



SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

Small Pelagic Fisheries Profile: Preliminary Analysis of Regional Results



2015



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Cover photo: Small pelagic fish: top-right: anchovy; top-left: Chub Mackerel; bottom-left: flat sardinella and bottom-right: round sardinella (Credit: Hen Mpoano)

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ACRONYMS

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DGN Drift Gill Net

SFMP Sustainable Fisheries Management Project

USAID United State Agency for International Development

INTRODUCTION

This report is the preliminary result of regional analyses for the small pelagic fisheries profile under the USAID-funded Sustainable Fisheries Management Project (SFMP) in Ghana.

The profile activity was initiated in May 2015 to September of 2015 in 12 target communities across 64 landing sites (see overview map on page 3 for list of communities and landing sites). These communities are representative of the wide geographical spread of the project as well as record high landings of small pelagic fish as captured by Fisheries Commission in 2013 canoe frame survey.

The profile aimed at achieving the underlisted objectives:

Objectives of profile

The overall objectives of the small pelagic fisheries profile are:

- To guide fishery management strategies, potential fisheries capacity control and reduction plans, economic development initiatives (post-harvest), infrastructure investments and community and marine fisheries spatial planning.
- Support Fisheries Commission with updated information on both fishermen and fish processors.

SAMPLING STRATEGY

The sampling strategy was based on the countrywide catch data and the 2013 canoe frame survey from the Fisheries Commission. These were used to select communities with high small pelagic landings across the four coastal regions; Volta Region was considered as a single ‘community’ for the purpose of the profile due to the predominance of beach seine fishery in this region. Fishermen and fish processors in the selected communities were enumerated and the outcome of the enumeration was used to develop sample size proportional to both the canoe harvesting the small pelagic fish and number of fish processors in each of the selected communities using the “Probability Proportional to Landings” approach. The sample size was weighted by landings of 2012 for each region. Table 1 and 2 shows an overview of the sample size.

Table 1: Number of purse seine and beach seine canoes and sample size

Region	Estimated no. of purse seine and beach seine Canoe	Sample size	proportion
Volta	562	31	06%*
Greater Accra	809	178	22%
Central	370	65	18%
Western	486	136	28%
Total	2227	410	18%

Table 2: Number of processors and sample size

Region	Numbers of fish processors			Sample size	Proportion
	Female	Male	Total		
Volta	1282	15	1297	130	10%
Greater Accra	859	11	870	87	10%
Western	1349	0	1349	136	10%
Central	725	0	725	73	10%
Total	4215	26	4241	426	10%

DEFINITION OF TERMS

Fisherman: A fisherman or fisher is someone who captures fish and other animals from a body of water, or gathers shellfish for food and/or employment.

Fish processor: A fish processor is someone who buys fish from a fisherman or fishmonger and either smoke, fry, salt and dry for commercial puposes.

Artisanal fisheries: Refer to the relative level of technology and capital used to operate fishing gear to capture and land marine or inland fisheries resources.

Small scale fisheries: Refer to the size of the fishing unit relative to the overall fleet.

Overview map

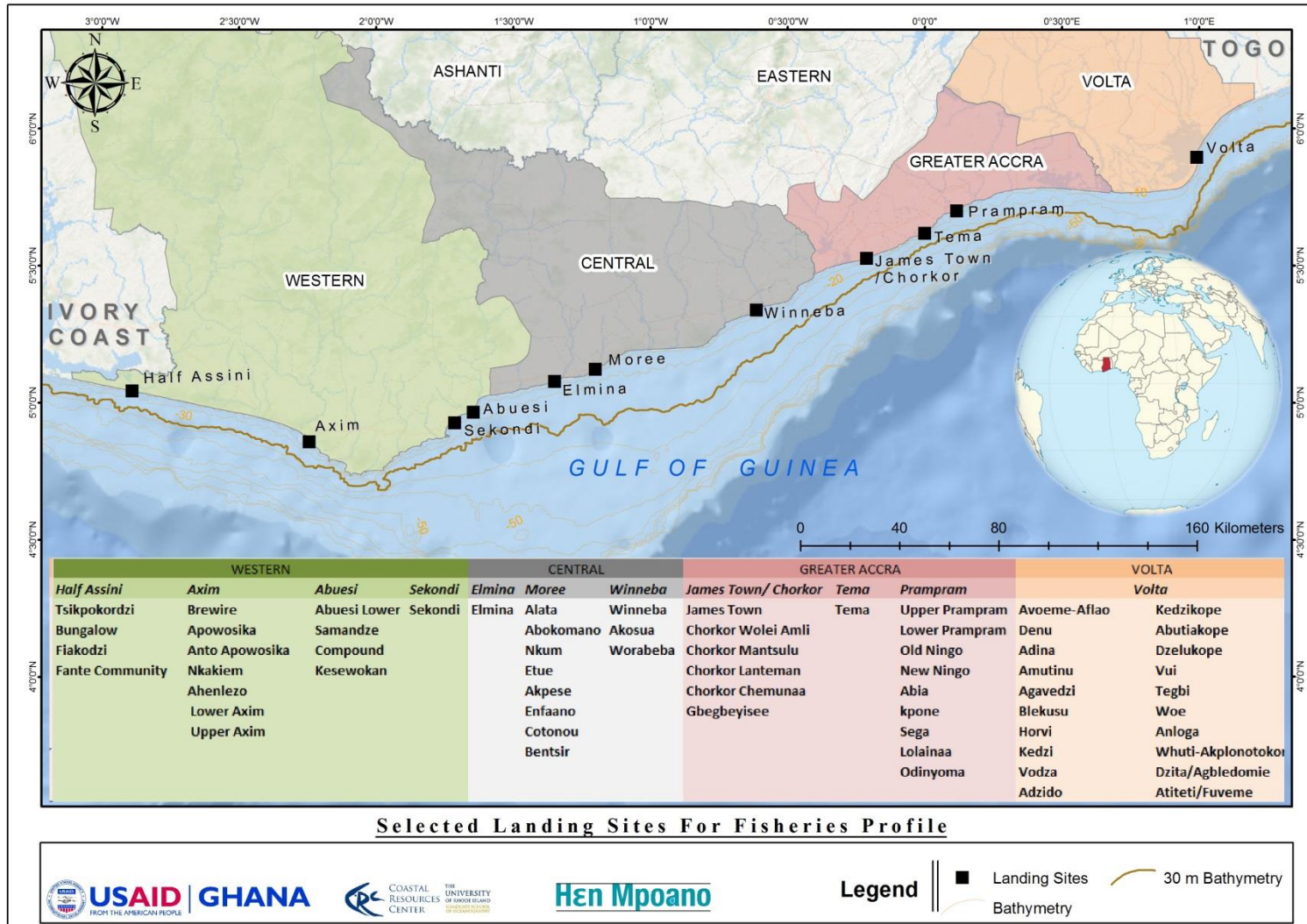
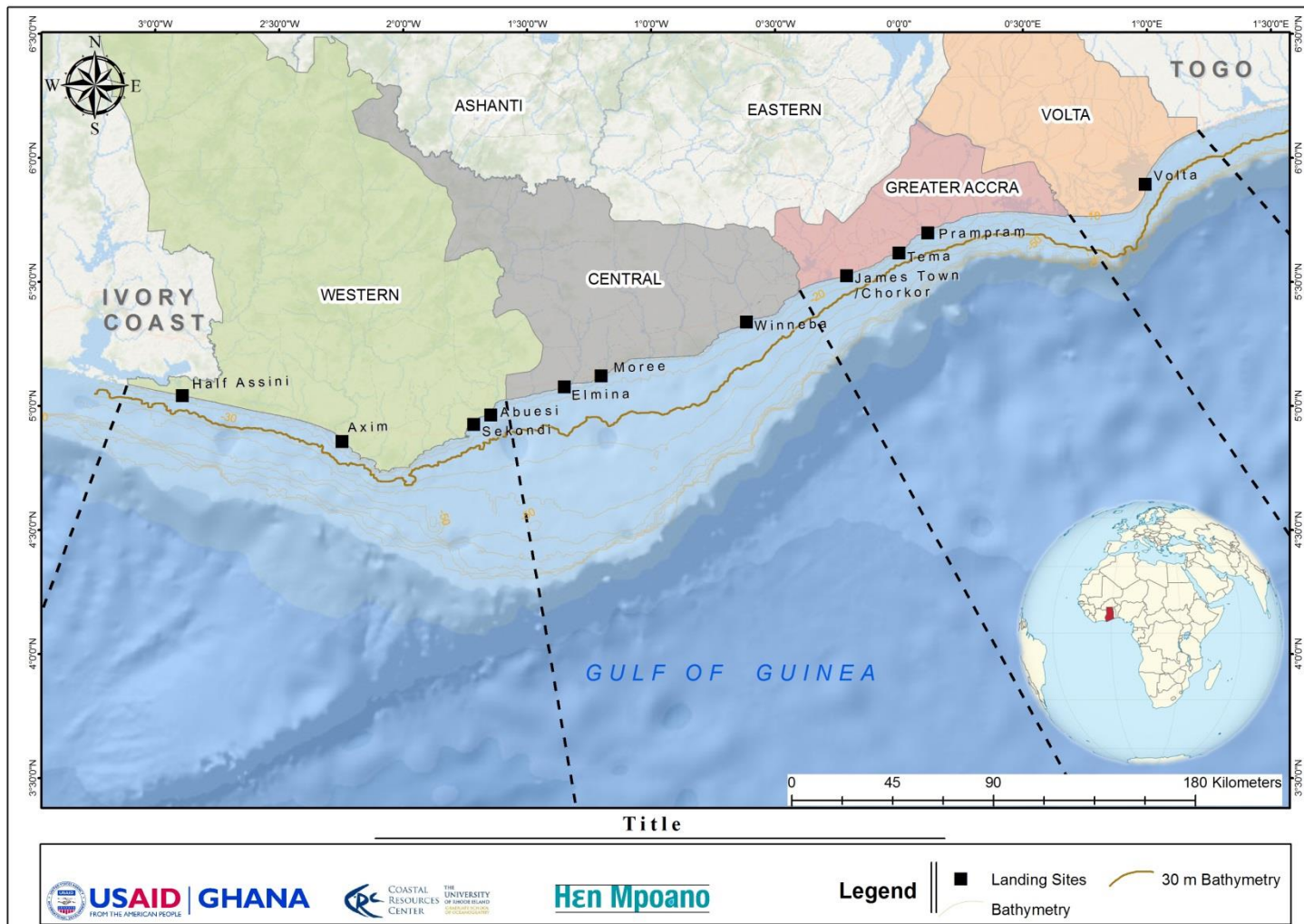


Figure 1: Overview map of the small pelagic fisheries profile



PRELIMINARY RESULTS

AGE DISTRIBUTION

The older generations are seen to dominate the fisheries in the traditional fishing communities, i.e., 51+ years along the coast. However the reverse is true in the cosmopolitan fishing communities like Tema, Elmina, Sekondi and communities with lots of migrant fishers like Half Assini.

National

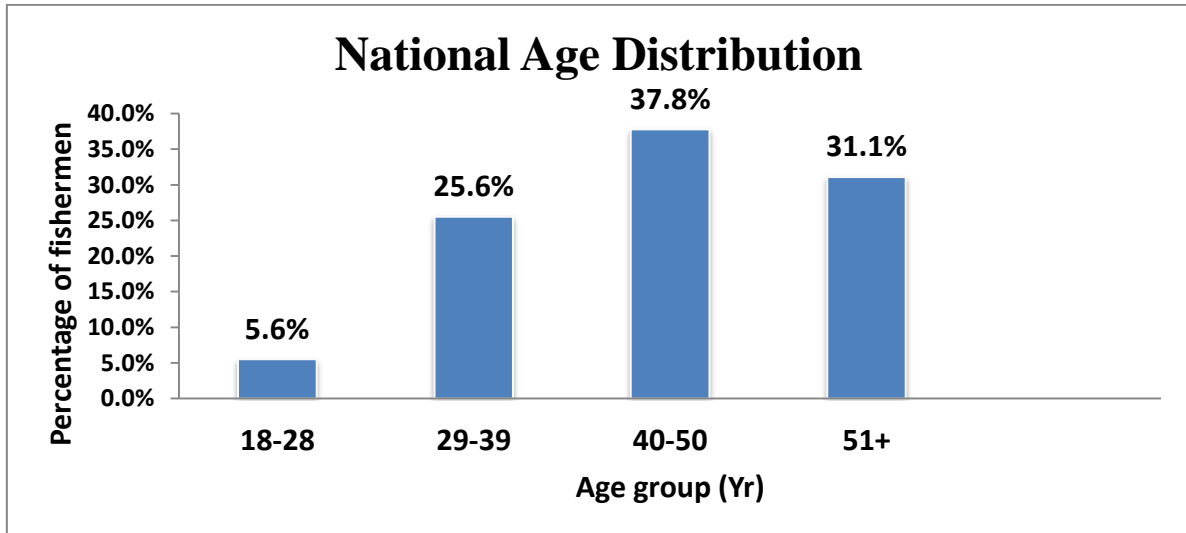


Figure 2: National age distribution for fishermen

Volta Region:

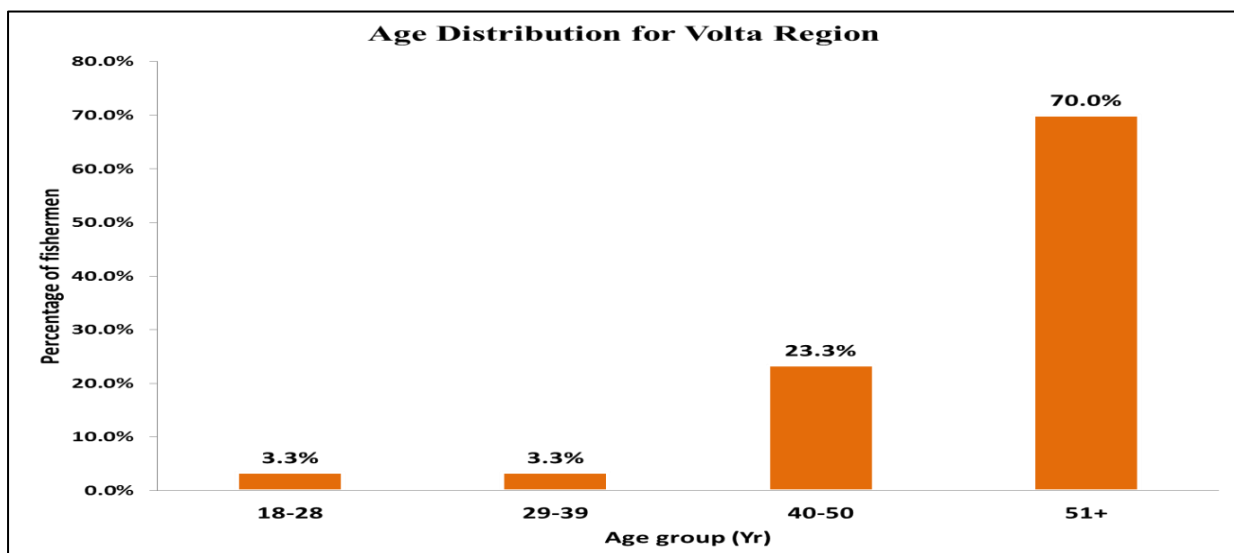


Figure 3: Age distribution of fishermen in the Volta Region

Greater Accra Region:

