



GHANA CENSUS OF AGRICULTURE

THEMATIC BRIEF



CAPTURE FISHERIES

GHANA CENSUS OF AGRICULTURE

THEMATIC BRIEF

CAPTURE FISHERIES

GHANA STATISTICAL SERVICE
AUGUST 2023

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 2017/18 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

TABLE OF CONTENTS

CONTENT	PAGE
FOREWORD.....	v
ACKNOWLEDGEMENTS	vi
TABLE OF CONTENTS	vii
LIST OF FIGURES.....	ix
Acronyms.....	xi
1.0 INTRODUCTION.....	1
2.0 DEFINITION OF CONCEPTS AND DATA SOURCES	3
2.2 Data Sources.....	5
3.0 JUSTIFICATION FOR THE SELECTION OF CORRELATES of capture fisheries.....	6
3.1 Sex.....	6
3.2 Age	6
3.3 Locality of Residence.....	6
3.4 Educational Attainment	7
3.5 Literacy Status.....	7
3.6 Disability Status	7
3.7 Scale of Production.....	8
3.8 Land Tenure Arrangement	8
4.0 KEY FINDINGS.....	9
4.1 Patterns.....	9
4.1.1 Sex of Capture fishery holders by Type of Activity	9
4.1.2 Age of Holders.....	10
4.1.3 Youth (15-35 years) in Capture Fisheries	11
4.1.4 Educational Attainment of Capture Fisheries Holders	13
4.1.5 Literacy Status of Capture Fisheries Holders.....	14
4.1.6 Literacy Status of Capture Fisheries Holders by Language	15
4.1.7 Nationality of Capture Fisheries Holders	16
4.1.8 Disability Status of Capture Fisheries Holders	17
4.1.9 Migration of Capture Fisheries Holders	18

4.1.10 Persons Engaged and Paid in Capture Fisheries	19
4.2 Correlates	20
4.2.1 Capture Fisheries Holders 15 Years or Older by Type of Capture Fisheries, Fishing Vessel Used and Region.....	20
4.2.2 Capture Fisheries Holders by Type Canoe Ownership, Sex and Region	21
4.2.3 Persons Engaged in Capture Fisheries by Type of Capture Fisheries, Locality and by Region	22
4.2.4 Paid Employees in Capture Fisheries by Type of Capture Fisheries, Sex and Region.....	23
4.2.5 Capture Fisheries Holders by Type of Capture Fisheries, Type of Fishing Vessel, Number of Fishing Trips per Week and Region.....	24
4.2.6 Fishing Gears Used by Holders	26
4.2.7 Availability of Premix Fuel.....	29
4.2.8 Fish Landings and Quantity Sold	30
4.2.9 Value of Fish Landed and Sold.....	31
4.3 Institutions in Capture Fisheries.....	32
4.3.1 Capture Fisheries Institutions by Type of Capture Fisheries and Locality	32
4.3.2 Capture Fisheries Institutions by Type of Vessel and Type of Capture Fisheries	33
4.3.3 Capture Fisheries Institutional Canoe ownership.....	34
4.3.4 Fishing Gears Used	37
4.3.5 Institutional Fish Landings and Sales.....	40
5. CONCLUSIONS	43
REFERENCES	44
LIST OF CONTRIBUTORS	45

LIST OF FIGURES

FIGURE	PAGE
Figure 4. 1: Sex of capture fisheries holders by type of capture fisheries and by region	9
Figure 4. 2: Capture fisheries holders by age and region	10
Figure 4. 3: Distribution of Capture Fisheries Youth (15-35years) Holders by age .	12
Figure 4. 4: Capture Fisheries holders 15 years or older by educational attainment and region.....	13
Figure 4. 5: Literacy status of capture fisheries holders 15 years or older by region	14
Figure 4. 6: Literacy status of capture fisheries holders 15 years or older by language and by region.....	15
Figure 4. 7: Nationality of capture fisheries holders 15 years or older by region ..	16
Figure 4. 8: Disability status of capture fisheries holders 15 years or older by region	17
Figure 4. 9: Migration status of capture fisheries holders 15 years or older by type of capture fisheries and by region	18
Figure 4. 10: Persons engaged and Paid in capture fisheries by type of capture fisheries and by region	19
Figure 4. 11: Capture fisheries holders by Type of Capture Fisheries, By Type of fishing vessel used and Region.....	20
Figure 4. 12: Capture fisheries holders by type of canoe ownership, sex and region	21
Figure 4. 13: Persons engaged in capture fisheries by type of capture fisheries, locality and by region	22
Figure 4. 14: Paid employees in capture fisheries by type of capture fisheries, sex and by region.....	23
Figure 4. 15: Capture fisheries holders by number of fishing trips per week, type of capture fisheries and by region.....	24
Figure 4. 16: Capture fisheries holders by number of fishing trips per week, type of fishing vessel and by region.....	25
Figure 4. 17: Capture fisheries holders by type of fishing gear and by region.....	26
Figure 4. 18: Marine capture fisheries holders by type of fishing gear and region	27
Figure 4. 19: Inland capture fisheries holders by type of fishing gear and by region	28
Figure 4. 20: Premix fuel availability by type of capture fisheries and by region .	29

Figure 4. 21: Quantity of fish landed and sold by type of capture fisheries and region	30
Figure 4. 22: Quantity of fish landed and sold by type of capture fisheries and region	31
Figure 4. 23: Capture Fisheries Institutions by Type of Capture Fisheries, Type of Locality and region.....	32
Figure 4. 24: Capture Fisheries Institutions by Type of Capture Fisheries, Type of vessel and region.....	33
Figure 4. 25: Capture Fisheries Institutions by Type of Capture Fisheries, Type of canoe ownership and region.....	34
Figure 4. 26: Marine capture fisheries institutions by type of capture fisheries, type of canoe ownership, type of locality and region.....	35
Figure 4. 27: Inland capture fisheries institutions by type of capture fisheries, type of canoe ownership, type of locality and by region	36
Figure 4. 28: Capture fisheries institutions by type of fishing gear and region	37
Figure 4. 29: Marine capture fisheries institutions by type of fishing gear and by region	38
Figure 4. 30: Marine capture fisheries institutions by type of fishing gear and region	39
Figure 4. 31: Quantity of fish produced and sold by capture fisheries institutions by type of fishing vessel and by region	40
Figure 4. 32: Quantity of fish produced and sold by marine capture fisheries institutions by type of fishing vessel and by region.....	41
Figure 4. 33: Quantity of fish produced and sold by inland capture fisheries institutions by type of fishing vessel and by region.....	42

ACRONYMS

FASDEP	Food and Agriculture Sector Development Policy
FAO	Food and Agriculture Organisation
GAAHP	Ghana Aquatic Animal Health Policy
GCA	Ghana Census of Agriculture
GDP	Gross Domestic Product
MFMP	Marine Fisheries Management Plan
NFAP	National Fisheries and Aquaculture Policy
SDG	Sustainable Development Goals

1.0 INTRODUCTION

Ghana is situated in the Gulf of Guinea and has a coastline of 550 km. The country's exploitable marine fisheries resources include small pelagic, large pelagic and demersal species. The most important small pelagic fish species are round sardinella, flat sardinella, anchovy, chub mackerel and horse mackerel. By virtue of their quantities, small pelagic species contribute immensely to national food security. The most important demersal fish species include sea breams, red snappers, groupers, grunts, croakers, cephalopods, and shrimps.

Fishery resources, like any other natural renewable resource, are expected to contribute significantly to the socio-economic development of the country. Fisheries and aquaculture sector plays a key role in the socio-economic development of Ghana by contributing to Gross Domestic Product (GDP), job and wealth creation, and food and nutrition security. The average contribution of the sector to GDP, and Agriculture GDP for the period 2015-2020 is estimated at 1.1% and 5.4% respectively (Fisheries Commission, 2021). Operations in capture fisheries contributes significantly to the achievement of SDG Goal 1 by providing direct and indirect job opportunities for the active labour force along the fisheries and aquaculture value chain.

According to FAO (2022), global consumption of aquatic foods (excluding algae)¹ increased at an average annual rate of 3.0 percent from 1961 to 2019, a rate almost twice that of annual world population growth (1.6 percent) for the same period, with annual per capita consumption reaching a record high of 20.5 kg in 2019. Indeed, the annual per capita fish consumption in Ghana, over the last decade ranged between 20 and 25kg, which is much higher than the global average of 20kg per year. In 2020 and 2021, the per capita fish consumption stood at 20.21kg and 24.6kg per person a year. Significantly, this figure exceeds the FAO estimate of 9-10 kg in sub-Saharan Africa, demonstrating the importance of fish for food and nutrition security in Ghana (Fisheries Commission, 2021). The fisheries sector also supports Government efforts to achieve national food and nutrition security with fish constituting about 60% of the animal protein intake of Ghanaians and also contributes to ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture (SDG Goal 2).

Policies geared towards improving the fisheries and aquaculture sector has been implemented over the years, including National Fisheries and Aquaculture Policy (2008 & 2022), Ghana National Aquatic Animal Health Policy, Fisheries Co-Management Policy (2020), Marine Fisheries Management Plan (2015-2019 &

¹ <https://www.fao.org/3/cc0461en/online/sofia/2022/consumption-of-aquatic-foods.html>

2022-2026), Fisheries and Aquaculture Sector Development Plan (2011-2016) and Ghana National Aquaculture Development Plan (2012-2016 & 2022-2026). Some of the thematic scope of the above policy documents include availability of and access to inputs for aquaculture operations; complementary roles of public and private sectors in aquaculture; education and training; extension and outreach; research and innovation; partnerships; and production system; environment & climate change, aquatic animal health; post-harvest management & trade of fish and fish products.

Implementation of the above Policies and Plans in capturing fisheries will contribute to the achievement of SDG Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

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.

Agriculture: The production of plants and animals, including fresh water and marine species, for food, fuel, fibre or medicine.

Agro-ecological zones: Geographical areas exhibiting similar soil and climatic conditions that support rain-fed agriculture.

Aquaculture: The farming of fish. The farming refers to some intervention in the rearing process to enhance production, such as regular stocking, feeding and protection from predators.

Capture fisheries: Fishing in the wild, from marine and inland waters.

Enumeration area (EA): A small geographic area that one census officer is expected to cover in data collection within the specified period allotted for the census exercise.

Grow-out: The production unit in which fish fingerlings are raised to adult size for sale.

Hatchery: The production unit in which fish eggs are hatched and raised to fingerlings.

Head of household: A member of the household who takes general responsibility for the up-keep, wellbeing and security of the household and is recognised and acknowledged by the other household members as such.

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.

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

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.

Mass media: Communication that is to a large group or groups of people in a short time, for example, newspapers, magazines, radio, advertisement, social media, TV, internet and films.

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.

Polyculture: An aquaculture production system in which more than one type of fish are reared together at a time in a facility.

Premix fuel: Special fuel for outboard motor engines, usually containing a mixture of Engine oil and Petrol.

Relationship to head: Persons are related either by blood, marriage or by legal means. Examples of blood relations are son/daughters, Parents, Sisters/Brothers, etc.

Respondent: This is the person from whom information is being obtained, e.g., head of the household or any adult member (15 years or older) of the household.

Semi-industrial vessel: Small and medium sized fishing vessels fitted out with mechanised method of operating the fishing gear without refrigeration.

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.

Structure: A separate and independent building or an enclosure, either completed or uncompleted with a roof and walls and may be permanent or movable. It can be constructed with different materials such as concrete, brick, mud, metal, plastic, cardboard, wood, glass, grass, straw and bamboo. Some examples of a structure are house, factory, school, church, mosque, office, hotel, store, supper-market, kiosk, container, etc.

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 Capture Fisheries. This report contains the findings on Capture Fisheries, an aspect of the core module.

3.0 JUSTIFICATION FOR THE SELECTION OF CORRELATES OF CAPTURE FISHERIES

3.1 Sex

Capture fisheries is a male-dominated space. Globally, men are involved in 'production' activities associated with capture fisheries. Though women are somehow involved in all sections of the capture fisheries value chain, they are mostly engaged in post-production (basically, cleaning, fish processing and marketing) activities. Women are also sometimes involved in financing of fishing business.

Sex-disaggregated statistics that could track women in capture fisheries are scarce, and therefore women's presence, influence and interests are invisible. There is therefore the need to embrace the targets of Sustainable Development Goals 5 (gender equality and empowerment of all women and girls) and 8 (decent work and economic growth).

3.2 Age

Capture fisheries are offshore and usually highly capital intensive in nature. It requires huge financial outlay, for purchasing of vessel, fishing gear/net, outboard motor, etc., at the beginning of the business. This makes it nearly impossible for the young to venture into capture fisheries. The youth may later, when they are out of their youthful age, engage in aquaculture production after they have made enough money from other employments.

3.3 Locality of Residence

Generally, locality of aquaculture holdings/holders have great influence on fishing operations in Ghana. It is dominated by holders in rural localities along the coast for the marine fisheries and around lagoon and freshwater bodies for inland fisheries. The closer a person is to a coastal area or born there, the higher the likelihood that he/she will engage in capture fisheries. A study by Tan et al., 2021 highlighted that most of their respondents are persons born from fishing families who lived in the coastal area since a long time. They do not have alternative jobs except going to the sea for fishing.

3.4 Educational Attainment

Education is very important in the use of technology in capture fisheries. Educational attainment provides opportunity to learn, understand and adopt modern technological practices to improve yields (catch per unit effort) resource use and sound environmental practices for the purposes of environmental conservation. There could be a positive or negative correlation between the level of educational attainment and capture fisheries activity depending on the practices and kind of technology used.

3.5 Literacy Status

Literacy in capture fisheries refers to holders' familiarity with information concerning fishing and related environmental, economic, and social topics. Enhanced literacy of capture fisheries holders enables them to confidently participate in fisheries-related discussions and easily transfer knowledge to existing and potential holders as well as the fishing crew.

Illiteracy and lack of the use of appropriate technological skills will require significant investments in time and resources to provide appropriate training. Holders' ability to read, write, analyse, and evaluate information will facilitate the ability to adopt best practices, their success in fishing, and ultimately their motivation to keep fishing responsibly and admonish others to do same. In this light, the Ministry of Fisheries and Aquaculture Development in collaboration with the Ministry of Education is establishing the Fisheries College to train students and fishers in the fishing industry.

3.6 Disability Status

Persons with some form of disabilities usually face the challenges of discrimination, stigmatisation and even exclusion from livelihood sustaining opportunities in society, a situation which may render them vulnerable.

Little is known about the extent to which persons with disabilities rely on capture fisheries for livelihood support. If any at all, there is the need-to-know opportunities persons with disabilities have to participate in capture fisheries.

3.7 Scale of Production

Productive capacity of capture fisheries operations differs by sub-sector (inland or marine) and fleet (artisanal, inshore or industrial). Before one engages in capture fisheries, one is required to make an initial capital investment in the form of land, labour and machinery. The volume of initial investment will determine the holder's scale of production. Large scale production requires a large capital investment, use of hired skilled labour and some level of sophisticated technology (e.g. navigation devices) which are often identified as major limiting factors for investment by most Ghanaian operators. Small-scale holders (artisanal fishers), on the other hand, typically use low-input farming methods and a large percentage of farm labour is provided by household members.

3.8 Land Tenure Arrangement

Tenure involves establishing a set of rights and responsibilities in the coastal and fishing environment as to who is allowed to use which resources, the manner, time span, and under what conditions, as well as who is entitled to transfer rights (if any) to others and how. The type of tenure arrangement through which one gains access to fish may inform the decision on the type of fishing to engage in. Tenure in capture fisheries is mainly freehold, inheritance and renting of fisheries equipment such as vessel, net, etc. Some fishers also engage in fish sharing system.

4.0 KEY FINDINGS

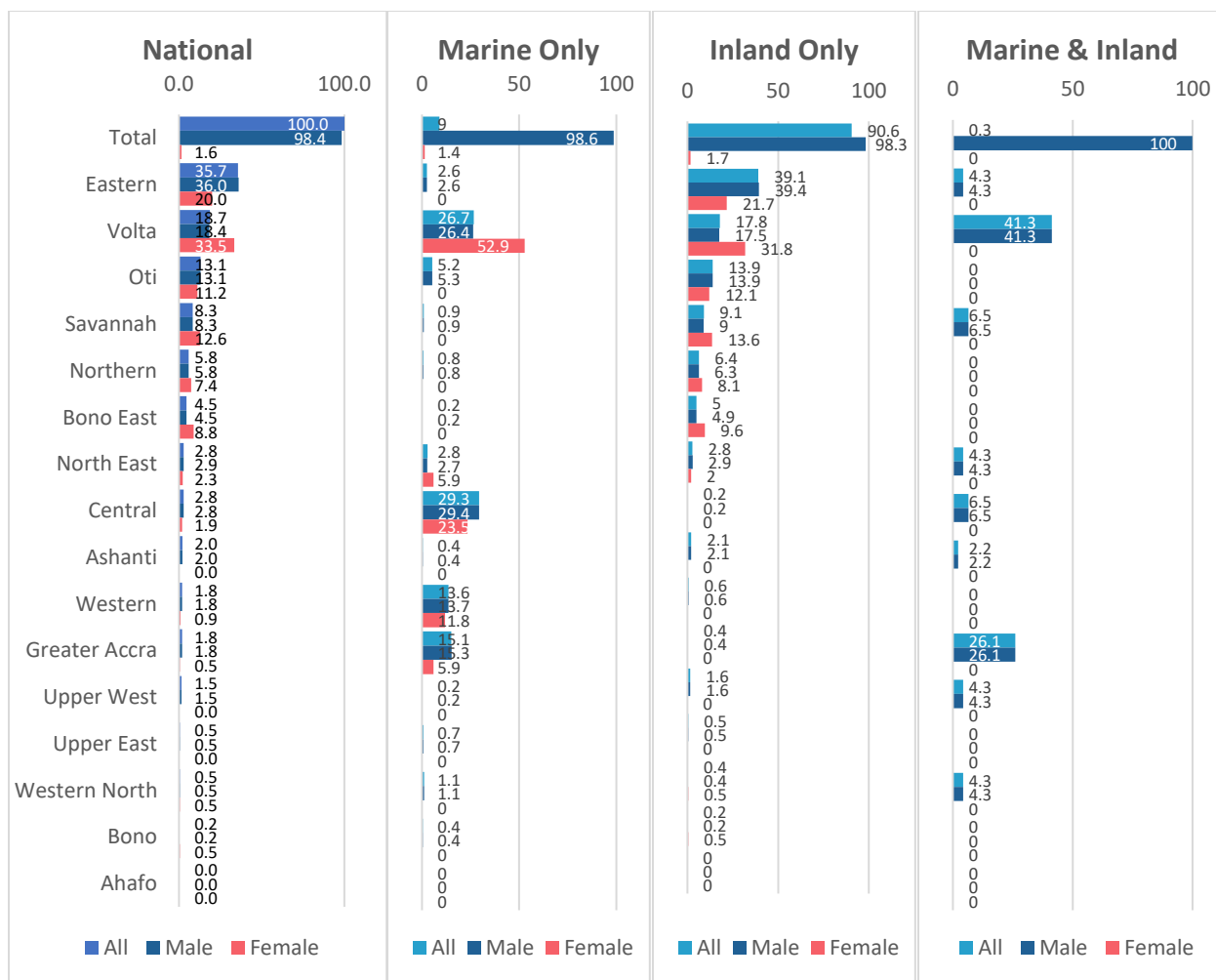
4.1 Patterns

4.1.1 Sex of Capture fishery holders by Type of Activity

Out of the 13,156 holders who undertake capture fisheries activities, Eastern (35.7%), Volta (18.7%) and Oti (13.1%) regions constitute about 67.5 percent. Cumulatively, more than seven in every ten (70.8%) in Eastern (39.1%), Volta (17.8%) and Oti (13.9%) regions carry out their fishing activities in inland waters.

