

YOUTH PARTICIPATION IN FISH FARMING IN JALINGO LOCAL GOVERNMENT AREA OF TARABA STATE, NIGERIA

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ABSTRACT

This study analysed youth participation in fish farming in Jalingo L.G.As of Taraba State, Nigeria. A multi-stage sampling procedure was used to select 120 respondents for this study. Primary data were collected using structured questionnaire. Data were analysed using descriptive statistics such as frequency, percentage, mean and standard deviation. The results of the study revealed that the majority (49 %) were within the age bracket of 20 -30years. The result also indicated that more males (66%) were involved in fish farming than female counterparts and 55% of these fishers were married with a mean household size of 5 persons per household. The results also showed that the majority of the fish farmers (46%) had secondary education with crop production as their main occupation and had average years of experience of 7.4. The results further revealed that the majority (60.0%) began fish farming using their personal funds and the majority 81% lacked access to credit facilities. Also, the majorities (88%) had no extension contact and are not members of any fish farmers association. The result showed that the majority (93.3%) participated in the feeding of fish and the majority of youth (52.5%) are into fish farming for personal consumption and to generate income with the majority of respondents (75.8%) had never at any time received government intervention to support their fish farming. Socio-economics variable have great influence in youth participation in fish farming. Based on the findings youths participate mainly in feeding, sorting, washing and drying of fresh fish. Government and all stakeholders involved in youth development and empowerment should devise greater and more far-reaching interventions targeted towards helping youths currently practicing in fish farming in order to help them improve their fish production activities.

Key words: Youth participation, Fish farming

INTRODUCTION

Youths are very important assets for every nation especially, for supporting agricultural productivity, an essential factor for economic growth. The youth is a stakeholder in the development progression in view of the pronounced characteristics such as resilience, resourcefulness and doggedness. Regrettably, the youth are practically left out in policies and programmes that bring development and growth (Ozoemena *et al.*, 2022). For instance, the unemployment rate of youth globally was 13.8% in 2021 compared with 4.8% for the adults in the same year and this has the potential of tempting most youth to embark on migration especially, to urban centres (Nigeria Agricultural Report, 2019, 2020 and 2022). This collection of people is over 1.8 billion in the world nowadays, and about 90% of them live in developing countries, where they tend to make up a large percentage of the population and needs to be endowed. Interestingly, agriculture is a major occupation in developing countries like Nigeria where the rate of industrialization is very slow.

Among the agricultural enterprises, fish farming portends a great prospect as the demand for fish increases with the growth in population (Nuseibeh, 2023).

Nigeria is a typical coastal country highly endowed with large rivers, small water bodies and some natural springs with both fresh and marine fishery resources (Abulude & Kolawole, 2020). The country is blessed with over 14 million ha of reservoirs, lakes, ponds, and major rivers capable of producing over 980,000 metric tons of fish annually (Nwuba *et al.*, 2022). According to National Bureau of Statistics (NBS) (2017), Nigeria's fish production data showed that 5,788,474 tons of fish had been produced between 2010 and 2015. The year 2014 recorded the highest tons of fish produced with 1,123,011 tons; the second highest tons of fish produced were recorded in 2015 while the least were recorded in 2010. Therefore, it can be concluded that Nigeria is endowed with abundant fishery resources to produce enough fish and fish products not only for domestic consumption but also for export.

However, in spite of the great potentials of fish farming in Nigeria, Nigeria is still unable to bridge the gap in the shortfall between total domestic fish production and total domestic demand. According to Food and Agriculture Organization (FAO) (2019), total domestic fish production is far less than the total domestic demand. According to Fishery Committee for the West Central Gulf of Guinea (FCWC), (2021), the total fish demand for Nigeria based on the 2022 population estimate of 211m is 3.6m Mt. Food and Agriculture Organization (2021), observed that even though Nigeria is regarded among major producing nations of aquaculture in Africa, producing about 1044812 metric tonnes of fish, this is negligible compared to the projected yields estimated at two million tons. This implies that in order to meet the FAO requirement of 12.5 kilograms per head per annum, Nigeria imports about 1.2 million tons of fish to satisfy basic protein needs of her citizens (FAO, 2022).

