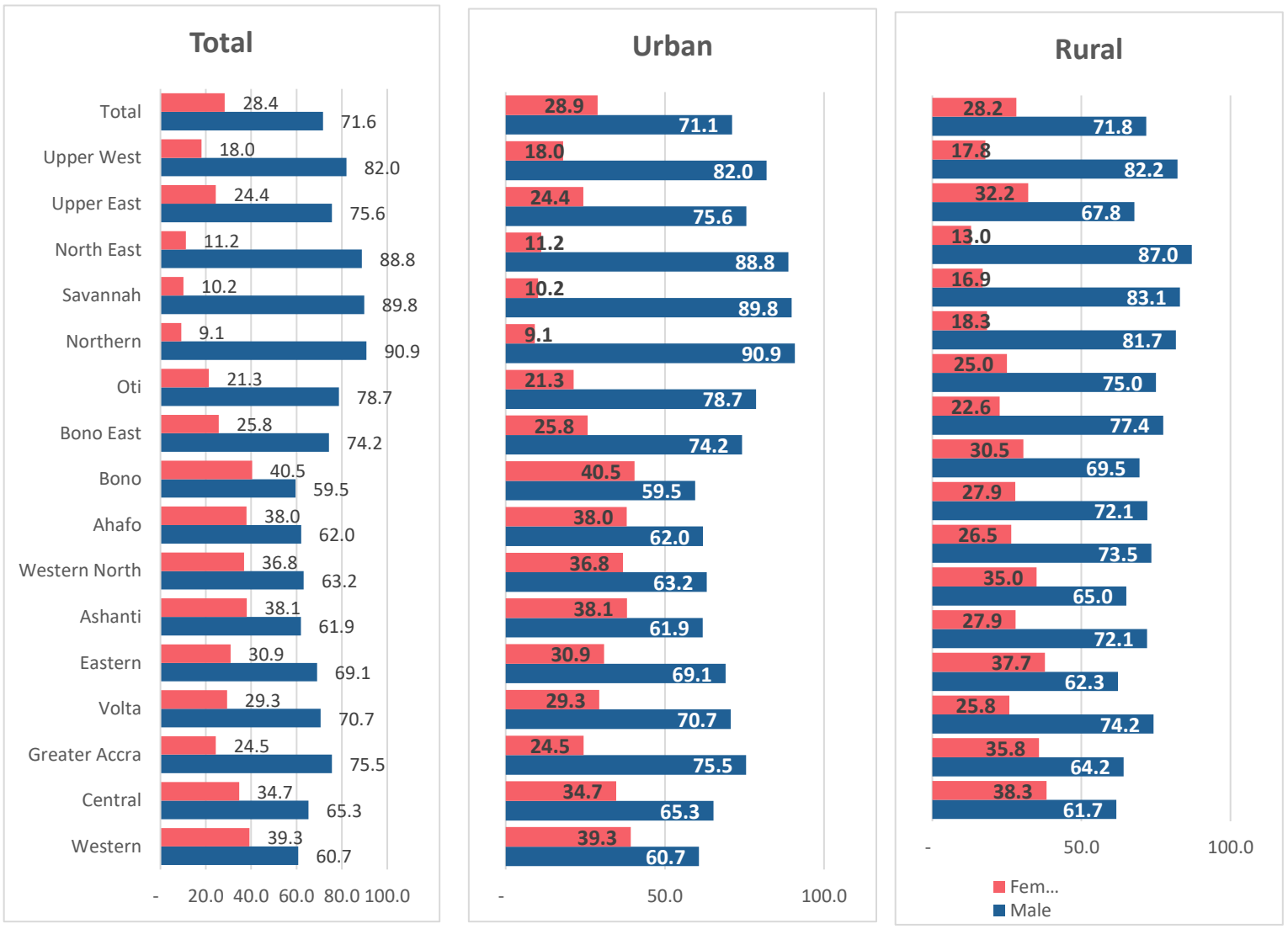
The most cultivated crop by arable crop holders is maize. This is followed by cassava and plantain.

Figure 2: Arable crop holders 15 years or older by top 25 most cultivated crops



Majority of arable crop holders are males, irrespective of locality.

Figure 3: Arable crop holders 15 years or older by type of locality and sex

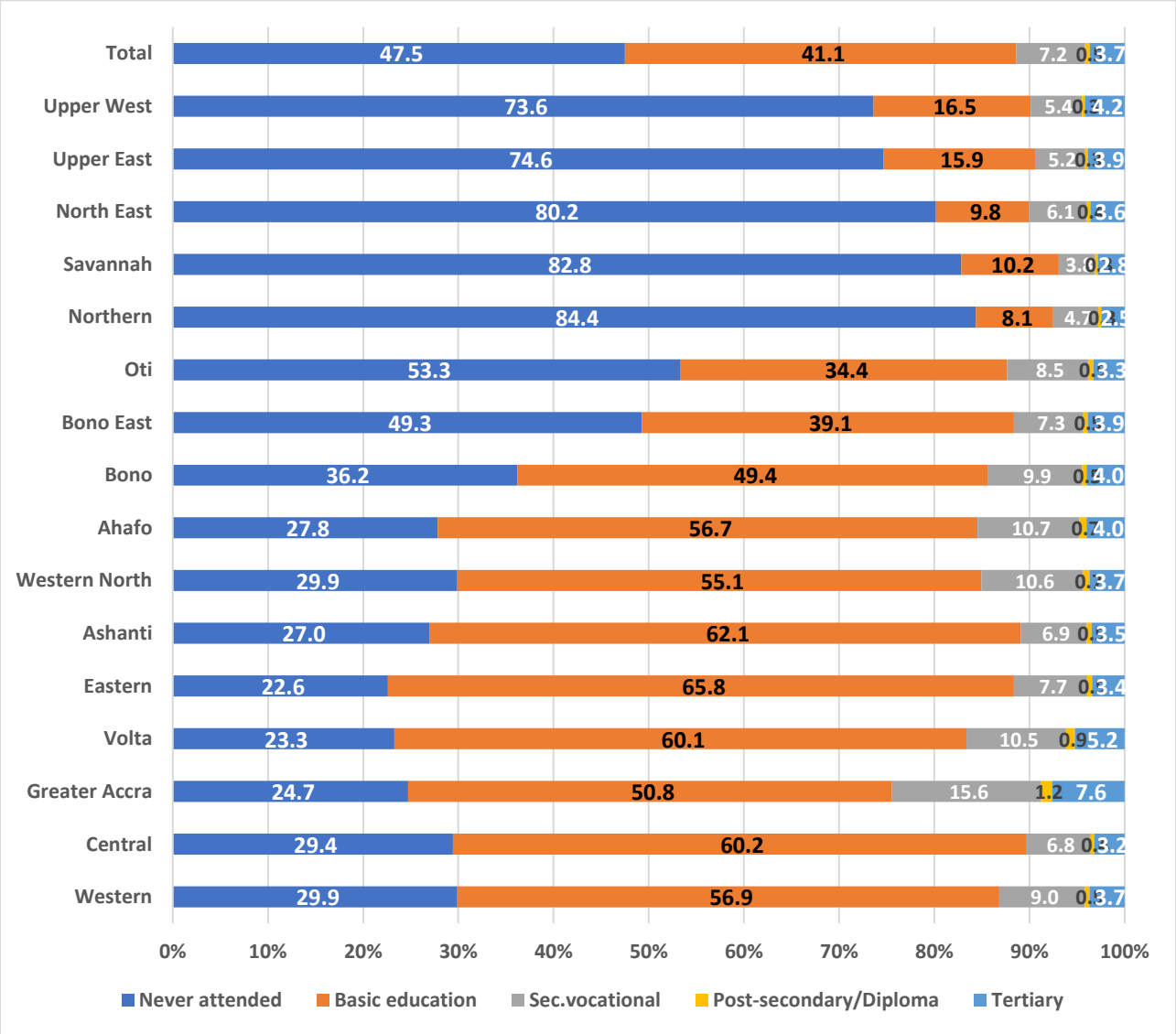


Majority of arable crop holders are in the 36-59 years age group. The proportions are similar for all types of arable crops either in the urban or rural areas across the sixteen (16) Regions.