Overall, males constitute 98.4 percent (12,941) of the holders, with one in three being in the Eastern region (36%). No female holder undertakes both marine and inland activities.

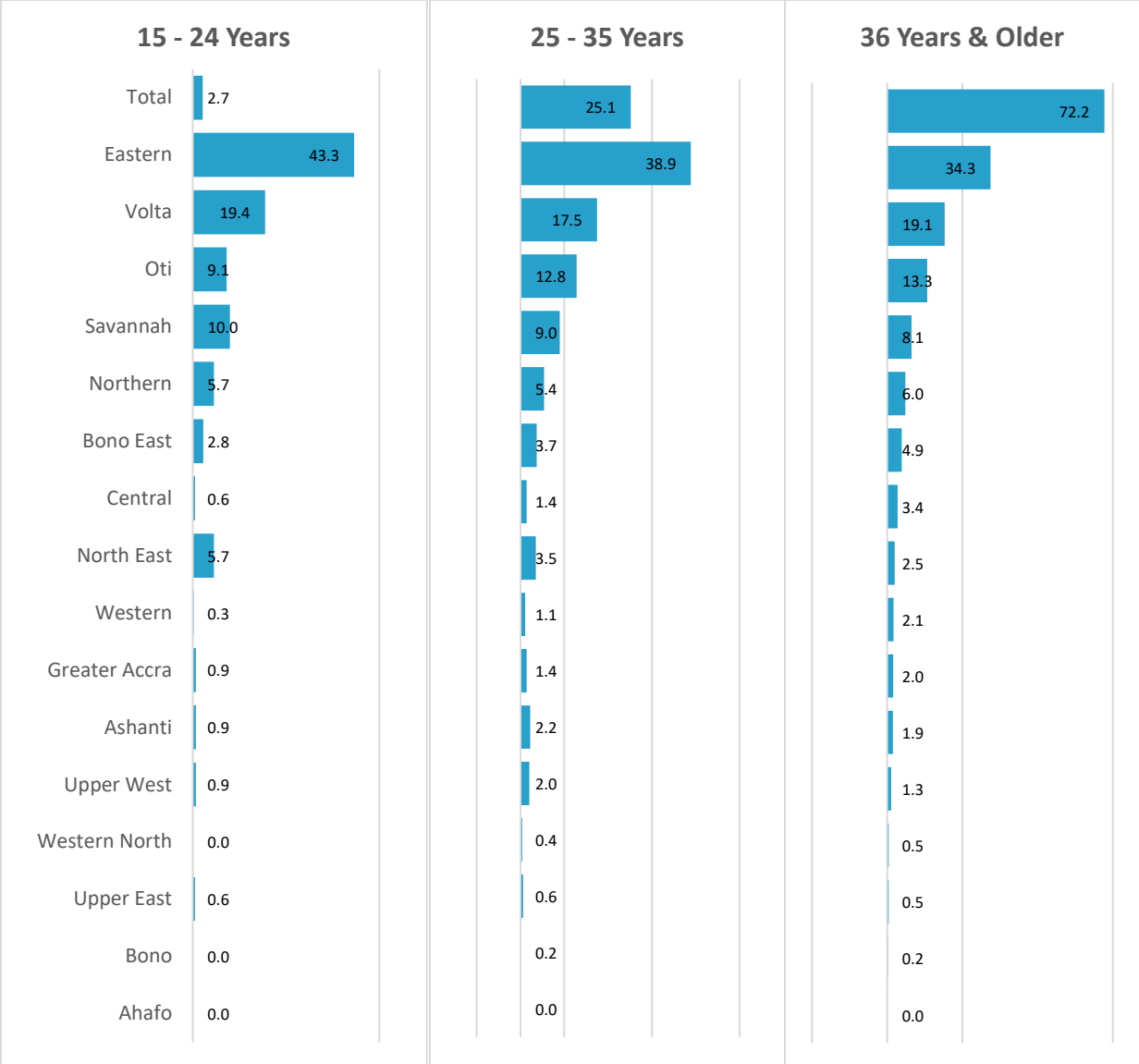
FIGURE 4. 1: SEX OF CAPTURE FISHERIES HOLDERS BY TYPE OF CAPTURE FISHERIES AND BY REGION



4.1.2 Age of Holders

There are more holders (72.2%) who are aged 36 years or older than any other age group. Together, about two-thirds (66.7%) of capture fisheries holders aged 36 years or older are in Eastern (34.3%), Volta (19.1%) and Oti (13.3%) regions.

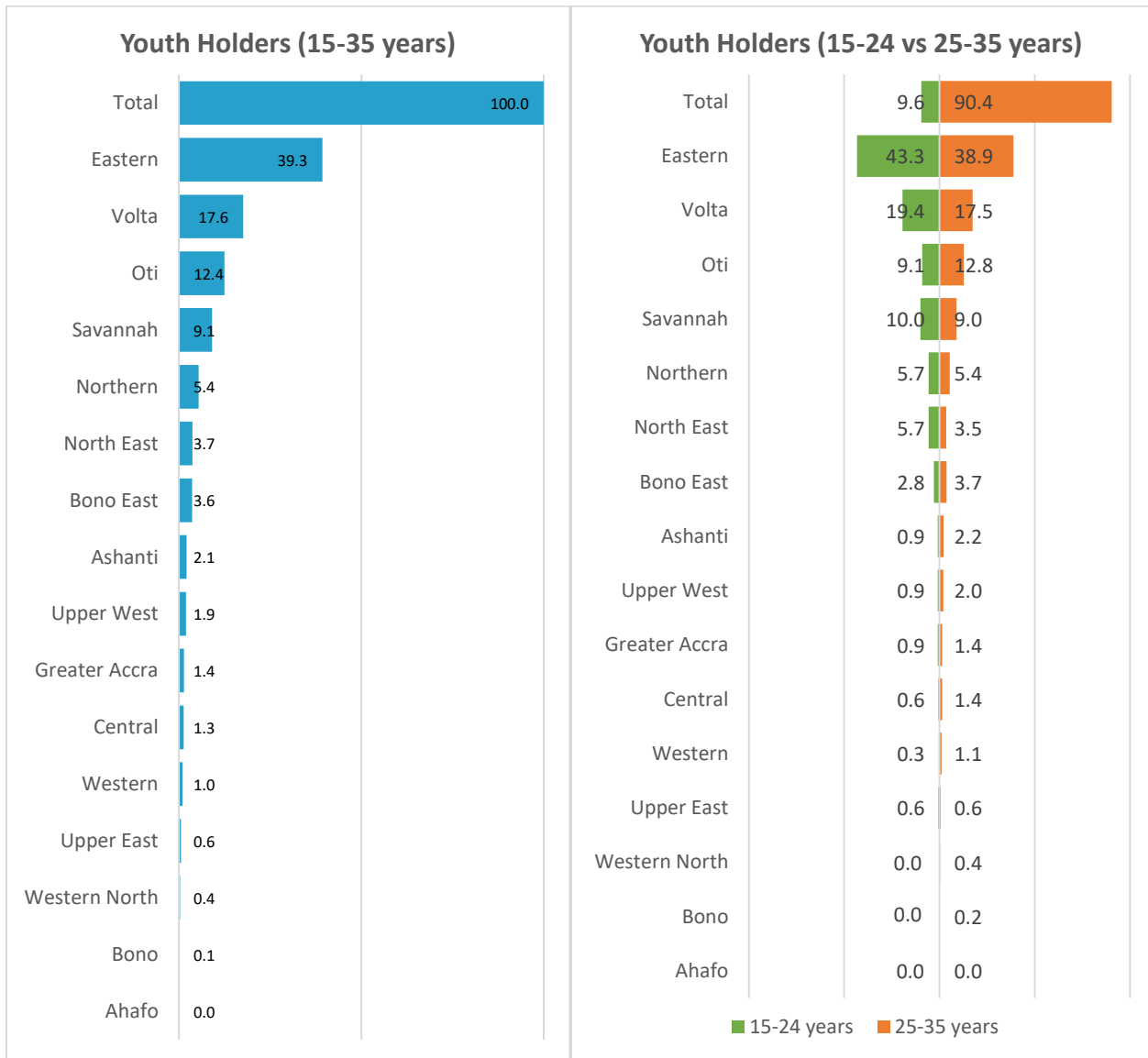
FIGURE 4. 2: CAPTURE FISHERIES HOLDERS BY AGE AND REGION



4.1.3 Youth (15-35 years) in Capture Fisheries

The youth population of holders who engage in capture fisheries is 3,657, with about 4 in 10 (39.3%) residing in Eastern region. Most holders (90.4%) of capture fisheries are persons older than 24 years.

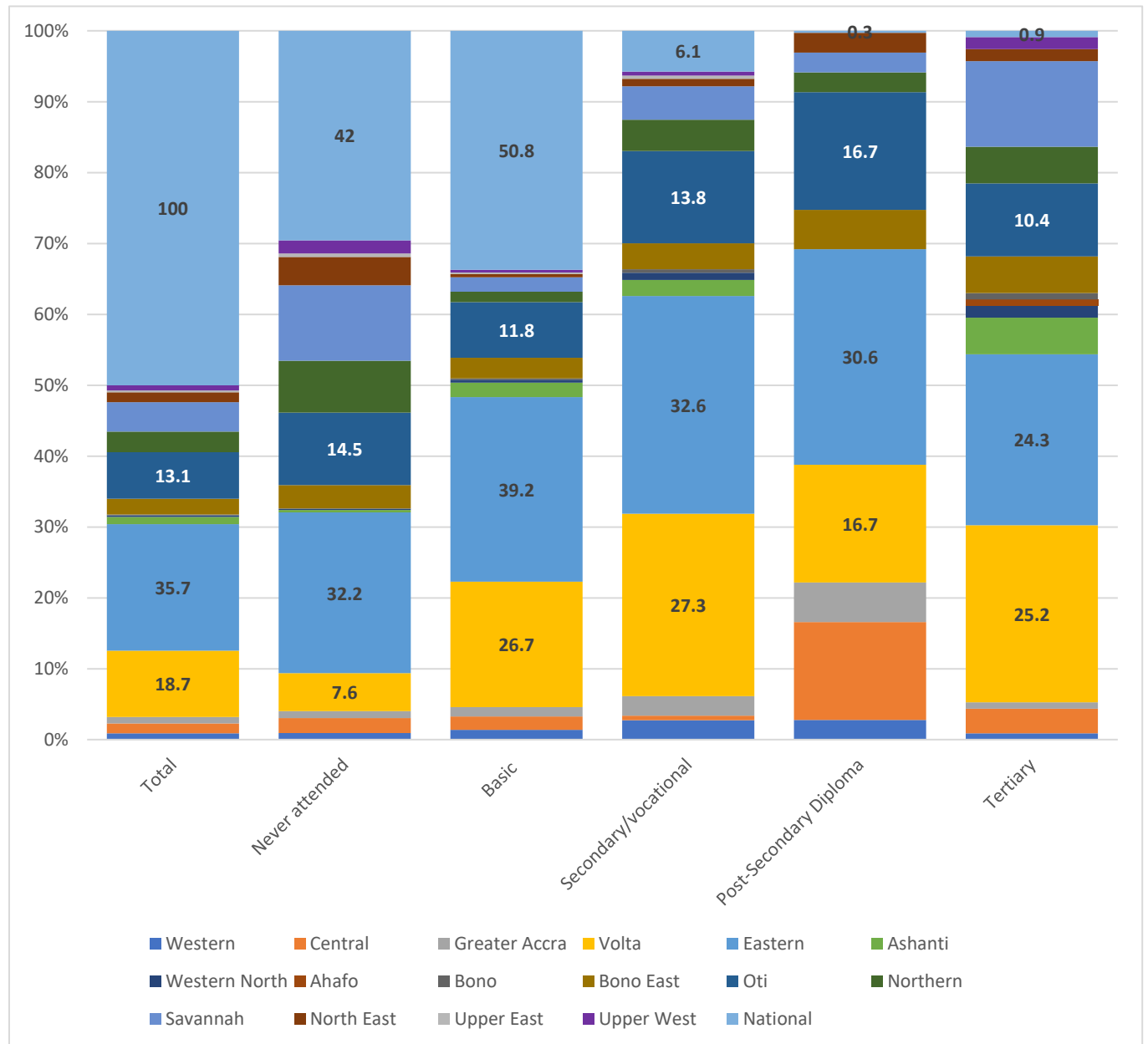
FIGURE 4. 3: DISTRIBUTION OF CAPTURE FISHERIES YOUTH (15-35YEARS) HOLDERS BY AGE



4.1.4 Educational Attainment of Capture Fisheries Holders

The highest educational attainment of majority of capture fisheries holders (50.8%) is basic education. Together, almost 8 in 10 of capture fisheries holders with basic education are located in Eastern (39.2%), Volta (26.7%) and Oti (11.8%). About four in ten (42.0%) have never attended school while under one percent (0.9%) have attained tertiary education.

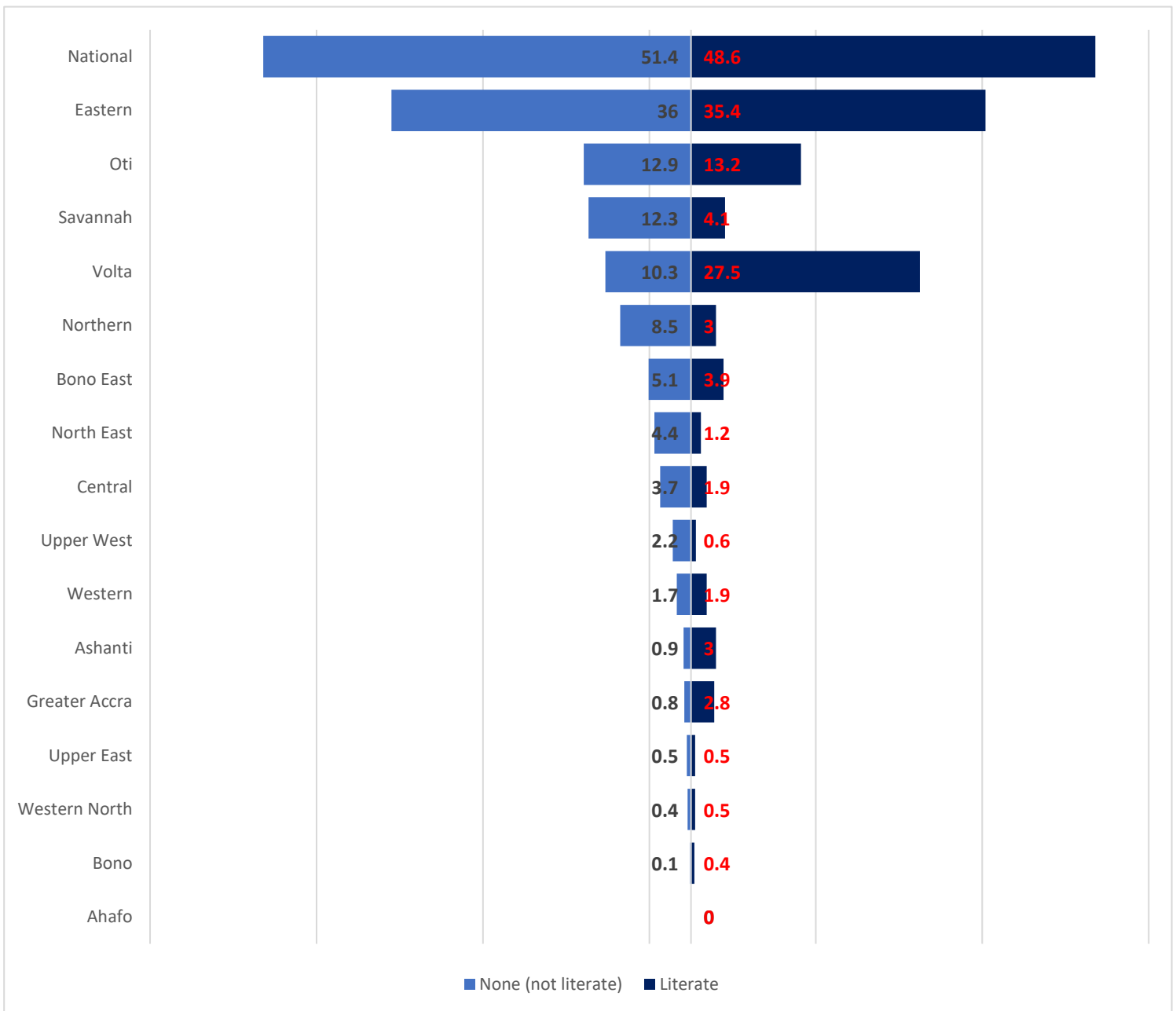
FIGURE 4. 4: CAPTURE FISHERIES HOLDERS 15 YEARS OR OLDER BY EDUCATIONAL ATTAINMENT AND REGION



4.1.5 Literacy Status of Capture Fisheries Holders

Majority of holders engaged in capture fisheries are not literate. More than half (51.4%) of them cannot read and write in any language with understanding. The majority of literate holders are in Eastern (35.4%) and Volta (27.5%) regions.

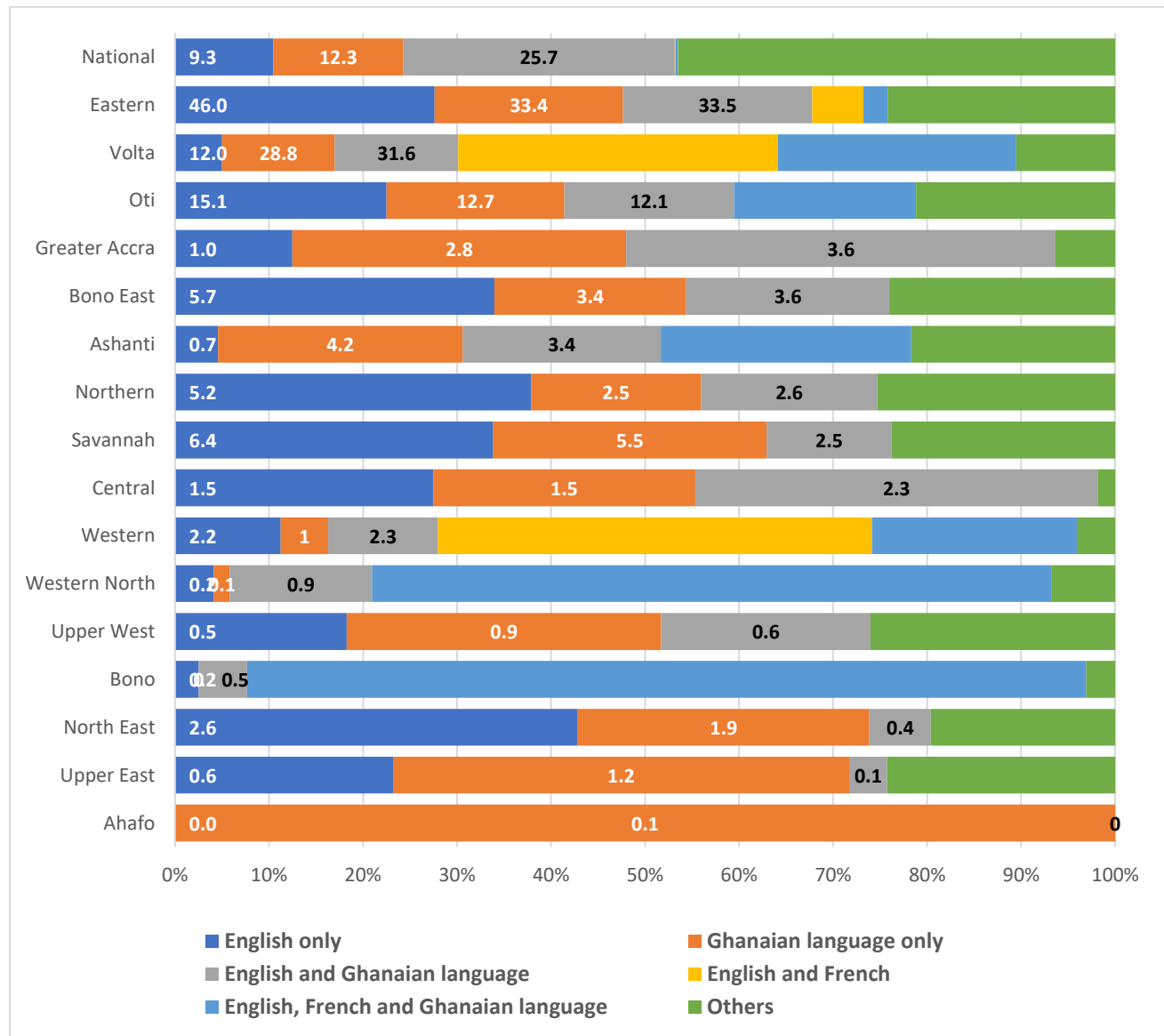
FIGURE 4. 5: LITERACY STATUS OF CAPTURE FISHERIES HOLDERS 15 YEARS OR OLDER BY REGION



4.1.6 Literacy Status of Capture Fisheries Holders by Language

Nationally, a little above a quarter (25.7%) of capture fisheries holders can read and write in English and a Ghanaian language whereas 12.3 percent can read and write in only a Ghanaian language with understanding. One-third of holders who can read and write in English and Ghanaian Language are in the Eastern Region.