Fish farming in the country is still carried out with some physical strength which the already ageing farmers do not possess. The youth are a particular portion of a nation's population that is sensitive, energetic and active and are in their most productive phase of life as citizens (Nwafor, 2021). According to NBS 2018, the growing share of the overall population in Nigeria is made up of those considered to be of working age and thus not dependent on the economic activity of others. This shows that the youth dominates the country in terms of population. Youths have desirable qualities that can promote all the subsectors of agriculture but most of them have strong apathy towards it (Odioko & Becer, 2022). Rather than getting involved in farming activities, a vast population of the youth go in search of the white collar jobs. Presently, it has been observed that the number of youth involved in aquaculture is very small (Olaifa *et al.*, 2022). The over-all effect of this scenario is that more Nigerians will continue to be protein deficient today and resources that could be used to improve our infrastructure will continually be spent on importation of fish into the country. For fish farming to reach its full potential there should be a considerable and active participation of a high percentage of the youth in the sector.

However, with the numerous challenges faced by the youths currently involved in fish farming in the country the sector is being neglected with preference to white collar jobs which are on the other hand getting more and more unavailable as the days go by. Also, the present fish farming environment makes it even more difficult to explore their full potential in fishery production in order to stimulate the interest of the youth. There is therefore a compelling need to boost and sustain youth's interest and participation in aquaculture activities. Therefore, there is a need to examine youth participation in fish farming activities in Jalingo local government areas of Taraba State, Nigeria. This study specifically look at the types of fishing activities participated by youth; the benefits derived by youth in fishing activities; the role of government in youth empowerment in fishing activities and determine the socioeconomics variables influencing youth participation in fishing activities.

MATERIALS AND METHODS

The Study Area

The study was conducted in Jalingo Local Government Area (LGA) of Taraba State. The area lies between longitudes 11° 09" and 10°, 30" East. It shares boundaries with Ardo-kola LGA in the North, Lau LGA in the South, Yorro LGA in the East and Gassol LGA in the West. Jalingo Local Government area occupies a landmass of approximately 59,400 square kilometers, and a population of 2,300,000 as per 2006 population census. NPC had projected an annual growth rate of 3.5% which brought the population figure 3,888,054 as at 2022. The major ethnic groups in Jalingo LGA are the Mumuye, Fulani and Jukun (Kona). Other tribes are Hausa, Jenjo, Warkum, Kuteb, Ichen, and Nyandang. The Hausa language is predominantly used in the area as a medium of communication.

The study area is largely agrarian in nature with about 75% of the populations engaged in varying degrees of farming. The major religion of the people of Jalingo is Christianity and Islam. There are also traditional religions among many ethnic groups. The climate of the area varies between wet and dry seasons. The wet season starts from April to November and the dry season starts from December to March.

The annual rainfall is between 1,158 -1,500mm and temperature range from 30 °C to 34.4 °C, with the average yearly temperature being around 28 °C. The soil type is alluvial, loamy clay, and laterites (Yusuf & Jauro, 2024).

Multistage sampling procedures were used to select respondents for this study. In the first stage Jalingo local government areas (LGAs) was purposively selected out of sixteen (LGAS) based on the intensity of fishing activities in the area. In the second stage, three (3) villages were selected from the ten wards in Jalingo LGAS using simple random sampling. Snowball technique was used in the identification of 400 fish farmers and simple random sampling technique was used in the selection of 120 respondents for the study.

The data for this study were subjected to analysis using percentages, mean, frequency count, standard deviation and multi-variance logistic regression.