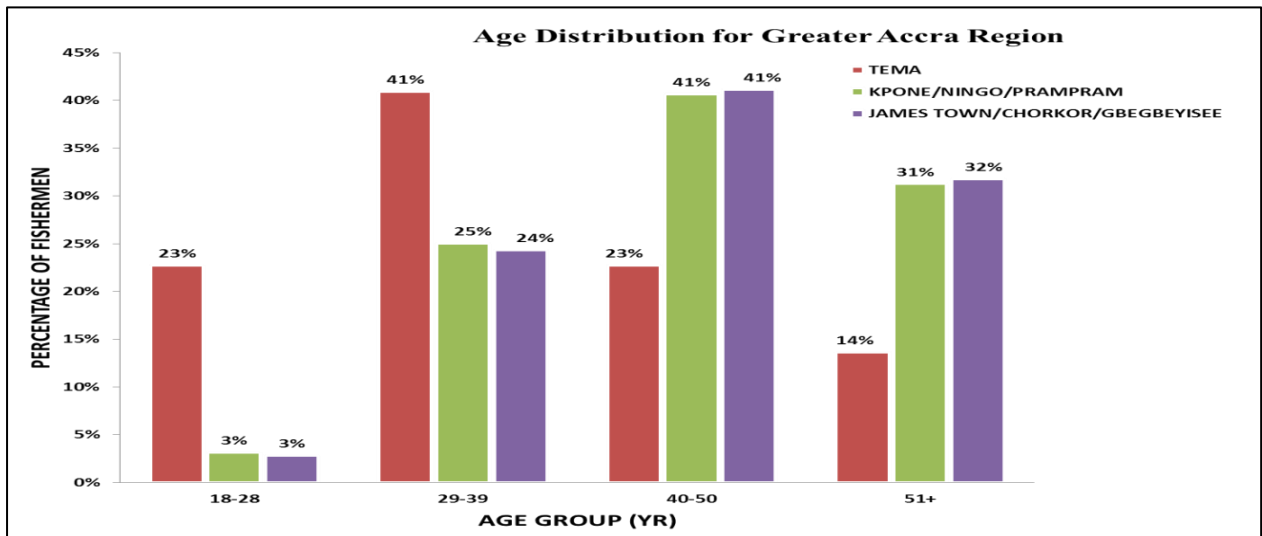


Figure 4: Age distribution of fishermen in Greater Accra Region

Central Region

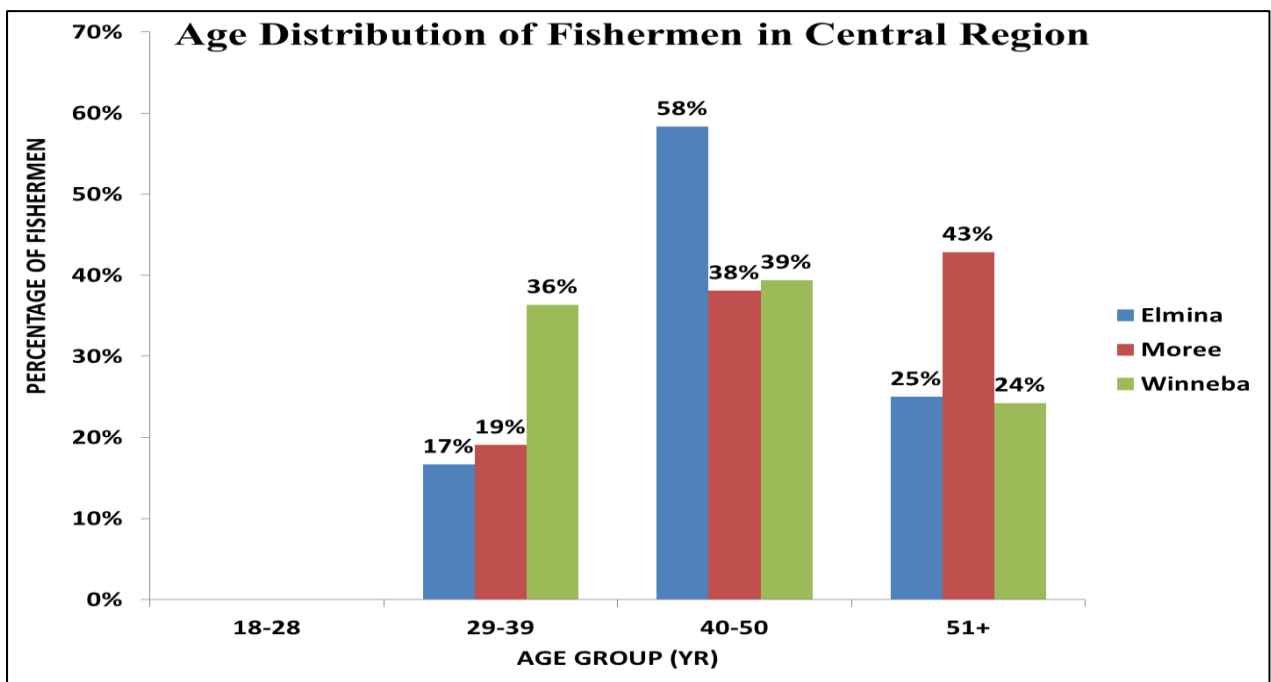


Figure 5: Age distribution of fishermen in Central region

Western Region

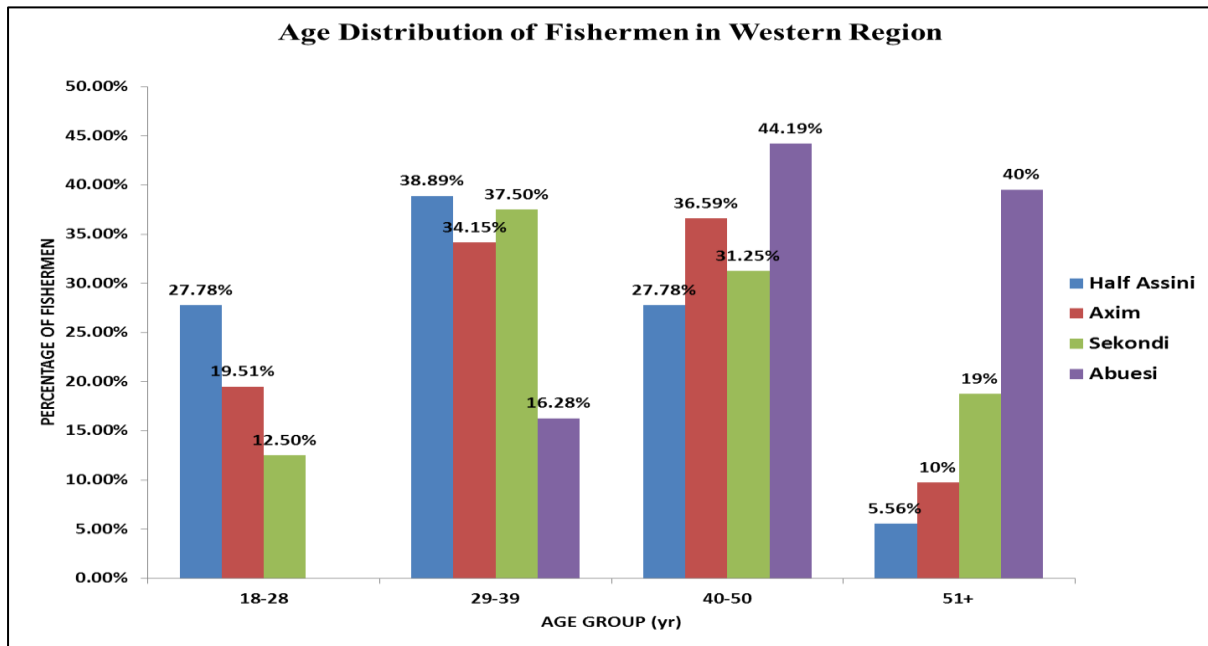


Figure 6: Age distribution of fishermen in Western Region

EDUCATION LEVEL

At the national level, the education level among fishermen is relatively low. About 50% of fishermen have no formal education. Those who attended school have up to the basic education level, that is, Primary school up to Junior High School level.

National

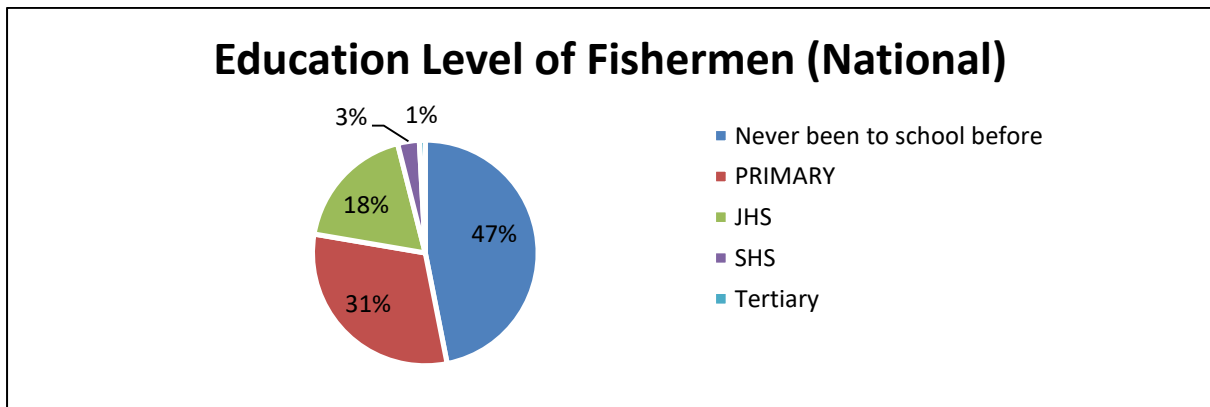


Figure 7: National representation of fishermen education level

Volta Region

In the Volta, fishermen have a relatively high level of education compared to other regions up to high school. The majority of small fishermen in the Volta region operate from beaches using beach seines. Although the majority are older fishermen but they seem to have basic education levels.

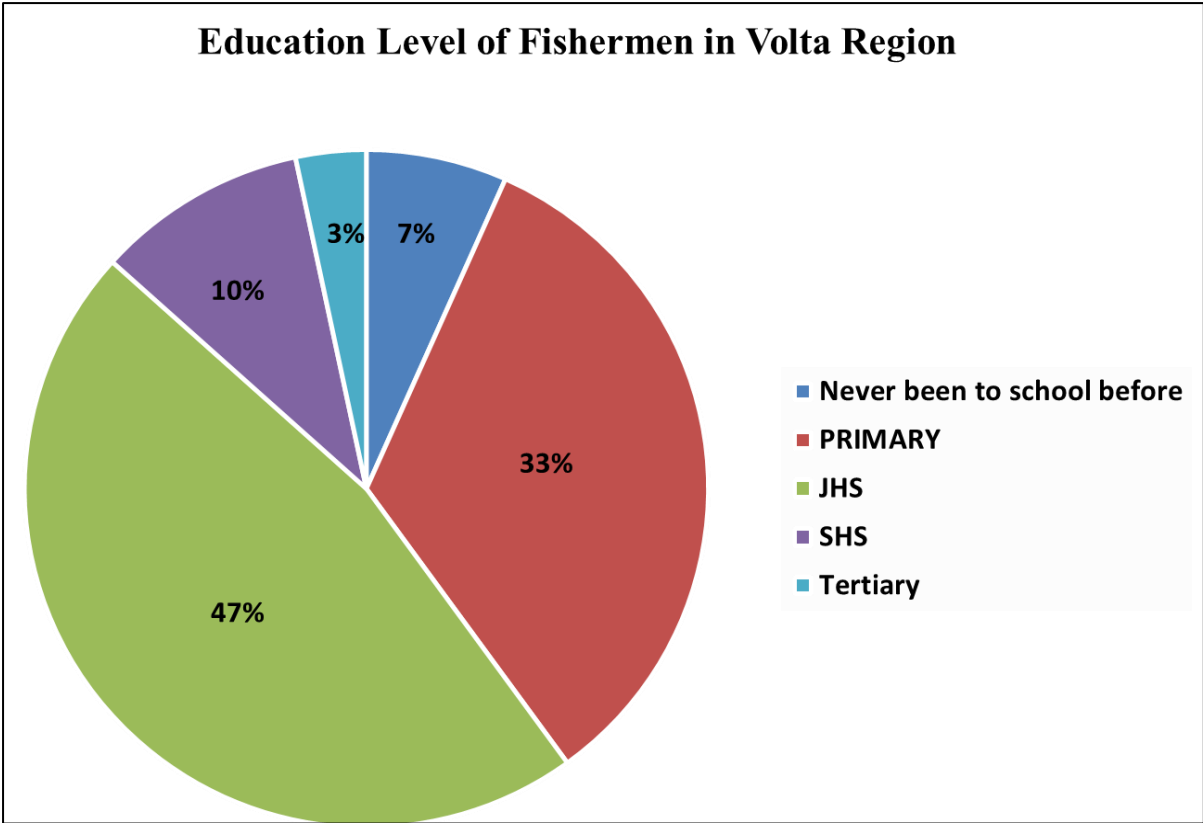


Figure 8: Education level of fishermen in Volta Region

Greater Accra Region

The level of education in this region is relatively low. About 50% of fishermen don't read nor write. However a significant proportion (17%) has attended high school education, particularly in Tema and Prampram.

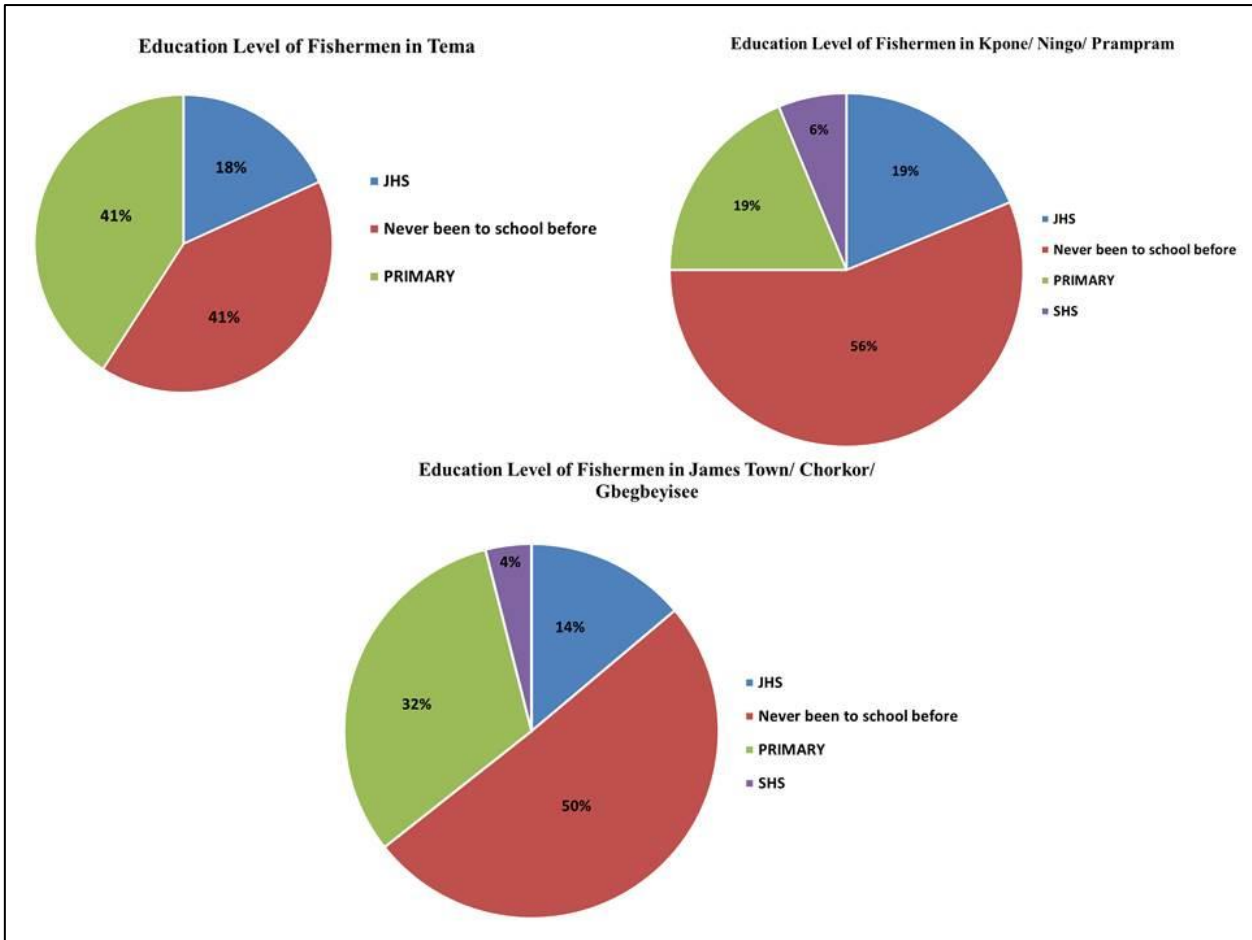


Figure 9: Education level of fishermen in Greater Accra Region

Central Region

Fishermen in the central region have the lowest level of education in the country with more than over 60% never attended school. Only a small portion of the population of fishermen attended high school.

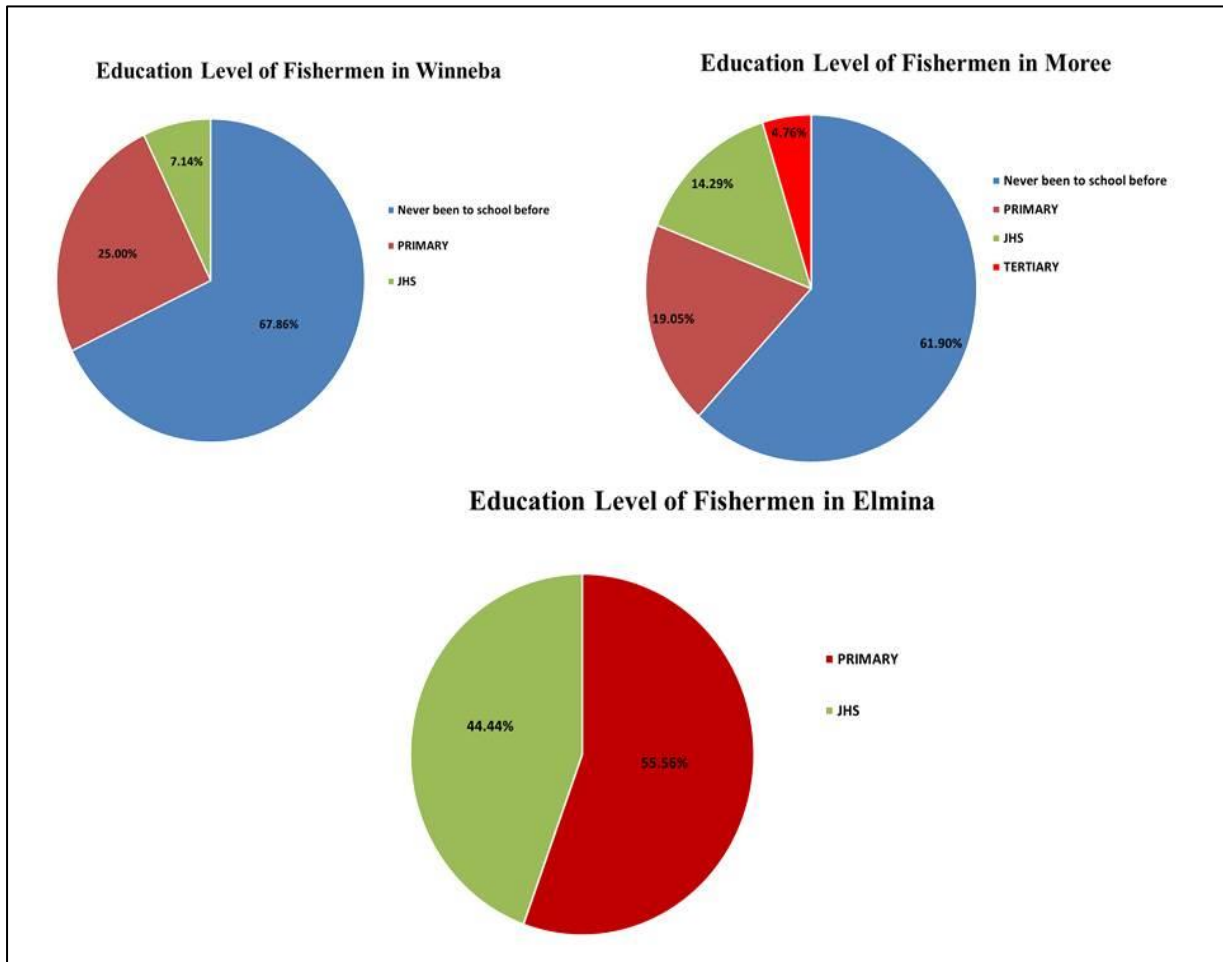


Figure 10: Education level of fishermen in Central Region

Western Region

Fishermen in the western region have the highest level of education with only 25% of the population is illiterate. A significant level of high education was observed in Sekondi harbor and abuesi.

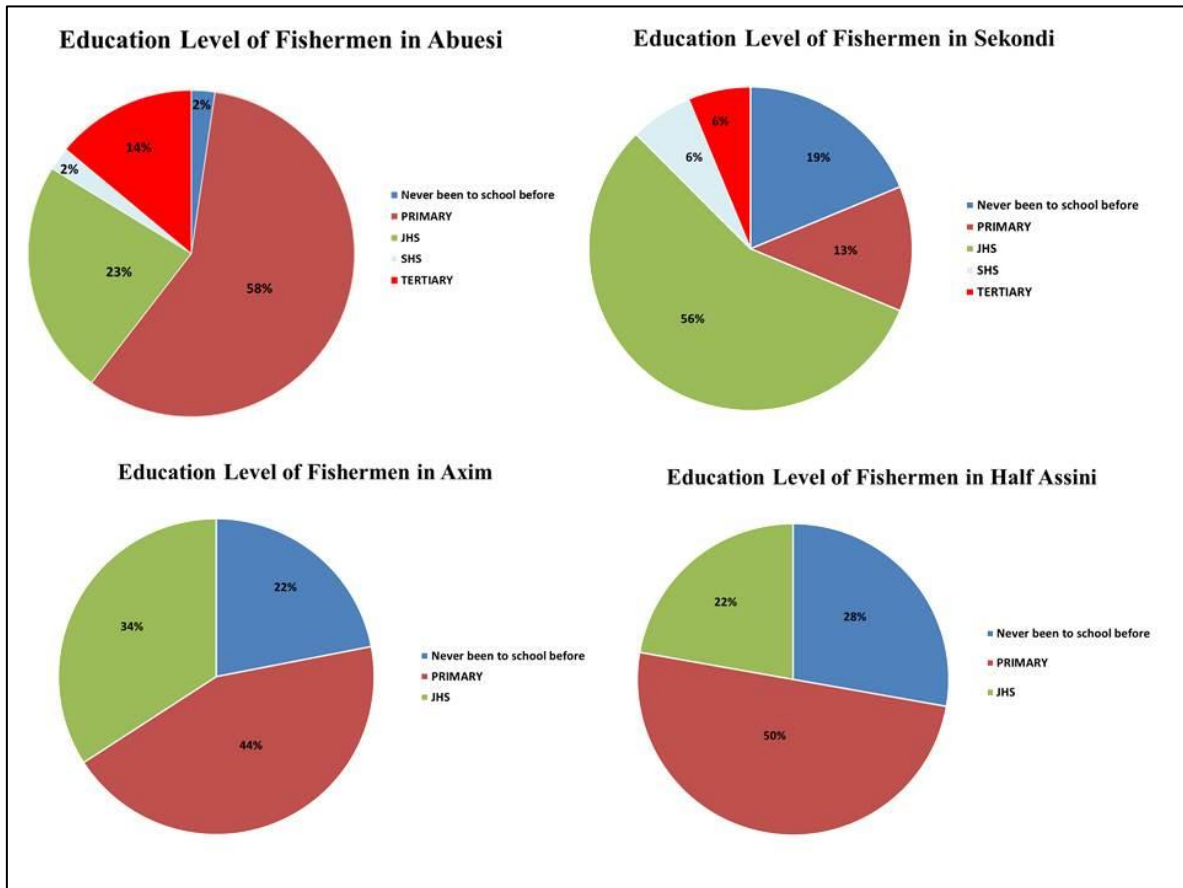


Figure 11: Education level of fishermen in Western Region

MIGRATION PATTERN

Ghanaian fishermen migrate from communities to communities in search of fish and other socio-economic drivers. Migration take many forms, from short term movements over modest distances within the country to long distances across borders to benin, Togo, Cote d'Ivoire, Liberia and as far north as Senegal. Their migration pattern hinges heavily on location of fish especially the small pelagics such as sardinella and anchovies. Their seasonal pattern of movement of fishermen from their home landing site varies by region. Some migrate with their families to play an important role in marketing and fish processing but the majority migrate alone. The majority of fishermen move between July and December when small pelagics are migrating inshore and easterward. The migrants are organized and establish a code of behavior with the host communities or host country, respecting their rules and local etiquette.