Figure 4: Arable crop holders 15 years or older by Age, and Region

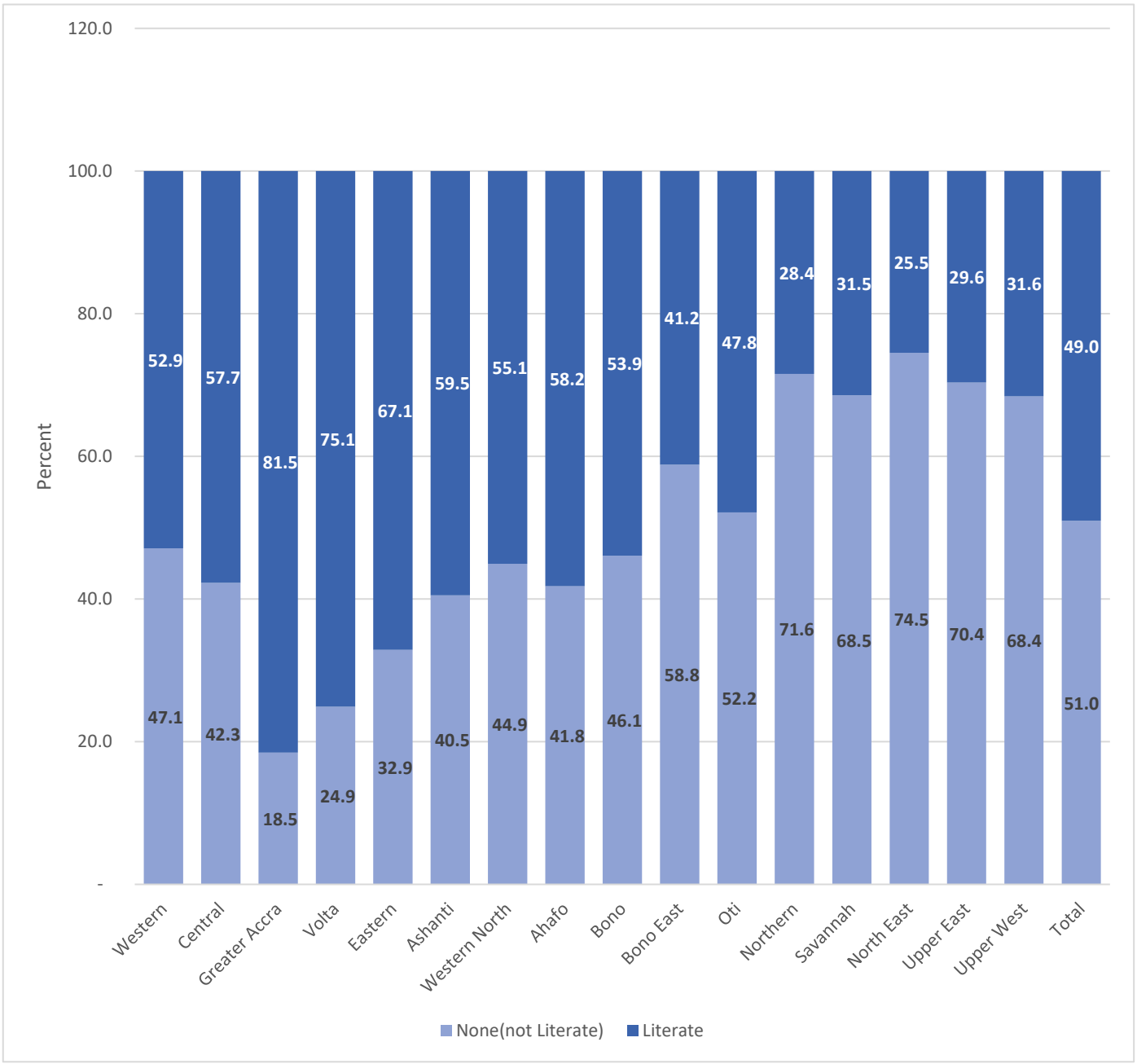
About 47.5 percent of arable crop holders have never attended. The proportion of those who have never attended school is highest in Northern (84.4%) and lowest in Eastern region (22.6%).

Figure 5: Arable crop holders 15 years or older by educational attainment and type of locality



