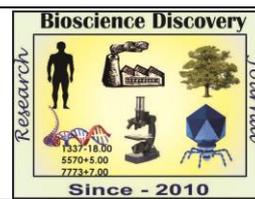


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Research Article



Perception of fish farmers to agricultural extension services in Anambra central Senatorial district, Anambra state, Nigeria

¹Ibemenuga Keziah Nwamaka and ²Ifeanyi Promise Chinonso

^{1,2}Department Of Biological Sciences Chukwuemeka Odumegwu Ojukwu University, P.M.B 02, Uli, Anambra State, Nigeria
Corresponding Author: Ibemenuga Keziah Nwamaka
jesusvesselofhonour@yahoo.com

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Abstract

The present study investigated the perception of fish farmers to agricultural extension services in Anambra State. Specifically, the study investigated the socio-economic characteristics, extension service sources and information given. A structured questionnaire was administered to the fish farmers to collect information. A total of 96 fish farmers were selected from five local government areas within the district. Data collected were analyzed using descriptive and inferential statistics. The age bracket with the highest respondents is 41 - 50 years which formed 35% of the total population. Majority (85%) of the fish farmers in the study area were males. Most of the respondents were educated and the highest population (75%) obtained information from Agricultural Development Programmes. Chi-square analysis revealed significant difference between information identification and age ($p < 0.05$) as well as marital status ($p < 0.05$). Government should provide interest free credit facilities to farmers. Fish farmers should be encouraged to make adequate use of extension services to boost fish production.

INTRODUCTION

Agricultural extension is the application of scientific research and new knowledge to agricultural practices through farmer extension (Anderson and Gershon, 2007). Agricultural extension in Nigeria is an old development strategy for the agricultural sector (Sanni *et al.*, 2009). Extension is needed to move research from the laboratory to the field and to ensure a return of investment in research to translating new knowledge into innovative practices.

According Beynon *et al.* (1998) extension services can be classified into three types:

1. **Technology transfer:** The traditional model of the transfer of advice, knowledge and information in a linear manner.

2. **Advisory:** The user of farmers of a cadre of experts as a source of advice in relation to specific problems faced by them.

3. **Facilitation:** The aim of this model is to help farmers define their own problems and develop their own solution.

Agricultural extension is a pivot upon which agricultural and rural development in developing countries revolve. Agricultural extension service is a package/system designed to assist farmers through dissemination of improved innovations, increase farmers production efficiency and income, better lives of living and lift the social and educational standards of the farmers (Olaoye *et al.*, 2014). Aquaculture is the farming of aquatic organisms. Aquacultural extension can be seen as the promotion of any aspect of fish farming technology development: how farmers acquire the necessary

resources, how new technologies evolved, what influences their choice, the kind of support a given technology requires, how its adoption can be financed and encouraged, and the kind of protection it entails (Olaoye *et al.*, 2014). Fish farming is the principal form of aquaculture (Salau *et al.*, 2014). Because of over-fishing of natural resources, fish farming is extensively and intensively practiced (Ufodike, 2007) to meet the great demand for fish. Nigerian populace which was estimated at about 162.5 million in 2011 with annual population growth rate of 2.1% is expected to be 257.8×10^6 by 2030. Hence food supply is expected to triple to cater for this increase, however the current demand for fish in Nigeria is 3.21 million tones (FDF, 2007, Solomon *et al.*, 2012). The present situation calls for the serious and urgent action on how to ensure

sustainable and sufficient fish production for the teaming population. The present study is carried out to ascertain the socio-economic characteristics of fish farmers; to determine the sources of extension services; provided to fish farmers; to identify the type of extension services provided to fish farmers, and to determine the farmers preference to the type of extension service provided.

MATERIALS AND METHODS

The Study Area

The study was carried out in Anambra Central Senatorial District, Awka Agricultural Zone of Anambra State (Fig. 1). The study area was selected based on the location of the Anambra State Agricultural Development Programme (ANASADEP).