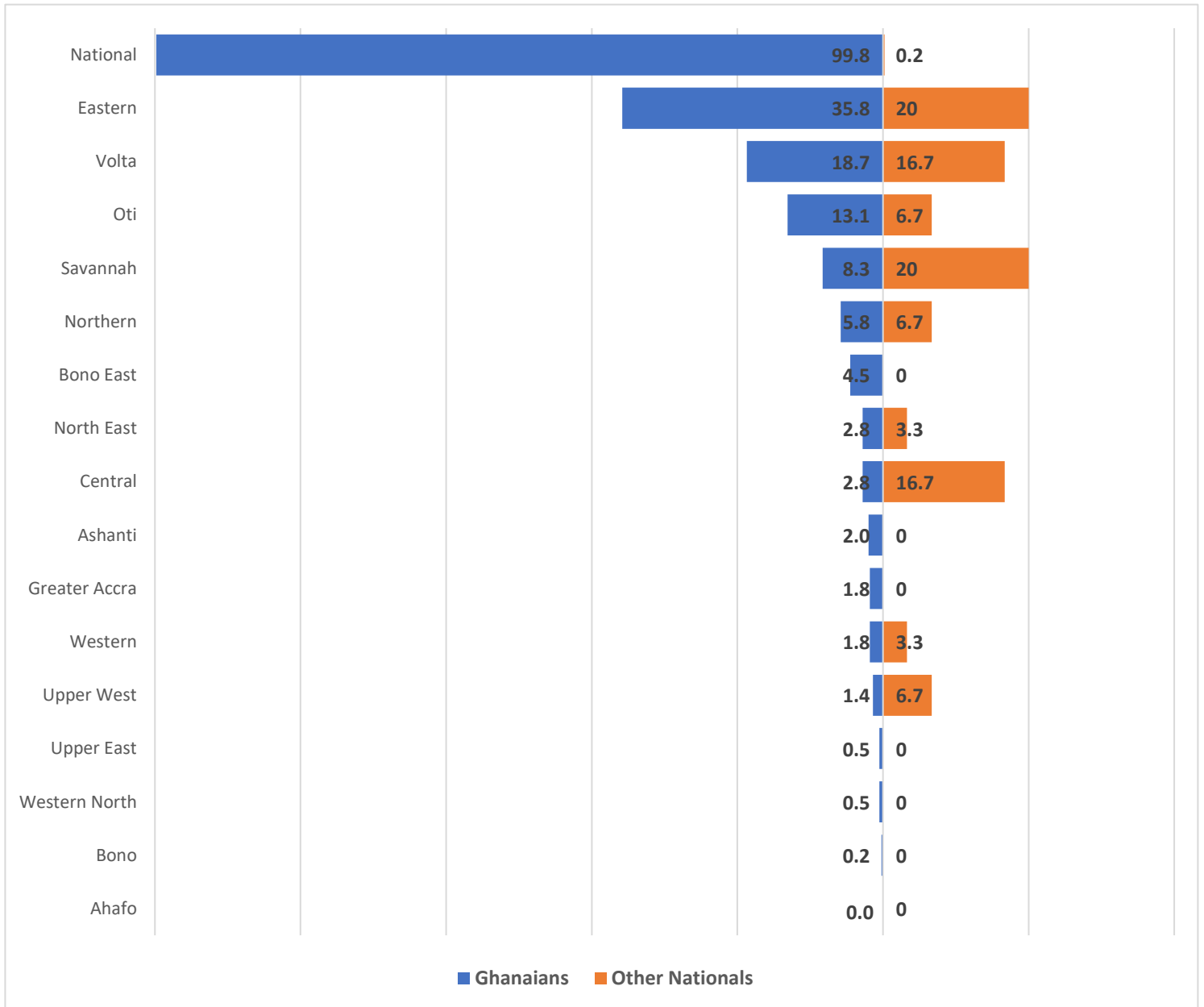
FIGURE 4. 6: LITERACY STATUS OF CAPTURE FISHERIES HOLDERS 15 YEARS OR OLDER BY LANGUAGE AND BY REGION



4.1.7 Nationality of Capture Fisheries Holders

Almost all holders (99.8%) in capture fisheries are Ghanaian. A higher proportion (73.4%) of non-Ghanaian capture fisheries holders reside in Eastern (20.0%), Savannah (20.0%), Volta (16.7%) and Central (16.7%) regions.

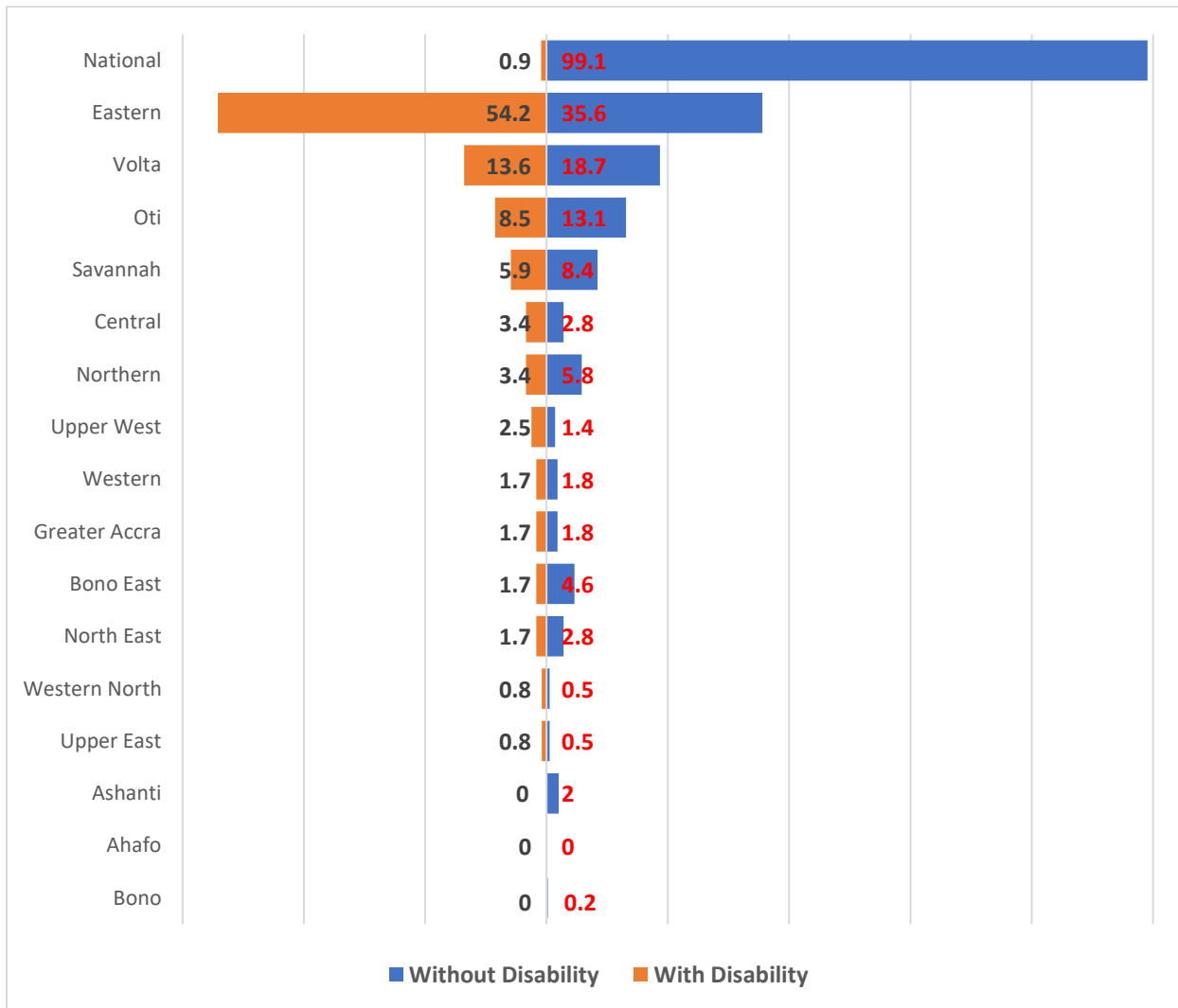
FIGURE 4. 7: NATIONALITY OF CAPTURE FISHERIES HOLDERS 15 YEARS OR OLDER BY REGION



4.1.8 Disability Status of Capture Fisheries Holders

The proportion of holders engaged in capture fisheries with a form of disability is 0.9 percent, with the majority being in residing in Eastern (54.2), Volta (13.6) and Oti (8.5%) regions.

FIGURE 4. 8: DISABILITY STATUS OF CAPTURE FISHERIES HOLDERS 15 YEARS OR OLDER BY REGION



4.1.9 Migration of Capture Fisheries Holders

About one in ten (12.4%) holders in capture fisheries are migrants. The proportion of capture fisheries holders 15 years or older who migrated was high in Eastern region (26.2%) followed by Oti (17.3%) and Volta (17.2%) regions.

The prevalence of migration among holders of marine fishing is higher than that of inland fishing. Higher proportion of migrant capture fisheries holders in the marine sub-sector was recorded by Central region (42.5%), followed by Greater Accra (31.5%) and Volta (10.4%) regions.

FIGURE 4. 9: MIGRATION STATUS OF CAPTURE FISHERIES HOLDERS 15 YEARS OR OLDER BY TYPE OF CAPTURE FISHERIES AND BY REGION

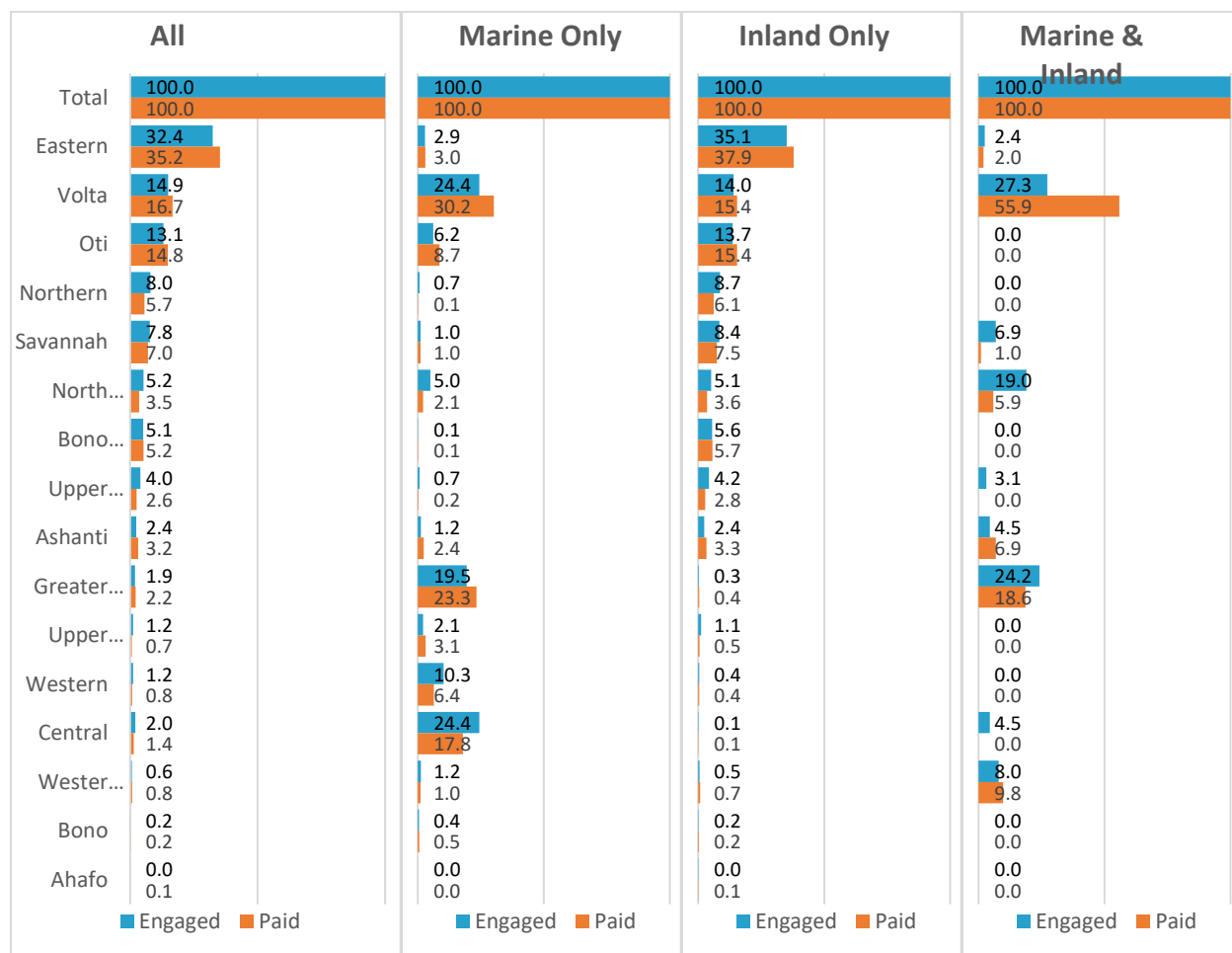


4.1.10 Persons Engaged and Paid in Capture Fisheries

Out a total of 70,396 persons 15 years or older engaged in capture fisheries, Eastern region recorded the highest percentage (32.5%) followed by Volta (14.9%) and Oti (13.1%) regions.

About 46 percent (32,094) of the persons engaged are paid employees, of which about two-thirds (66.7%) are in Eastern (35.2%), Volta (16.7%) and Oti (14.8%). The proportions of persons engaged in inland and marine fisheries who are paid, are just about the same (45.7% and 45.3% respectively). More than one-third (37.9%) of inland paid employees are in the Eastern region.

FIGURE 4. 10: PERSONS ENGAGED AND PAID IN CAPTURE FISHERIES BY TYPE OF CAPTURE FISHERIES AND BY REGION

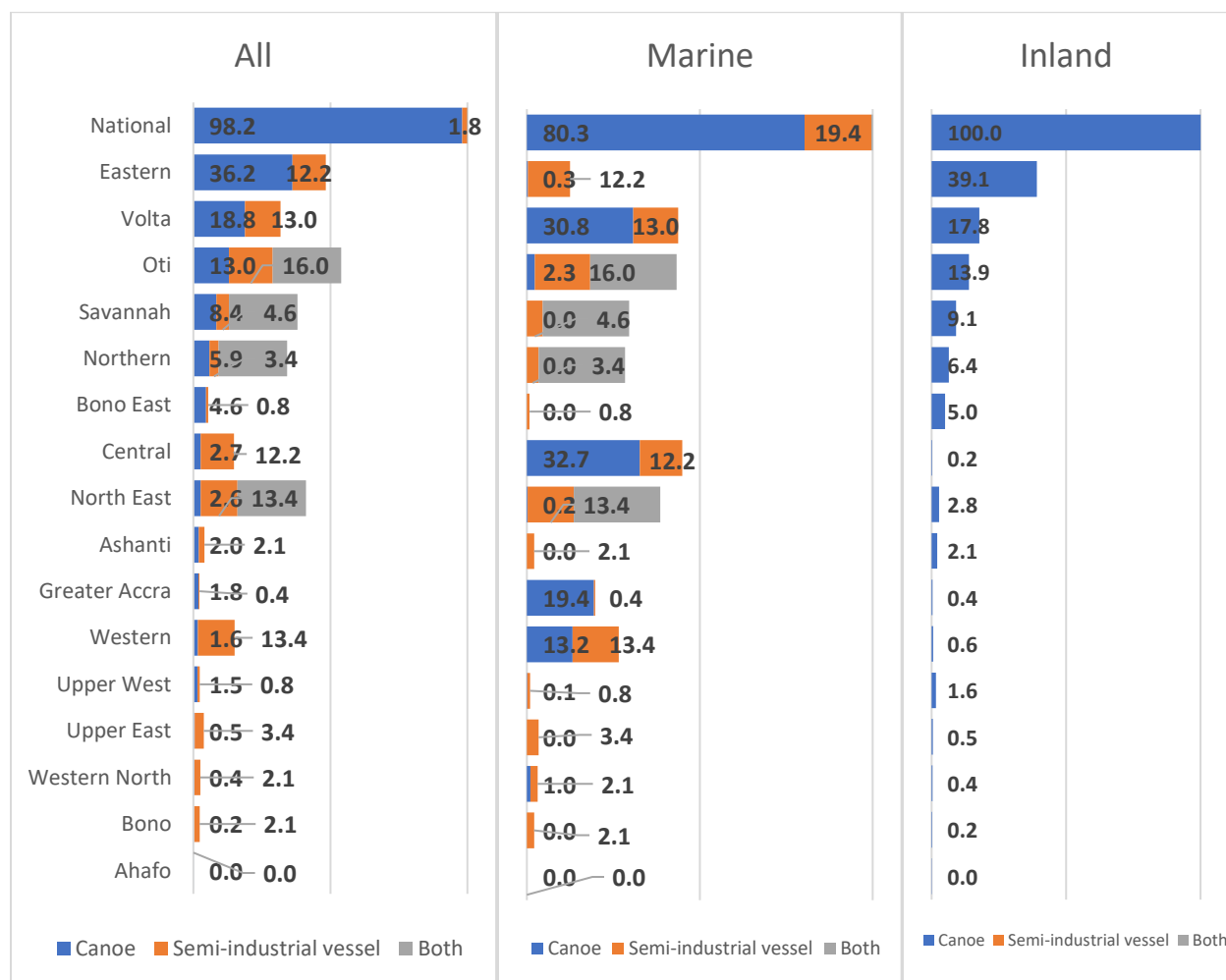


4.2 CORRELATES

4.2.1 Capture Fisheries Holders 15 Years or Older by Type of Capture Fisheries, Fishing Vessel Used and Region

Capture fisheries holders who use canoe dominant both inland (100.0%) and marine (80.3%) fishing. Semi-industrial vessels are used only in marine fishing. Out of the total number of 11,929 holders who use canoes in inland waters, 71 percent are found in Eastern (39.1%), Volta (17.8%) and Oti (13.9%) regions. Again, about 63.5% of canoes used for marine fishing (985) are in the Volta (30.8%) and Central (32.7%) region.

