Assessment of Youth Involvement in Fish Farming Enterprise in Lagos State, Nigeria

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ABSTRACT
This study assessed youth's involvement in fish enterprise in Lagos state, Nigeria. Specifically, it described socio-economic characteristics of the youth involved and factors constraining their level of involvement. A structured interview scheduled was used to elicit information from 104 respondents who were selected through A multistage sampling procedure . The data collected were analysed using descriptive and inferential statistics. Results showed that 71.2 percent of male youth were involved in fish enterprise with mean age of 28.17 ± 7.99 years, year of formal education 13.35 ± 3.05 years and monthly income of ₦29,510.00 ± ₦14,286.04. They were involved in various types of fish enterprises which included but were not limited to production, processing and marketing. About 51.9 percent of the respondents had moderate level of involvement in fish enterprise. Occupation (χ^2= 59.021) had significant association with youth's involvement at P≤0.01 just as years of experience (r = 0.207) was a positive correlate of involvement at 0.05 probability level. . The study concluded that fairly good percentage of the youth involved in the enterprise were in their active age and that relatively fair average income of the enterprise might make it attractive to army of unemployed youth in the country. This attractiveness is hampered by inadequate credit for the youth. It was , therefore, recommended, among others, that stakeholders should collectively put in place adequate cooperative groups to facilitate the provisioning of credit scheme for the youth involved in the enterprise.
Keywords: youth, involvement, fish enterprise, employment generation.
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INTRODUCTON

In recent time, the Nigeria's population continues to increase despite acute food shortage and alarming rate of unemployment and poverty (Gabriel, 2012). Unemployment which is a harbinger of poverty has become a major problem in Nigeria, especially among youth. This phenomenon has increased the already high dependency syndrome since many of these able-bodied youths still rely on their parents for survival. Therefore, the only antidote to this unfortunate situation is the personal involvement of the youth in income earning ventures like fish farming and others. One way in which the energy of the crowded population of youth can be confidently and profitably directed is the advancement of fish production where the nation has huge deficit and unexploited possibilities.

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 (Food and Agriculture Organization of the United Nations (FAO), 2012). For instance, the unemployment rate of youth globally was 12.6% in 2010 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, 2010, 2011 and 2013). 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.

The dietary support of fish is crucial in terms of animal protein, as a portion of 150 g of fish provides about 50-60 percent of the daily protein rations for an adult. This makes fish to be suitable as a main source of protein in many developing countries. As far back as 2010, fish accounted for about 17 percent of the animal protein intake globally and 6.5 percent of all protein consumed (Food and Agriculture Organization of the United Nations (FAO) 2014). Cautiously, fish production has the ability to grow into large industry that could lead to wider business opportunities in terms of supply services, farming and marketing which could provide job opportunities to the crowded populace (Okechi, 2004). It could also provide investment prospects in feed mills, equipment manufacturing, processing, packaging and the provision of raw ingredients for research and education (Okechi, 2004).

In Nigeria, fish production still requires physical strength, especially during pond construction and management practices, which declines with age. The youths have desirable qualities that can promote all the sub-sectors of agriculture but most of them have strong apathy toward it (Jibowo, 1998 and Adekunle *et al.*, 2005). Youths are the model catalysts for agricultural developmental transformation given their greater ability and willingness to adopt new ideas, concepts and technology which are all critical to transforming the agriculture sector (Afande et *al*., 2015) These entities

called youth has gained a wide currency and has been variously categorized into such age brackets as 15-24 years (Food and Agriculture Organization of the United Nations (FAO); 15-29 years (Commonwealth Youth Programmes).However, for many countries, the figure differs from 13-18 years, 20-25 years, and 12-20 years (Bello-Kano, 2008). Moreover, in Nigeria situation, the National Youth Development Policy (2009) describes youth as people aged between 18 and 35 and they constitute all young males and females aged 18-35 years which are citizens of the Federal Republic of Nigeria (National Youth Policy of Nigeria, 2009).