National

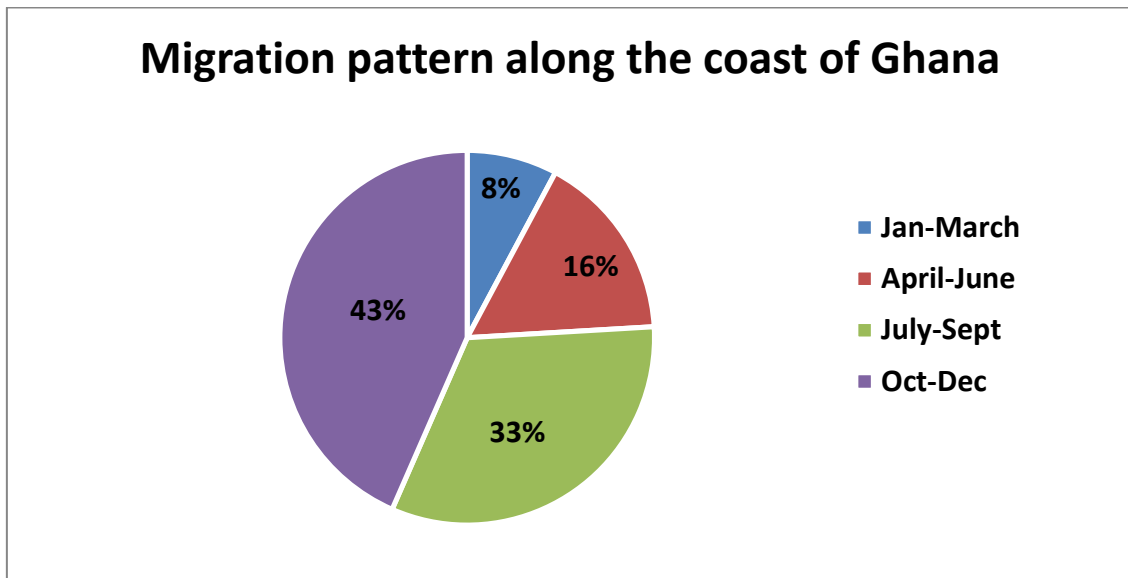
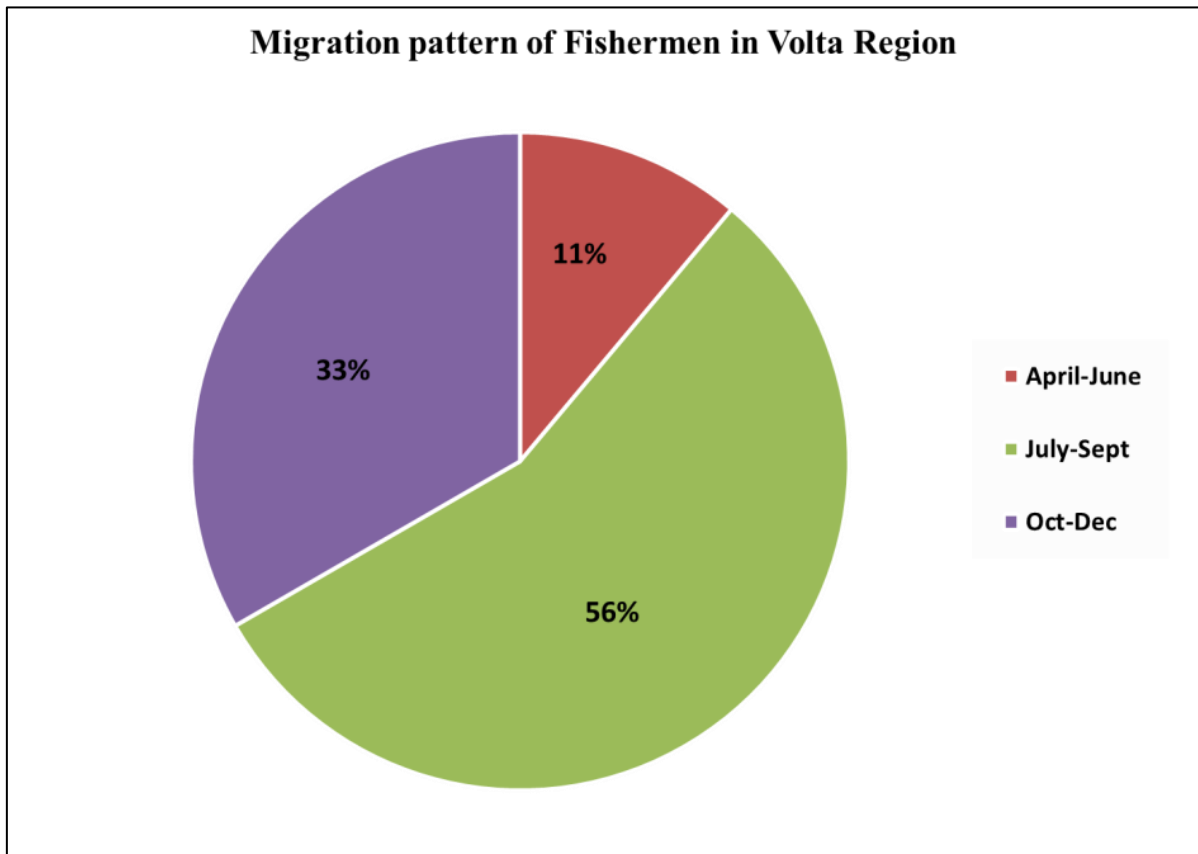


Figure 12: Migration pattern of fishermen along the coast of Ghana

Volta Region



Greater Accra Region

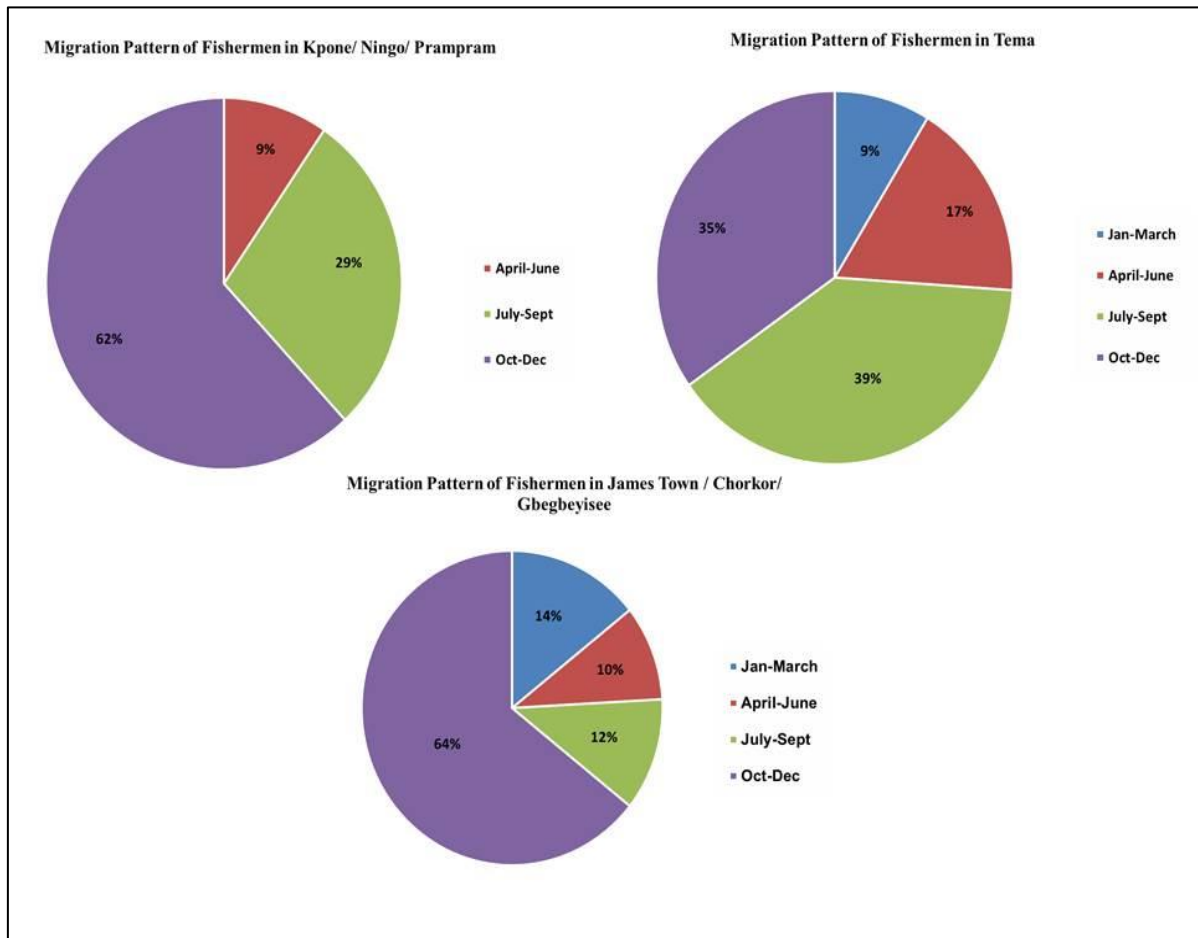


Figure 13: Migration pattern of fishermen in Greater Accra Region

Central Region

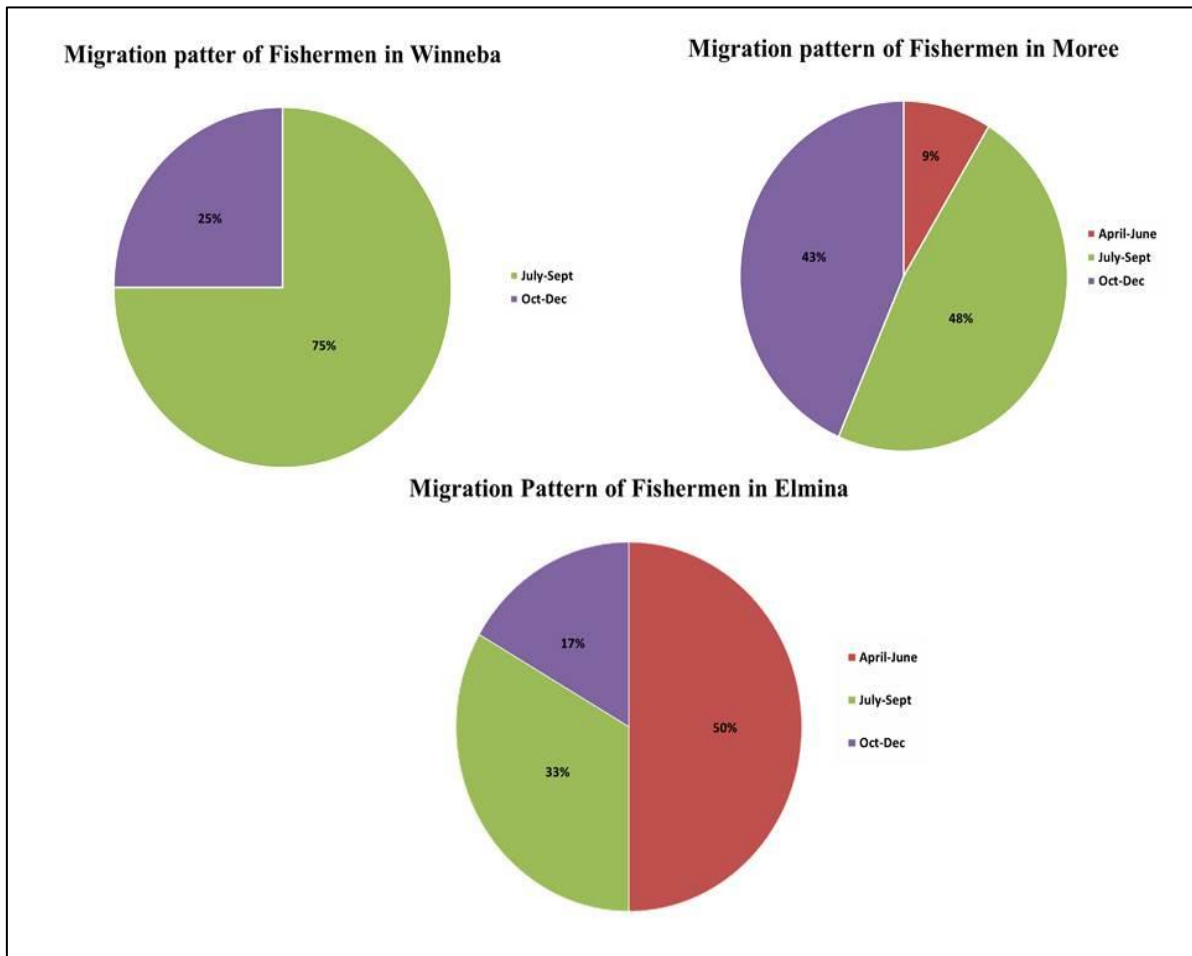


Figure 14: Migration pattern of fishermen in Central Region

Western Region

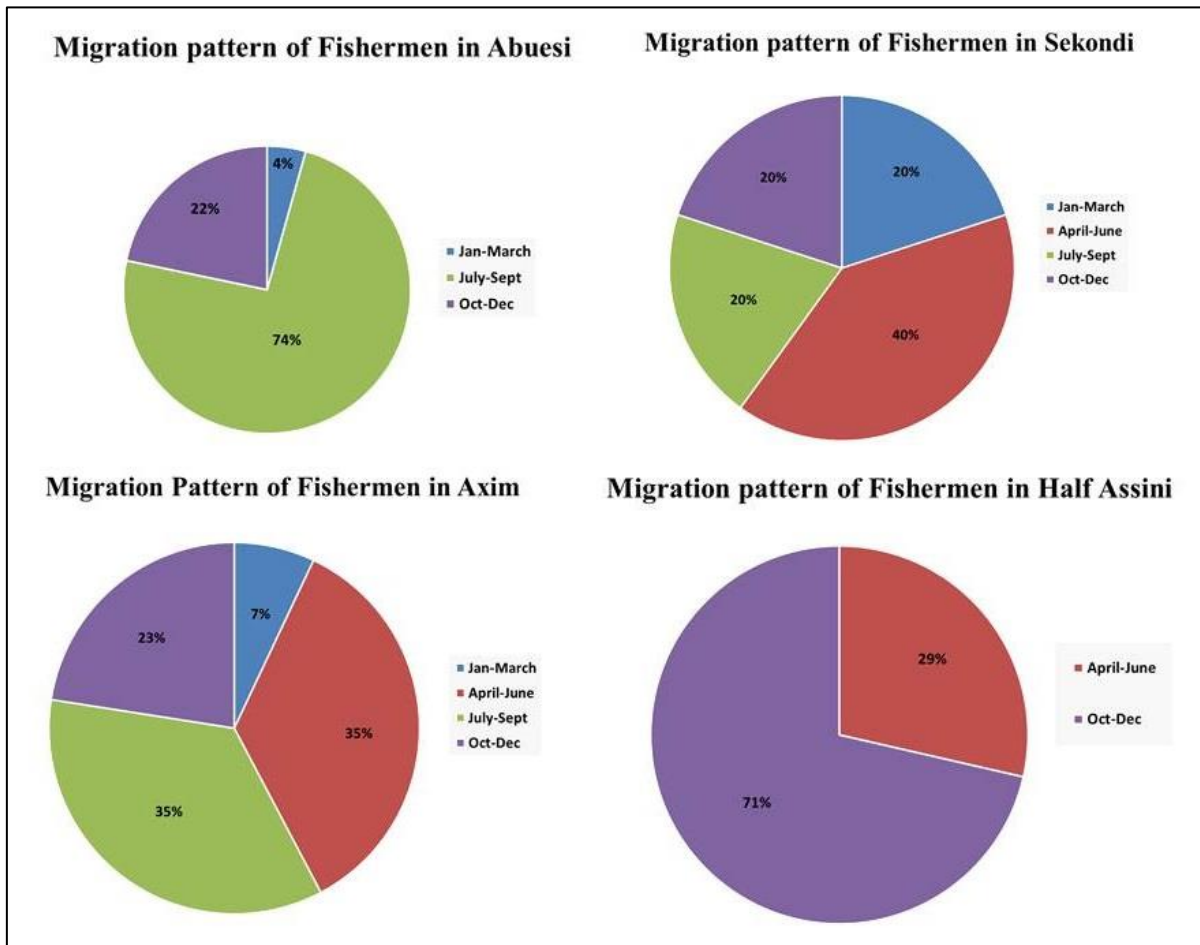


Figure 15: Migration pattern of fishermen in Western Region

NUMBER OF DEPENDENTS

Large family size is not uncommon among fishermen. Majority of the population in fishing communities are married to two wives and have between 5 and 9 children. The wives retail the fish and the children sometimes help in fishing expedition.