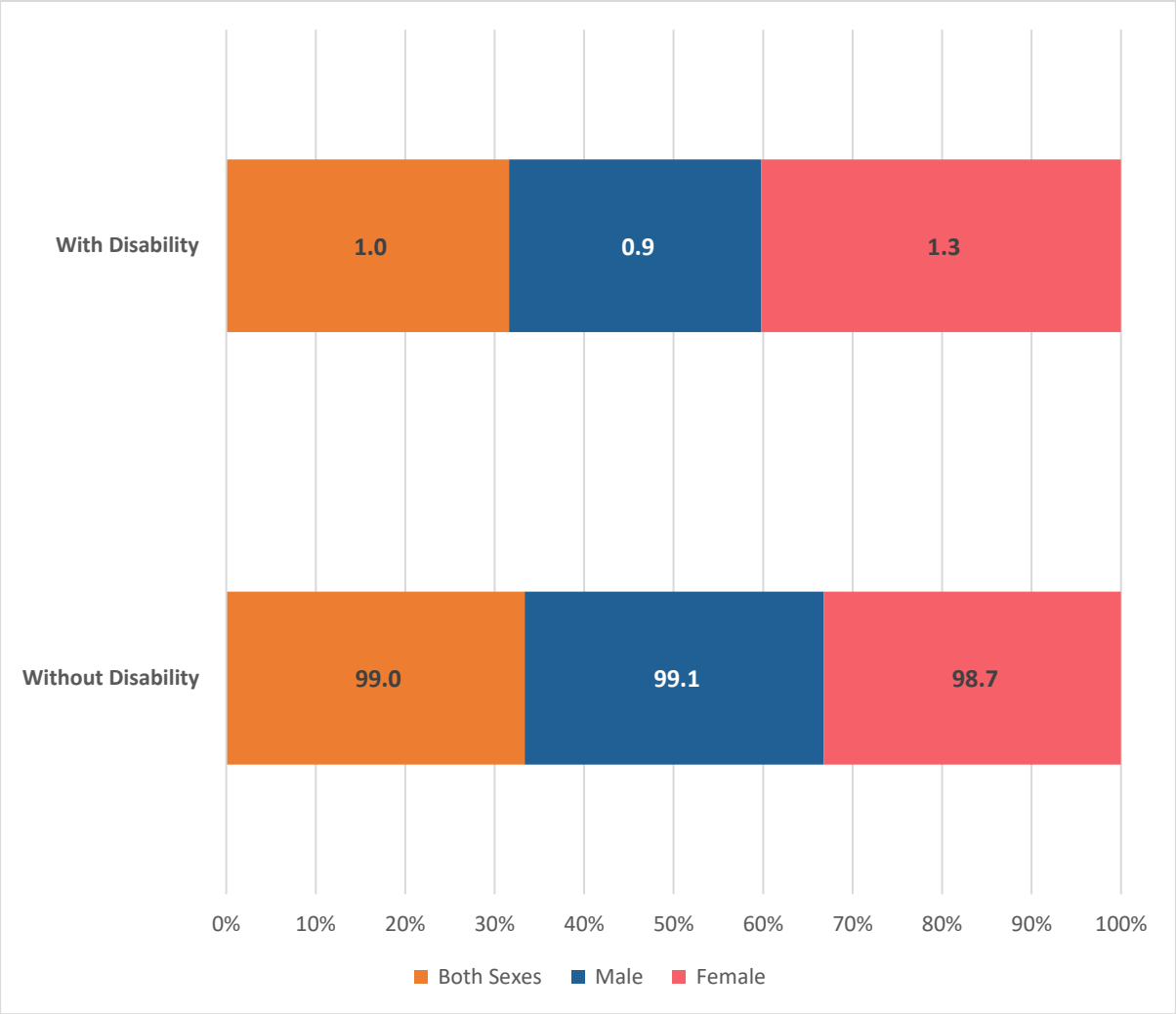
More than half (51.0%) of Arable crop holders are non-literate. The proportion of arable crop holders who are non-literate is higher in North East (74.5%), Northern (71.6%) and Upper East (70.4%) regions.

Figure 6: Arable crop holders 15 years or older by literacy status, and region



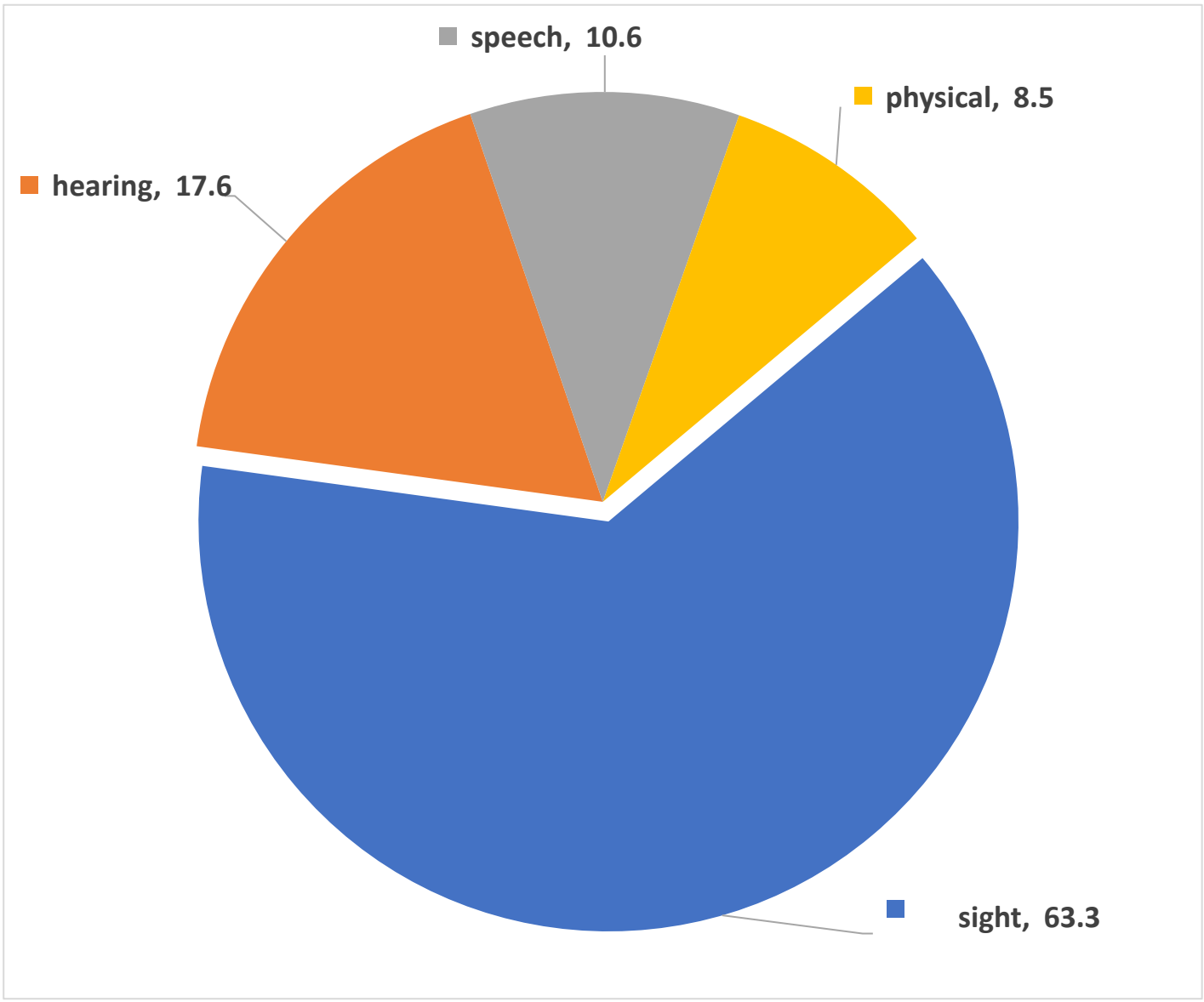
Female holders of arable crop have more disability compared to their male counterpart.