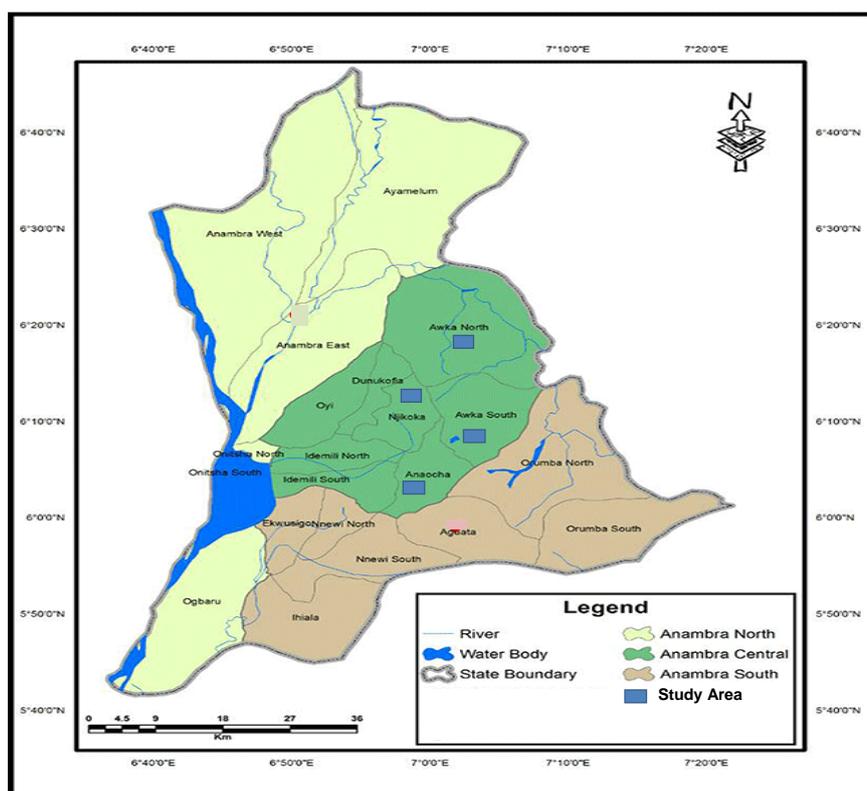


Fig. 1: Map of Anambra State showing the study area

Data Collection and Sampling Technique

The sample of respondents was drawn from 96 active freshwater fish farmers throughout the zone. Purposive and random sampling techniques were used to select respondents. Data were collected by the use of questionnaires.

Data Analysis

The data obtained was subjected to descriptive and inferential analysis. The descriptive statistics used in this study include frequency and percentages. Inferential analysis include chi-square analysis of socio-economic characteristics of fish farmers and information identification.

RESULTS AND DISCUSSION

The socio-economic characteristics of respondents in the study area is given below.

Age of respondents

The highest number of respondents (35%) fell within the age bracket of 41 - 50 years. This was followed by 33% which fell within the age range

51 - 60 years. Fig. 2 shows that the fish farmers above 60 years had the least percentage value of 13%. No fish farmer was below 20 years. The age bracket with the highest respondents in this study agrees with the findings of Olaoye *et al.*, (2014) who reported this age bracket as a productive age which portends for catfish production.

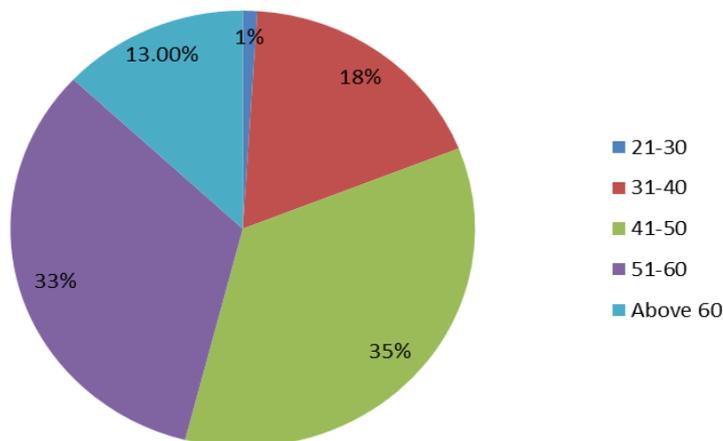


Fig. 2: Percentage of age of respondents

Gender respondents

Fish farmers in the study area were mainly males (85%) compared to females which formed 15% of the study population. According to Brummet *et al.* (2010) fisheries activities are mostly dominated by men.

Table 1: Distribution of respondents by sex

Sex	Freq.	(%)
Male	82	85
Female	14	15

Educational status of respondents

The study revealed that most of the farmers were educated. Majority of them were in tertiary institution (48%) while 31% and 19% were in secondary and primary schools respectively. Only 2% of the farmers do not have formal education (Fig. 3). Thus fish farming in the study area is dominated by the educated class particularly those with high level of education. This would be attributed to the fact that fish farming requires a lot of technical and scientific knowledge. Lawal and Idega (2004) reported that the level of education attended by fish farmers to a large extent determines the strategies he/she may use to relate with the extension agents. Hence literacy level is very important to help fish farmers comprehend new techniques and methods.