The explicit form of the multi-variance logistic regression model is expressed as shown below:

$$Y = a + b_1X_1 + b_2X_2 + \dots + B_nX_n$$

Where

Y = Youths participation in fish farming

a = Constant

X₁ = Age

X₂ = Marital Status

X₃ = Household Size

X₄ = Education level

X₅ = Farm Size

X₆ = Years of Experience

X₇ = Membership of cooperative

RESULTS AND DISCUSSION

Socioeconomic Characteristics of fish farmers

Age

The result in Figure 1 reveals that the majority (49 %) of the fish farmers were within the age bracket of 20 -30, 42% were within the age bracket of 31-40 years and 9% were 41-50 years. The mean age of the fish farmers is 32 years. This implies that the vast majority of the respondents are in their economic active age hence they are agile, productive and can make positive contribution to fishing activities and also this mean that there is better future for fish farming enterprise as it can be sustainably

practiced by the youths. This finding is similar with the report of Sabo *et al.* (2022) that the majority of fish value chain actors in Taraba State were within the active age bracket of 31 and 40 years. Also this finding agrees with the report of Adeleke *et al.* (2022) that sustainability of fish venture which is highly profitable is dependent on the effective participation of the younger generations.

Sex

Figure 2 reveals that 66% of the respondents were male. This was an indication of male dominance in fish farming. This could be attributed to the fact that agricultural production is faced with a lot of risk and uncertainties and women are risk averse. Traditionally, fisheries have been associated with men with focus primarily on capture fish while women dominated pre and post-harvest activities such as processing and marketing the catch. This finding is in agreement with the report of Adeoye (2020), that farming enterprise was male-dominated. Also this finding is in agreement with the work of Omitoyin *et al.* (2021) that all of the Fisher folks in the coastal area of Ilaje in Ondo State were male while 95% in freshwater were male also.

Marital Status of Respondents

Results in Figure 3 shows that 55% of fish farmers were married while 45% were single. This suggests that the majority of the participants were married. The high proportion of the married youths is an indication that family labour could be available for fish production in the study area. This suggests that there may be high demand for food and additional income on the youth as the head of his house. Also being married increases socioeconomic responsibility of farmers which could improve their decision-making abilities. Sambo *et al.* (2021) stated that marital responsibility could make farmers make more rational decisions with high accuracy on their own, which could in turn increase their efficiency. This finding also corroborates the report of Anyanwu *et al.* (2022) that married household heads tended to be more involved in agriculture. However, marital status shapes social rural participation and acceptance and is perceived to confer responsibility on individuals. (Idiku *et al.*, 2022).

Household size of Respondents

The result in Figure 4 shows the mean household size of 5 persons per household. This reflects that the fish farmers had relatively large family sizes and free labour that could be used for agricultural activities. Household size could be related to the role (labour) played by individuals on the farm (Ashley-Dejo and Adelaja 2022). The implication of this is that there are adequate hands to assist. This finding is in line with the report of Yusuf et al. (2022) that fish farming households in Nigeria is predominantly comprising about one to five persons.

However, with the numerous challenges faced by the youths currently involved in fish farming in the country the sector is being neglected with preference to white collar jobs which are on the other hand getting more and more unavailable as the days go by. Also, the present fish farming environment makes it even more difficult to explore their full potential in fishery production in order to stimulate the interest of the youth. There is therefore a compelling need to boost and sustain youth's interest and participation in aquaculture activities. Therefore, there is a need to examine youth participation in fish farming activities in Jalingo local government areas of Taraba State, Nigeria. This study specifically look at the types of fishing activities participated by youth; the benefits derived by youth in fishing activities; the role of government in youth empowerment in fishing activities and determine the socioeconomics variables influencing youth participation in fishing activities.

Educational Status of the Respondents

Figure 5 shows the educational attainment of the fish farmers. This result reveals that the majority of the fish farmers (46%) had secondary education, 35% and 7% had tertiary and primary education, respectively. This finding shows that most of these fish farmers were literate. This could imply that the fish farming enterprise requires application of technical and scientific knowledge. Youths are therefore at an advantage as their level of education should give them an edge in running the business, and maximizing farm operations. Education plays a central role in youths and predisposes them to experience a higher level of creativity.

This finding is similar with the report of Ajagbe et al. (2022), that the level of literacy among catfish farmers was high. This has advantage to increase productivity through the use of new technology.