In order to nurture a country's economic development, the agricultural sector must be feasible and youths should be stimulated to successfully participate. This is because they are important assets that any country can have (Kimaro, 2015) and constitute a significant resource for supporting agricultural productivity which is fundamental for economic expansion (Afande *et al.,* 2015). Fish enterprises in Lagos State and Nigeria at large till date remains an unexploited goldmine based on the fact that Nigeria is a maritime nation. It is also endowed with a vast population of over 160 million people and a coastline measuring about 853 kilometres. According to Central Bank of Nigeria (2012), there are about 1.75 million hectares of suitable land for aquaculture in Nigeria and 25 percent of this will yield 656,820 tons of fish per year when placed under farming. Likewise, about 6,450 tons of fish can be produced annually from 75,000 hectares of coastal lagoons. In spite of the countless potentials of fish enterprises in the study area, factors such as inadequate technical knowledge on the part of fish farmers and the high cost of production inputs might inhibit its contribution to increase food supply and poverty reduction. Furthermore, the efficiency or inefficiency of utilization of available resources for fish farming has stayed an unanswered question in the quest for increased pisciculture production in Lagos State, and Nigeria at large.

One of the major hindrances of Nigerian agricultural development programmes is credited to the inability of the Federal Government to incorporate youths into the mainstream of the many agricultural development programmes executed over the years (Ayinde *et al,* 2016). Nigeria is a food deficit nation and it is noticeable that protein intake is clearly inadequate in both qualitative and quantitative terms (Olukoya, 2007). The study was grounded on sociological theory of utilitarianism, which is frequently denoted to as exchange theory or rational choice theory in the framework of sociology. This tradition tends to benefit the agency or individual or any rational actor, assuming that, within interactions, individuals continuously seek to maximize their own self-interest. It argues that rational actors can be characterized as holding four basic elements: "a knowledge of alternatives; “a knowledge of, or beliefs about the consequences of the various alternatives; “an ordering of preferences over outcomes;" and "a decision rule, to select amongst the possible alternatives" (Emerson, 1976). It is eminent that an individual's rationality is restricted by the context or organizational setting. Therefore, it is applied to this study in that youth are involved fish farming enterprise because they believe that their environment appreciates the enterprise and will enhance their income, protein intake and food security.

While, fish is usually regarded as an inexpensive source of animal protein, there is need to prevent protein deficiency in

future. However, because of its remarkable profitability, there is a growing aquaculture industry that has come to the rescue in an effort to bridge the gap between supply and demand. This aroused the quest to assess youth involvement in fish enterprise in Lagos State, Nigeria. The study thus, describe the socio-economic characteristics of youth; identified their level of involvement and identified the limitations affecting their involvement in fish enterprise among others.

The following hypotheses were tested:

Hypothesis (Ho1): There is no significant relationship between the socio-economic characteristics of youth and their level of involvement in fish enterprise.

Hypothesis (Ho2): There is no significant relationship between constraints faced by youth and their level of involvement in fish enterprise.

METHODOLOGY

A multi-stage sampling procedure was used for sample selection. At the first stage Lagos state was purposively selected for the study because of its coastal nature and involvement of youth in fishing activities. At the second stage, four out of five Agricultural zones were randomly selected. At the third stage, one Local Government Area (LGA) was selected from each of the four selected Agricultural zones. They are: Alimosho , Ikorodu north, Amuwo odofin and Epe Local Government Areas. This is because of the intensity of fish farming activities in the State, in addition to the fact that their population represents a socio-economic section of the major ethnic groups in the State. Fourthly, two rural communities were randomly selected from each LGA namely: Oke odo and Ayobo Ipaja, from Alimosho; Ibeshe and Odogunyan from Ikorodu; Odofin and Agboju from Amuwo odofin; and Erepoto and Ogunmude from Epe.. Lastly, snowball sampling technique was used to select 13 youths that were involved in fish farming enterprise across the eight communities, making a total of 104 respondents. Enterprise such as sorting, grading, cropping, hatchery, drying and smoking were listed. Both descriptive and inferential statistics were used to summarise the data. The independent variables are the personal and socio-economic characteristics of respondents (youth entrepreneur), types of fish enterprise engaged in, their perception towards fish enterprise such as age, sex, marital status, household size, education level, and years of experience and sources of information for better management practices in fish enterprise, constraints to their involvement among others. The dependent variable for this study was the involvement of youth in fish enterprise. Respondents were asked to rate their level of involvement in fish enterprise with 10 statements on involvement. To what level is the respondent involved in fish enterprise which was measured on a 3-point rating scale. These were scored as follows: Not involved (NI) =0, Rarely involved (RI) =1, Moderately involved (MI) =2, Highly involved (HI) =3. The minimum a respondent can score is 0 and maximum obtainable a respondent can score is 30. However, their level of involvement was categorized into three levels using mean scores and standard deviation based on the postulation that the level of involvement assumed a normal distribution.