National

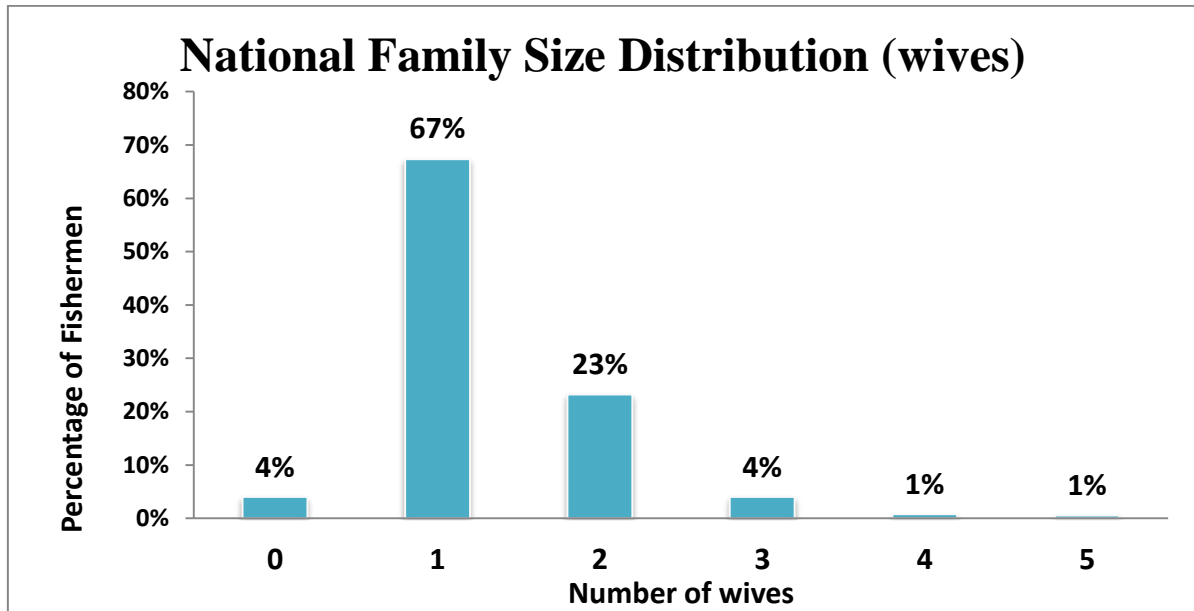


Figure 16: National representation of number of wives of fishermen

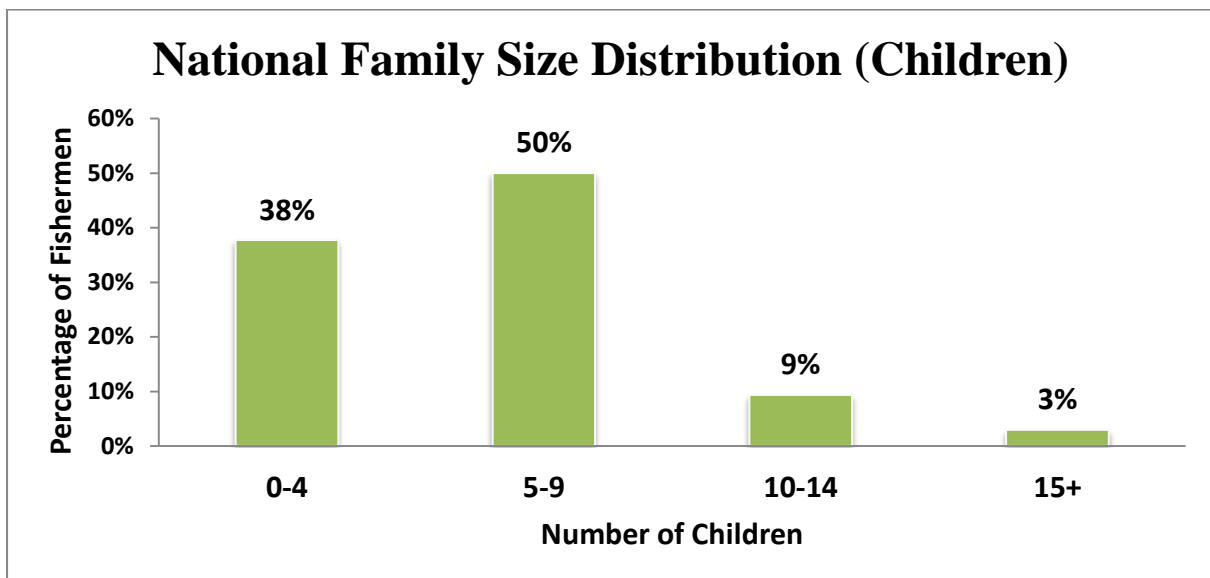


Figure 17: National representation of number of children of fishermen

Volta Region

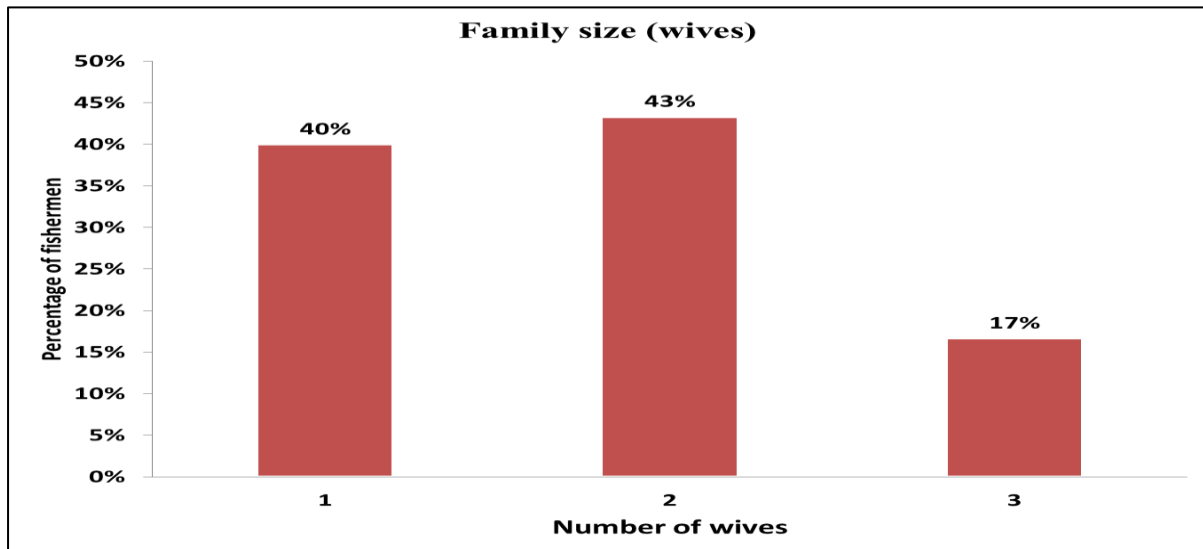


Figure 18: Number of wives of fishermen in Volta Region

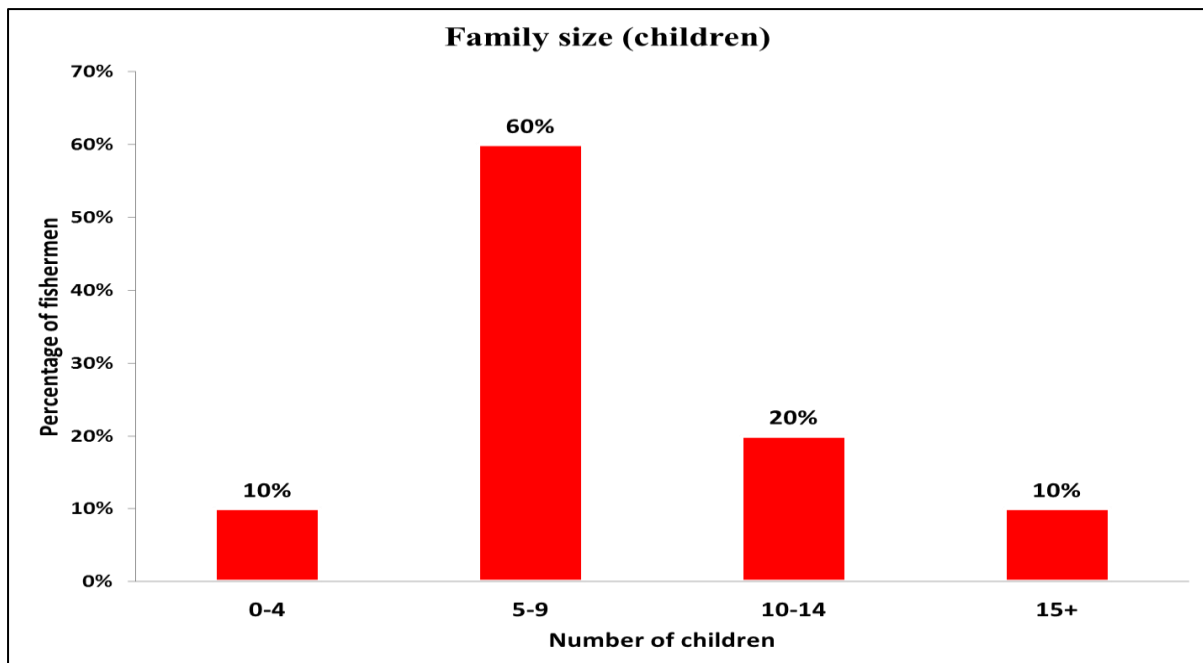


Figure 19: Number of children of fishermen in the Volta Region

Greater Accra Region

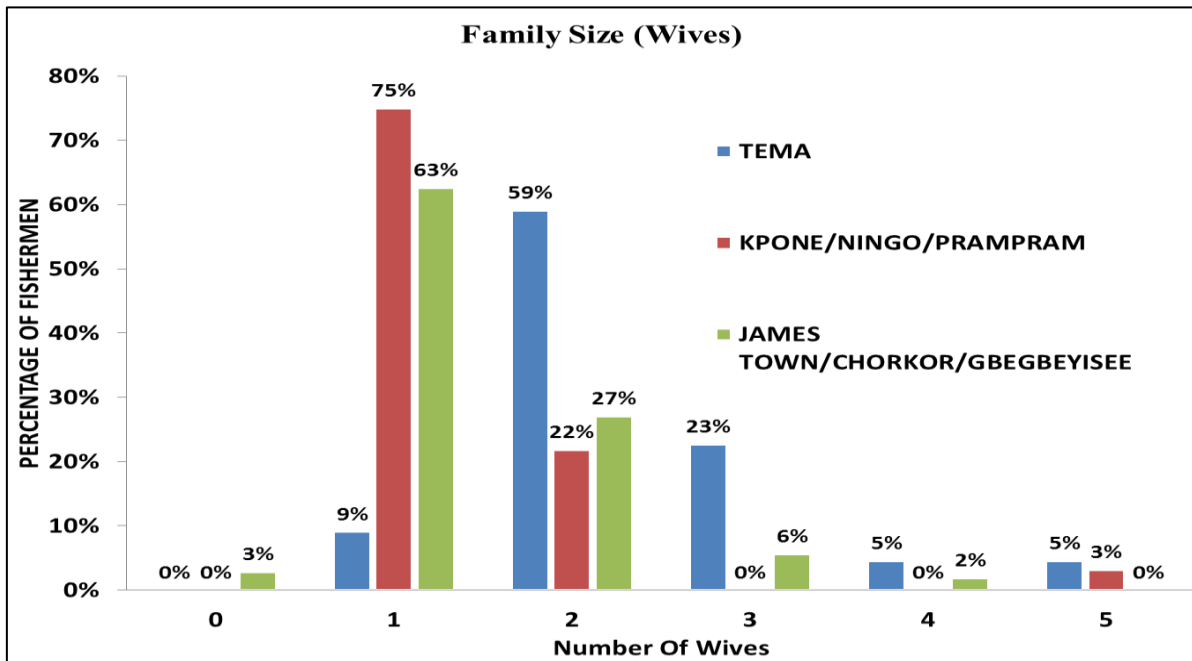


Figure 20: Number of wives of fishermen in Greater Accra Region

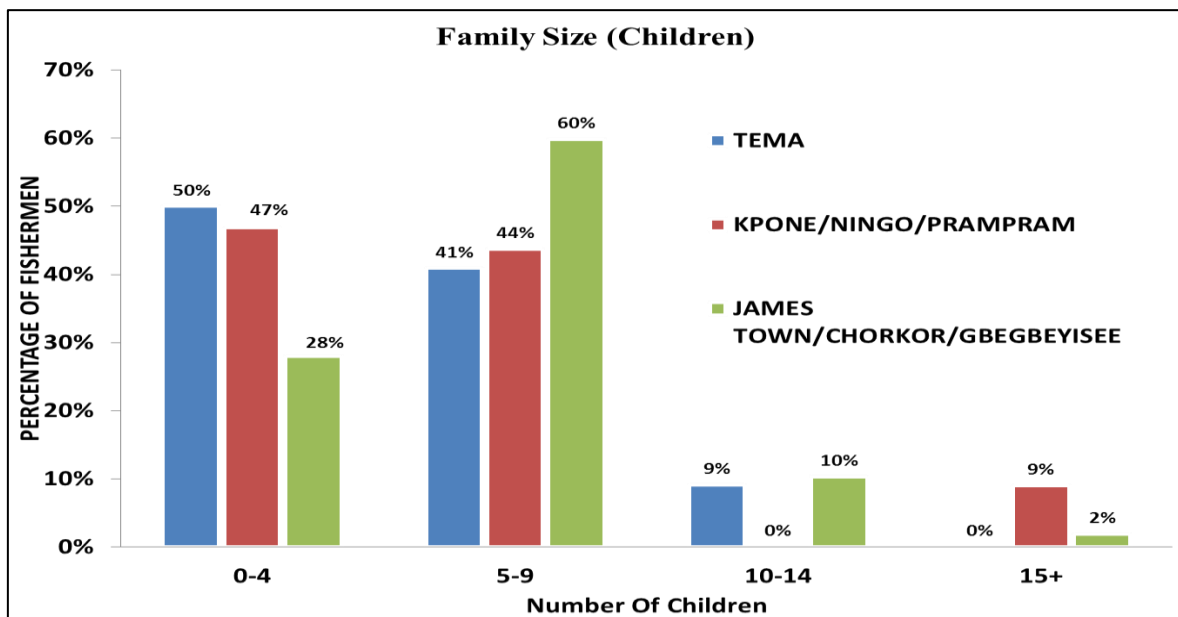


Figure 21: Number of children of fishermen in Greater Accra Region

Central Region

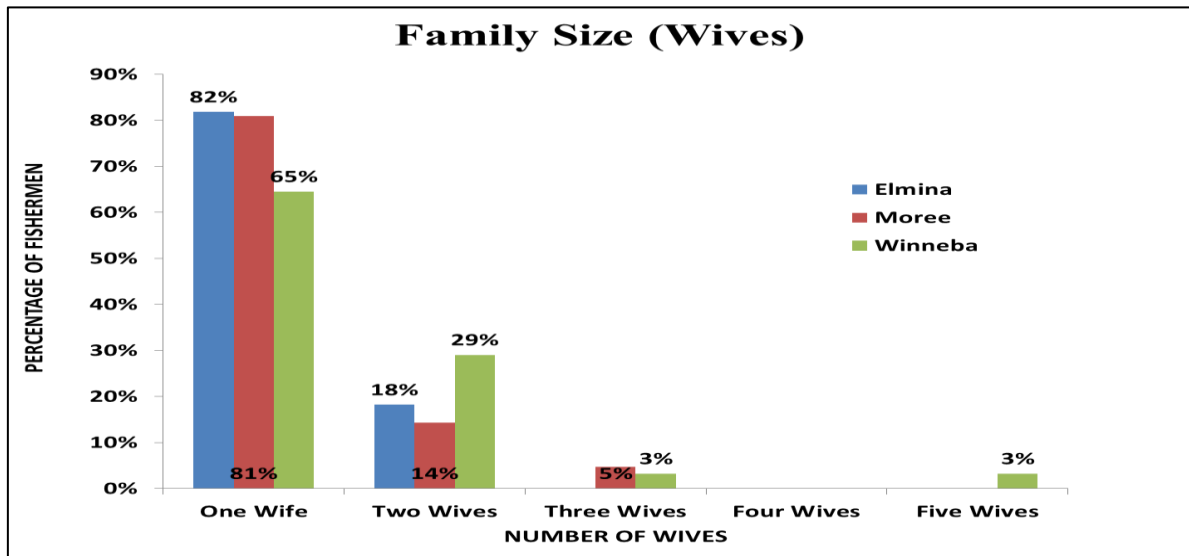


Figure 22: Number of wives of fishermen in Central Region

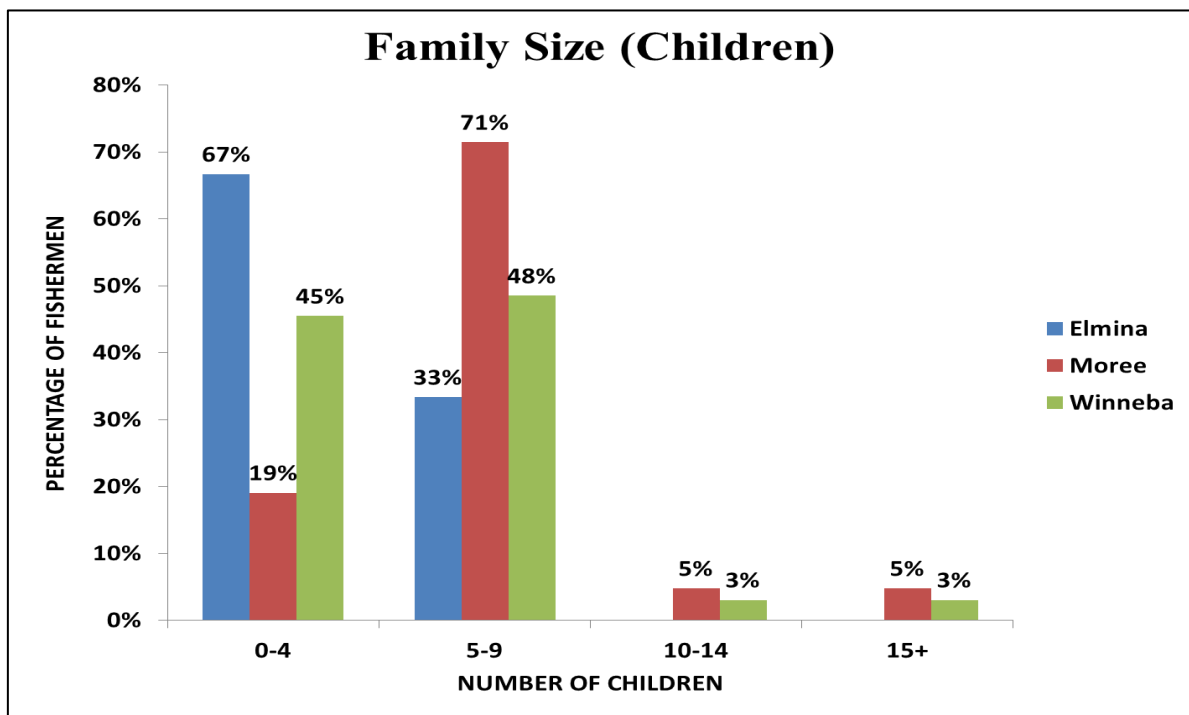


Figure 23: Number of children of fishermen in Central Region

Western Region

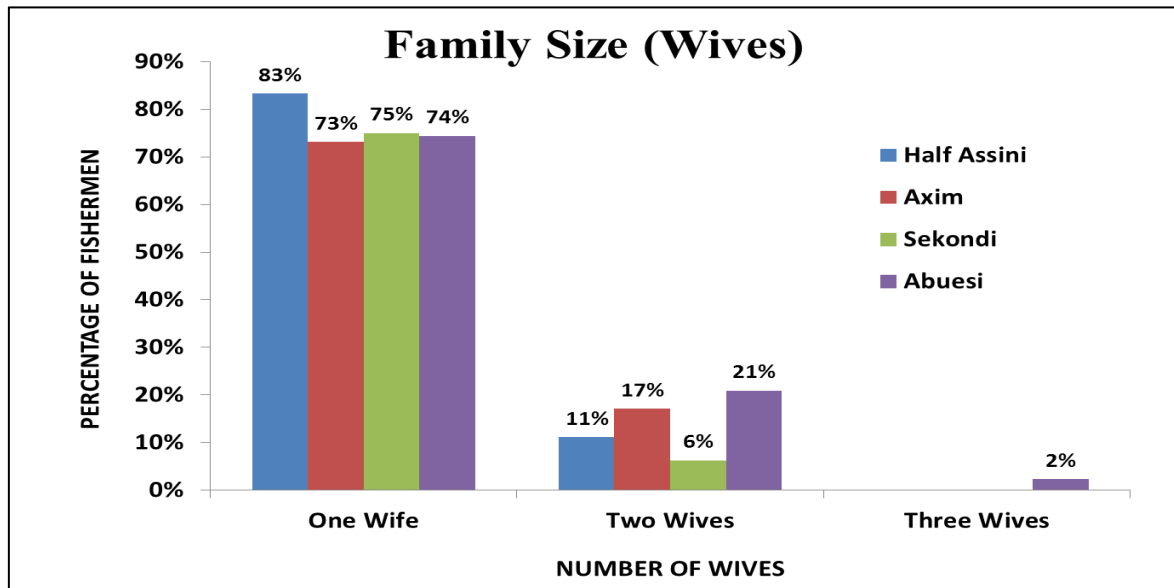


Figure 24: Number of wives of fishermen in Western Region

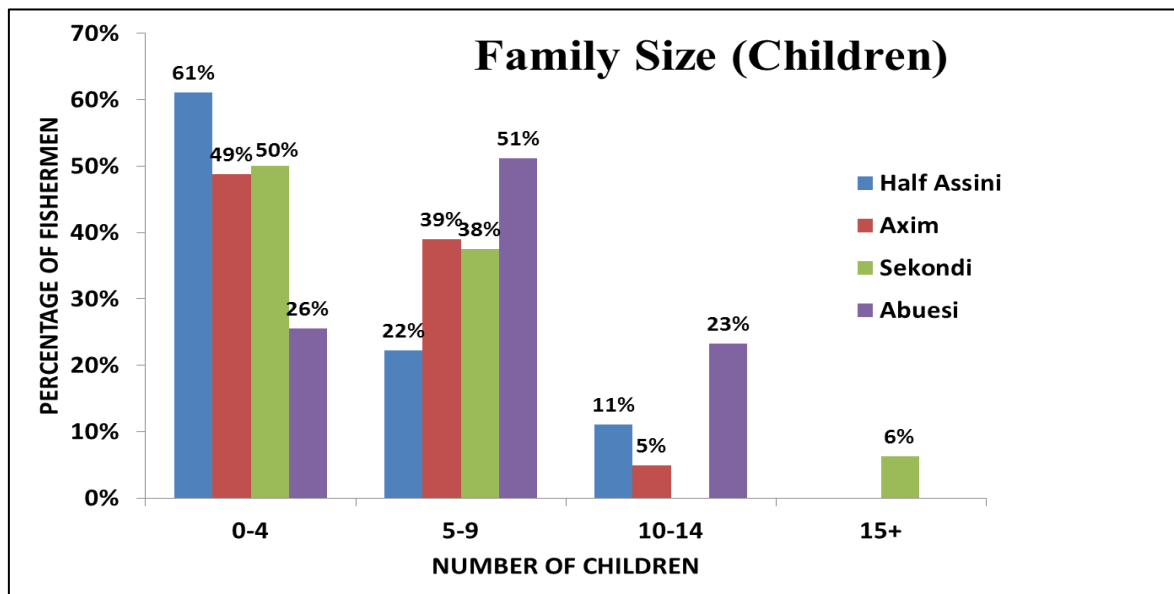


Figure 25: Number of children of fishermen in Western Region

YEARS IN FISHING

National