Figure 7: Arable crop holders 15 years or older with disability status and sex



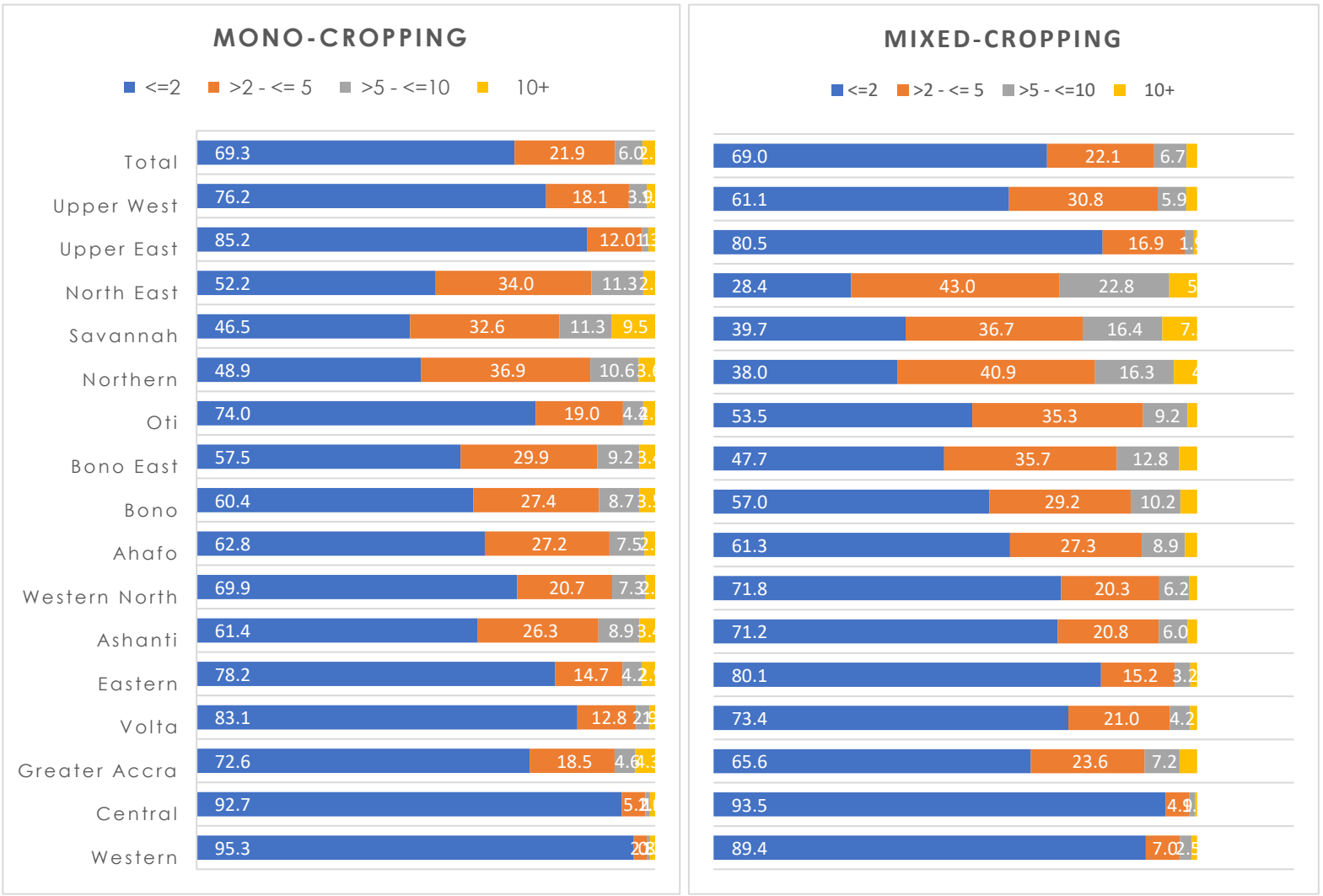
Of all the different forms of disabilities among arable crop holders, sight difficulties are more prevalent among males across the different types of disability.

Figure 8: Arable crop holders 15 years or older by type disability, sex, and type of region



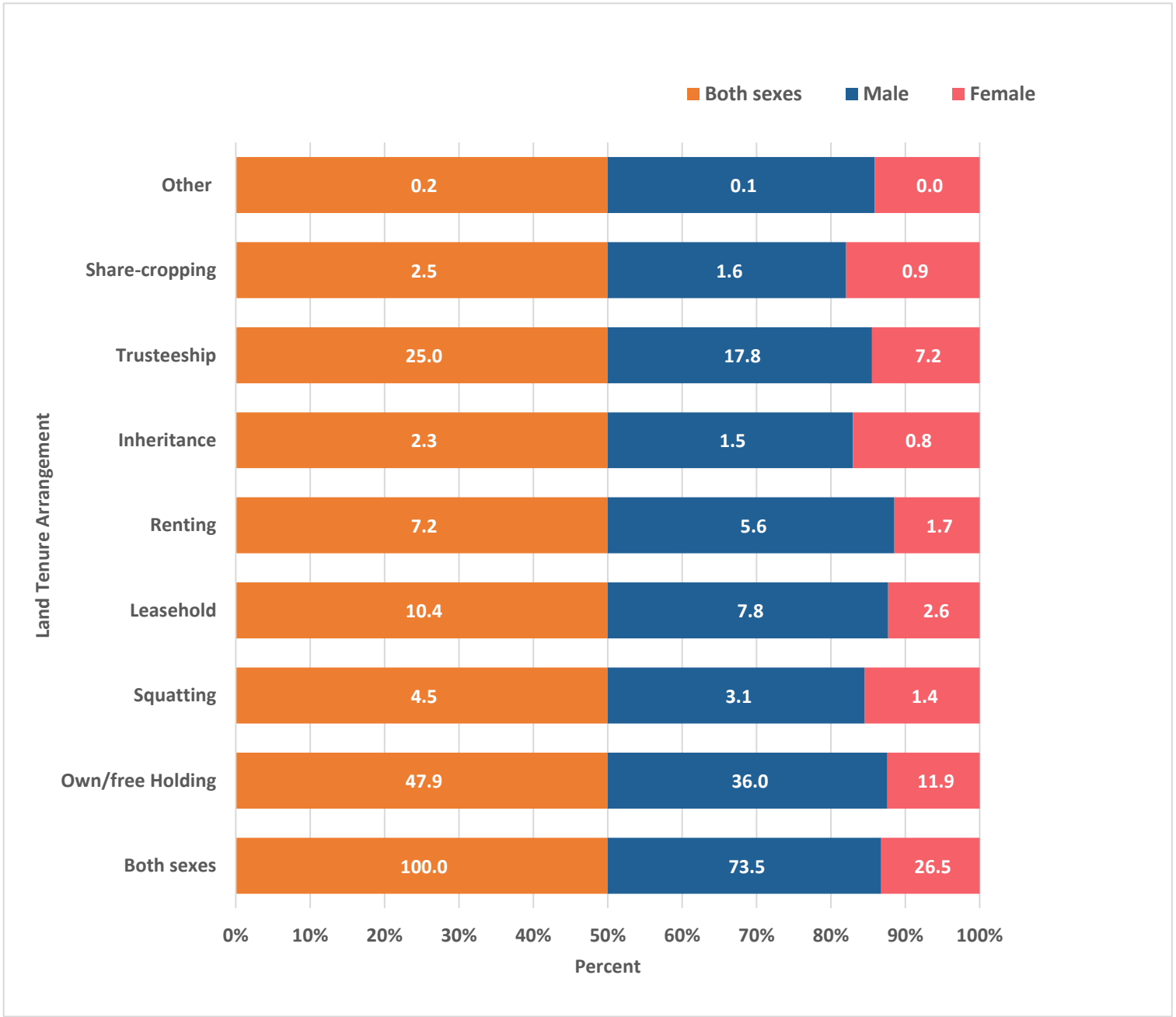
Majority of arable crop holders who practise mixed-cropping used parcels that are less than 2 acres, likewise holders who practise mono-cropping. On average, 69.3 percent of holders cultivating arable crops and practising mono-cropping have parcels of land that are less than or equal to 2 acres in size while 21.9 percent cultivate on parcels greater than 2 acres but less than 5 acres in size. Only 2.7 percent of holders cultivate on parcels that are greater than 10 acres.