RESULTS AND DISCUSSION

Results in the Table 1 show that the mean age of the respondents was approximately 28 ± 8 years. This result indicated that larger proportion of the respondents were in their active age of productivity. This implies that respondents would have the strength and energy that are required in fish farming enterprise. About 71.2 percent of

the respondents were male which implies that the enterprise is male dominated business. This result can be justified by the assertion of Amusat and Oyedokun (2018) that fisheries activities are frequently dominated by men in conformation to the fact that fish farming, is highly laborious and technically demanding, which is an area where male thrive. Also, in concordance to this is the report of Agboola (2011) which stated that the higher number of male involvements in fish farming indicated the extent of gender sensitivity on occupation like farming which is believe to be highly laborious and technically demanding. In addition, about 59.7 percent of the respondents were single, 32.7 percent were married and 10.6 percent were divorced. This implies that majority of the youth involved in fish enterprise are still single.. This might be due to the fact that many of them still depending on parents and guardians for living. The religion affiliations of the respondents are Christianity (60.6%), Islam (34.6%) and Traditional (4.8%). This shows that study areas were dominated by Christian faithful, however, the participation of other religions in fishing activities is an indication thatfishing activities are not restricted by religious beliefs. The fact that the activities have no religious barrier is supported by the findings of (Amusat and Oyedokun, 2018) which stated that no serious religion taboo prohibits fishing activities in many parts of the world. The average years of experience in fishing farming was 8.32± 7.60 years. This implies that some of the respondents do not have much experience in fish enterprise and might affect their efficiency in managing the enterprise. This is in line with the opinion of Onemolease, and Oriakhi (2011) which submitted that experience is highly needed in fish farming enterprise for better productivity. As a result, the respondents with the highest number of years of experience should have good skill and better approaches to fish enterprise. The respondents with longer years of experience were also able to forecast market condition in which they sell their products at higher prices. Those with lesser years of experience, particularly with less than 5 years might face numerous risks in the early days of their involvement fish enterprise.

Furthermore, findings show that the mean years of education among respondents was 13.35 ± 3.05. This shows that on average, youth who involve in fish farming enterprise are relatively educated at least with secondary school equivalent certificates. Education has been reported to influence attitude, knowledge and behavior toward favourable direction. The case of fish farming may not be different from this as education could be a critical factor to improve production. This finding is in consonant with the findings of Amusat and Oyedokun (2018) which reported that education is an important determinant of an individual‘s attitude, skill and knowledge. () . The mean year of formal education is enough for any of the respondent to the ability to understand the principles of fish farming and internalize any training that targets an improved production. This can be adjudged from the fact that fish enterprise needs a lot of technicalities which would at least require the fish farmers to be educated and Agboola (2011) stated that this is an indication of high literacy level which may be required for effective management of fish enterprise. Result in Table 2 also shows the average monthly income from fish enterprise in which they are engaged as ₦29,510.00 ± ₦14,286.04. This implies that on average, respondents earned more than the federal government minimum wage of ₦18,000 before it reviewed in 2019. This result is consistent with the

finding of Ashaolu, *et al.*, (2006) which stated that fish enterprise is profitable. Also, results in Table 2 show that majority (66.3%) of the respondents were engaged in fish enterprise as their major occupation, 46.2 percent engaged in farming as their major occupation while 16.3 percent engaged in civil service as their major occupation. It was discovered that some of the respondents involved in other occupation apart from fish farming. Occupation remains valid in our society as people have one or two things, they engaged in which gives them sense of fulfilment and belongingness in the society.

Types and Frequency of Involvement in Fish Enterprise

Fish production enterprise include: hatchery, grading, sorting, management practices, processing enterprise: cropping, drying, smoking and marketing enterprise among others Result in Table 3 shows that about 28.8 percent of the respondents are highly involved in hatchery; 59.6 percent highly involved grading; about 62.5 percent are highly involved in sorting of fish; 49 percent highly involved in cropping while 27 percent highly involved in smoking of fish. Also, about 55.8 percent of the respondents are highly involved in marketing of fresh fish and 28.8 percent highly in marketing of smoked fish. Table 4 also shows the frequency of involvement of the respondents in their various fish enterprise. The Table reveals that sorting (mean = 2.47) ranked the highest among the fish enterprise the youth involved in followed by grading (mean = 2.44) while smoking of fish (mean = 1.59) ranked the least among the activities involved in by the respondents. This implies that the respondents do take part in smoking of their fishes.