Primary Occupation of the Respondents

The result in Figure 6 shows that 47% of the respondents in the study area had crop production as their main occupations. Furthermore, 29% of the fish farmers were into fish farming as their only occupation. This implies that the majority of the fish farmers had other occupations in addition to fish farming. This would supplement their income and further strengthen their savings and investment propensities. Also, this may be due to an act of being proactive on the parts of the fish farmers in ensuring food security, generate income, and reduce feminine vulnerability within the family. This result is in agreement with the findings of Sambo et al. (2021) that the majority of the small-scale fish farmers in Zangon-kataf Local Government of Kaduna state had various other occupations in addition to fish production.

The results in Figure 7 shows fish farmers' years of experience. The results indicate the average years of experience of fish farmers ($x = 7.4$). The result implies that fish farmers in the study area were well-experienced in fish production. Experience in agricultural production is an important determinant of farmers' ability to manage risks, efficiently allocate resources and make other important farm management decisions that would increase their output and income levels. The number of years of experience indicates that majority of the respondents are not new to fish farming. Hence, it is expected that more of the youths will have higher risk mitigating and constraints facing abilities, higher productivity and better efficiency in managing costs, time and other factors of production. This agrees with the findings of Michael et al. (2021) that the majority (55.9%) of fish farmers in Adamawa State have been into fish farming for 6 – 10 years.

Source of Capital of the Respondents

The result in Figure 8 shows that the majority (60.0%) of the respondents began their fish farming with their personal funds such as savings or sales of their farm produce, while 20% and 17% got their funds from friends and farmers' association. This means that farmers depend mostly on informal sources of credit. Additionally, reliance on personal savings to start their business suggests that the majority of the farmers had some sort of livelihood activities engaged in from which they were able to gradually save money to start their fish farming business. This could be due to the fact that most banks and other credit institutions attract high interest rates and most farmers have no collateral (Ifeonu et al., 2019).

Access to Credit of the Respondents

The result in Figure 9 reveals that the majority 81% of fish farmers lack access to credit facility while 19% had access in their previous production. This indicates that most of the respondents in the study area have no access to credit facilities which will enhance their level of production. Access to credit affords farmers the opportunity to purchase farm inputs and increase production. Fish farmers' inability to access credit may be due to the fact most banks and other credit institutions attract high interest rates and most farmers have no collateral. The result of this finding correlates with the finding of Michael et al. (2021) that 78.5% of fish farmers Adamawa State-lack access to credit facility.

Extension contact of the Respondents

The result in Figure 10 reveals that most (88%) of the respondents had no extension contact. The implication of this is that since farmers in the study area are poorly visited by extension agents to ascertain their farming problems, know where they need assistance and pass across to them any new/improved technologies. These inabilities of farmers to benefit from extension programme usually led to information gap which invariably result to poor performance and attendant unimpressive output. In a similar way, Anyanwu et al. (2022) asserted that steady extension contact help to compliments farmers effort in their quest to increase yield, income and aggregate food

production in Nigeria. This is similar to the findings of Ikeogu et al. (2022) that most fish farmers in Ayamelum Local Government Area of Anambra State had no extension contact.

Membership of a cooperative Society

Figure 11 shows that 73% of fish farmers were not members of the fish farmers association, while 27% were members. It is likely that cooperative societies in the area are not efficient and have not made the desired impact on the life of their members which is quite contrary to expectation given the enhanced enlightenment and the premium government placed on such organization as pivotal for development-assisted programmes. For instance, Sallawu et al. (2022) revealed that high membership of cooperatives among the women farmers in North Central Nigeria can take care to some extent the information needs of the farmers. As such, they lose benefits associated with membership in organizations like access to incentives, loans and information that could enhance their participation in fish farming activities and improve their productivity. This result supports what was reported by Danba (2022) that a larger percentage 66.7% of fish seller along the river Taraba are not members of fish sellers cooperative on the other hand 33.3% were members.