FIGURE 4. 11: CAPTURE FISHERIES HOLDERS BY TYPE OF CAPTURE FISHERIES, BY TYPE OF FISHING VESSEL USED AND REGION

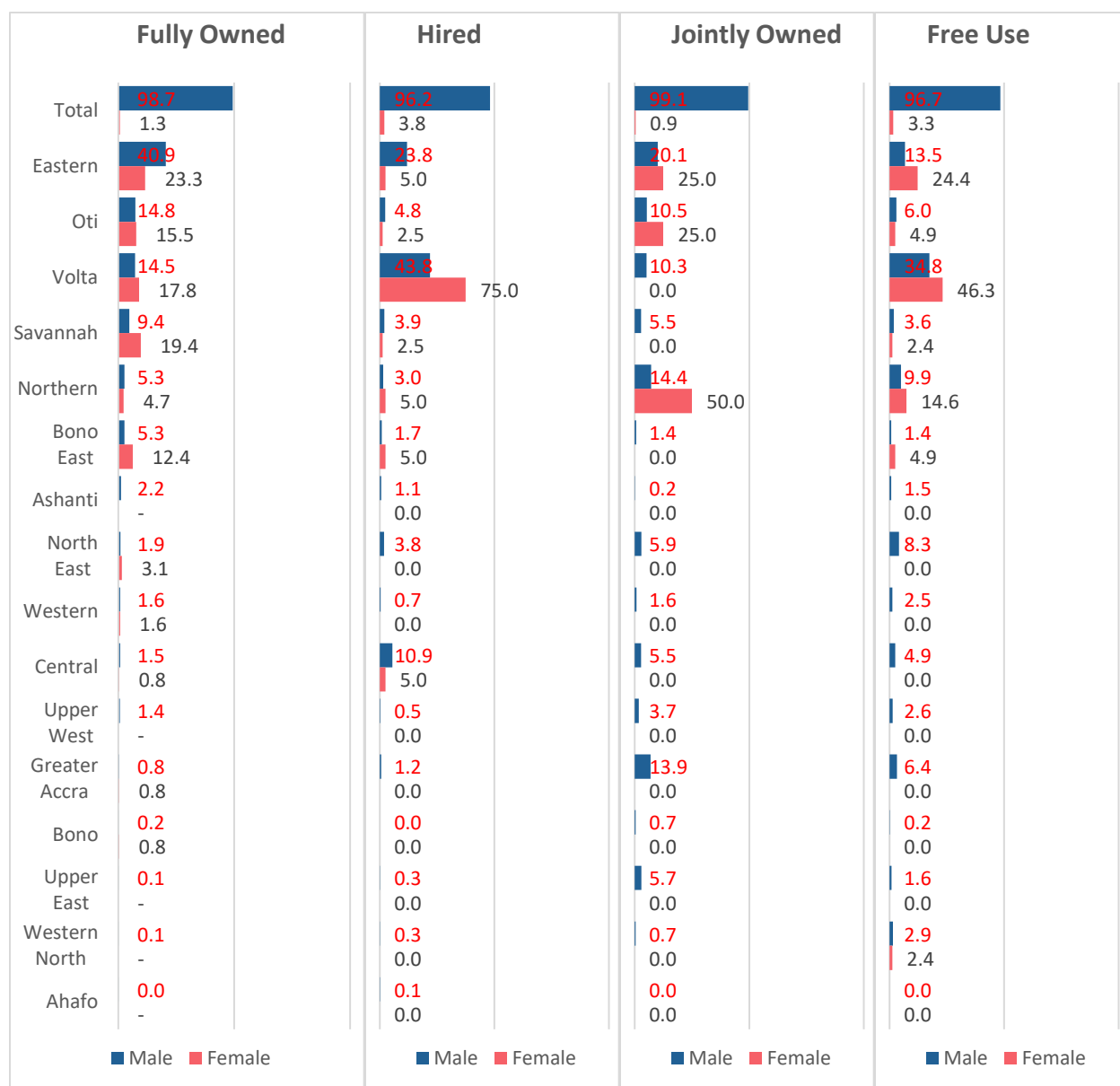


4.2.2 Capture Fisheries Holders by Type Canoe Ownership, Sex and Region

Nearly 8 in 10 holders (10,263 of 12,912) use canoes fully owned by the holders, of which 98.7 percent are males and 1.3 percent are females. Eastern (40.9%), Oti (14.8%) and Volta (14.5%) region constitute 70.1 percent of holders who fully own the canoes used.

Among female capture fisheries holders who hire canoes, 75 percent are in the Volta region.

FIGURE 4. 12: CAPTURE FISHERIES HOLDERS BY TYPE OF CANOE OWNERSHIP, SEX AND REGION

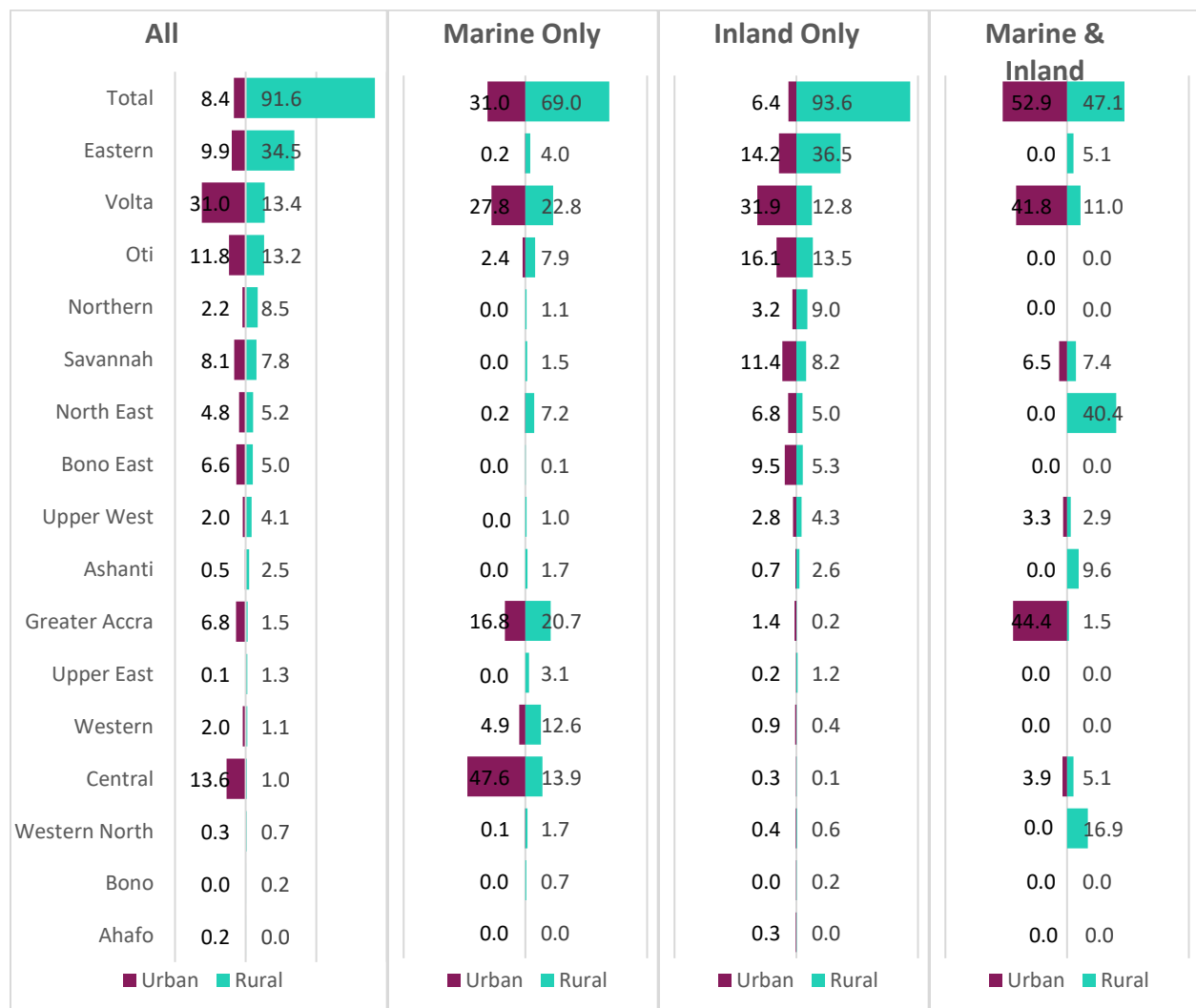


4.2.3 Persons Engaged in Capture Fisheries by Type of Capture Fisheries, Locality and by Region

About 92 percent of the 70,396 persons engaged in capture fisheries are in rural areas. More than one-third (34.5%) are in the Eastern region. However, about one-third (31%) of persons engaged in capture fisheries in urban areas are in the Volta region.

Of the persons engaged in marine fishing only, 31 percent are in urban areas. Central region constitutes almost half (47.6%) of these persons.

FIGURE 4. 13: PERSONS ENGAGED IN CAPTURE FISHERIES BY TYPE OF CAPTURE FISHERIES, LOCALITY AND BY REGION

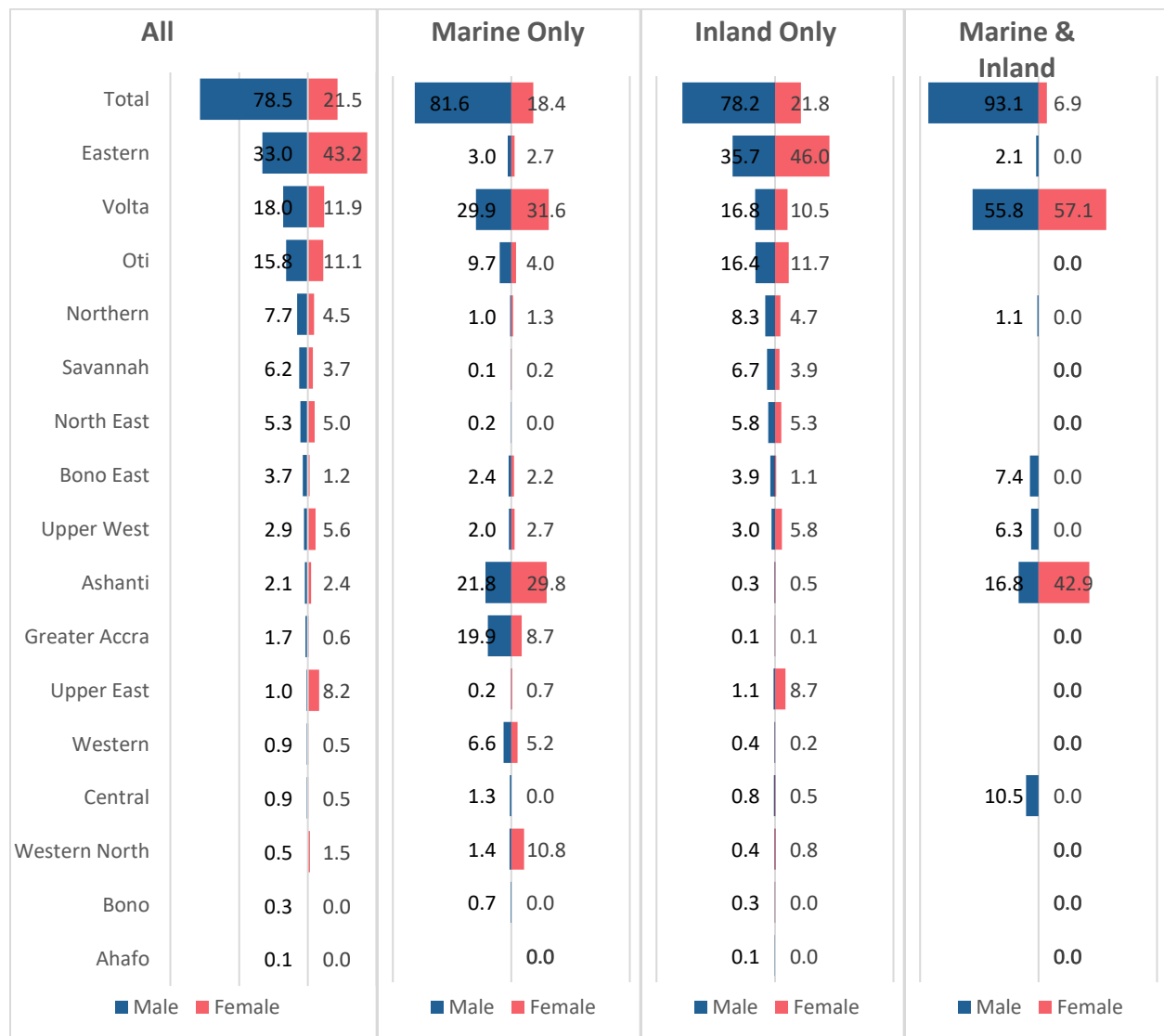


4.2.4 Paid Employees in Capture Fisheries by Type of Capture Fisheries, Sex and Region

About eight in ten (78.5%) of paid employees are males, of which majority (66.8%) are located in Eastern (33%), Volta (18%) and Oti (15.8) regions.

For persons engaged in both inland and marine activities who are paid, almost equal proportions of male (55.8%) and females (57.1%) are in the Volta region.

FIGURE 4. 14: PAID EMPLOYEES IN CAPTURE FISHERIES BY TYPE OF CAPTURE FISHERIES, SEX AND BY REGION

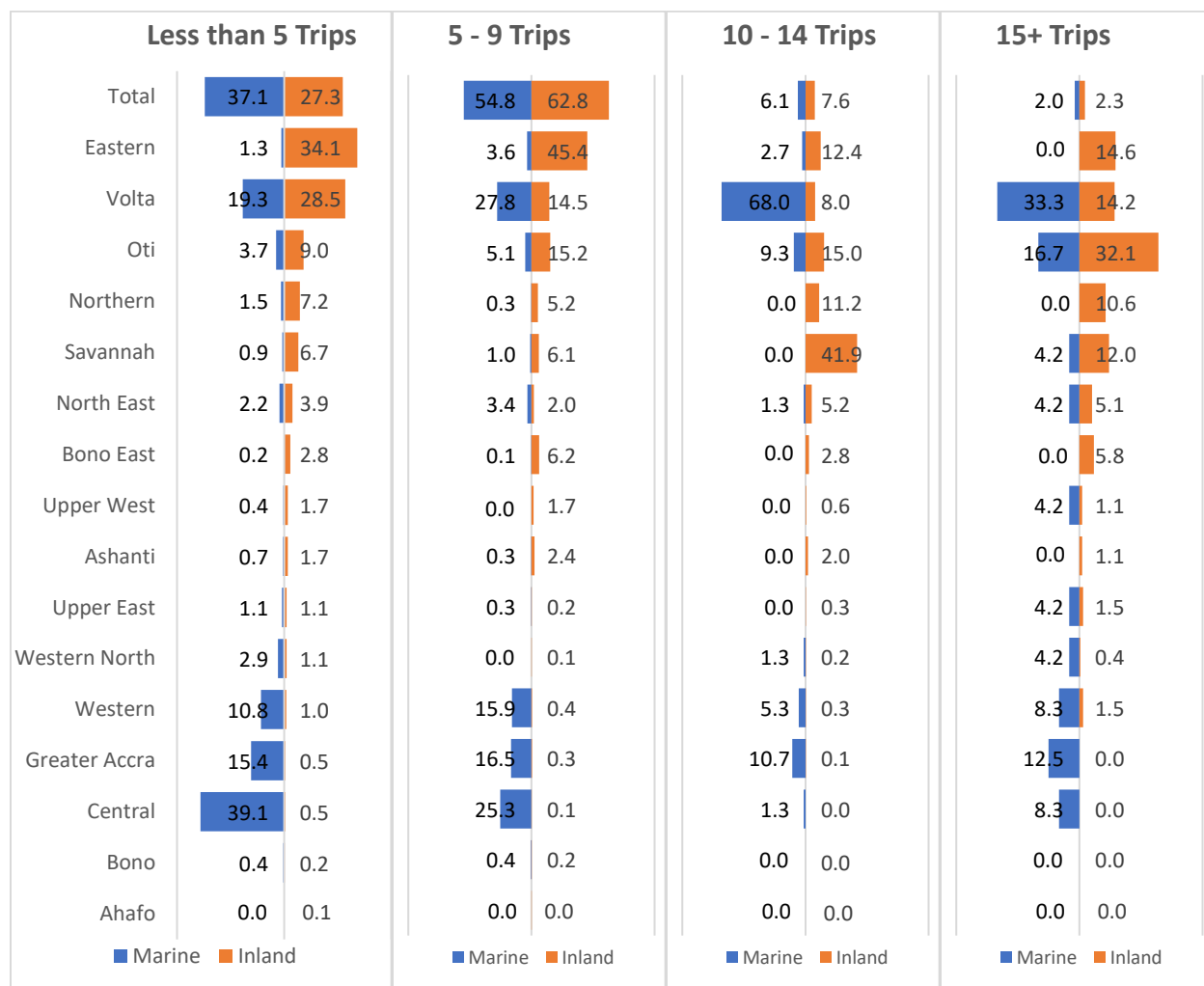


4.2.5 Capture Fisheries Holders by Type of Capture Fisheries, Type of Fishing Vessel, Number of Fishing Trips per Week and Region

Holder typically make five to nine fishing trips a week for both marine (54.8%) and inland (62.8%) fishing irrespective of the type of vessel used. Eastern region contributes more than two-fifth (45.4%) of holders who operate in the inland fishing sub-sector while for the marine fishing, Volta region contributes more than a quarter (27.8%).

For holders who use canoe, more than one-third (37.1%) undertake up to five trips per week of which 39.1 percent are in the Central region.