Figure 9: Land parcels for agriculture by type of cropping system and size (acres), and by type of arable crop



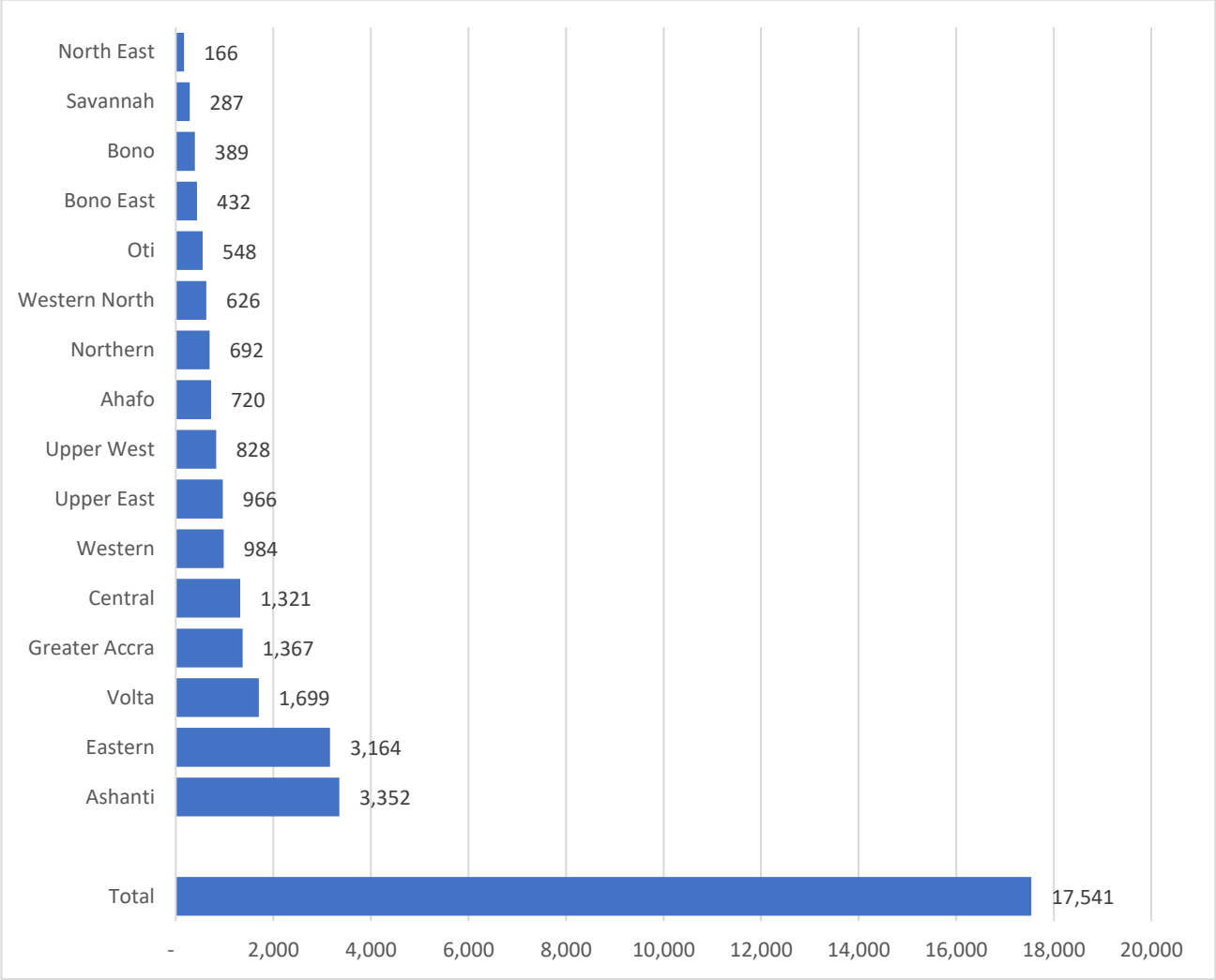
About three-quarters (73.5%) of land parcels used for cultivation of arable crops are owned by males, mainly through freehold (36.0%) and trusteeship (17.8%).

Figure 10: Land parcels used in cultivating arable crop by type of land tenure arrangement, and by sex of holder



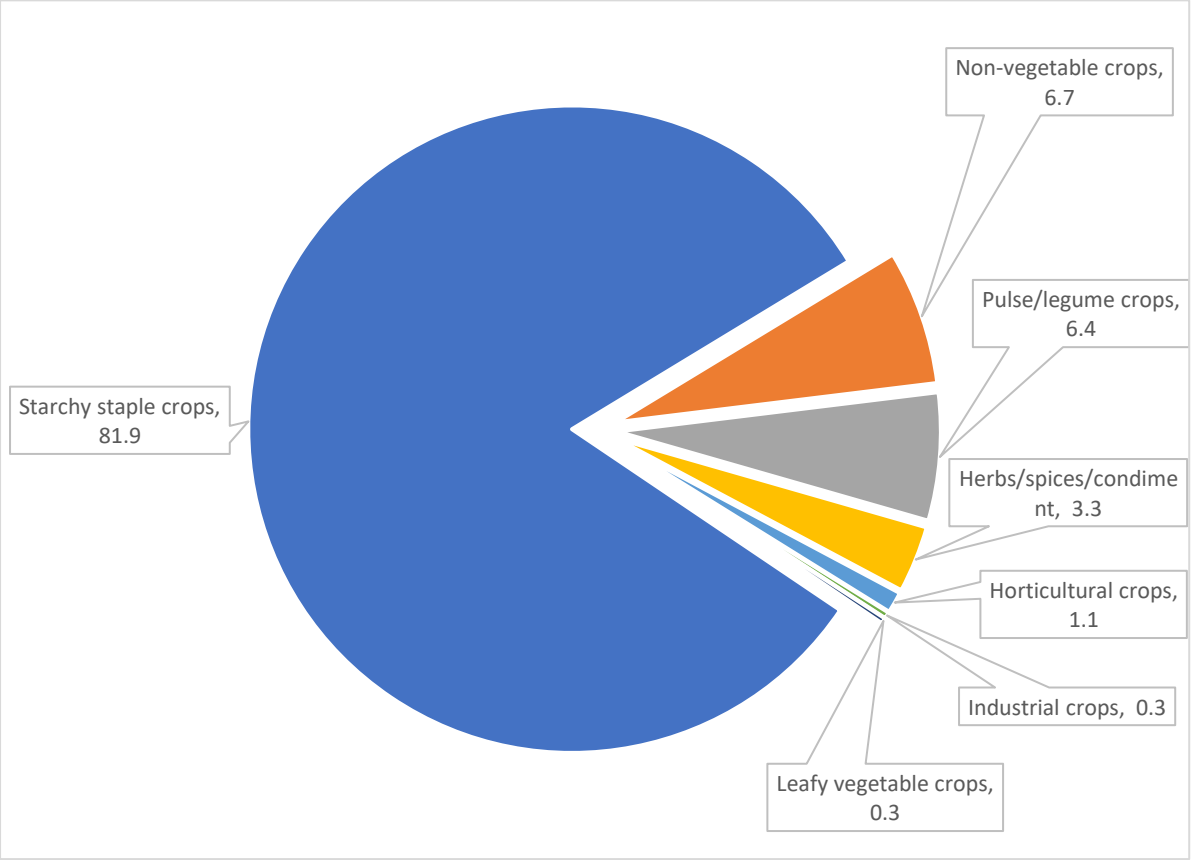
A total of 17,541 agricultural institutions are cultivating arable crops, with the Ashanti and Eastern regions dominating. Institutions may have more than one holding and may be engaged in multiple cropping.