Types of fishing activities participated by youth

The results in Table 1 show the participation of youths at different stages in fish farming activities. The result shows that the majority (93.3%) participate in the feeding of fish. Secondly, the majority (85.8%) participate in the sorting of fish. 77.5% and 74.2% of the youth participate in washing and drying of fresh fish and selling fresh fish. This implies that more youths participated in fish production activities. This indicates that the youths in the study are the ones taking responsibility of fish production and they participate less in the selling of fish. Also, most of the youths did not engage in the use of hired labour on their farm probably due to extra costs that will be accrued to their production cost or their desire to learn more about various activities in fish farming. This is an indication that youths are now embracing fish farming probably due to unemployment and the need to

make ends meet. This result is similar to the finding of Samuel (2021) that the majority of youth in south-western part of Nigeria participate in feeding, washing and selling of fresh fish. Also, this study is in agreement with the study of Adeleke et al. (2022) that feeding, selling of fish and fish sorting are the major activities involved by youths in Ibadan metropolis, Oyo state, Nigeria

Benefits derived by youth in fishing activities

Table 2 shows the benefit derived by youth in fishing activities. The majority of youth (52.5%) are into fish farming for personal consumption and to generate income. 20.8% and 26.7% are into fishing activities to generate income and for personal consumption. This implies that involvement in fish farming can make youths become self-dependent; Samuel (2021) youths can be made self-reliant via the vehicle of entrepreneurship (Samuel, 2021). Also one of the four things young people worldwide prioritize is the chance to start their own business, as they do not see the desired white collared jobs coming anytime soon. This finding shows that fish farming has a positive effect on reducing youth dependency ratio in Nigeria (83%). Retrospectively, Abiodun (2021) asserted that with the current situation of the Nigerian economy, and the inflationary challenges of food prices, families in Nigeria need more than two viable streams of income to survive and become totally free of financial issues.

Role of government in youth empowerment in fishing activities

Table 3 shows government support for fish farmers in the study area, majority of respondents about 75.8% say they have never at any time received government intervention to support their fish farms, 11.7% of the respondents received start-up grants to support fish farming, 8.3% of the respondents received fingerling from government sources, another 4.2 said they got feed as input distribution to support fish farming. This implies that government play little role in empowering youth in fish farming business and this may affect their level of participation in the fish farming. This support the work of Oyetola et al. (2022) and Sennuga et al. (2021), that government in sub-Saharan Africa have not

done enough in supporting agricultural activities that enhance food production and improve the livelihood of farmers.

Socio-economic variables influencing youths' participation in fish farming Activities

The socio-economic variables influencing youths' participation in fish farming was estimated using multivariate regression and the result were as shown in Table 4. The coefficient of determination (R^2) associated with fish production, processing and marketing was estimated at 0.6828, 0.6687 and 0.6021, indicating that about 68%, 67% and 60% of the variations in the fish farming activities was accounted for by the explanatory variables captured in the model, respectively.

The analysis of the results shows that age of respondents had positive relationship with participation in fish production and processing activities at 1% level. This implies that respondents in their active age are more likely to participate in fish farming activities, suggesting that as the age increases, years of experience of the respondent's increases which will have positive effects on the level of participation. This result is similar to the finding of Ayeloja et al. (2021) that as the age increases, years of experience of the respondents' increases which will have positive effects on the decision making of the venture that will result in business expansion and consequently have a positive effect on fish productivity and income of the fish farmers.

The result further shows that there was a significant relationship between marital status and youth's participation in fish farming. This implies that married people make more choice to invest in fish farming than the single. This is in agreement with the finding of Umeh et al. (2020) that marital status would lead to an increased entrepreneurship and their career choice. It further reveals that married couples help in active participation in agripreneurship development, thus making a better decision on venturing in agribusiness.

Also, the result shows household size was positive and statistically significant at 1% probability level for fish production and marketing. This implies that as increase in household size of an youth, increases his/her desire to participate in fish farming so as to

generate enhanced resources sufficient to feed the entire household. The findings corroborate the assertion of Umeh et al. (2020) that household size of investors to be positively correlated with the choice to invest in agricultural business in Ebonyi State, Nigeria.

Consequently, the findings also indicate that educational level of respondents had a positive relationship with youth participation in fish production, suggesting an increase in the educational level of respondents will result to an increase in the level of youth participation in fish farming.