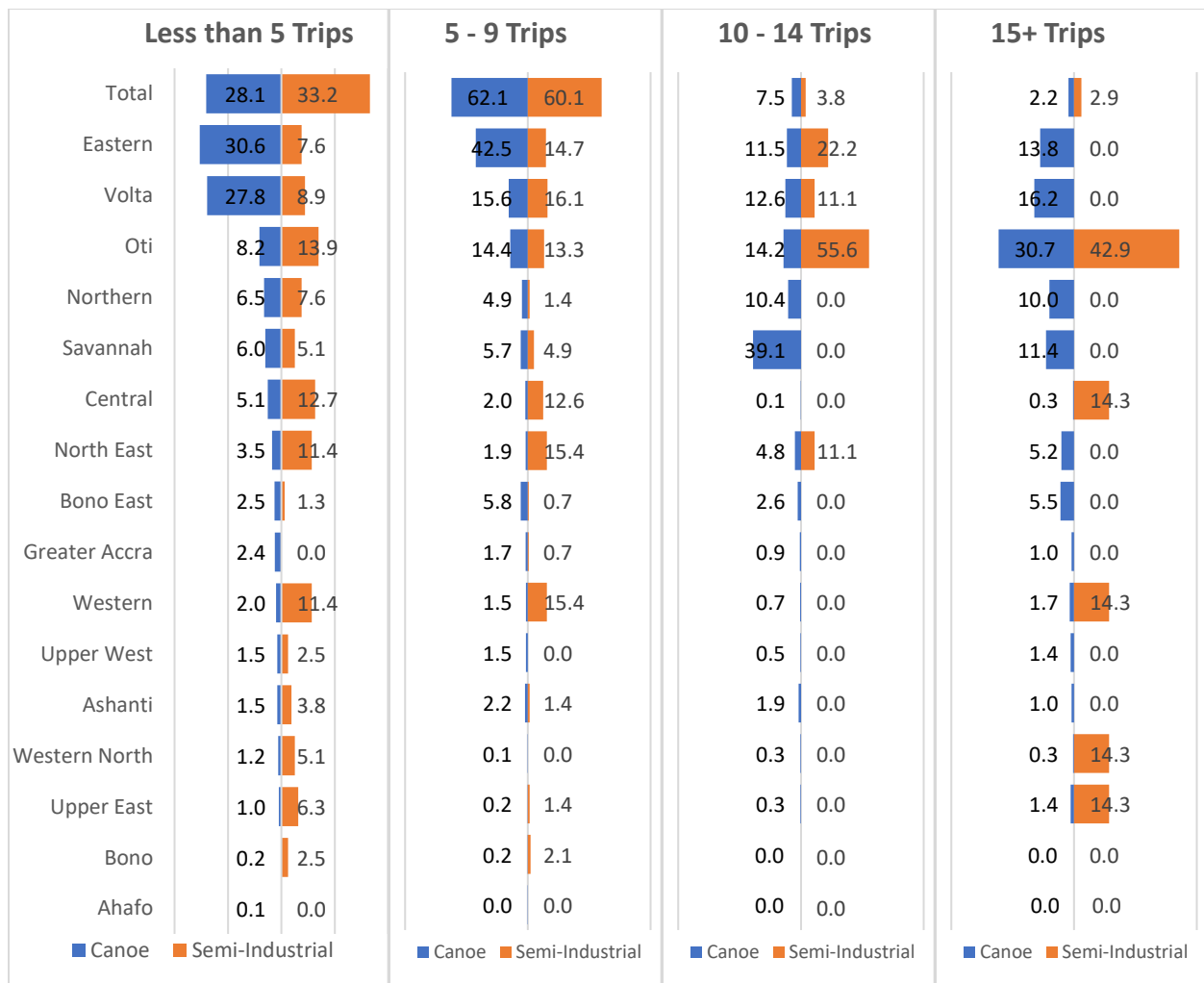
FIGURE 4. 15: CAPTURE FISHERIES HOLDERS BY NUMBER OF FISHING TRIPS PER WEEK, TYPE OF CAPTURE FISHERIES AND BY REGION



Both holders who use canoe (62.1%) and semi-industrial vessels (60.1%) typically make five to nine fishing trips a week. Eastern region constitutes more than one-third (42.5%) of holders in this category.

More than one-quarter (28.1%) of canoe and about one-third (33.2%) of semi-industrial vessel holders undertake up to five trips per week. Among these, almost six in ten (58.4%) of the canoe holders are in Eastern (30.6%) and Volta (27.8%).

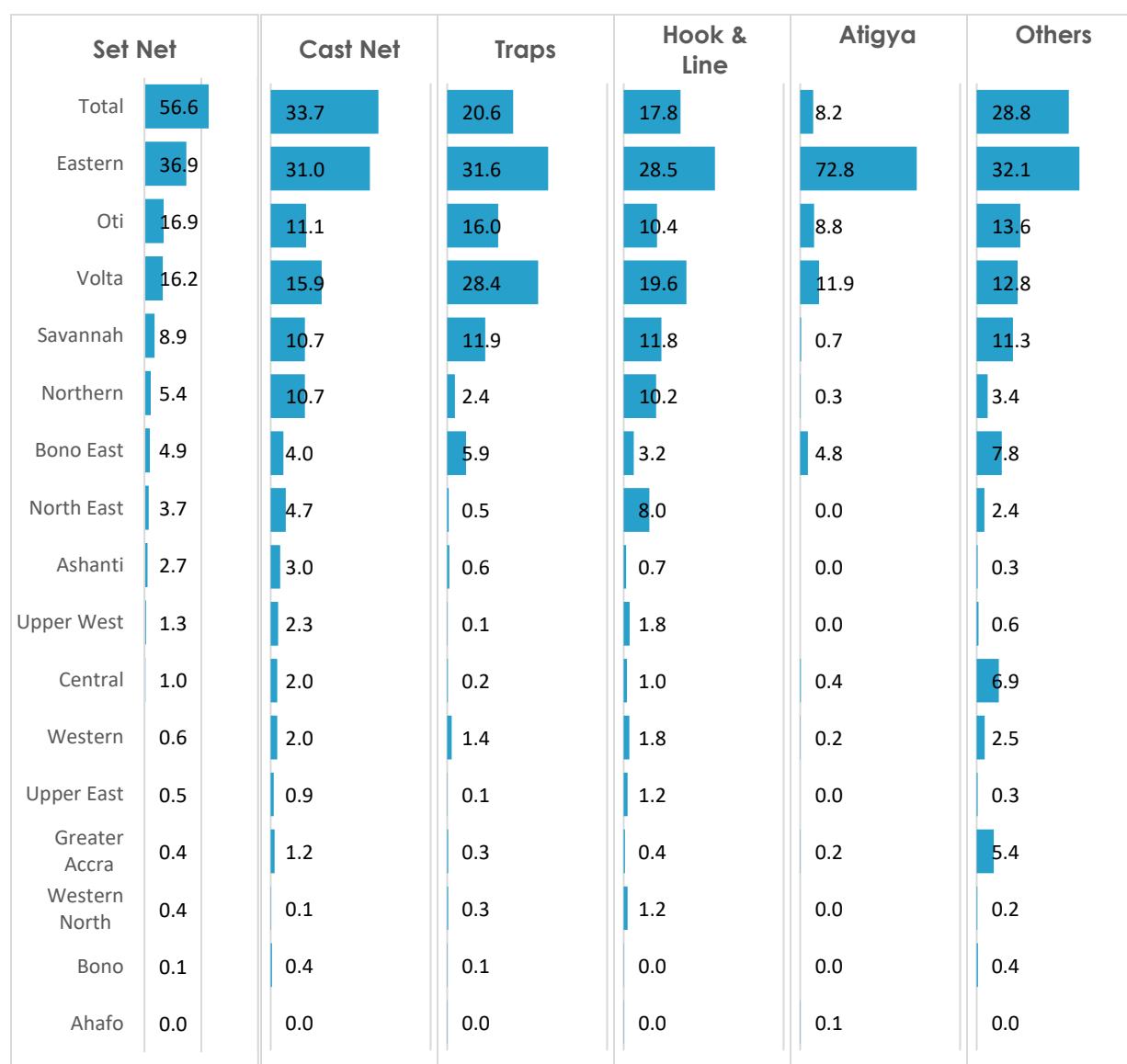
FIGURE 4. 16: CAPTURE FISHERIES HOLDERS BY NUMBER OF FISHING TRIPS PER WEEK, TYPE OF FISHING VESSEL AND BY REGION



4.2.6 Fishing Gears Used by Holders

The most used fishing gears by holders are set net (56.6%), cast net (33.7%) and traps (20.6%). Among the holders using set net for fishing, the Eastern region accounts for more than a third (36.9%) and together with the Oti (16.9%) and Volta (16.2%) regions, accounts for 70 percent of all holders using set net as a fishing gear.

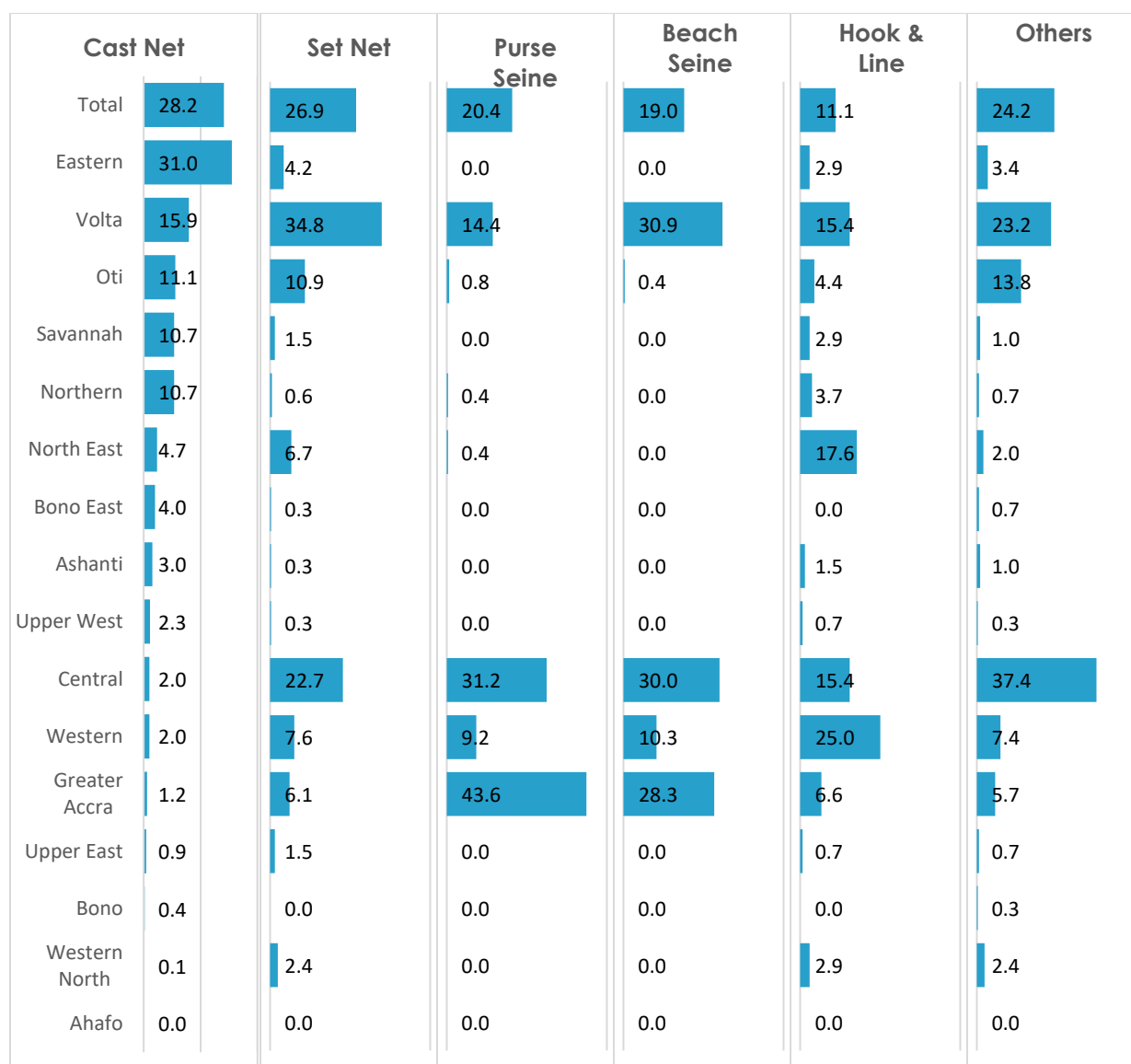
FIGURE 4. 17: CAPTURE FISHERIES HOLDERS BY TYPE OF FISHING GEAR AND BY REGION



Cast net (28.2%) and set net (26.9%) are almost equally used in marine fishing. For cast net, it is widely used by holders in Volta (25.4%), Central (23.7%) and Western (18.8%) regions.

The other fishing gears used by holders are purse seine (20.4%) and beach seine (19%). The use of purse seine is common in Greater Accra (43.6%) and Central (31.2%) regions, while beach seine is mostly used in Volta (30.9%), Central (30%) and Greater Accra (28.3%) regions.

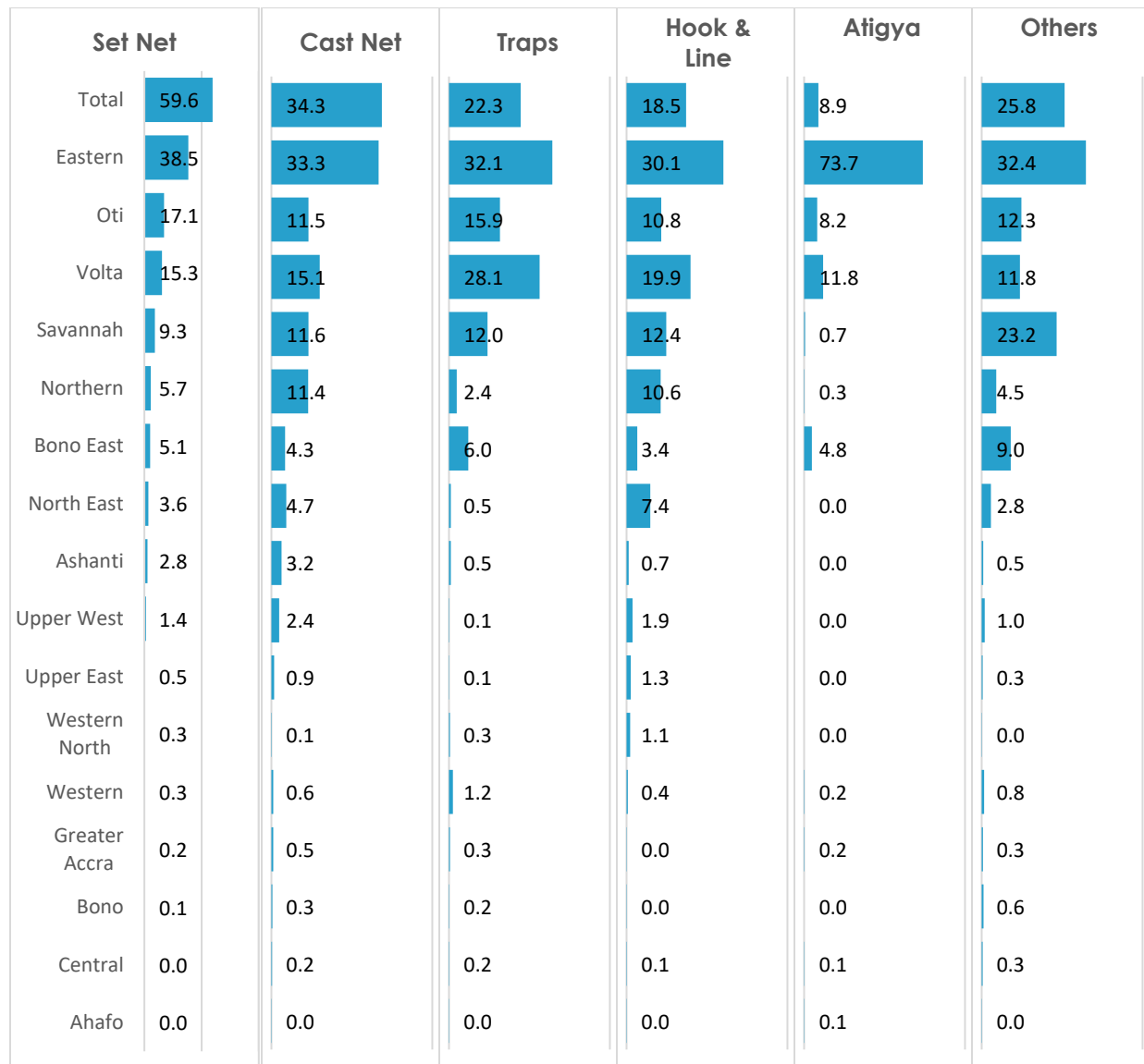
FIGURE 4. 18: MARINE CAPTURE FISHERIES HOLDERS BY TYPE OF FISHING GEAR AND REGION



For inland fishing, set net (59.6%) is the most commonly used, followed by cast net (34.3%). However, the use of traps (22.2%) and hook & line (18.5%) features more significantly in inland fishing. Use of set net in inland fishing is mostly practiced by holders in Eastern (38.5%), Oti (17.1) and Volta (15.3%) regions.

More holders in Eastern (32.1%), Volta (28.1%) and Oti (15.9%) regions use traps to catch fish. 'Atigya' is dominant in Eastern (73.7%) region.

FIGURE 4. 19: INLAND CAPTURE FISHERIES HOLDERS BY TYPE OF FISHING GEAR AND BY REGION

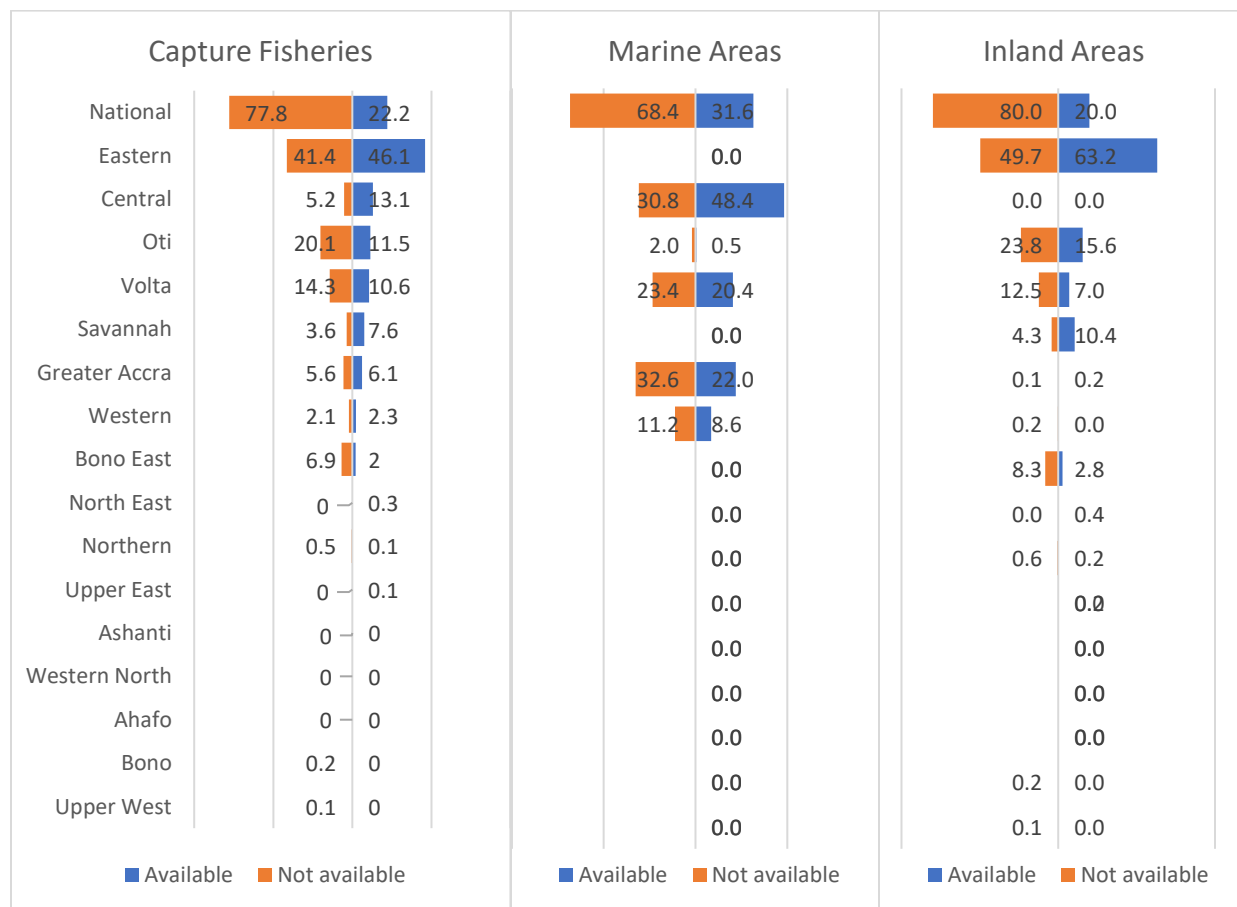


4.2.7 Availability of Premix Fuel

Only about one-fifth (22.2%) of holders who use outboard motors in capture fisheries reported that premix fuel is available when needed. Approximately, 59.2% of holders in Eastern (46.1%) and Central (13.1%) regions indicated that premix fuel is readily available.