On the national level, the majority of fishermen have more than 20 years of fishing experience. This confirms the long history and traditional ties of coastal communities with fishing. It is more than a livelihood as expressed in some interviews; it is a way of life.

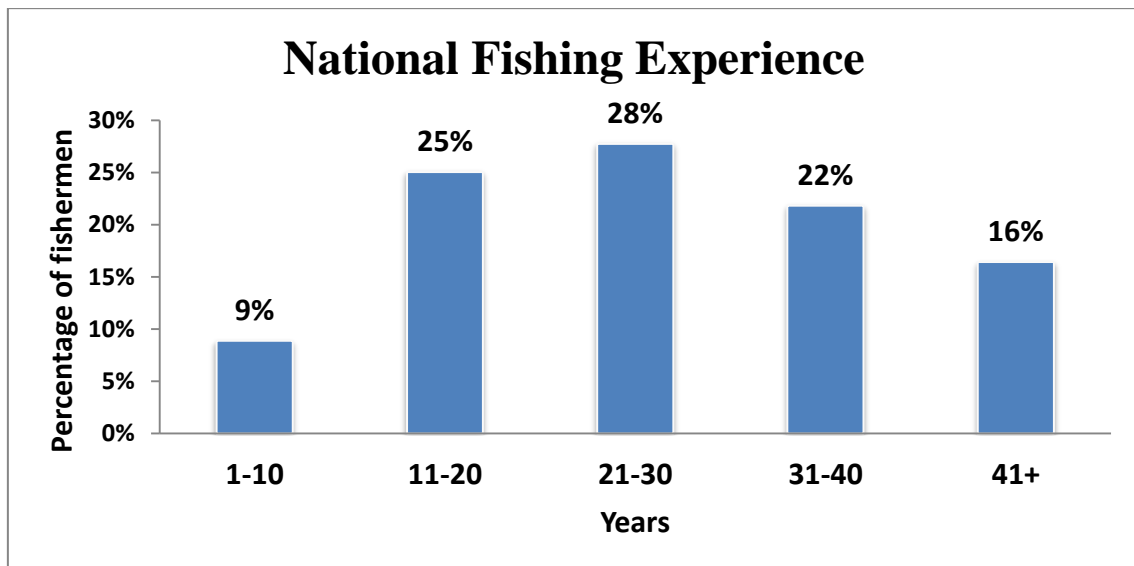


Figure 26: National representation of fishing experience

Volta region

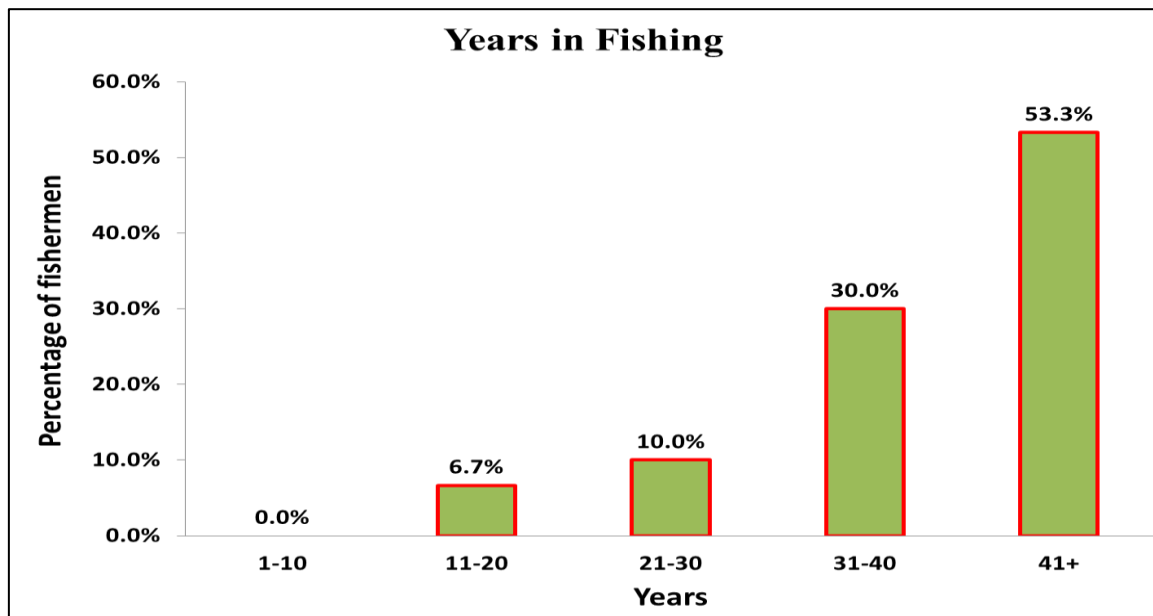


Figure 27: Fishermen's experience in fishing in Volta Region

Greater Accra Region

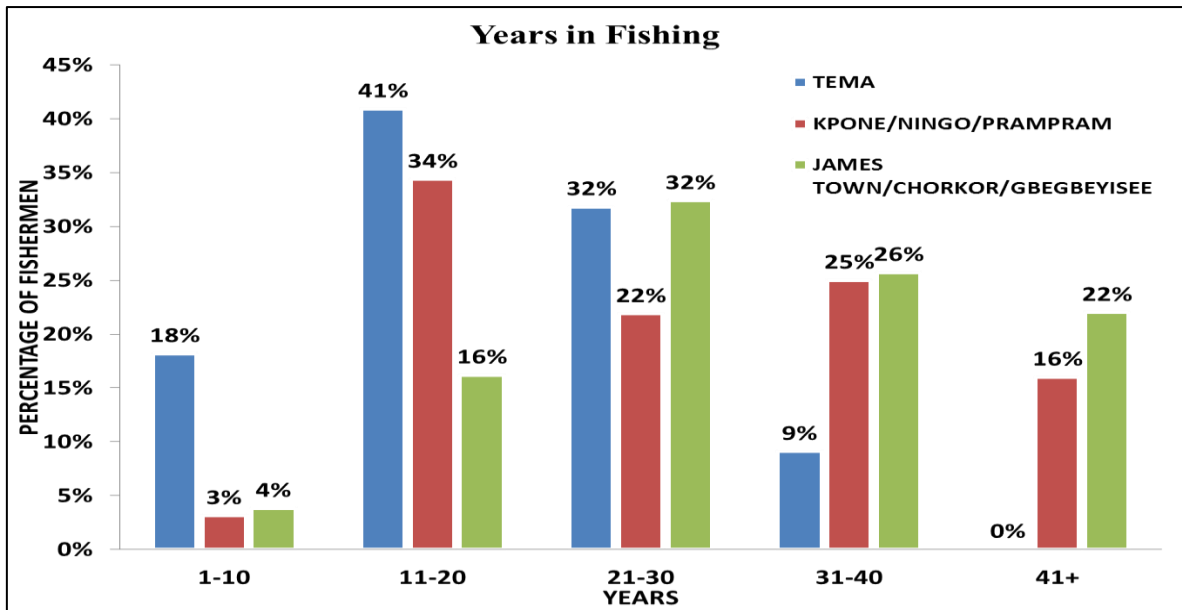


Figure 28: Fishermen's experience in fishing in Greater Accra Region

Central Region

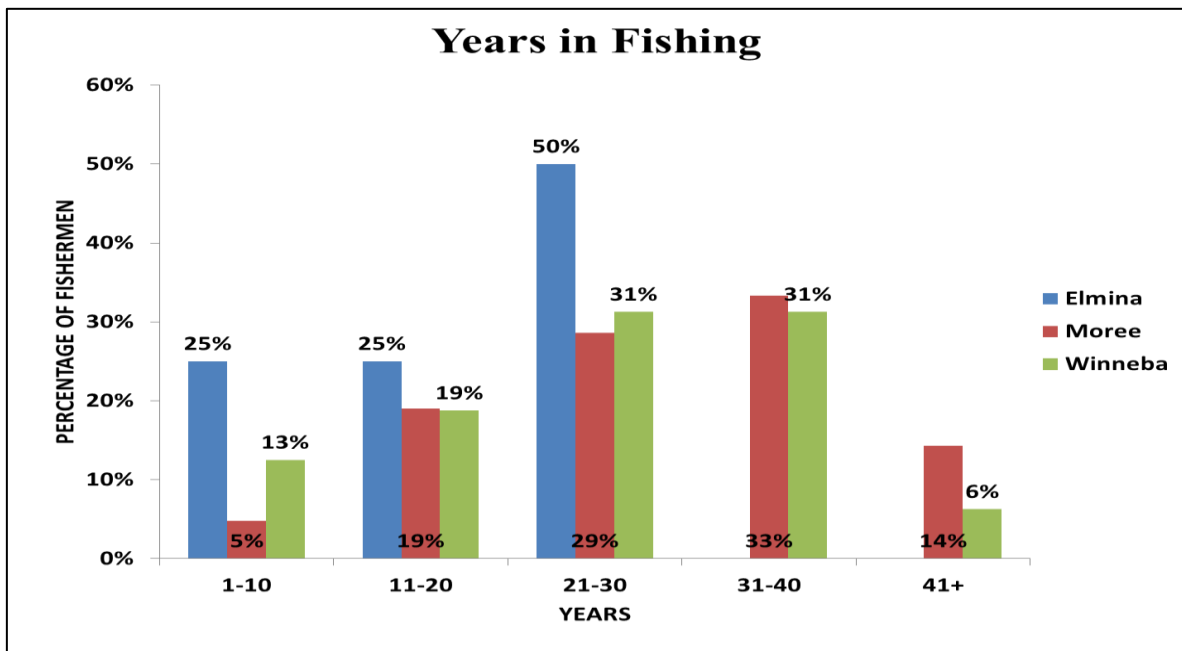


Figure 29: Fishermen's experience in fishing in Central Region

Western Region

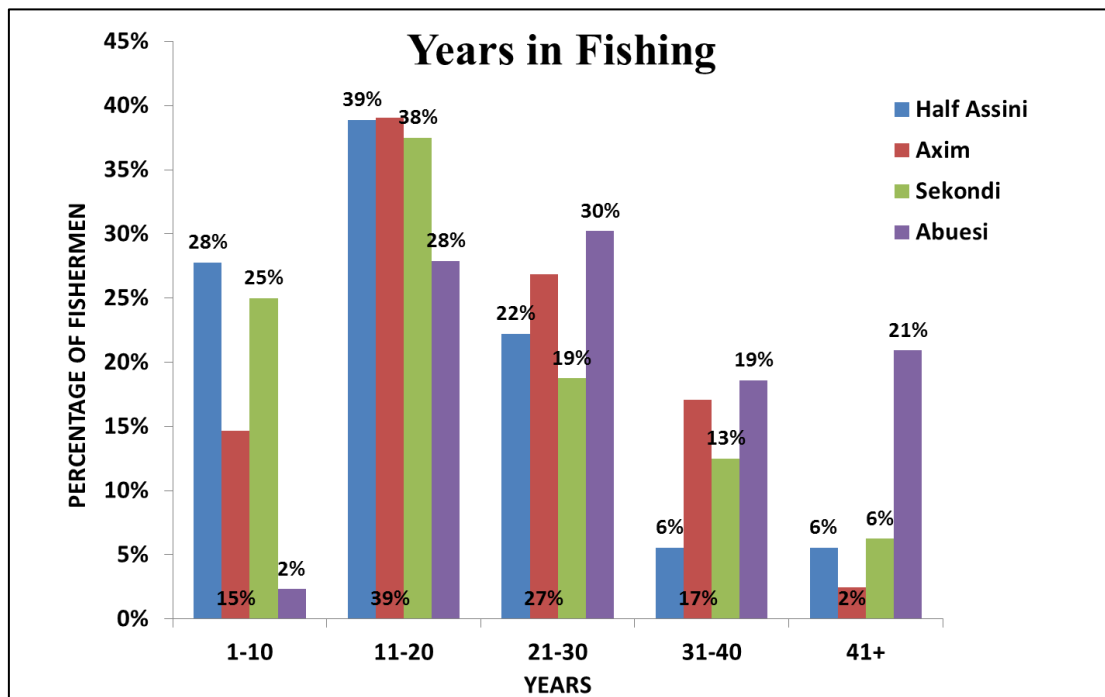
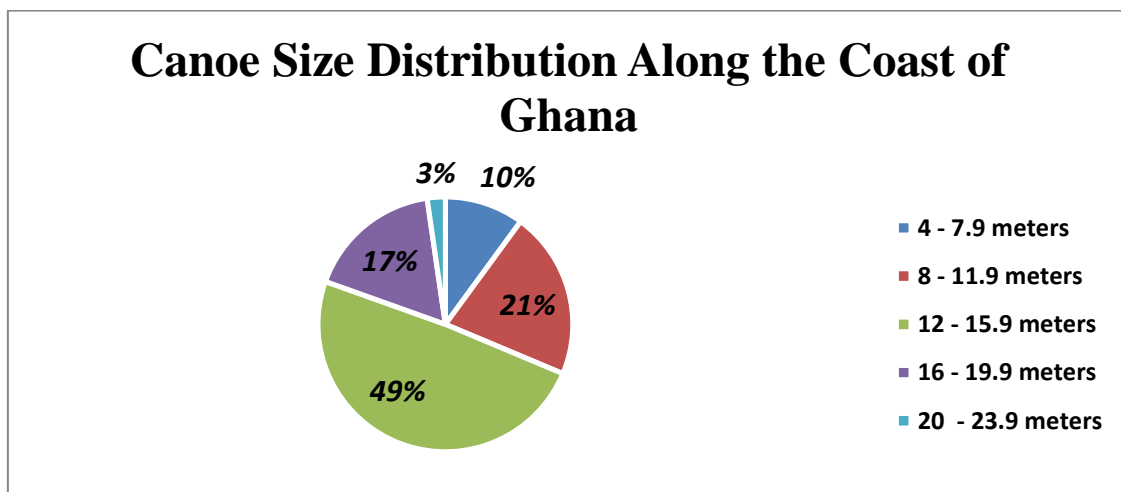


Figure 30: Fishermen's experience in fishing in Western Region

SIZE OF CANOE

Canoe size harvesting small pelagic fisheries in the artisanal sector are dominated by the 12-16 meters canoes. There are some extreme cases where sizes as large as 20 meters to 22 meters are recorded in places like Prampram and Half Assini. Smaller size canoes are used inshore close to lagoons and estuaries.