More so, farm size and membership of cooperative society indicates a positive relationship with the level of youths participation in fish farming. This implies that, respondents with good farm size and participation in cooperative activities will increase their intensity of involvement in fish farming. This may be as a result of encouraging benefits such as relevant trainings, credit facilities and other incentives obtained from being a cooperative member. This corroborates with Tijjani et al. (2016) assertion that training, the cooperative members increase their productivity.

CONCLUSIONS

This study concludes that the youths participated mainly in feeding, sorting, washing and drying of fresh fish. Most of the youths are into fish farming for personal consumption and to generate income. The majority of the youth that are into fish farming have never received government intervention to support their fish farms and the major Socio-economic variables influencing youths' participation in fish farming activities are age, marital status, household size and educational level.

5.3 Recommendations

Based on the findings from this research work, it is recommended that:

i. Government and all stakeholders involved in youth development and empowerment should devise greater and more wide-reaching interventions targeted towards helping youths currently practicing fish farming in order to help them improve their fish production activities.

ii. Youths currently participating in fish farming are encouraged to connect themselves to fish farming associations by becoming members, as this has the potential of contributing to their fishing activities.

iii. Agricultural extension agents at the local government can help young fish farmers by exposing them to modern and cheaper fish farming systems, feeding alternatives and cheaper credit sources.

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Age of the Respondent

(\bar{x} =32)