A higher proportion of holders in marine (68.4%) and in inland (80.0%) fishing do not have premix fuel readily available. A higher proportion of holders (63.4%) of outboard motors engaged in capture fisheries in marine fishing reported the non-availability of premix fuel in the Greater Accra (32.6%) and Central (30.8%) regions, while for those engaged in inland fishing, 73.5% of holders who reported the non-availability of premix were from the Eastern (49.7%) and Oti (23.8%) regions.

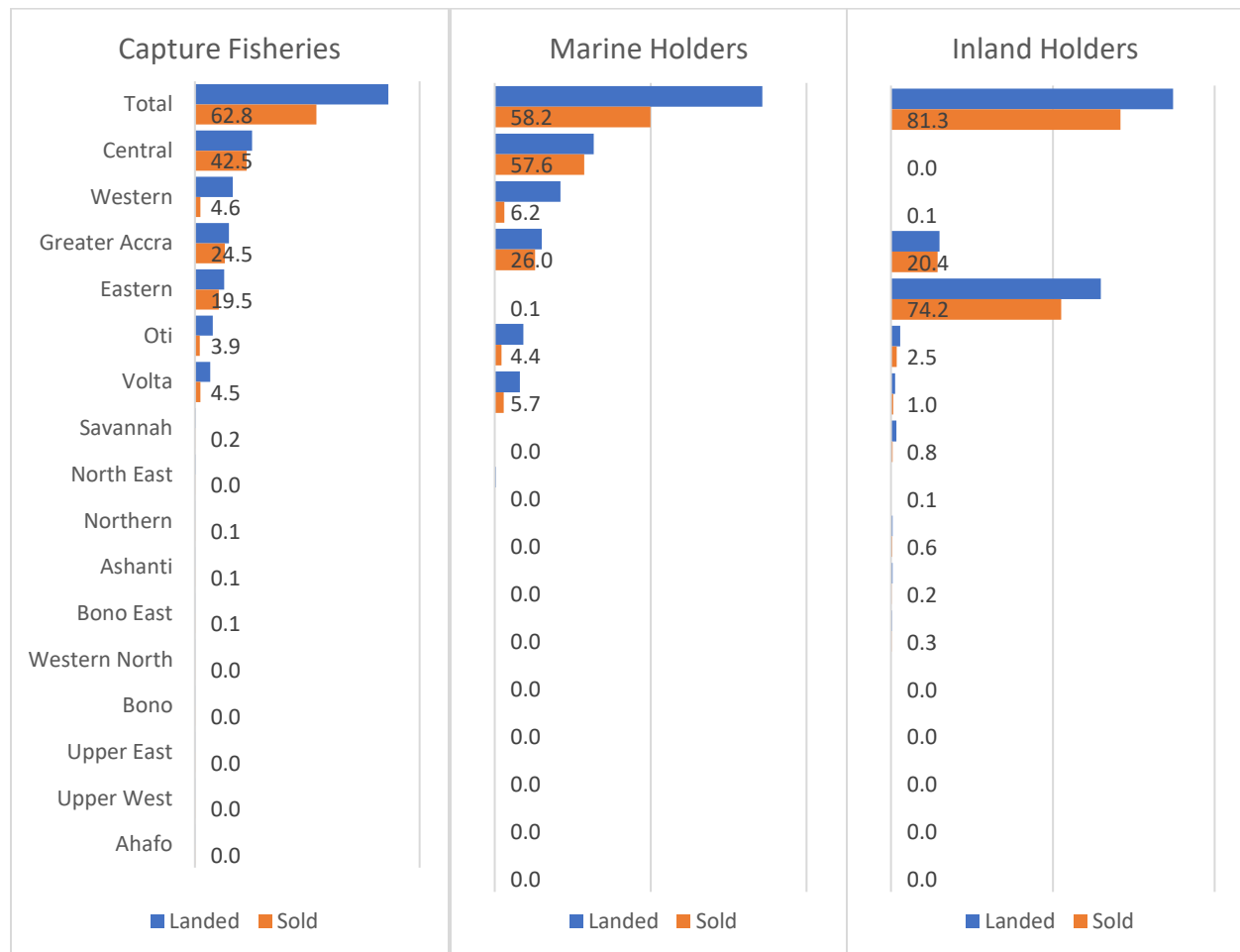
FIGURE 4. 20: PREMIX FUEL AVAILABILITY BY TYPE OF CAPTURE FISHERIES AND BY REGION



4.2.8 Fish Landings and Quantity Sold

About sixty three percent (62.8%) of the total landings were sold. A higher proportion of landings from inland fishing was sold (81.3%) compared to (58.2%) from marine fishing. Central (42.5%), Greater Accra (24.5%) and Eastern (19.5%) regions contributed the highest proportion (86.5%) of fish landings sold.

FIGURE 4. 21: QUANTITY OF FISH LANDED AND SOLD BY TYPE OF CAPTURE FISHERIES AND REGION

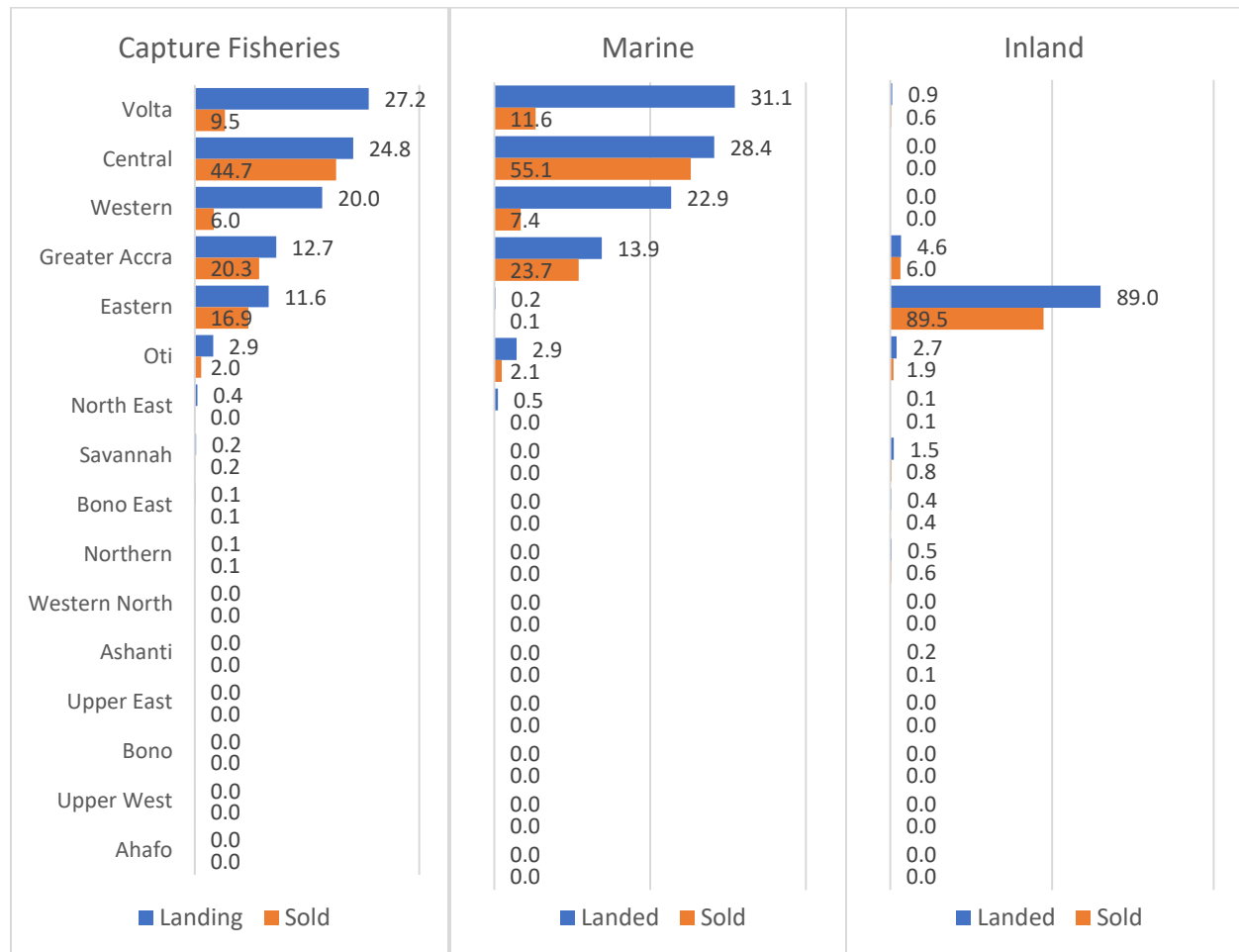


4.2.9 Value of Fish Landed and Sold

The total value of fish landed from marine and inland capture was estimated at GHS5,692,441,170. Of this amount Volta (27.2%), Central (24.8%), Western (20.0%), Greater Accra (12.7%) and Eastern (11.6%) contributed 96.2 percent of total value of fish landed from marine and inland capture.

A higher proportion (87.2%) of the value of landings was from marine with Volta (31.1%), Central (28.4%), Western (22.9%) and Greater Accra (13.9%) regions being the main contributors. About nine in ten (89%) of the value of fish produced in the inland capture areas was recorded in the Eastern region.

FIGURE 4. 22: QUANTITY OF FISH LANDED AND SOLD BY TYPE OF CAPTURE FISHERIES AND REGION



4.3 Institutions in Capture Fisheries

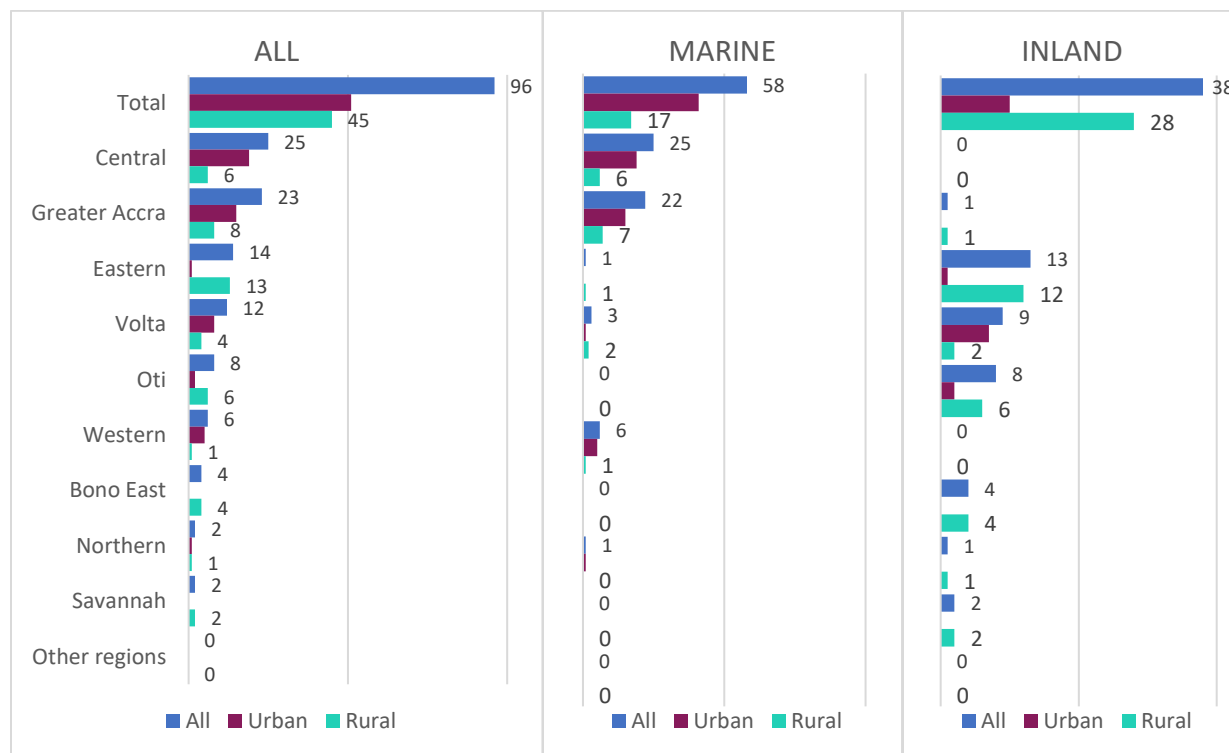
4.3.1 Capture Fisheries Institutions by Type of Capture Fisheries and Locality

A total of 96 institutions are engaged in capture fisheries of which 58 (60.4%) are into marine capture and 38 (39.6%) operating in inland capture. Majority (74, 77%) are in Central (25%), Greater Accra (23%), Eastern (14%) and Volta (12%) regions.

There are 51 institutions in urban areas that are engaged in capture fisheries while 45 are in rural areas. Two-thirds (66.7%) of urban based institutions are in Central (19%) and Greater Accra (15%).

Marine fishing by institutions is predominantly an urban activity (70.7%) while inland fishing is mostly undertaken in rural areas (73.7%). Most (64.3%) of the Inland fishing institutions in rural locality are based in Eastern (12) and Oti (6) regions.

FIGURE 4. 23: CAPTURE FISHERIES INSTITUTIONS BY TYPE OF CAPTURE FISHERIES, TYPE OF LOCALITY AND REGION

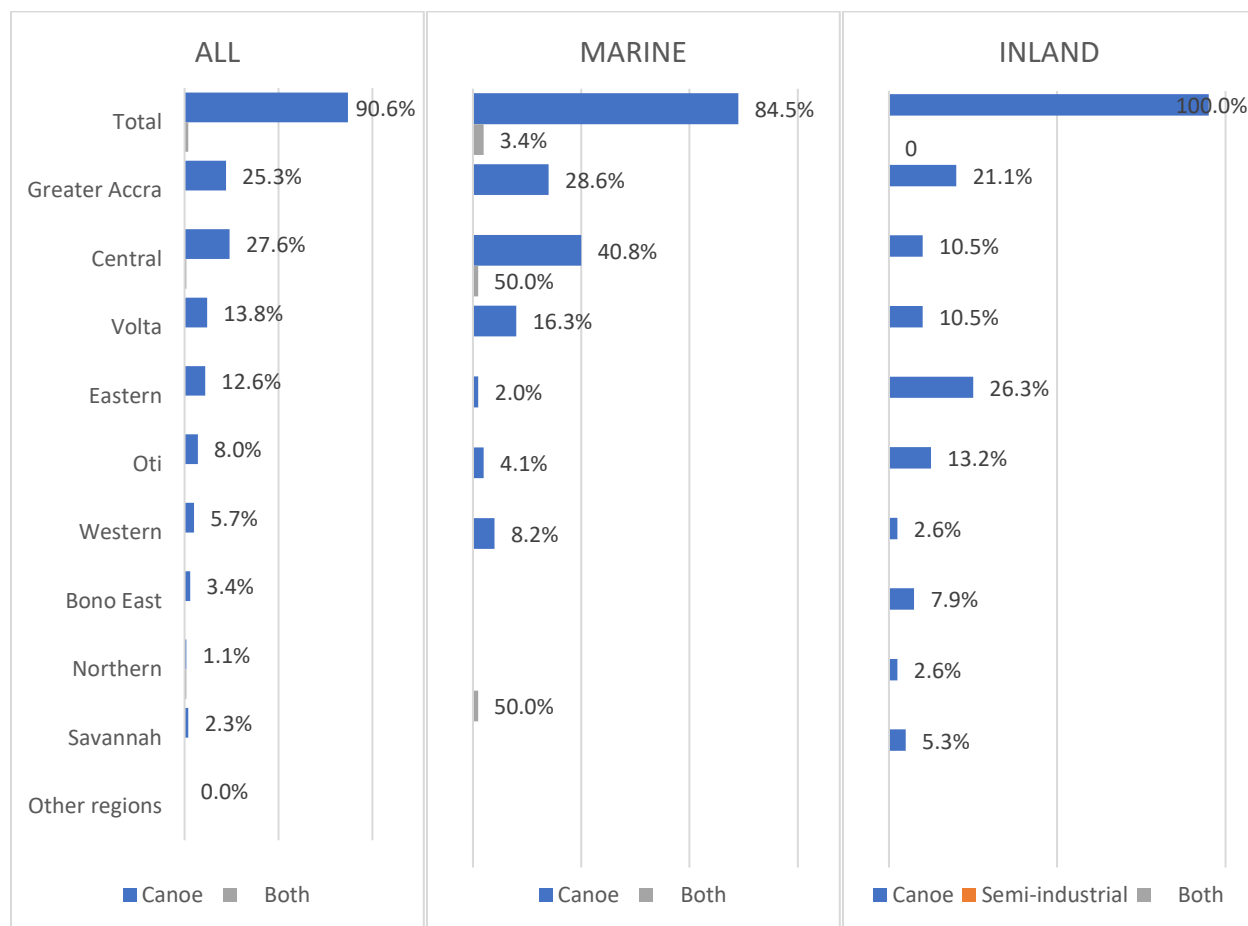


4.3.2 Capture Fisheries Institutions by Type of Vessel and Type of Capture Fisheries

Approximately 91 percent of institutions use canoes for their fishing activities, of which more than half (52.9%) are in Central (27.6%) and Greater Accra (25.3%) regions. All institutions that fish in inland waters use only canoe, With about one-fourth (26.3%) being in the Eastern region.

Institutions that fish in marine waters use canoe (84.5%), and in some instances, canoe (3.4%).