Figure 11: Number of institutions into Arable Crops Production by Region



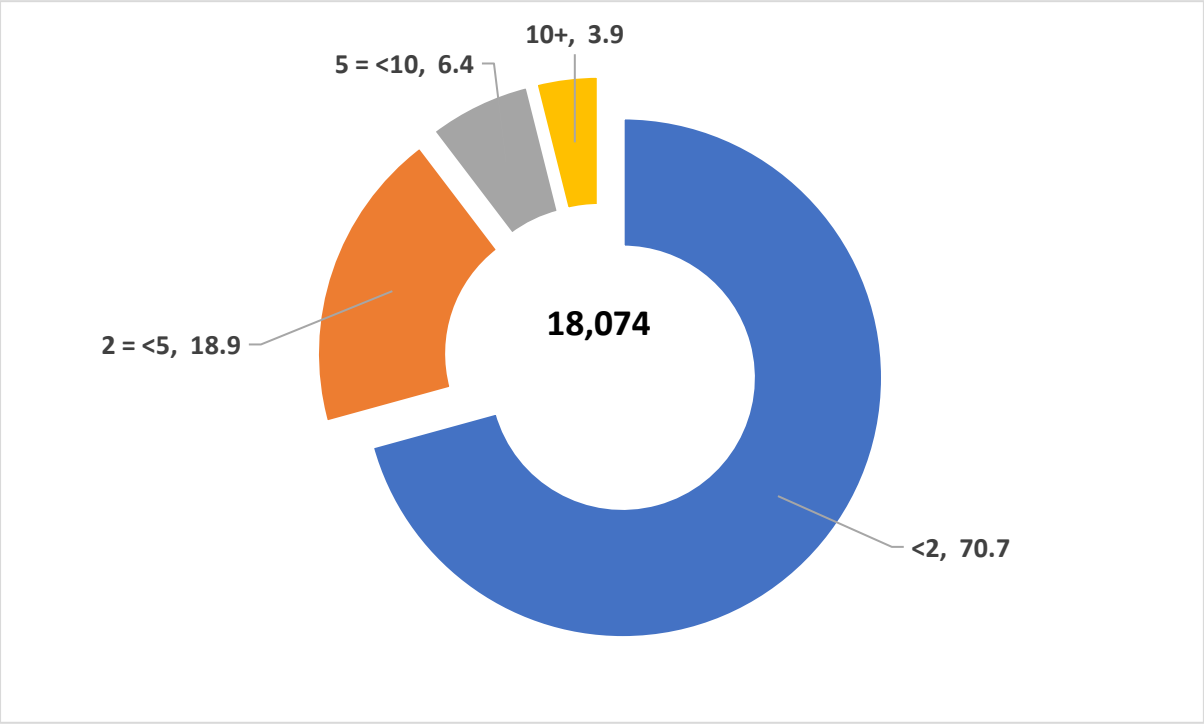
More than four-fifths (81.9%) of agricultural institutions which are into arable crops are cultivating starchy staples (81.9%). This is followed distantly by non-vegetable crops (6.7%) and pulse/legume crops (6.4%).

Figure 12: Institutions in arable crop cultivation by type of arable crop (percent)



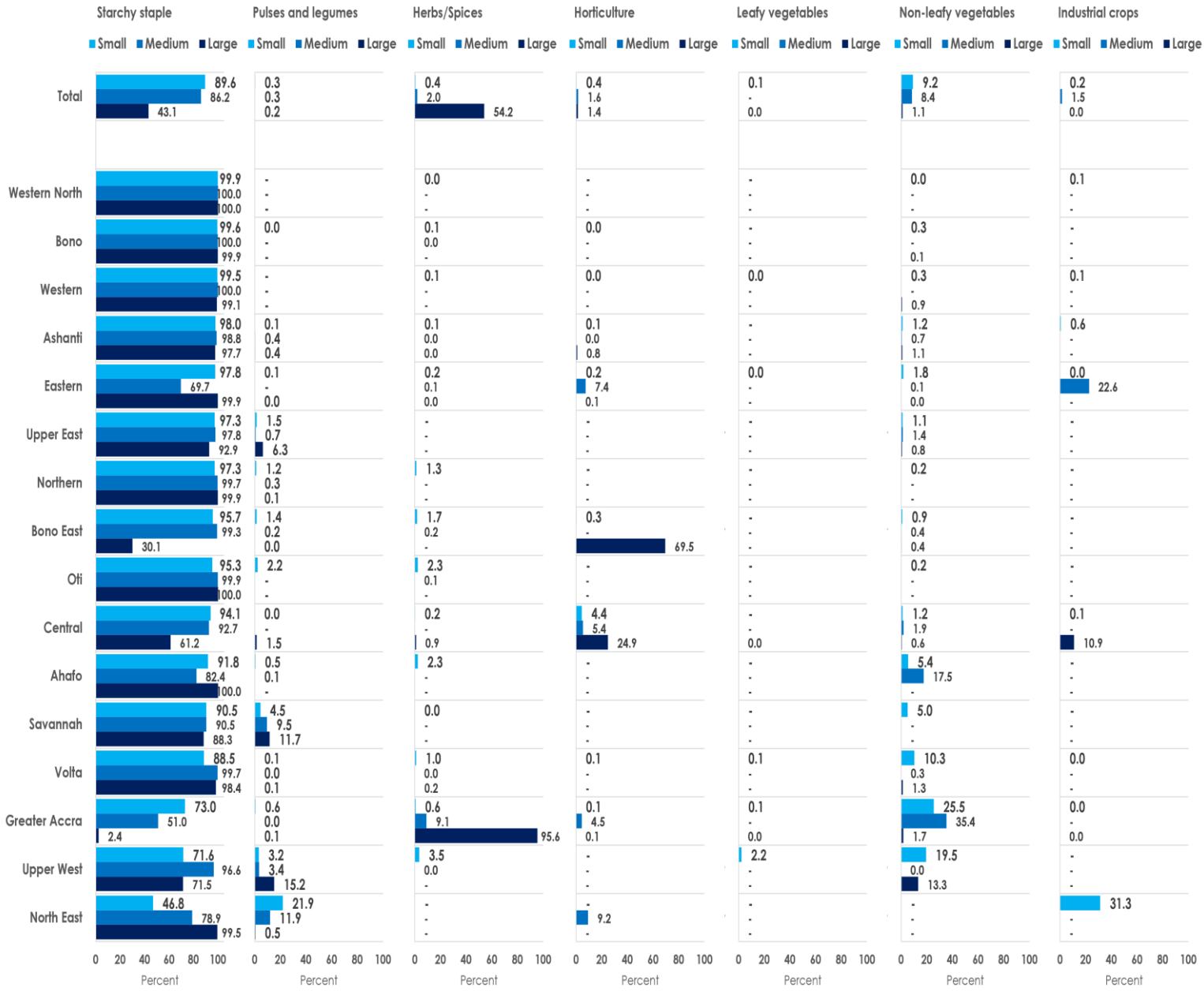
Overall, more than 18,000 land parcels are used by agricultural institutions engaged in arable crop cultivation. The land sizes used are less than 5 acres, with majority using less than 2 acres (70.7%) of land. Only 708 (3.9%)of parcels used are 10 acres or larger.