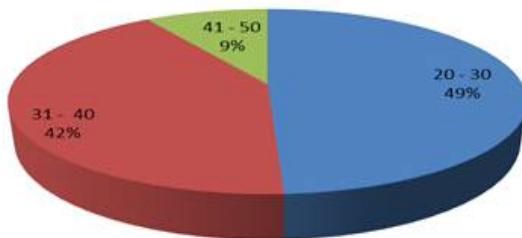


Figure 1: Age of respondents
 Source: Field survey, 2024

Sex of the Respondent

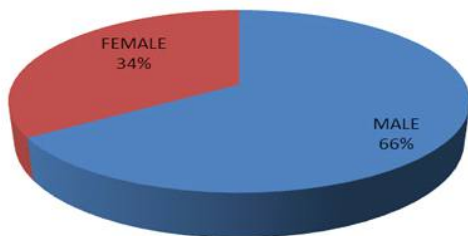


Figure 2: Sex of respondents
 Source: Field survey, 2024

Marital Status

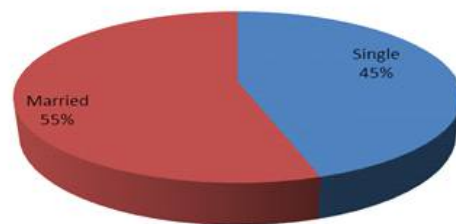


Figure 3: Marital Status of Respondent
 Source: Field survey, 2024

Household size

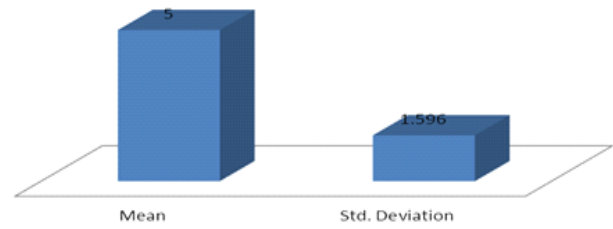


Figure 4: Household size of respondents
 Source: Field survey, 2024

Education Level

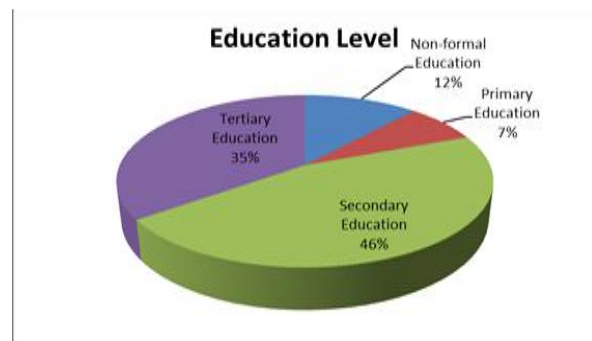


Figure 5: Educational status of the respondents
 Source: Field survey, 2024

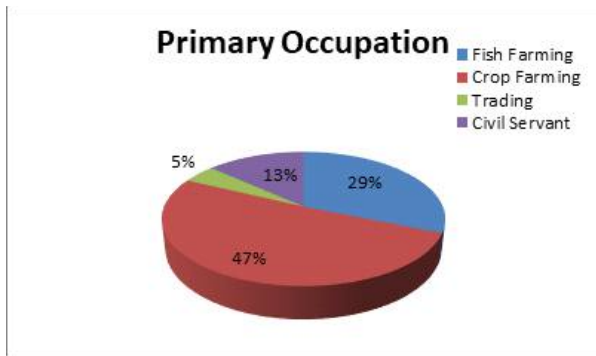


Figure 6: Primary occupation
 Source: Field survey, 2024

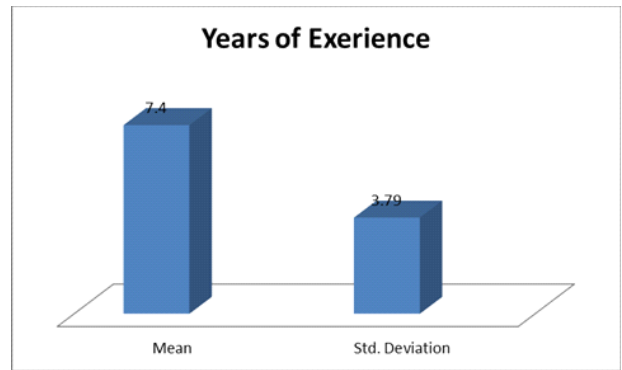


Figure 7: Years of experience of the respondents
 Source: Field survey, 2024

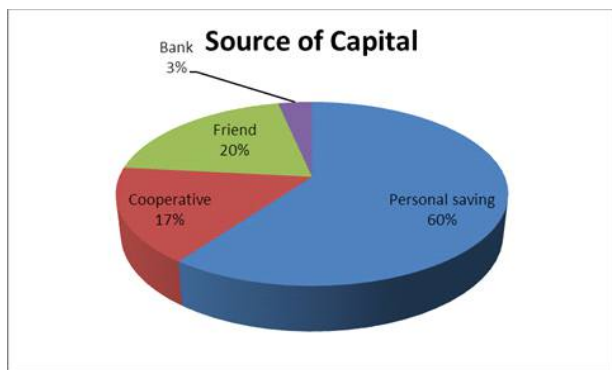


Figure 8: Source of Capital of the Respondents
 Source: Field survey, 2024

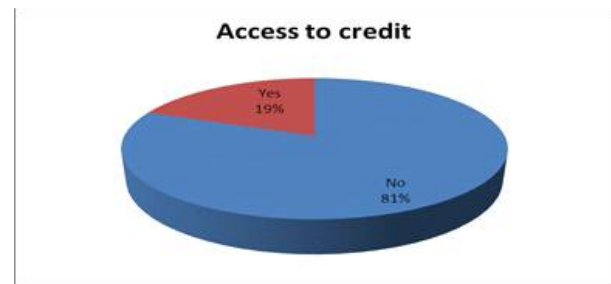


Figure 9: Access to credit of the respondents
 Source: Field survey, 2024

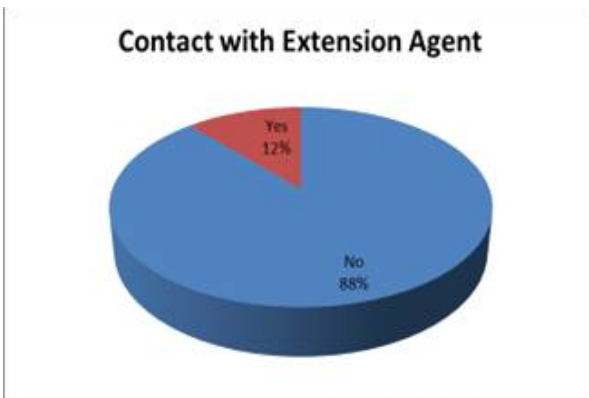


Figure 10: Extension contact of the Respondents
 Source: Field survey, 2024

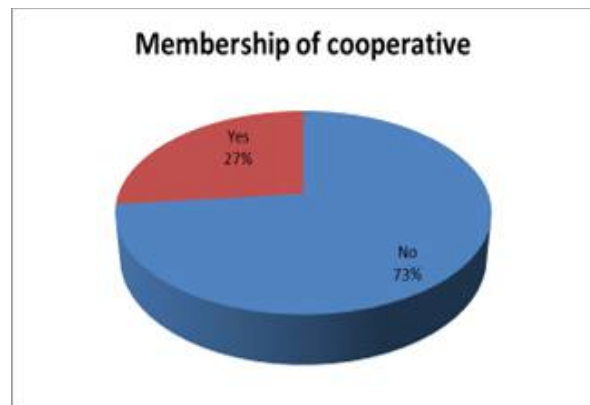


Figure 11: Membership of a cooperative
 Source: Field survey, 2024

Table 1: Frequency of youth participation in fishing activities

Variable	Frequency (Yes)	Percentage
Digging of fish pond	39	32.5
Fertilizing of pond	63	52.5
washing of pond	63	52.5
production of fingerling	44	36.7
Production of fish feed	85	70.8
Purchase of fish feed	55	45.8
feeding of fish	112	93.3
Sorting	103	85.8
treatment of disease and pest	80	66.7
Weighing	89	74.2
selling of fresh fish	89	74.2
washing and drying of fresh fish	93	77.5
Packaging	65	54.2
Selling of dry fish	51	42.5

Source: Field survey, 2024