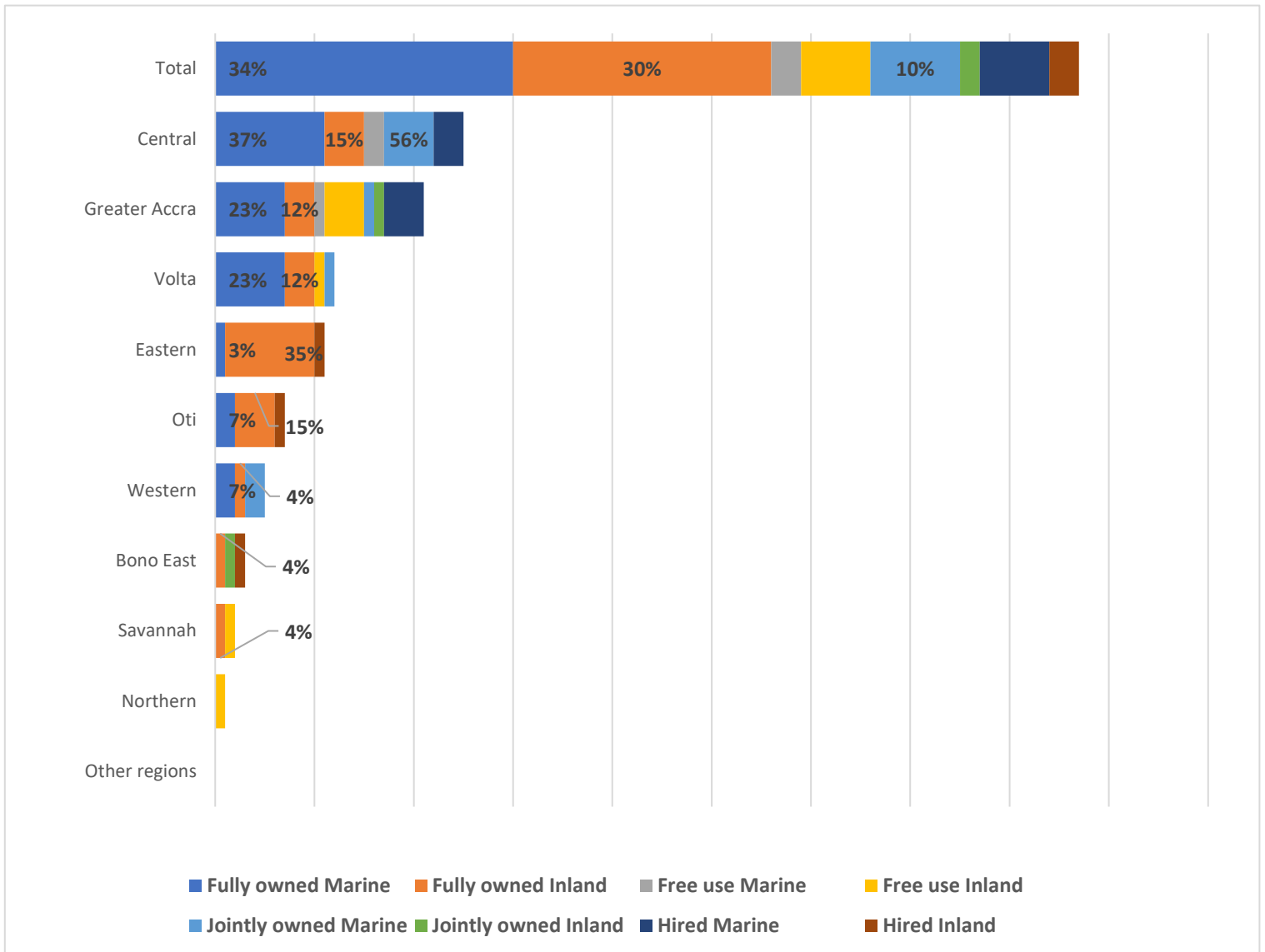
FIGURE 4. 24: CAPTURE FISHERIES INSTITUTIONS BY TYPE OF CAPTURE FISHERIES, TYPE OF VESSEL AND REGION



4.3.3 Capture Fisheries Institutional Canoe ownership

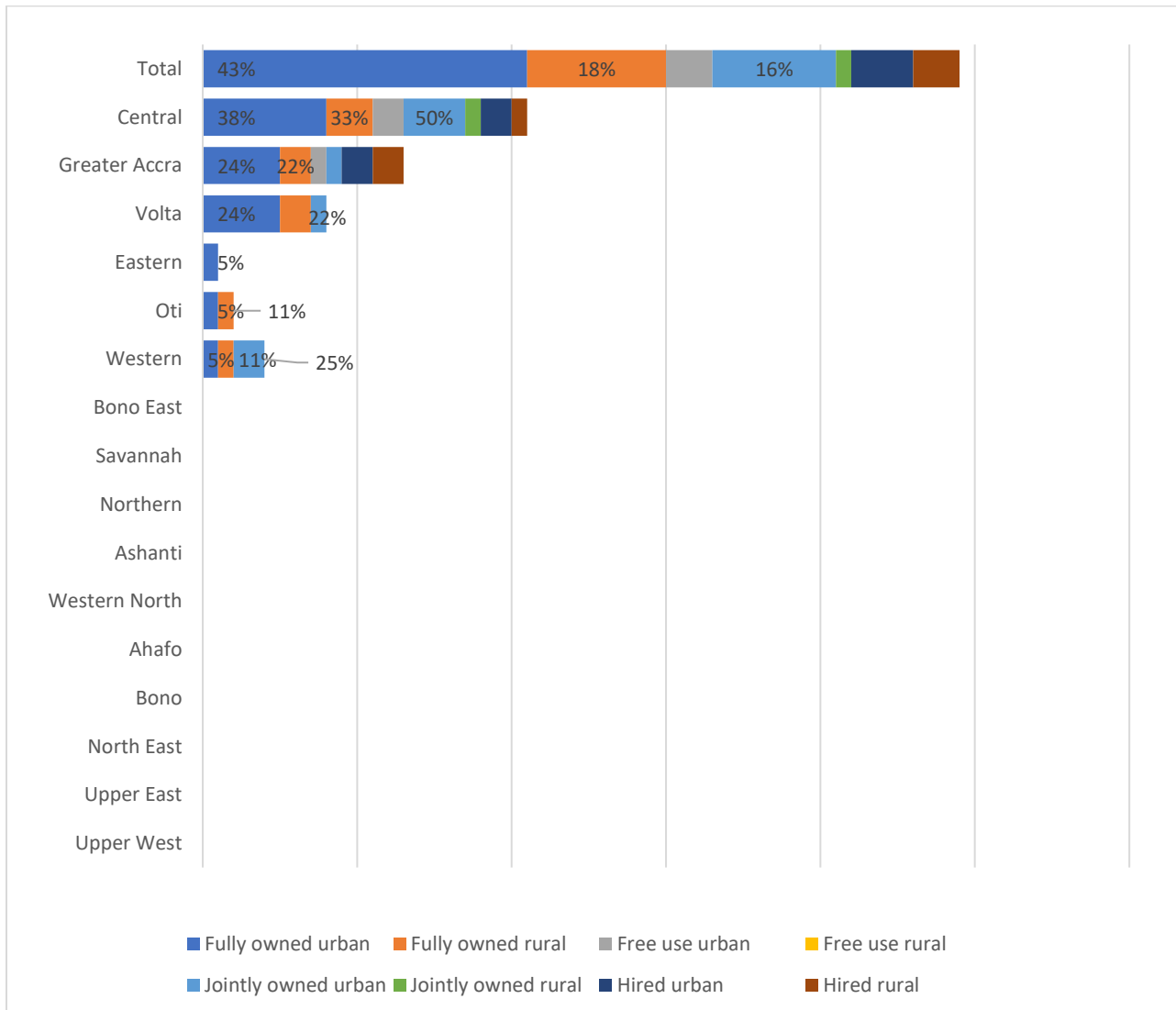
A total of 87 institutions engaged in captures use canoes, of which 64 percent are fully owned (34% by marine and 30% by inland). More than one-third (37%) of capture fisheries institutions that fully own canoes in the marine are in Central region. A similar pattern is observed in the inland capture fisheries, where institutions that fully own canoes are in Eastern region.

FIGURE 4. 25: CAPTURE FISHERIES INSTITUTIONS BY TYPE OF CAPTURE FISHERIES, TYPE OF CANOE OWNERSHIP AND REGION



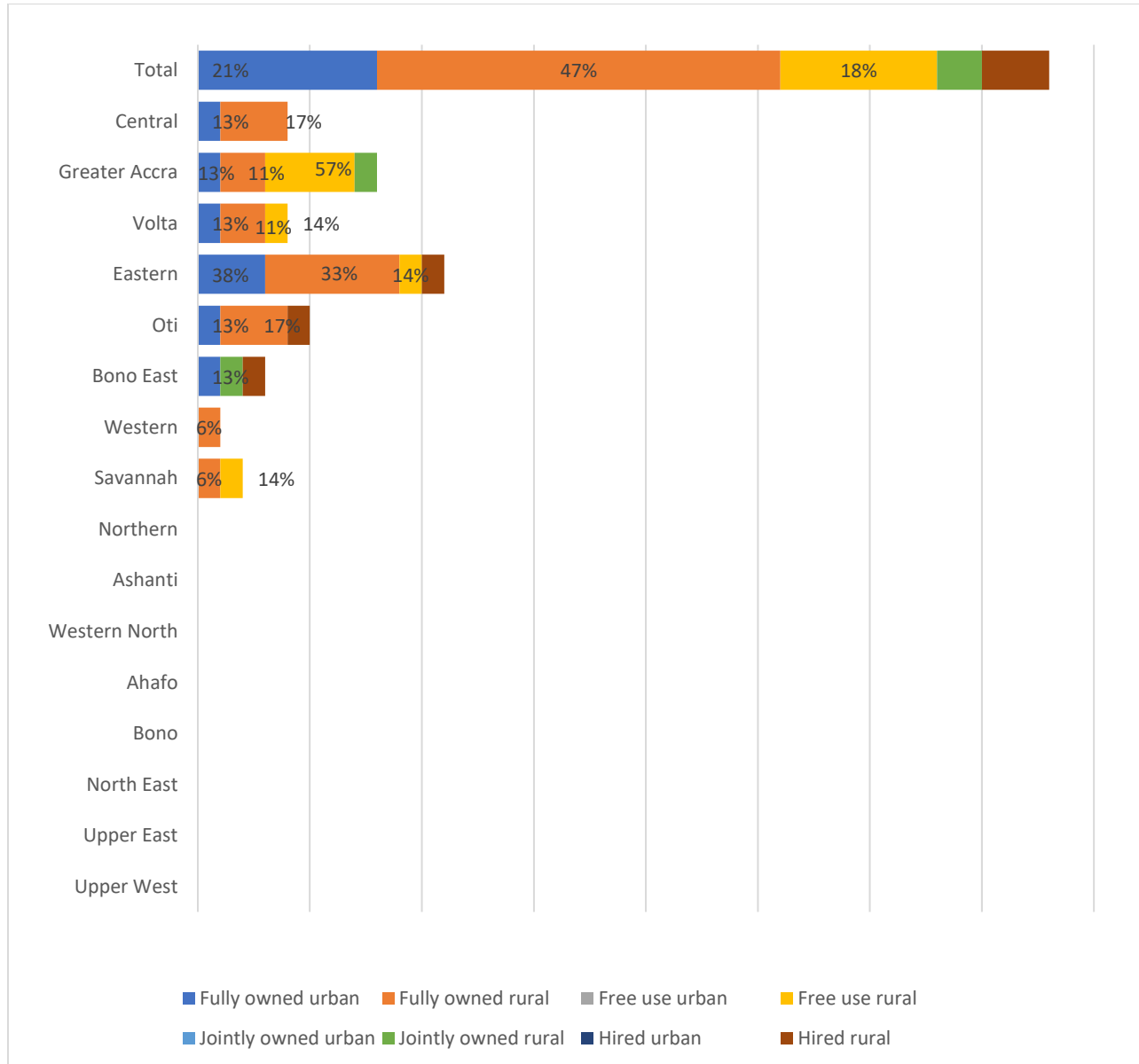
Generally, 43 percent of marine capture fisheries institutions that fully own canoes are in urban areas while 18 percent are in rural areas.

FIGURE 4. 26: MARINE CAPTURE FISHERIES INSTITUTIONS BY TYPE OF CAPTURE FISHERIES, TYPE OF CANOE OWNERSHIP, TYPE OF LOCALITY AND REGION



Forty-seven percent of the 38 institutions engaged in inland capture fisheries fully owned the canoes used in rural areas, of which one-third are in Eastern region.

FIGURE 4. 27: INLAND CAPTURE FISHERIES INSTITUTIONS BY TYPE OF CAPTURE FISHERIES, TYPE OF CANOE OWNERSHIP, TYPE OF LOCALITY AND BY REGION

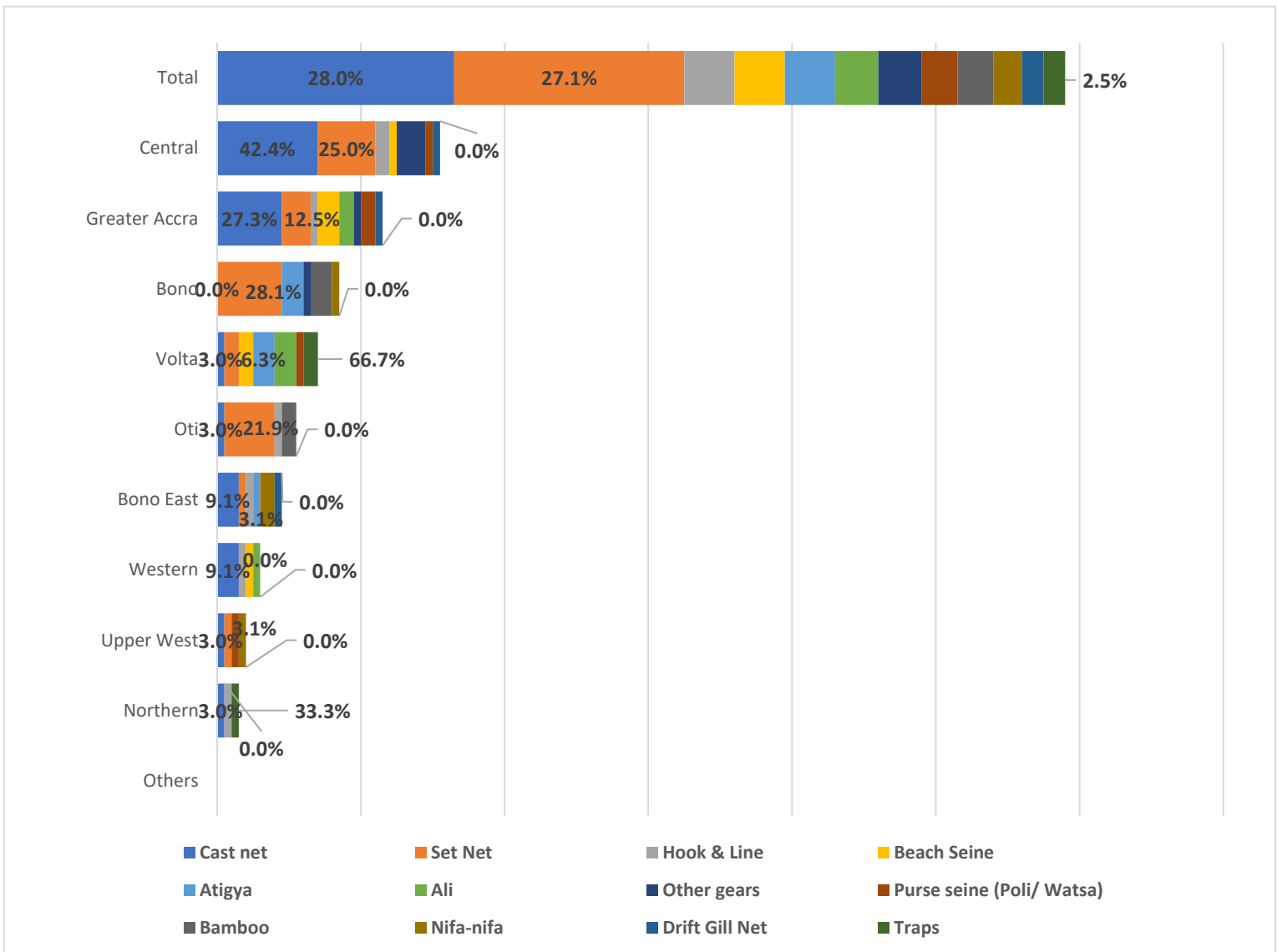


4.3.4 Fishing Gears Used

Cast net (28.0%) and set net (27.1%) are the most used fishing gears by institutions which are into capture fisheries. Generally, use of cast net is predominant (84.3%) in Central (45.2%) and Greater Accra (39.1%) regions. Use of set net by institutions is common in Bono (28.1%), Central (25.0%) and Oti (21.9%) regions.

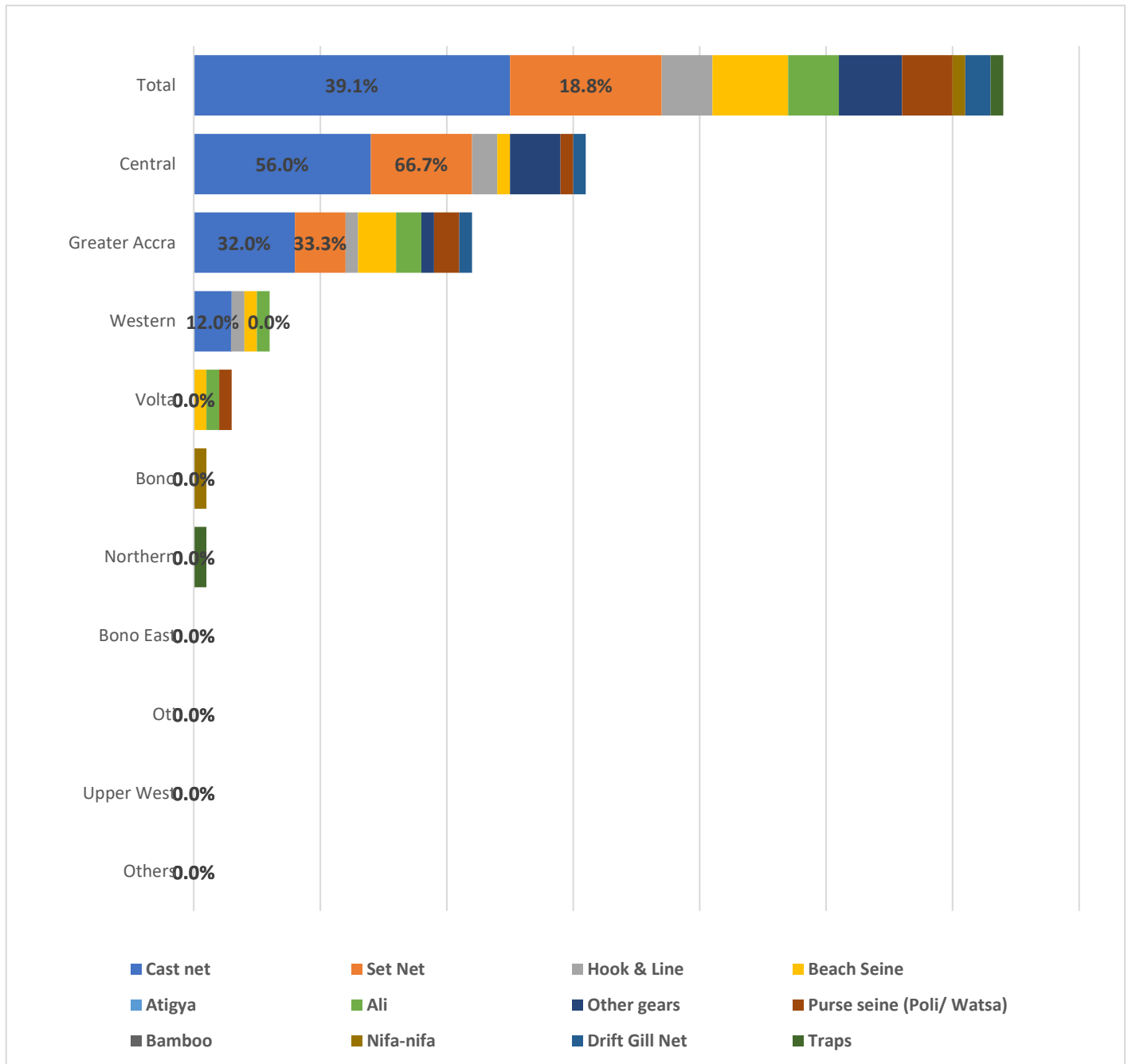
The least used fishing gear is trap (2.5%), of which majority (66.7%) are used in the Volta region.