Figure 13: Land parcels of arable crop institutions by size (acres) of parcel



Starchy staples (89.6%) are the main type of crops produced by institutions on small-scale. Similarly, among institutions which produced on medium-scale, starchy staples constituted 86.2 percent of their total production.

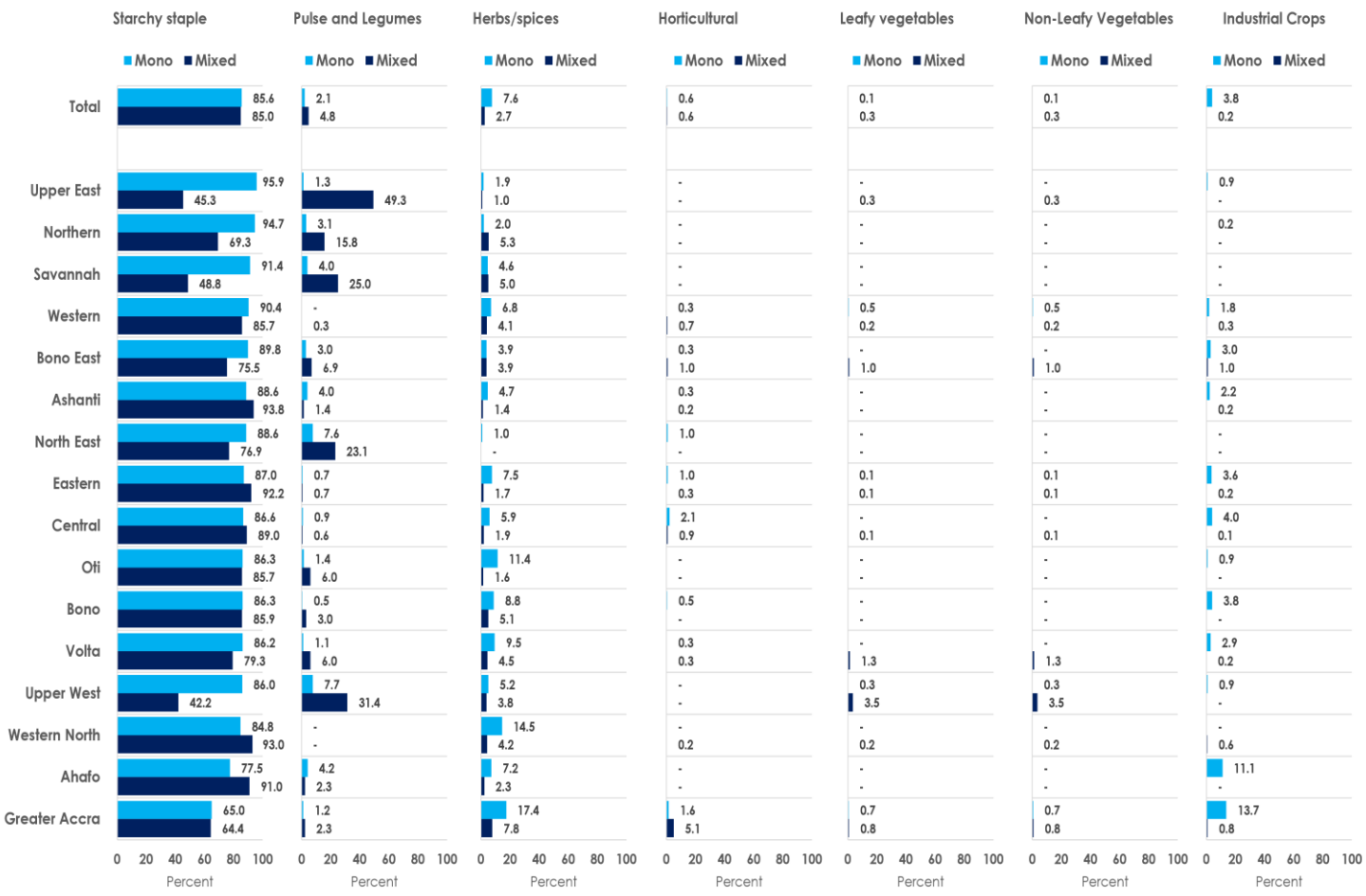
Figure 14: Quantity (mts) from arable crop institutions by scale of production and type of arable crop,) and Region



More than half of the institutions that cultivate arable crops uses mono-cropping (85.6%) and mixed-cropping (85%) system of production, mainly focused on starchy staples.

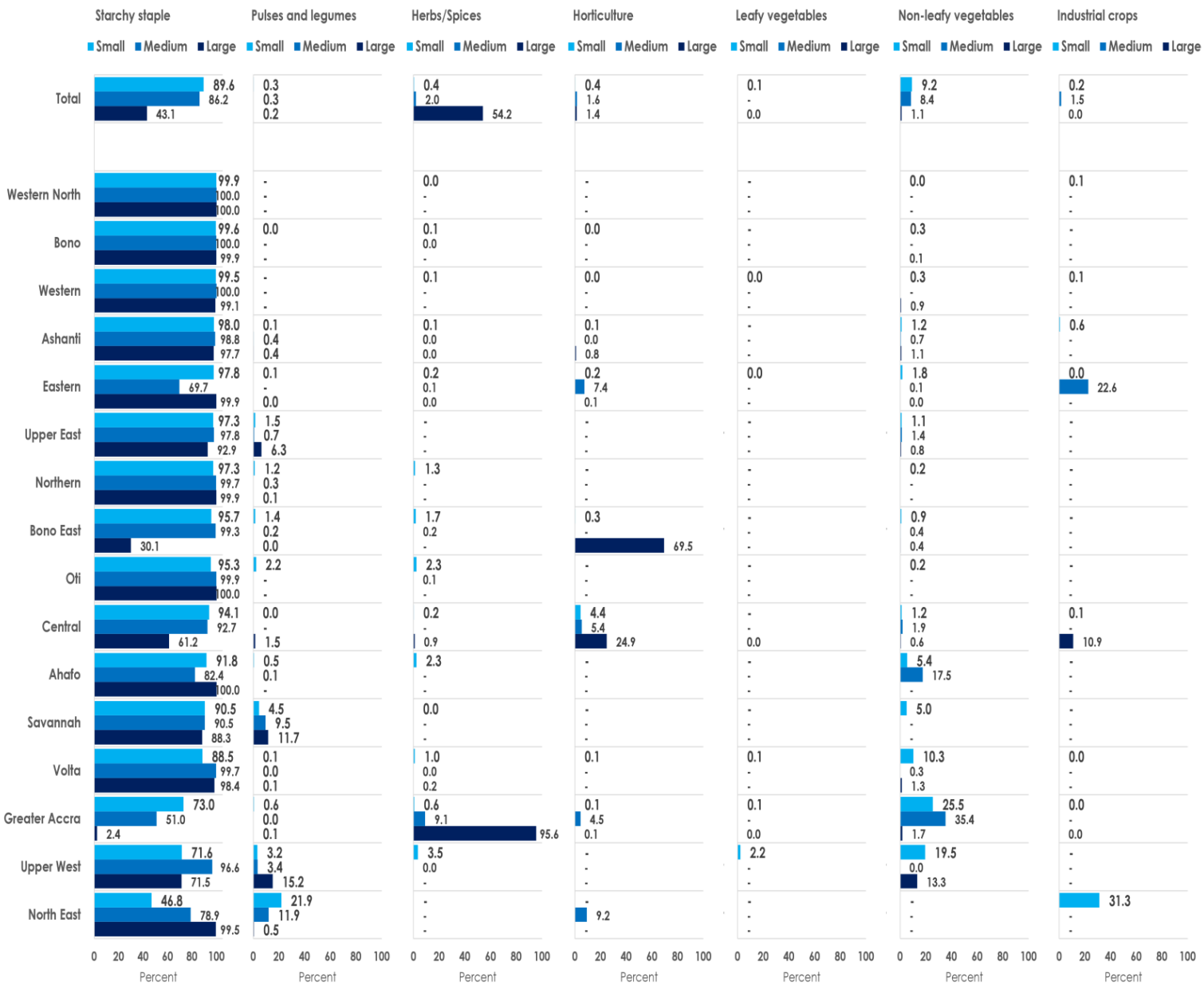
By region, Upper East (95.9%) and Ashanti (93.8%) regions have the highest proportions of institutions into mono and mixed cropping system respectively.