National



Volta Region

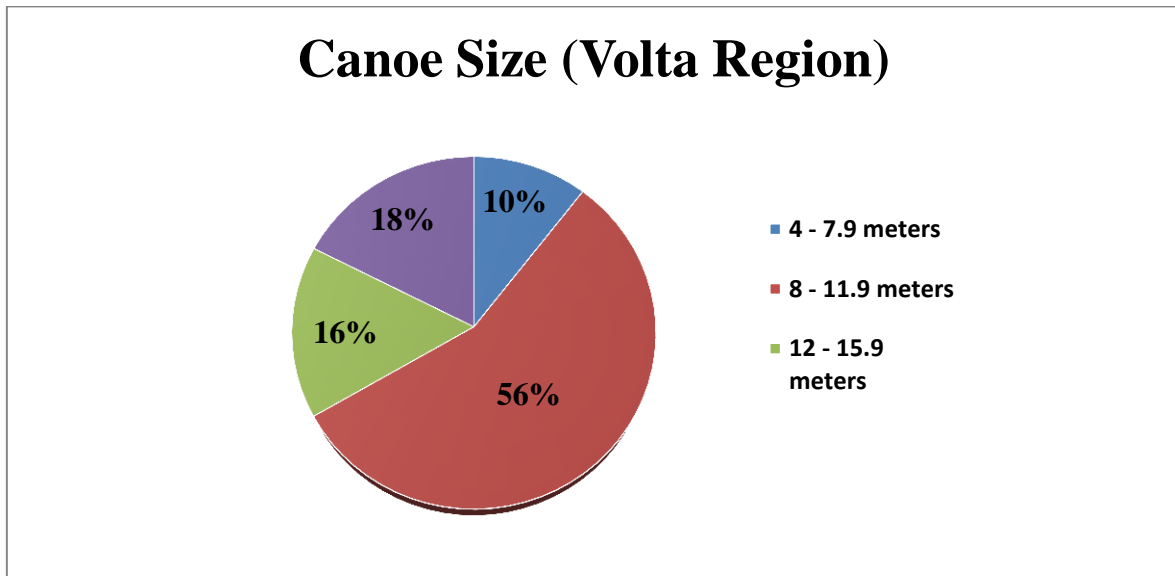


Figure 31: Canoe sizes in Volta Region

Greater Accra Region

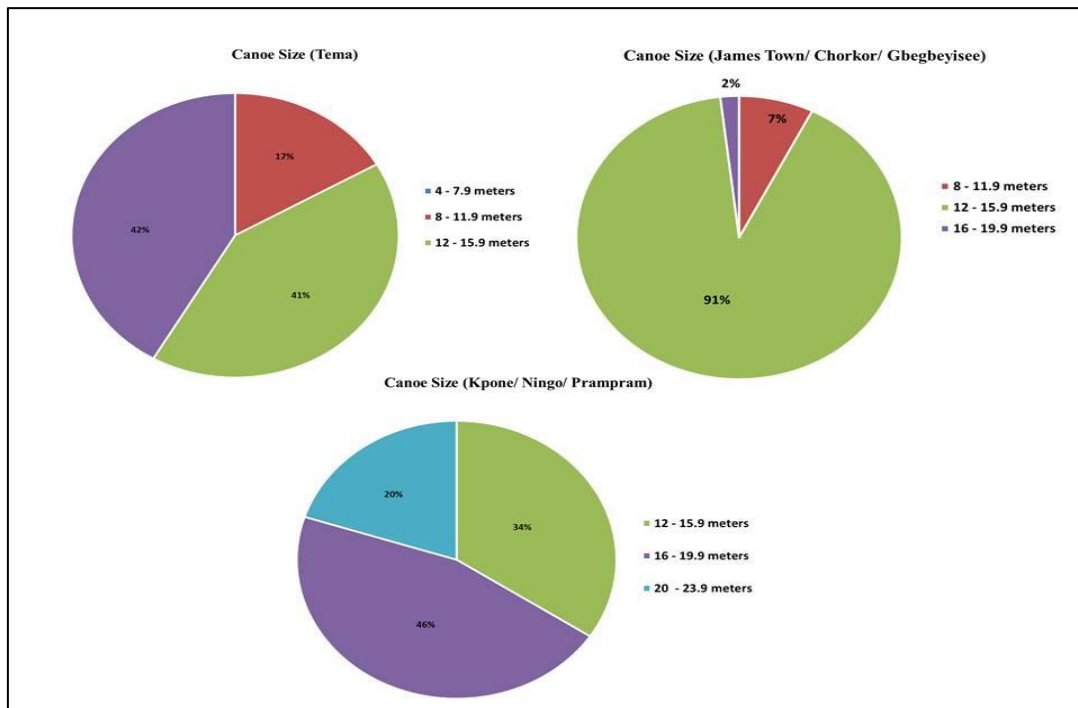


Figure 32: Canoe size in Greater Accra Region

Central region

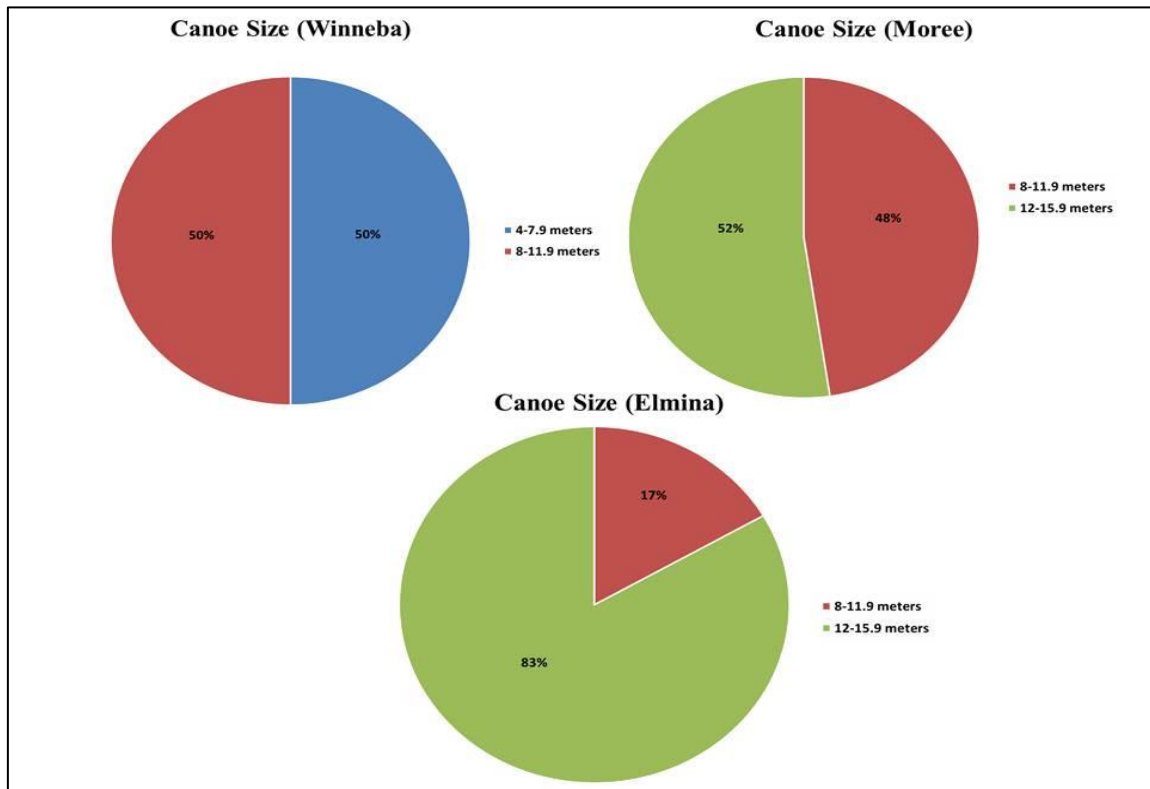


Figure 33: Canoe size in Central Region

Western Region

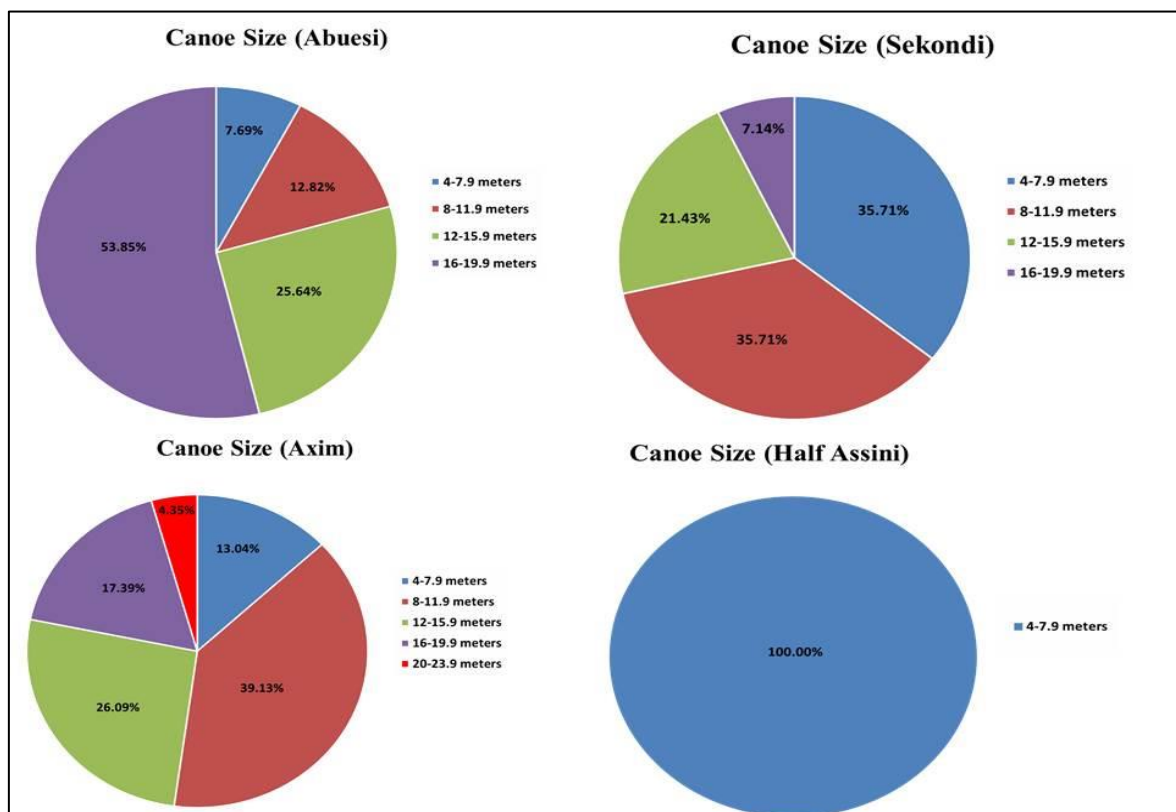


Figure 34: Canoe size in Western Region

TYPE OF GEARS

Fishing gears in the artisanal fisheries is constantly evolving; fishermen are always finding or inventing more efficient fishing gears to target shoal of fish. Volta Region, that was hitherto considered to be dominated by a single fishing gear, has seen massive adoption of other fishing gear over the years. They have moved from the traditional beach seine fisheries to adopt hook and line, Purse seine net or *Ali Poli Watsa* (APW), Drift Gill Net (DGN) and others in their fishery.