Table 2: Benefits derived by youth in fishing activities

Variable	Frequency	Percentage
Personal Consumption	25	20.8
Sources of Incomes	32	26.7
Personal Consumption and income	63	52.5

Source: Field survey, 2024

Table 3: Role of government in youth empowerment in fishing activities

Variable	Frequency	Percentages
No intervention received	91	75.8
Start-up grant	14	11.7
Provision of fingerling	10	8.3
Provision of fish feed	5	4.2

Table 1: Frequency of youth participation in fishing activities

Variable	Parameters	Coefficients	Standard Error	T	P-Value
Fish Production					
Constant		2.684476	.2975046	9.02	0.000*
Age	X ₁	.0239929	.0091838	2.61	0.0010*
Marital Status	X ₂	.4766227	.1153309	4.13	0.000*
Household Size	X ₃	.887164	.0339791	2.61	0.010*
Education level	X ₄	-.1095564	.606185	-1.81	0.073***
Farm Size	X ₅	-.5404256	.495378	-10.91	0.000*
Years of Experience	X ₆	.0317125	.1619	1.96	0.053**
Membership of cooperative	X ₇	.7043253	.1325574	5.31	0.000*
R ²		0.6828			
Fish Processing					
Constant		2.857423	.3363051	8.50	0.000*
Age	X ₁	.032605	.0103815	3.14	0.002*
Marital Status	X ₂	.5014435	.1303724	3.85	0.000*
Household Size	X ₃	.0398728	.384107	1.04	0.301
Education level	X ₄	.0429016	.685244	0.63	0.533
Farm Size	X ₅	-.686188	.0559985	-12.25	0.000*
Years of Experience	X ₆	-.0010871	.0183015	-0.06	0.953
Membership of cooperative	X ₇	.376138	.1498455	2.51	0.013*
R ²		0.6687			
Fish Marketing					
Constant		4.017636	.3261567	12.32	0.000*
Age	X ₁	.007892	.0100683	0.78	0.435
Marital Status	X ₂	.749957	.1264382	5.93	0.000*
Household Size	X ₃	-.0853226	.0372516	-2.29	0.024*
Education level	X ₄	-.05907	.6645566	-0.89	0.376
Farm Size	X ₅	-.04538466	.0543086	-8.36	0.000*
Years of Experience	X ₆	-.0189676	.0177492	-1.07	0.288
Membership of cooperative	X ₇	.5272006	.1453237	3.63	0.000*
R ²		0.6021			

Source: Field survey, 2024