Figure 15: Arable crop institutions by type of arable crop and type of cropping system.



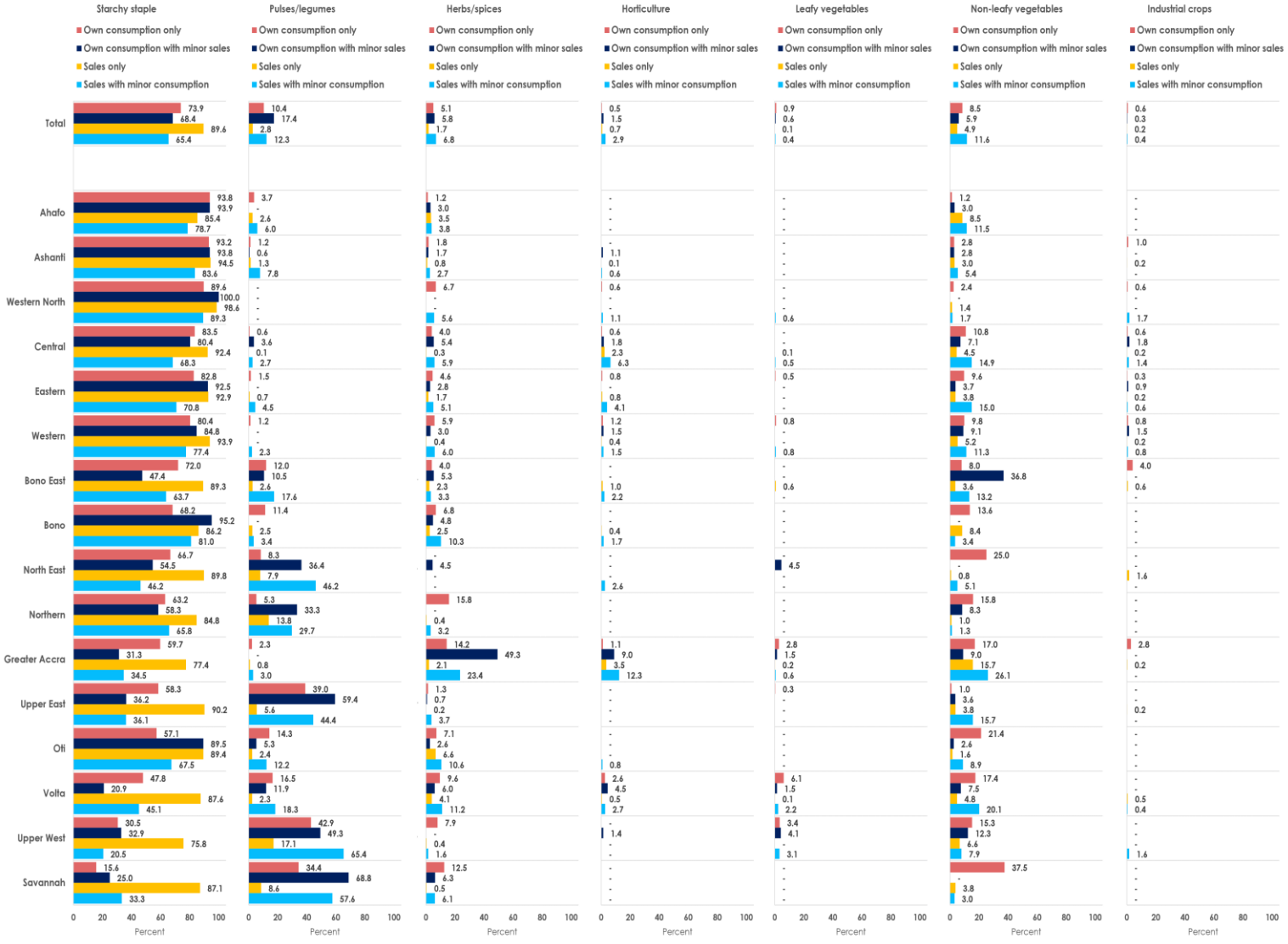
Starchy staples are the most produced crops by institutions on small (89.6%), medium (86.2%) and large (43.1%) scales. The highest proportion of small-scale production of starchy staples is in Western North (99.9%) region with similar patterns across the regions except Upper West and Greater Accra regions which recorded less than 80%. The least, is recorded in North East.

Figure 16: Quantity (mts) of arable crop by scale of production and type of arable crop



The main purpose for cultivating starchy staples by agricultural institutions is sales only (89.6%) while 65.4 percent cultivate arable crops for sales with minor consumption.

Figure 17: Arable crop institutions by type of arable crop, and by purpose for production



5.0 CONCLUSIONS

From the key findings, the cultivation of arable crops is one of the most Agricultural activities in Ghana at both the households and institutions. Arable crops cultivation is dominated by males, and out of the total of 1,736,440 holders who cultivated one or more arable crops, 71.6 percent are males and 28.4 percent are females. Majority of arable crop holders are into the cultivation of starchy staples, and this is followed by pulses and legumes. The most cultivated crop by arable crop holders is maize. This is followed by cassava and plantain.

This is because of the favourable Ghana's diverse climate and soil conditions which, support the cultivation of various arable crops. In this light, it is recommended that farmers should consider factors such as soil type, rainfall patterns, and market demand when selecting crops to grow to improve upon their income. Additionally, since agriculture is a significant component of the economy and livelihoods, adopting sustainable agricultural practices will be essential to ensure food security, environmental sustainability, and resilience to climate change. Thus, sustainable agricultural practices should be adopted to ensure long-term productivity and environmental conservation.

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