Level of Involvement of Youth in Fish Enterprise

Results in Table 4 and Figure 1 reveal the level of youth's involvement in fish enterprise. The results show that 24.1 percent recorded low level of involvement, and higher percentage (53.7%) moderately involved. This implies that most of the respondents in fish enterprise had moderate level of involvement. This may be occasioned by the lack of contact with agricultural experts that may provide technical advice and supports for their encouragement.

Constraints affecting Youth Involvement in Fish Enterprise

Table 5 reveals results that credit accessibility (mean = 2.50) ranked highest among the constraints to youth involvement in fish enterprise, followed by bad road condition (mean = 2.50) and climatic conditions (mean = 2.24) while training (mean = 1.95) and storage (mean = 1.94) were least constraints experienced by the youth. Comparing the grand mean score of 1.89 with each of the aforementioned scores, it shows that all the constraint mentioned above moderately affected the youth in fish enterprise. On the other hand, constraints such as lack of man power (mean = 1.80), pilfering (mean = 1.74) and lack of market (mean = 1.43) shows negligible effect. Furthermore, this shows the opinion of the youth on constraints they faced in their fish production enterprise. It was found that fairly higher percentage (38.5%) of the respondents agreed that inadequate credit accessibility have adverse effect on fish enterprise. This situation was further heightened by the unwillingness of financial institutions to grant loans to them. In cases where loans are given; it is usually at very high interest rate as supported by Omitoyin (2007). This collaborates Nwabeze *et al.* (2016) findings that access to credit by farmers is a major challenge due to lack of collateral and perilous nature

of fish enterprise. This is also in line with the findings of NIFFRI (2010) that youths perceive fish enterprise as a high capital investment and most of them have limited funds/income to carry out the kind of investment required in fish production. Other constraints being faced includes bad road condition (25.0%), climatic conditions (12.5%), land accessibility (9.6%), water availability (10.6%), feeding (20.2%), predators (2.9%), training (5.8%), storage (6.7%), manpower (5.8%), pilfering (3.8%) and market (2.8%). These were agreed upon by the respondents as constraints to fish farming enterprise.

Hypotheses Testing

There is no significant relationship between the Socio-economic characteristics of the youth and their level of involvement in fish enterprise in the study area

Results of chi-square analysis

The result in Table 6 shows that at 0.01 significant level ($P \leq 0.01$), there was positive and significant association between youth involvement in fish enterprise and marital status ($\chi^2=56.637$) and occupations ($\chi^2=59.021$) among others. The contingency coefficient (C) value of 0.609 for occupations shows that the association was strong by 60.9%. This implies that there is a strong significant association between occupation and level of involvement of youth in fish enterprise. Therefore, we reject the null hypothesis and accept the alternate.

Relationship between the constraints affecting youths' involvement in fish enterprise and their level of involvement in fish enterprise in the study area

Hypothesis two: There is no significant relationship between constraints affecting youths' involvement in fish farming and their level of involvement in fish enterprises.

Result in Table 7 shows positive and significant relationship between selected constraints ($r = 0.009$, $P \leq 0.01$) to fish enterprise and youth level of involvement in fish enterprise. This implies that constraints of youth towards fish enterprise influence their involvement in fish enterprise. Therefore, we reject the null hypothesis.

CONCLUSION

The study established that fairly good proportions of youth were involved in fish production enterprise which includes: hatchery, grading, sorting, management practices, processing enterprise: cropping, drying, smoking and marketing enterprise among others and in their active age. Although, they earned slightly above minimum wage (₦18,000) before it reviewed in 2019 in the country. Therefore, fish farming has the potential to increase the rate of employment in the country but fairly higher percentage of the respondents agreed that inadequate credit accessibility have adverse effect on fish enterprise. It was recommended that agricultural production loan schemes can be set up in order to assist the youth who intend to go into fish production as a means of livelihood since this study has shown that there is a prospect in fish enterprise. As the decline in the rate of employment has reached such a worrying proportion, this will give them the opportunity and empowerment to participate in agricultural production in which fish enterprise is also a major sub-sector and their activities will be effectively monitored thereby promote self-sufficiency among the youths that were involved in the enterprise and promotion of employment among non-participants. Fish enterprise has the capacity to serve as a veritable tool for the reduction of

unemployment in the country. Also, agricultural and rural development stakeholders should help in the organisation of the rural youths into cooperative, thereby, facilitates the provision of credit scheme to encourage and promote their involvement in fish enterprise activities.