National

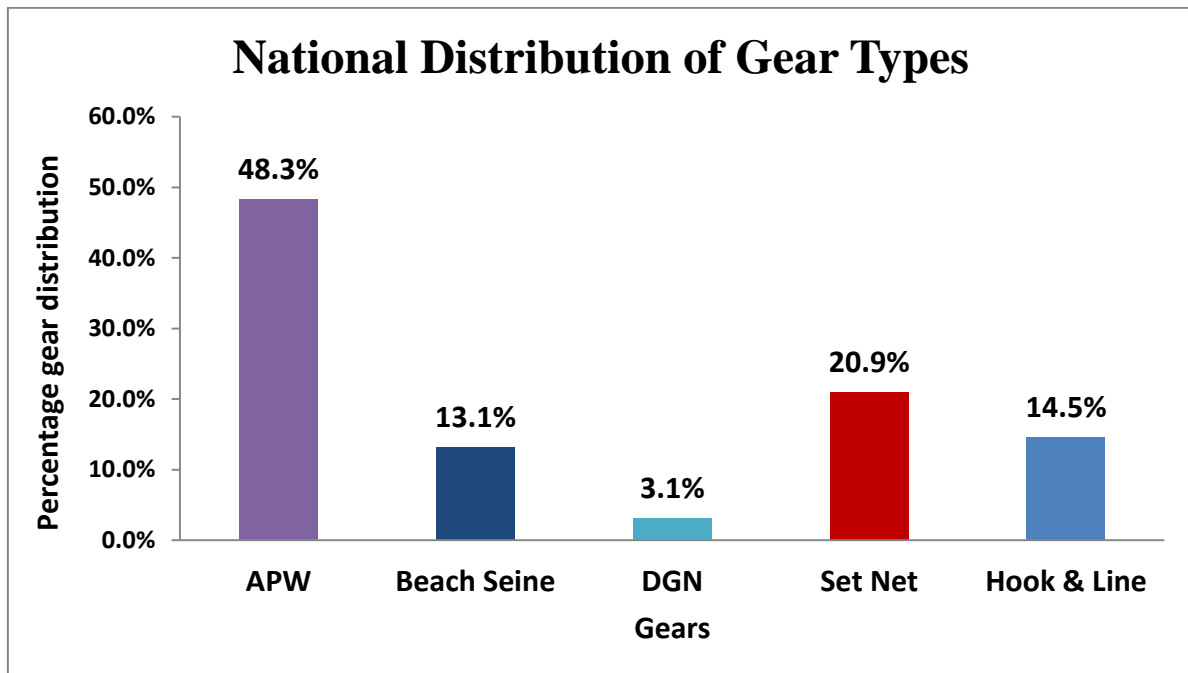


Figure 35: National distribution of fishing gear types

Volta region

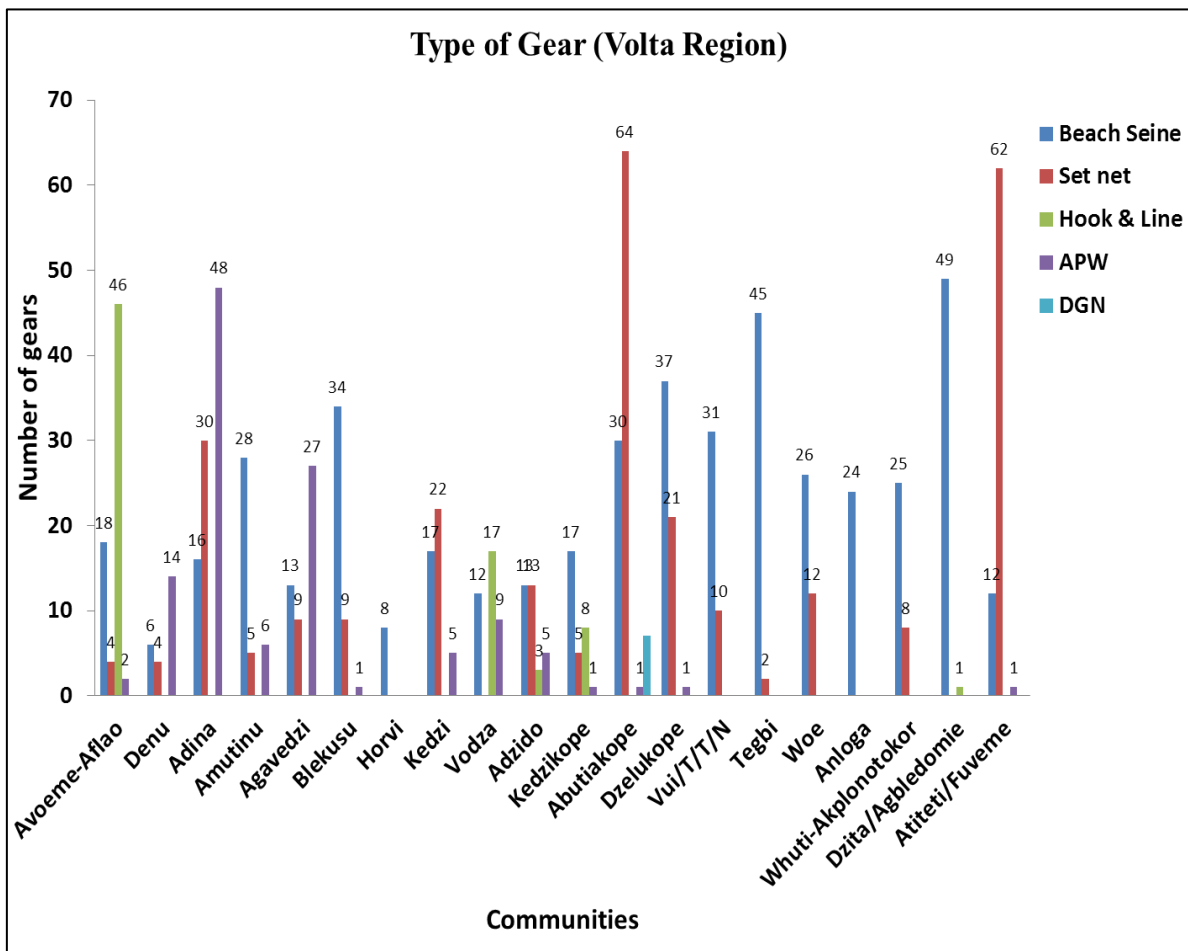


Figure 36: Types of gears in Volta Region

Greater Accra Region

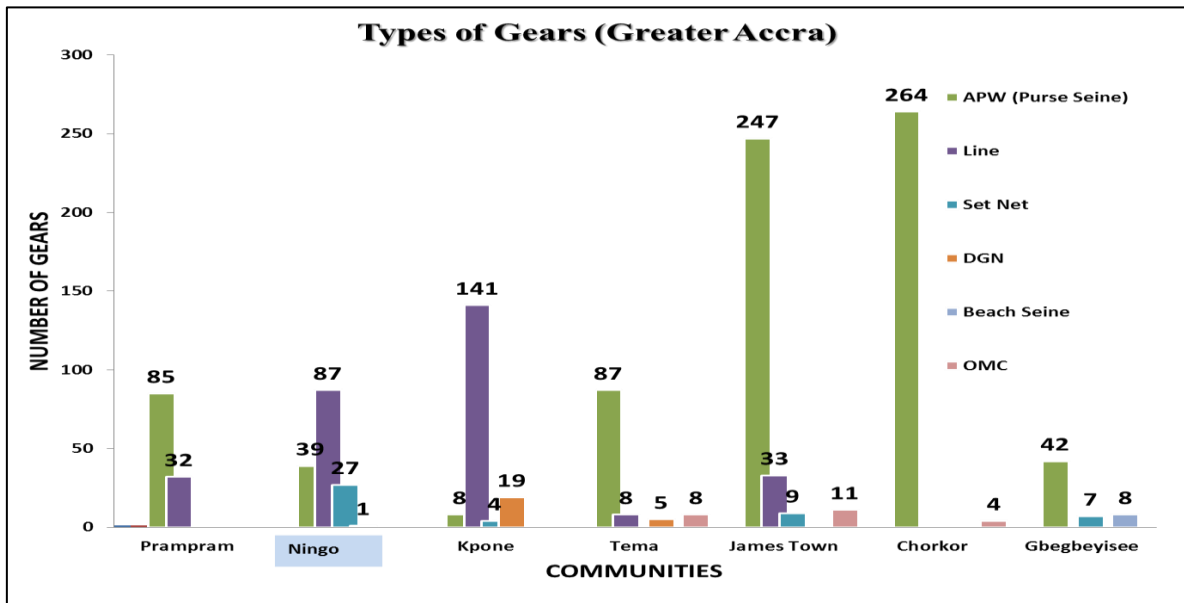


Figure 37: Types of fishing gears in Greater Accra Region

Central Region

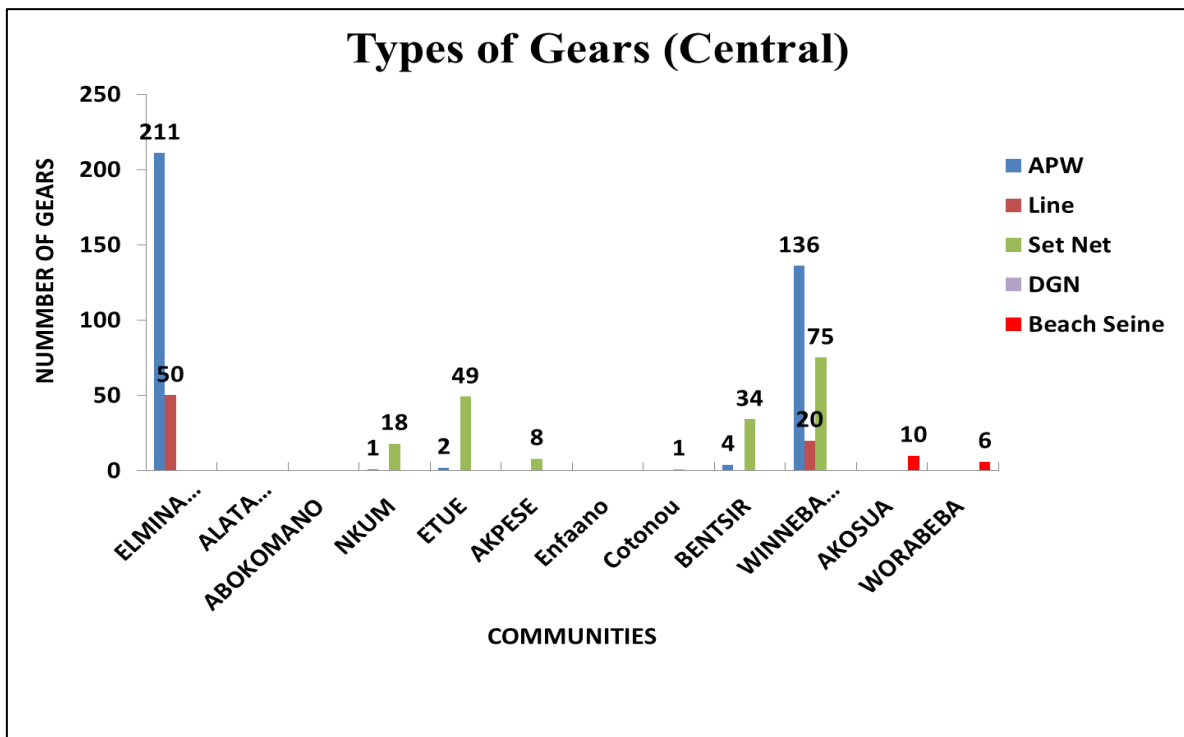


Figure 38: Types of fishing gears in Central Region

Western Region

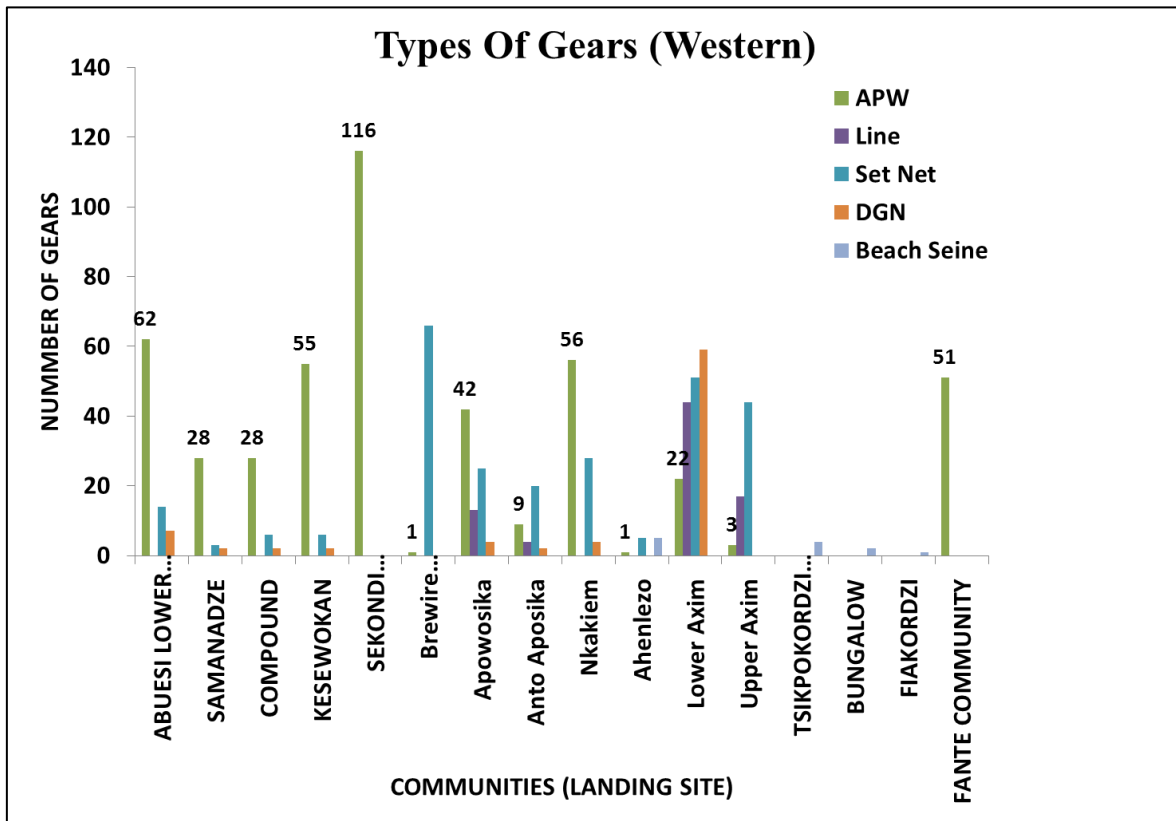


Figure 39: Types of fishing gears in Western Region

NUMBER OF FISHERMEN vs NUMBER OF CANOES

Volta Region

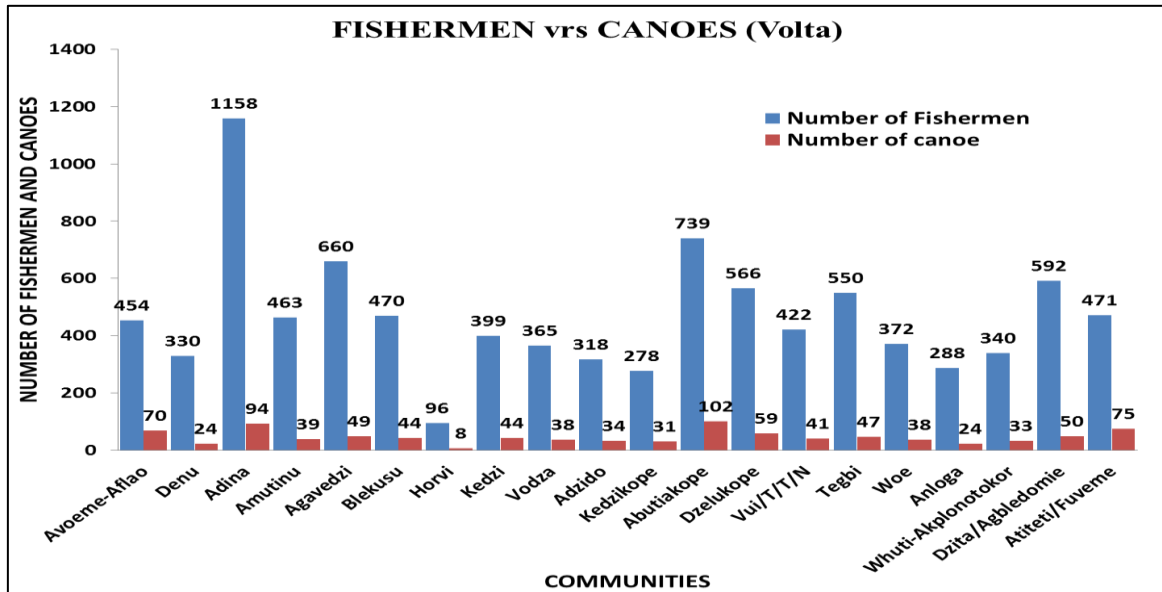


Figure 40: Number of fishermen and canoes harvesting small pelagic fish in Volta Region

Greater Accra Region

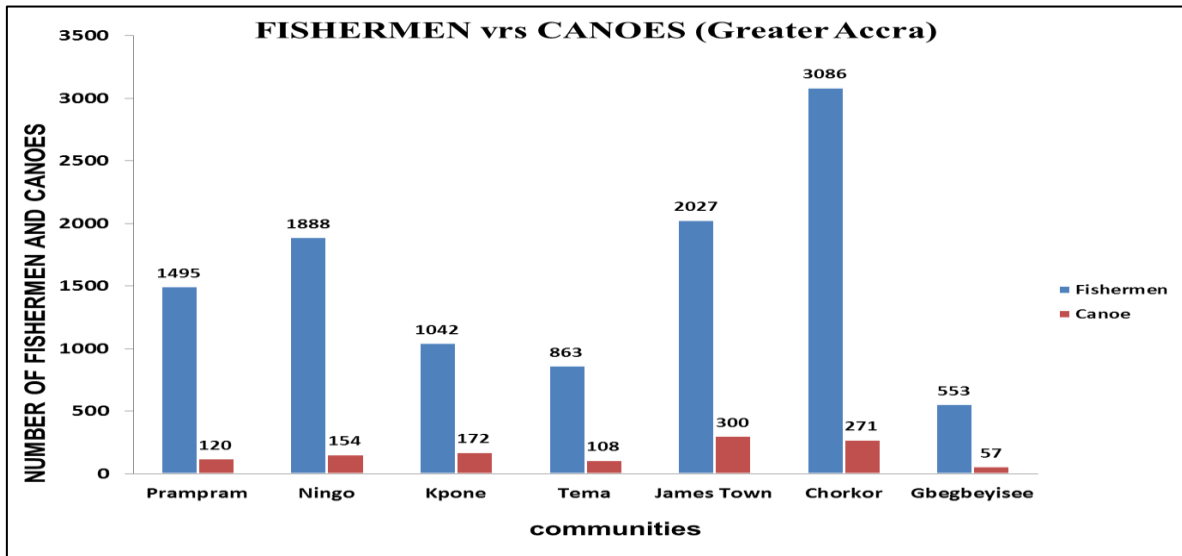


Figure 41: Number of fishermen and canoes harvesting small pelagic fish in Greater Accra Region

Central Region

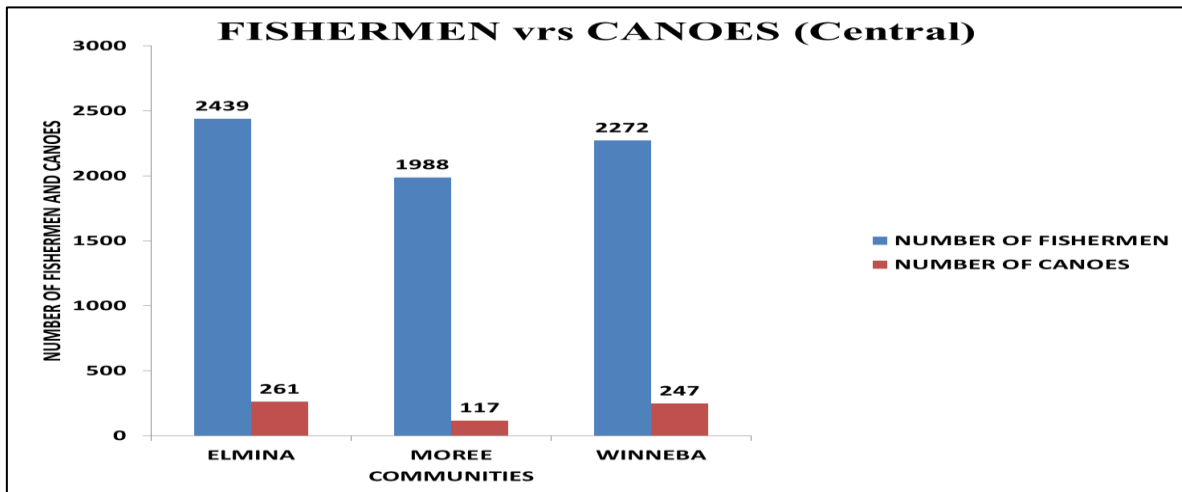


Figure 42: Number of fishermen and canoes harvesting small pelagic fish in Central Region

Western Region

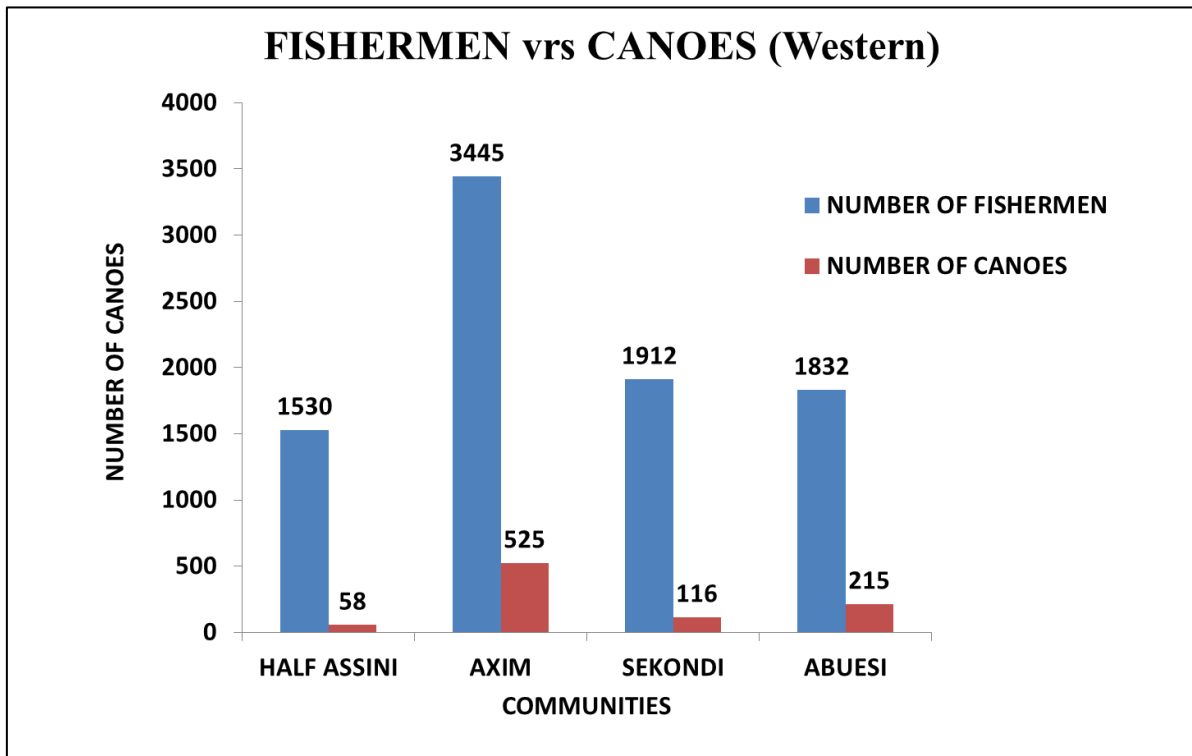


Figure 43: Number of fishermen and canoes harvesting small pelagic fish in Western Region

TYPES SMOKING UNITS

Considering the total number of stoves, Volta Region has _____ stoves, Greater Accra region has _____ stoves, Central region has _____ stoves and Western Region _____ stoves in total (Traditional and chorkor). About $\frac{3}{4}$ of stoves comprises of the traditional clay type (chorkor stove). There were a few improved stoves that were identified, they are the Morrison stove at New Takoradi and the Kosmos stove at Abuasi both in the Western Region.