FIGURE 4. 28: CAPTURE FISHERIES INSTITUTIONS BY TYPE OF FISHING GEAR AND REGION



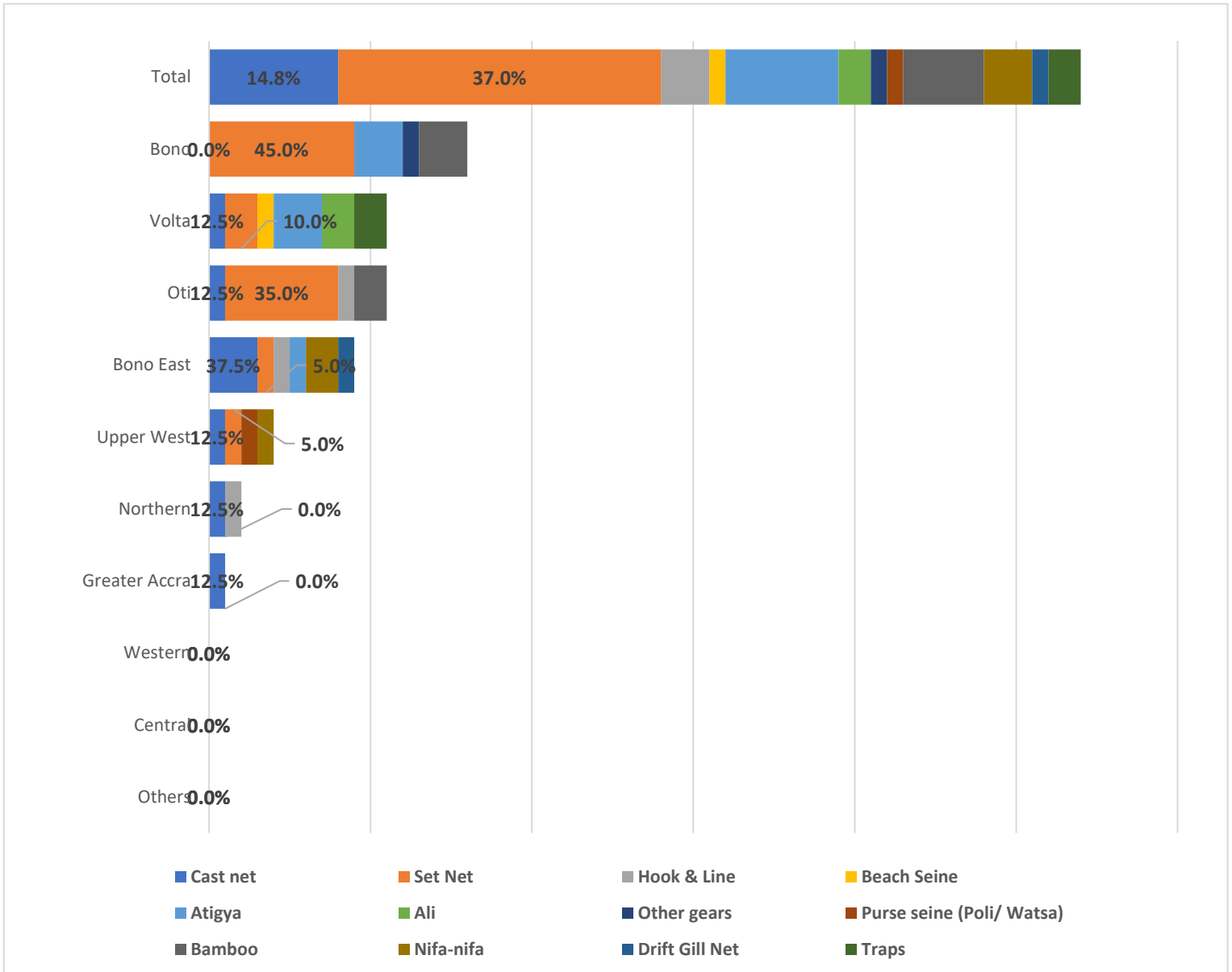
Cast net is used by most institutions (39.1%) in marine fishing, and it is most common in Central (56%) and Greater Accra (32%) regions.

FIGURE 4. 29: MARINE CAPTURE FISHERIES INSTITUTIONS BY TYPE OF FISHING GEAR AND BY REGION



Most institutions (37%) engaged in inland fishing use set net and it is predominantly used in Bono (45%) and Oti (35%) regions.

FIGURE 4. 30: MARINE CAPTURE FISHERIES INSTITUTIONS BY TYPE OF FISHING GEAR AND REGION



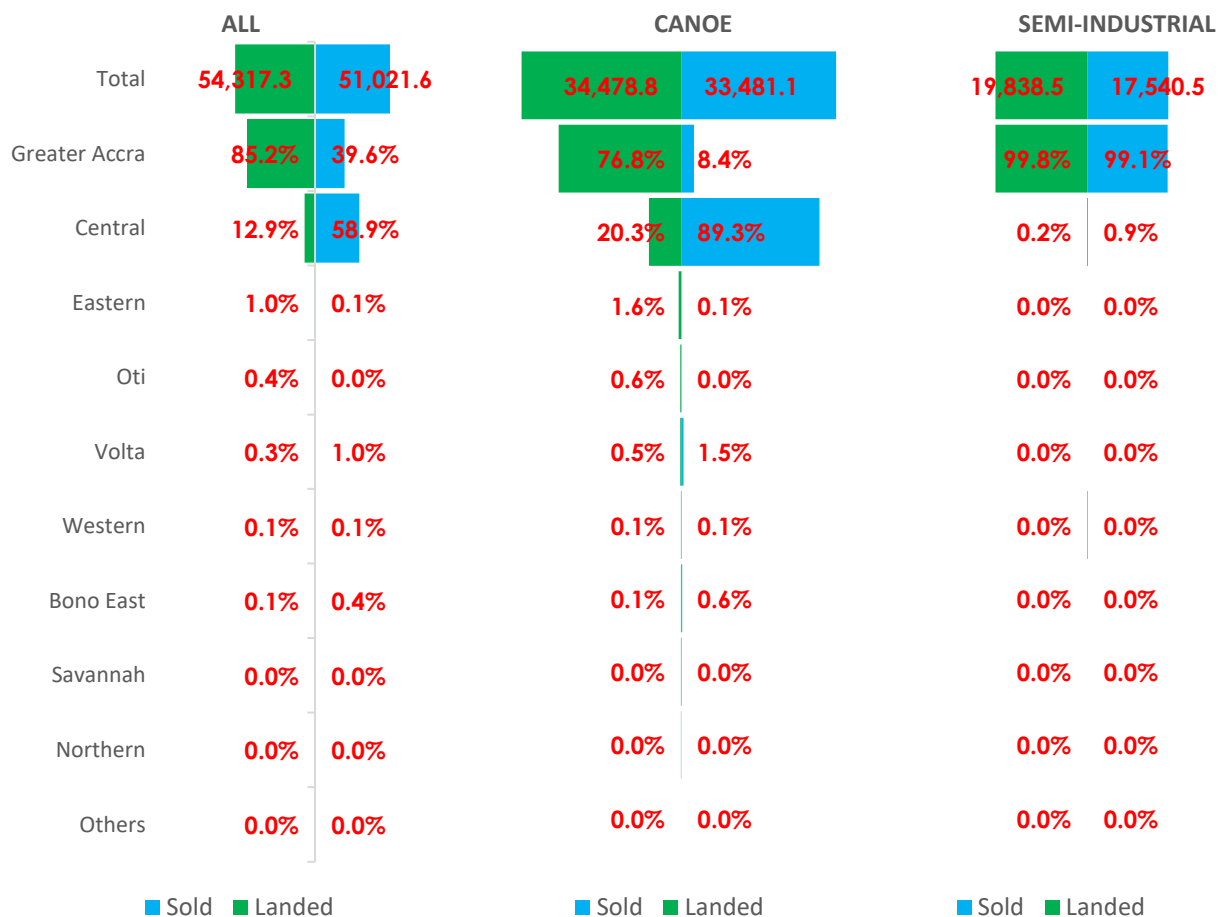
4.3.5 Institutional Fish Landings and Sales

Quantity (mts) from capture fisheries institutions by type of capture fisheries and type of vessel, and by quantity landed and quantity sold

A total of 54,317 mts of fish was landed of which 34,478.8 mts, representing 63.5%, was landed from canoes. Greater Accra contributed 85 percent of the total fish produced by institutions engaged in capture fisheries. A similar pattern was observed for both the canoe and semi-industrial vessels.

An overwhelming quantity of fish (93.9%) from both canoe and semi-industrial fishing vessels was sold. Central and Greater Accra sold 58.9 and 39.6 percent respectively.

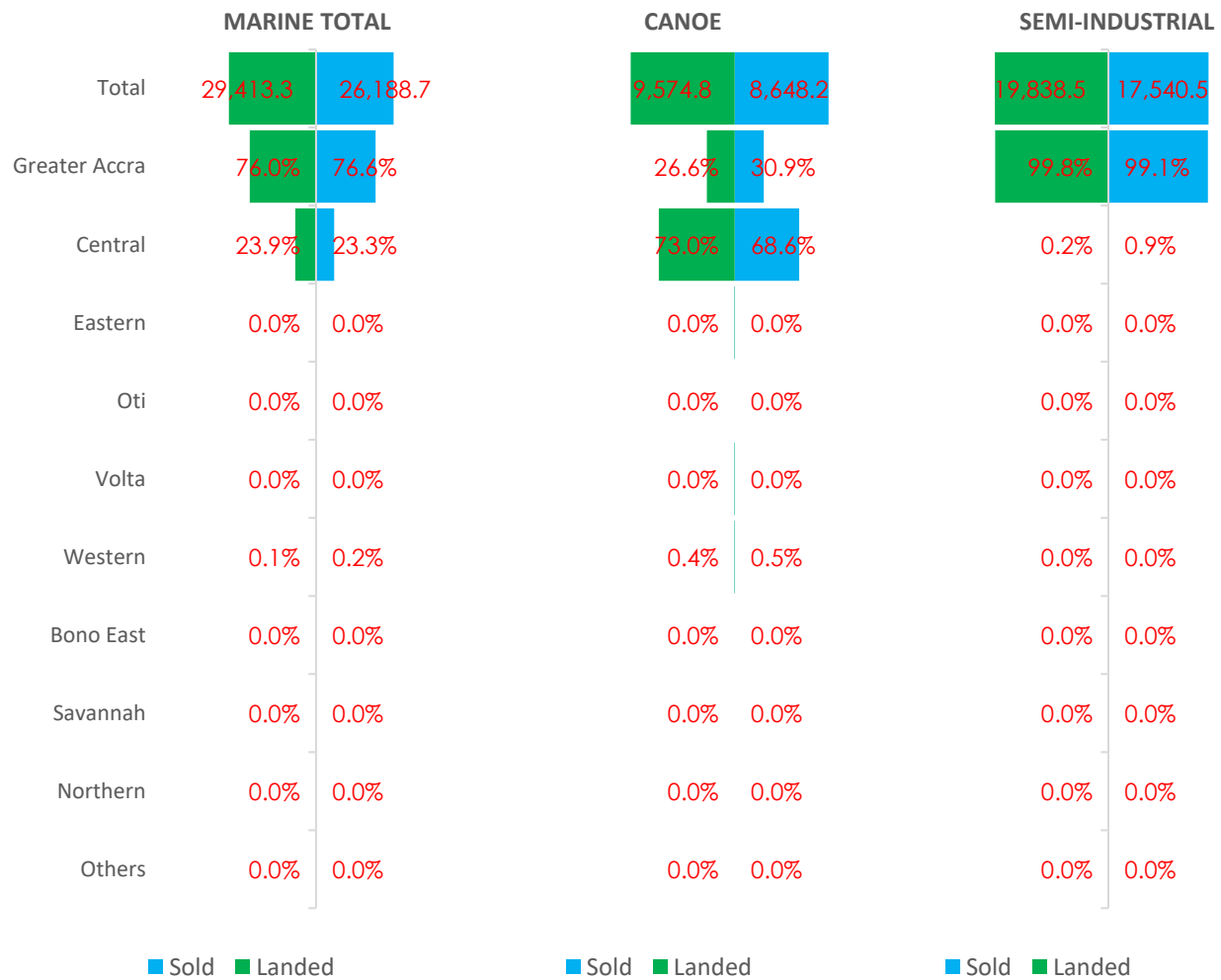
FIGURE 4. 31: QUANTITY OF FISH PRODUCED AND SOLD BY CAPTURE FISHERIES INSTITUTIONS BY TYPE OF FISHING VESSEL AND BY REGION



Marine fishing was predominantly by semi-industrial fishing vessels, which produced 19,838.5 mt, representing 67.4%. Almost all was produced by institutions in Greater Accra (99.8%) region.

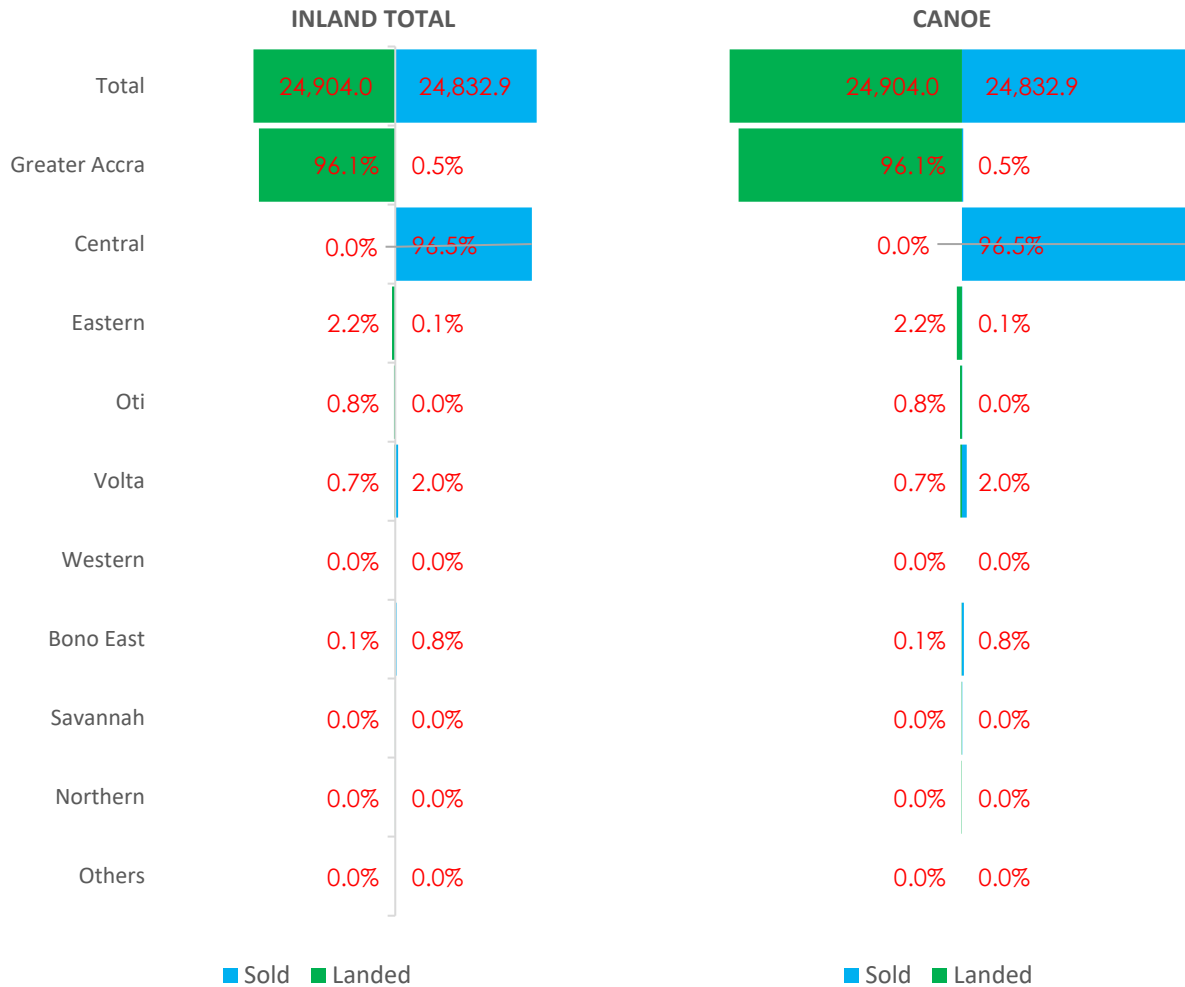
A total of 26,188.7 mt of marine catch, representing 89 percent was sold. More than seven in ten (76.6%) of the quantity sold was in the Greater Accra region.

FIGURE 4. 32: QUANTITY OF FISH PRODUCED AND SOLD BY MARINE CAPTURE FISHERIES INSTITUTIONS BY TYPE OF FISHING VESSEL AND BY REGION



All inland fishing catch was by canoe, of which Greater Accra produced 96.1 percent. Almost all inland fish landed (99.7%) was sold.

FIGURE 4. 33: QUANTITY OF FISH PRODUCED AND SOLD BY INLAND CAPTURE FISHERIES INSTITUTIONS BY TYPE OF FISHING VESSEL AND BY REGION



5. CONCLUSIONS

Most of the holders engaged in capture fisheries are Ghanaians, with high concentration in the inland sub-sector. Male household holders dominate the sector among the holders identified. Similarly, more males are engaged in capture fisheries compared to females. Involvement of persons with disability is very low in capture fisheries, of which higher proportions are in Eastern, Volta and Oti region. Capture fisheries holders migrated once a while, either within the country from one landing center to the other or outside the country.

For households engaged in capture fisheries, greater proportion are aged 36 years or older. This implies that engagement of the youth in capture fisheries is very low. Eastern region has the highest proportion of youth holders engaged in capture fisheries.

Canoe usage by holders for fishing is dominant in capture fisheries. Semi-industrial vessels operate only in the marine sub-sector. Majority of the holders indicated that premix fuel is not readily available for purchase and use.

Fishing trips of less than five a week is a common practice by majority of the holders and the widely used fishing gears are set net, cast net and traps. The five most landed fish by household holders are Anchovy, Grouper, Kingfish, Ray and Halfbeak, while that of the institutional holders are Tuna, Anchovy, Barracuda, Herring and Mackerel.

The main type of ownership of fishing vessels used by both household holders and institutions is full ownership, with Eastern recording the highest among household holders and Central for institutional holders.

Marine fishing by institutions is predominantly an urban activity while that of inland fishing is mostly undertaken in rural areas. Most of the Inland fishing institutions operating in rural locality are based in Eastern and Oti region.

REFERENCES

- Fisheries Commission. (2022). *2021 Annual Performance Report*.
- Food and Agriculture Organisation (2022). *The state of world fisheries and aquaculture. Towards blue transformation. Food and Agriculture Organization of the United Nations*.
- Ghana Statistical Service. Annual 2013 to 2022 Annual detail GDP compilation up to GNI

<https://statsghana.gov.gh/gssmain/fileUpload/National%20Accounts/Annual%202013%20to%202022%20Annual%20detail%20GDP%20compilation%20up%20to%20GNI.xlsx>

LIST OF CONTRIBUTORS

Name	Email	Institution	Role
Prof. Samuel Kobina Annim	samuel.annim@statsghana.gov.gh	Ghana Statistical Service	Government Statistician
Dr. Faustina Frempong-Ainguah	faustina.frempong-ainguah@statsghana.gov.gh	Ghana Statistical Service	Deputy Government Statistician
Prof. Simon Mariwah	smariwah@ucc.edu.gh	University of Cape Coast	Reviewer
Mr. Edward Asuo Afram	asuo.afram@statsghana.gov.gh	Ghana Statistical Service	Director, Economic Statistics Directorate
Dr. Bernice Serwah Ofosu-Baadu	bernice.ofosubaadu@statsghana.gov.gh	Ghana Statistical Service	Head, Agriculture & Environment Statistics; and Reviewer
Mr. Joseph Effah Ennin	joseph.ennin@fishcom.gov.gh	Ministry of Fisheries and Aquaculture Development (MoFAD) / Fisheries Commission	Supervisor
Emmanuel Opoku-Addo	emmanuel.opoku-addo@statsghana.gov.gh	Ghana Statistical Service	Report writer
Victor Owusu-Boateng	victor.owusu@statsghana.gov.gh	Ghana Statistical Service	Report writer
Mrs. Vivian Ashantey	Vivian.asantey@statsghana.gov.gh	Ghana Statistical Service	Typesetter
Mr. Selaseh Akaho	selaseh.akaho@statsghana.gov.gh	Ghana Statistical Service	Data Visualization
Mr. Felix Adjei	felix.adjei@statsghana.gov.gh	Ghana Statistical Service	Graphic design



www.statsghana.gov.gh