REFERENCES

Adekunle, O. A. (2005). Constraints to Youths Involvement in Agricultural Production in Kwara State, Nigeria. Journal of Agricultural Extension, vol. 13 (1), pp 102-108

Afande F. O., Maina, W. N., Maina, M. P (2015).Youth Engagement in Agriculture in Kenya: Challenges and Prospects. Journal for culture, society and development Vol 7 (2015)

Agboola, W. L (2011). Improving Fish farming Productivity towards Achieving Food Security in Osun State, Nigeria: A Socio-economic Analysis. Annals of Biological Research, 2(3): 62-74.

Amusat, A. S. and Oyedokun, M. O. (2018). Media use pattern of fish farmers in Oluyole Local Government Area, Oyo State, and Nigeria.47-54

Ashaolu, F. O., Akinyemi, A. A., and Nzekwe, L. S. O. (2006). Economic Viability of homestead Fish Production in Abeokuta Metropolis of Ogun State, Nigeria. Asset Series A, 6(2): 209-220

Ayinde, J. O., Olarewaju, B. E. and Aribifo, D. L. (2016). Perception of Youths on Government Agricultural Development Programmes in Osun State, Nigeria. *Journal of Management, Economic Engineering in Agricultural and Rural Developmen.* 16(3): 67- 76**.**

Bello-Kano, I. (2008) ―Differences without Positive Terms: Intentionality, Subjectivity and Agency in the Discourse of Youth‖. Aminu Kano Centre for Democratic Research and Training (CDRAT), Mambayya House, Bayero University, Kano, Nigeria, 6th – 8th December

CBN (2012): Annual Report and Statement of Accounts. Central Bank of Nigeria (CBN) publishers, Abuja.

Emerson, Richard M. 1976. "Social Exchange Theory." Annual Review of Sociology 2(1): 335–62.

Food and Agriculture Organization of the United Nations (FAO), (2012). Smallholders and Family Farmers. Retrived January 2015 from http://www.fao.publication.org.

Food and Agriculture Organization of the United Nations (FAO) (2014). Inland Fisheries Resources of Nigeria. Corporate Document repository. Produced by Fisheries and Aquaculture Department; 2014

Gabriel, O. (2012). Is Nigeria in a poverty trap and population explosion? Available Vanguard at:http://www.vanguardngr.com/2012/02/is nigeria-in-a-poverty-trap-and- population explosion. Accessed on 18th May, 2012

Jibowo, A. A. (1998). Agrological Transmission. The Secret of National Food Surplus. An Inaugural Lecture Delivered on July 11th at the Obafemi Awolowo University, Ile-ife Jones, G.(2010) Key concepts: youth. Cambridge: polity press.

Kimaro, P. J., Towo, N. N., and Benson, H. M. (2015). Determinants of rural youth‘s participation in agricultural activities: the case of Kahe East ward in Moshi rural district, Tanzania. International Journal of Economics, Commerce and Management. Vol. 3(2): pp. 33

National youth Policy document of the Federal Republic of Nigeria 2009.

Nwabeze, G. O., Ifejika, P. I., Tafida, A.A., Ayanda, J. O., Erie, A. P., and Belonwu, N. E., (2013). Gender and Fisheries of Lake

Kainji, Nigeria : A Review.Journal of Fisheries and Aquatic Science, 8: 9-13

National Institute for Freshwater Fisheries Research - NIFFR (2010). Youth in Agriculture.

Nigeria Agricultural Report, (2010, 2011 and 2013). http://www.agricultural-report.com/policies/Nigeria

Omitoyin, B. O. (2007) Introduction to fish farming in Nigeria. University of Ibadan press. 90p

Onemolease, E.A and Oriakhi H.O. (2011). ―Prospects and constraints of artisanal fishing in selected communities in Delta State, Nigeria. Pelagia Research Library, USA.

Advances in Applied Science Research, 2 (6):55-61.