National

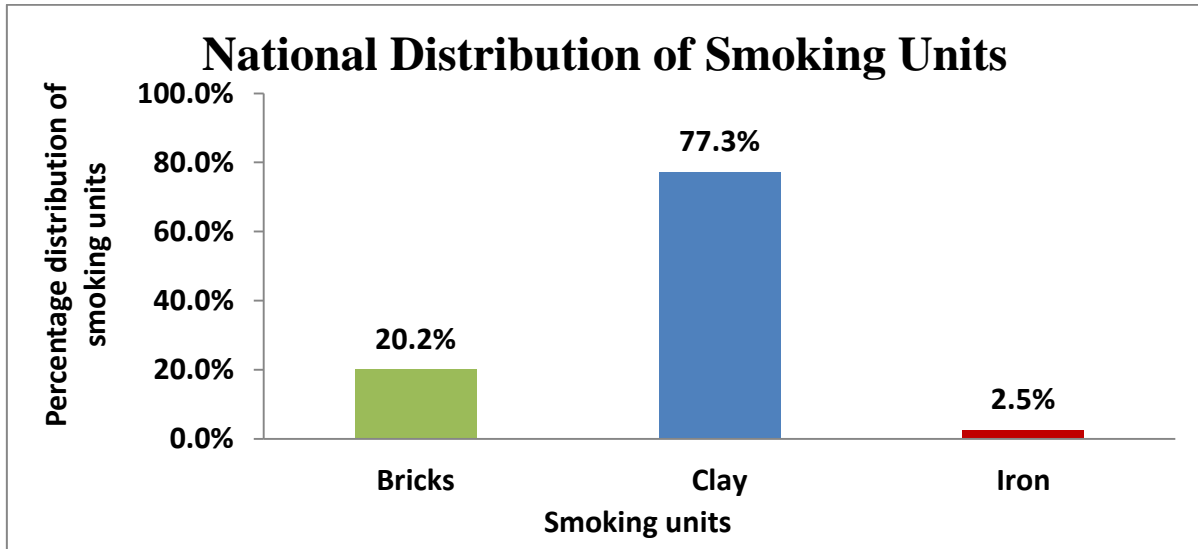


Figure 44: Distribution of smoking units along the coast

Volta Region

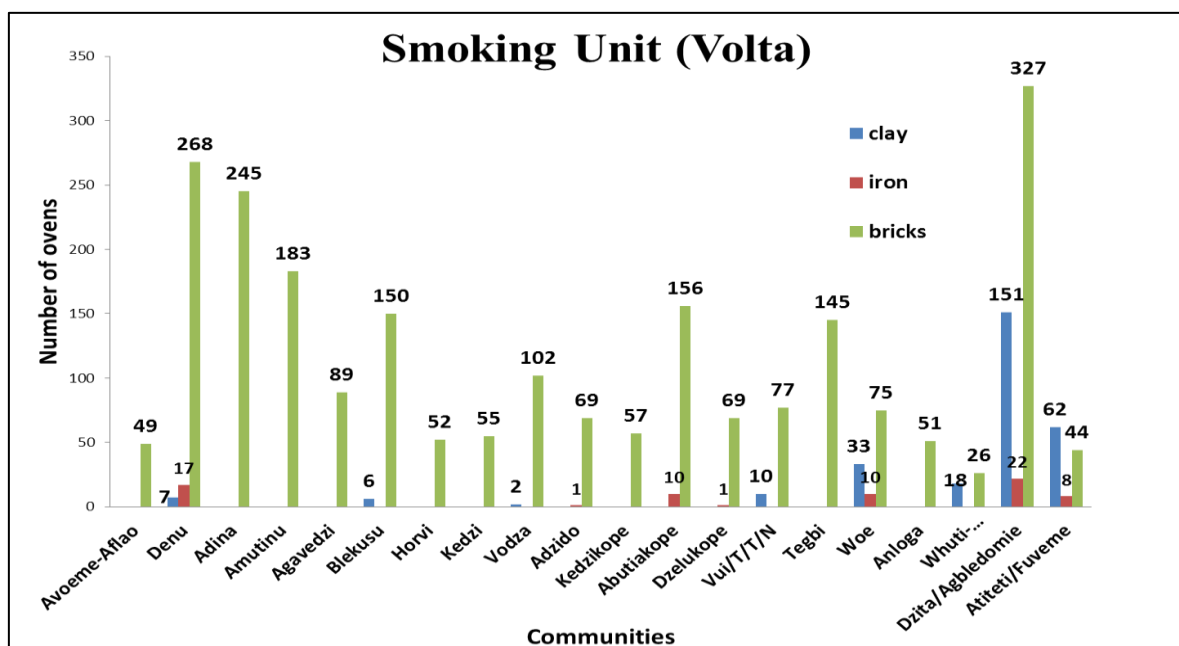


Figure 45: Types of smoking units in Volta Region

Greater Accra Region

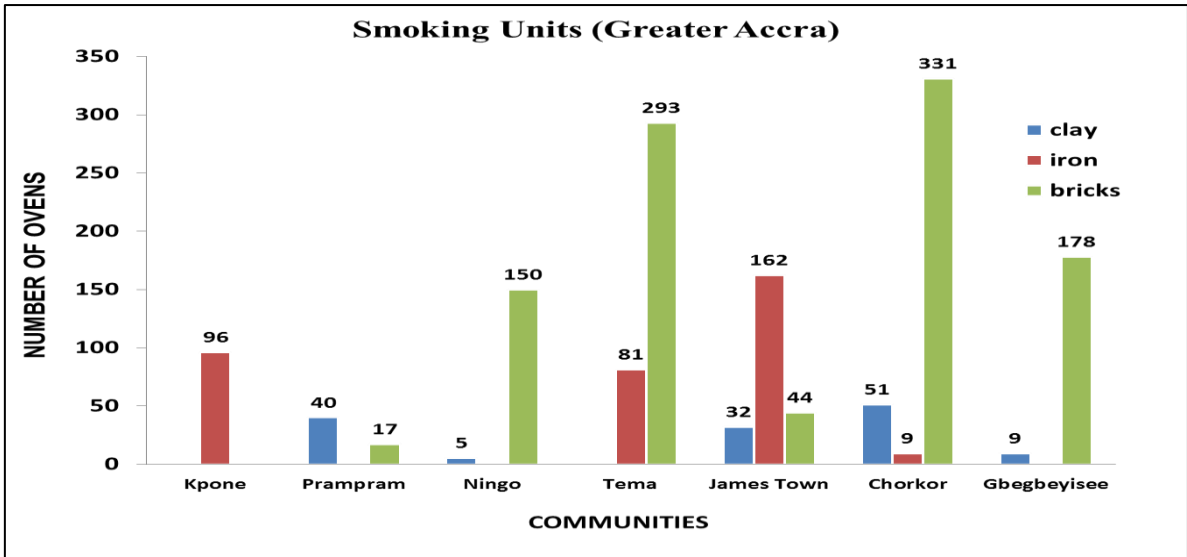


Figure 46: Types of smoking units in Greater Accra Region

Central Region

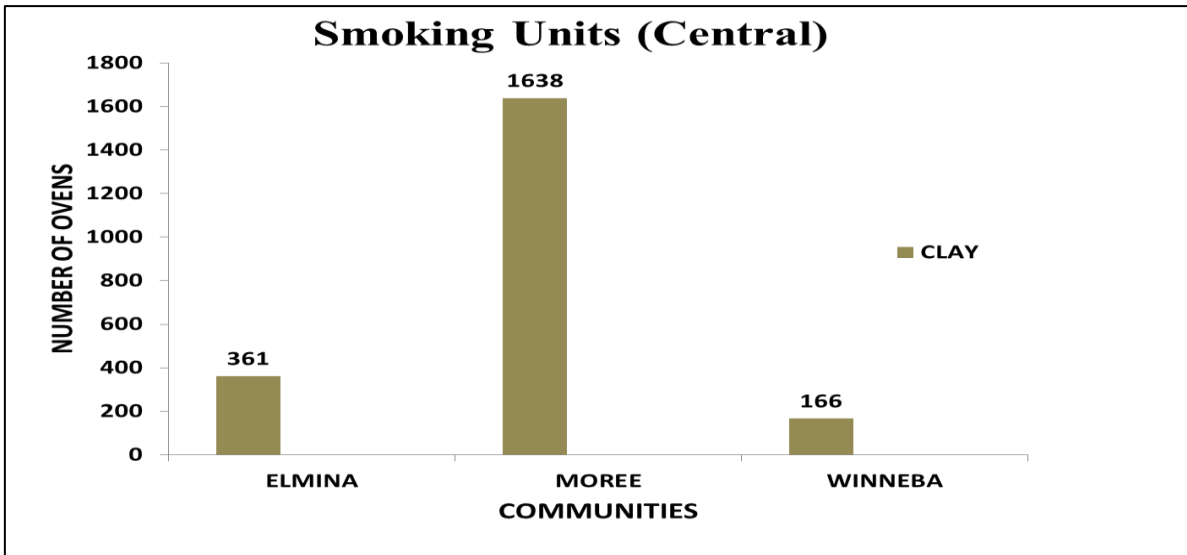


Figure 47: Types of smoking units in Central Region

Western Region

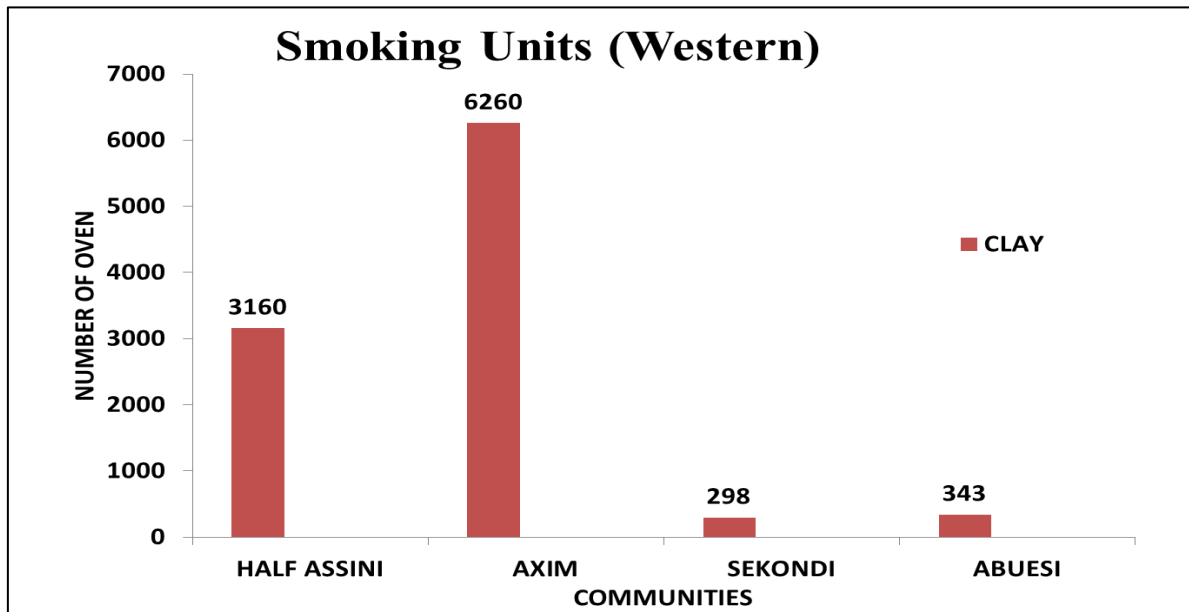


Figure 48: Types of smoking units in Western Region

HISTORICAL PERSPECTIVE OF FISHERIES

National

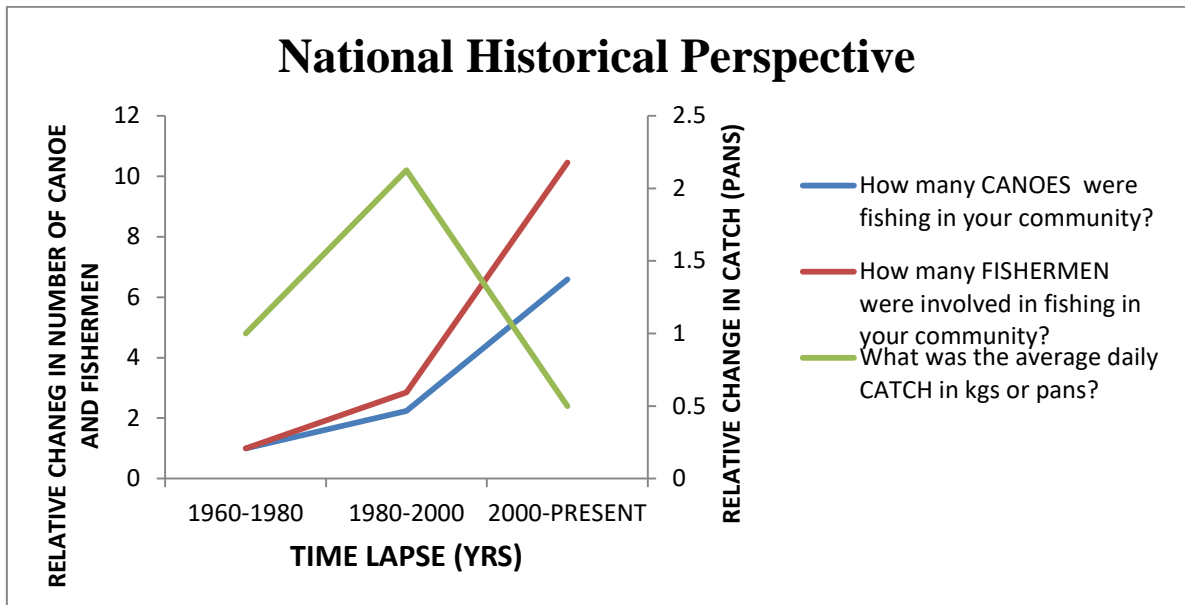


Figure 49: Fishermen's national perspective of the fishery

Volta Region

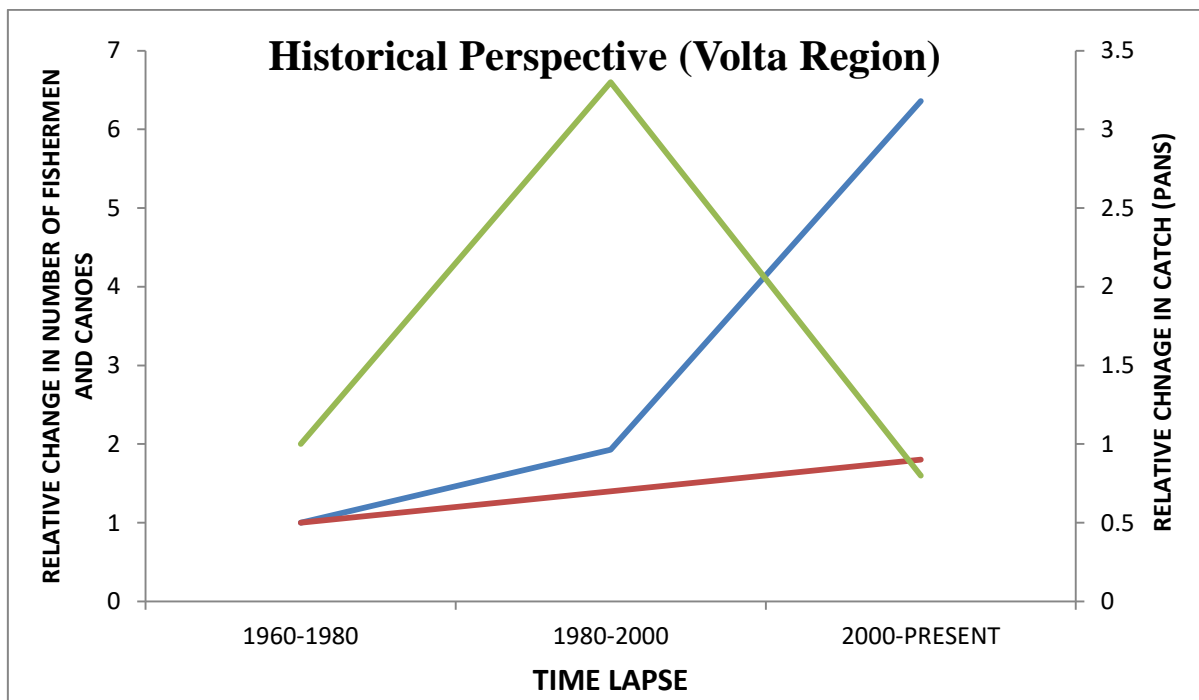


Figure 50: Historical perspective of the fisheries in Volta Region

Greater Accra Region

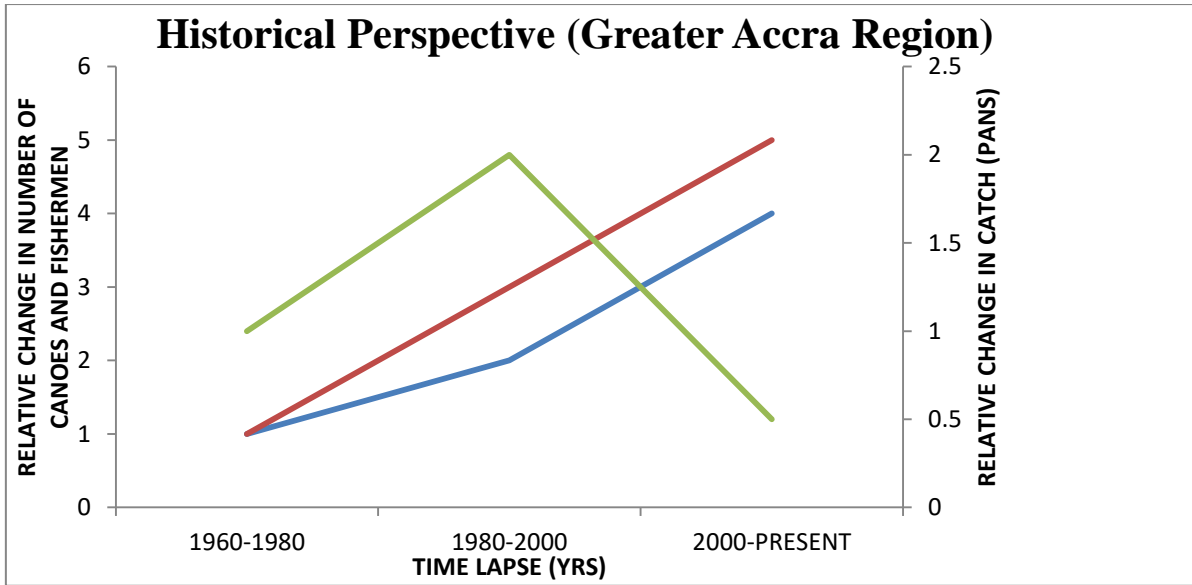


Figure 51: Historical perspective of the fisheries in Greater Accra Region

Central Region

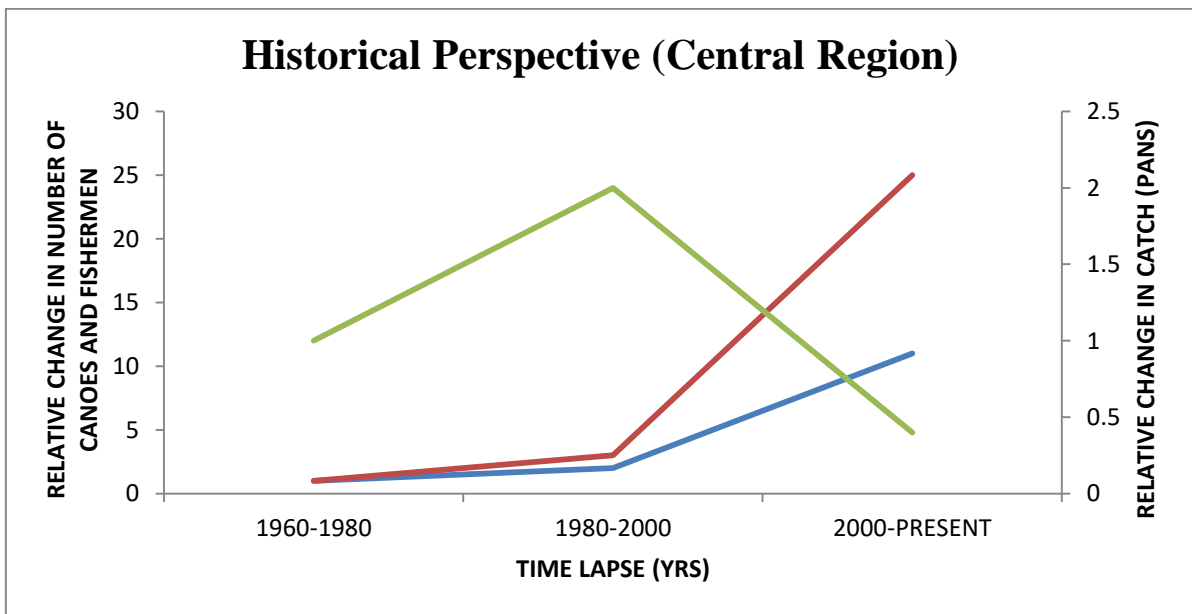


Figure 52: Historical perspective of the fisheries in Central Region

Western Region

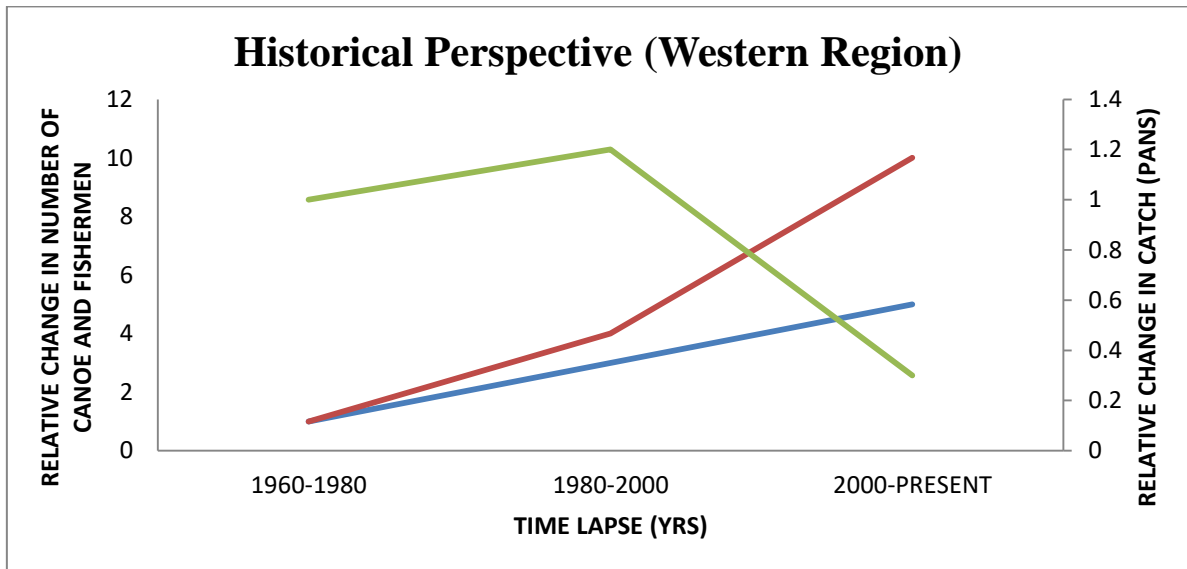


Figure 53: Historical perspective of the fisheries in Western Region

CONCLUDING NOTES

- Livelihood interventions: this should not be a one-size-fits-all approach. Interventions should focus on the younger age brackets that are already looking for a way out of the fisheries.
- Smoking units: space and available material should be considered in smoking unit improvement. These factors influence smoking unit choice in fishing communities along the coast.
- Communication strategy: a more practical communication options should be considered when developing communication strategy for fisher folks. Dramas, sketches should be used for effective communication.
- Migration: it takes many forms, from short term – short distance movement in-country to long term – long distance movement to countries far away from home port. This should be considered in formulating policy for the sector.
- Older generation (40 years and above) forms a higher proportion of the population within the fishery.
- Higher percentage of the population in the fisheries has basic education.
- Large family size is not uncommon in fishing communities