Okechi, J. K. (2004). Profitability Assessment: A Case Study of African Catfish (Clarias gariepinus) Farming in the Lake Victoria Basin, Kenya

Olukoya, O. (2007). The Agricultural Sector and Nigeria's Development: Comparative Perspectives from the Brazilian Agro-industrial Economy 1960-1995. Federal Ministry of Agricultural and Water Resources Annual Bulletin 31: 26-29

TABLE 1: Distribution of respondents based on their personal characteristics (n=104)

Variables	F	%	Mean	S.D
Age				
≤ 21	19	18.3		
22.00 - 33.00	66	63.5		
34.00 - 45.00	11	10.6	28.17	7.99
46.00 ≥	8	7.0		
Sex				
Male	74	71.2		
Female	30	28.8		
Marital status				
Single	59	56.7		
Married	34	32.7		
Divorced	11	10.6		
Household size				
≤ 5.00	74	71.2		
6.00 - 8.00	25	24.0	4.41	1.58
9.00 ≥	6	5.7		
Religion				
Christianity	63	60.6		
Islam	36	34.6		
Traditional	5	4.8		
Years of experience				
≤ 5.00	59	56.7		
6.00 - 14.00	20	19.2	8.32	7.60
15.00 – 23.00	14	13.5		
24.00 ≥	11	10.6		

Source: Field survey, 2018

TABLE 2: Distribution of respondents based on their socio-economic characteristics (n=104) (Continue)

Variables	Frequency	Percentage (%)	Mean
Years of formal Education			
≤ 8.00	6	5.8	
9.00 - 22.00	96	92.3	13.35
23.00 ≥	2	1.9	
Income			
≤ 20000.00	29	27.9	
20001.00 - 40000.00	57	54.8	
40001.00 - 60000.00	11	10.6	29,510.00
60001.00 – 80000.00	3	2.9	
80001.00 ≥	4	3.8	
Occupations			
Fish enterprise			
Minor	30	28.8	
Major			
Civil service			
Minor			
Major			
Farming			
Minor			
Major			

Source: Field survey, 2018

TABLE 3: Distribution of Respondents' involvement in fish enterprise (n = 104)

Variables	Not Involved		Rarely Involved		Moder Involv
	F	%	F	%	F
Sorting	8	7.7	5	4.8	26
Grading	5	4.8	8	7.7	29
Fresh Fish	5	4.8	10	9.6	31
Cropping	7	6.7	8	7.7	38
Hatchery	19	18.2	16	15.4	39
Drying	21	20.2	17	16.3	36
Smoked	22	21.1	16	15.4	29
Management practices	27	26.0	19	18.3	17
Dried	24	23.1	24	22.1	27
Smoking	25	24	23	22.1	27

Grand mean = 1.98
Source: Field survey, 2018

TABLE 4: Distribution of respondents based on their level of involvement in fish enterprise (n = 104)

	Involvement mean score
Low	**Below 13.03**
Moderate	**Between 13.03 – 26.59**
High	**Above 26.59**

Source: Field survey, 2018

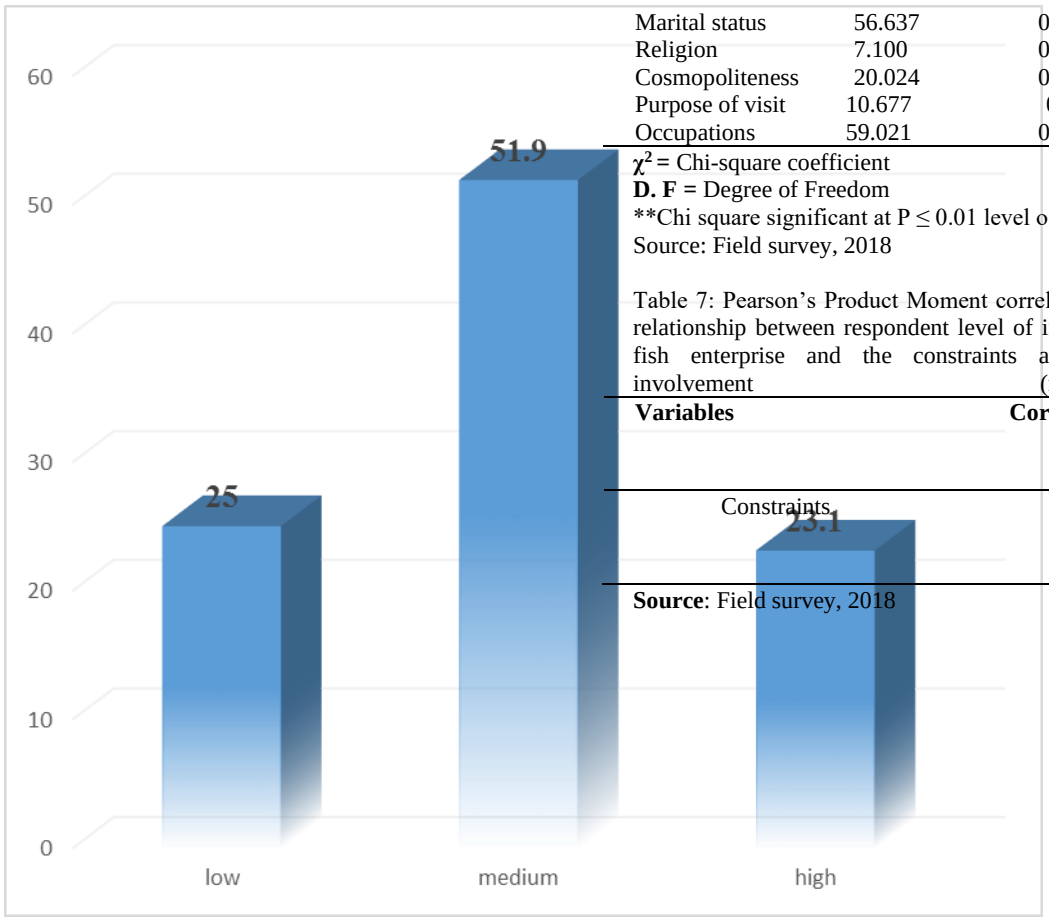

Figure 1: Distribution of respondents based on their level of involvement in fish enterprise.
Source: Field survey, 2018

Sex	2.225	0.148	1	0.329
Marital status	56.637	0.249	4	0.006**
Religion	7.100	0.257	4	0.131
Cosmopoliteness	20.024	0.141	6	0.007**
Purpose of visit	10.677	0.31	6	0.990
Occupations	59.021	0.609	8	0.000**

χ^2 = Chi-square coefficient
D. F = Degree of Freedom
**Chi square significant at P ≤ 0.01 level of significance
Source: Field survey, 2018

Table 7: Pearson's Product Moment correlation showing relationship between respondent level of involvement in fish enterprise and the constraints affecting their involvement (n = 104)

Variables	**Correlation coefficient (r)**
Constraints	0.009

Source: Field survey, 2018

Table 5: Distribution of respondents based on Constraint affecting their involvement in fish enterprise

Constraint	**Not severe**		**Severe**		**Fairly severe**		**F**	**Highly severe**	**Mean**	**SD**	**Ranked Mean sco**
	F	**%**	**F**	**%**	**F**	**%**	**%**				
Credit accessibility	35	3.7	20	19.2	9	8.7	40	38.5	2.50	1.33	1st
Bad road condition	21	20.2	38	36.5	19	18.3	26	25.0	2.50	1.08	2nd
Climatic conditions	25	24	37	35.6	29	27.9	13	12.5	2.24	0.94	3rd
Land accessibility	16	15.4	58	55.8	20	19.2	10	9.6	2.23	0.79	4th
Water availability	33	1.9	25	4.0	35	3.6	11	10.5	2.20	1.01	5th
Feeding	42	40.3	29	27.8	12	11.5	21	20.2	2.08	1.16	6th
Predators	25	24. 0	52	50.0	24	23.1	3	2.9	2.02	0.74	7th
Training	34	32.9	39	37.5	25	24.0	6	5.8	1.95	0.82	8th
Storage	26	25.0	57	54.8	14	13.5	7	6.7	1.94	0.72	9th
Man power	37	35.6	50	48.1	11	10.6	6	5.8	1.80	0.77	10th
Pilfering	35	33.7	57	54.8	9	8.7	4	3.8	1.74	0.62	11th
Market	65	62.5	28	26.9	8	7.7	3	2.8	1.43	0.66	12th

Grand mean = 1.89
Source: Field survey, 2018

Table 6: Chi-square analysis showing association between selected personal and socio-economic characteristics and their involvement in fish enterprises (n = 104)

Personal and socioeconomic variables	**χ^2**	**Contingency**	**D. F**	**P**	**Significance level**