Marital status of respondents

Although 4% of the farmers did not indicate their marital status, a large number (88%) were married (Fig. 4). This suggests that they may require extra income and may not need hired labour to do the work in their fish farms since their family members can do the work. Marriage is honourable. Thus Oladoja *et al.* (2008) and Olaoye *et al.* (2014) reported that it confers some level of responsibility and commitment on individuals who are married. The result showed that 5% of the respondents were single. While 2% of the farmers were widows, 4% were widowers and 1% was divorced.

Subscription to social organizations

The result (Table 2) showed that majority of the fish farmers (77%) do not belong to social organizations or cooperative society. Only 23% of the respondents belong to co-operative society. Cooperatives are defined as “an autonomous association of persons who unite voluntarily to meet their common economy and social needs and aspiration through a jointly owned and democratically controlled enterprise (Odetola *et al.*, 2015). They reported further that cooperatives are established by like-minded persons to pursue mutually beneficial economic development. Cooperative societies in Nigeria perform multipurpose functions.

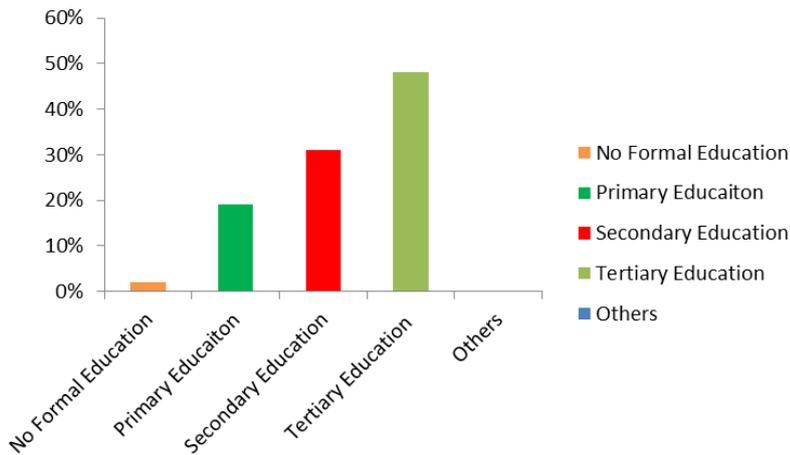


Fig. 3: Percentage of educational status of respondents in percentage

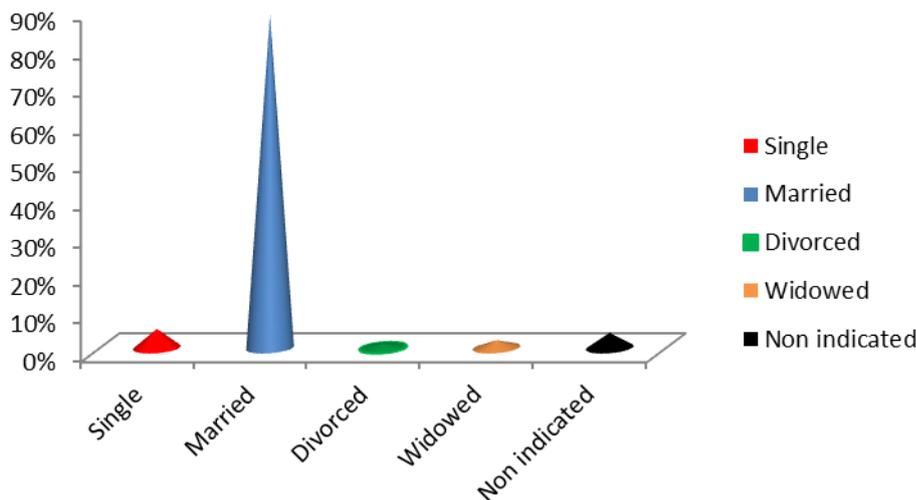


Fig. 4: Percentage of marital status of fish farmers

They are engaged in the production, processing, marketing, distribution and financing of agricultural products. The last hope for the small farmers then lies with the cooperative societies, the cooperative

has been identified to be better channel of credit delivery to farmers than the NGO's in terms of its ability to sustain the loan delivery to function (Alufohai, 2006).

Table 2: Distribution of respondents according to co-operative society

Co-operative Society	Freq.	(%)
Yes	22	23
No	74	77

Sources of finance used by the respondents

The study revealed that most of the respondents (58%) finance their farms through personal savings (Fig. 5). While 21% of the respondents finance from banks, 13% finance from other sources. Seven

percent (7%) of farmers finance their farms from cooperative society. Only 1% of the respondents obtain money from friends and relatives to finance their farms.

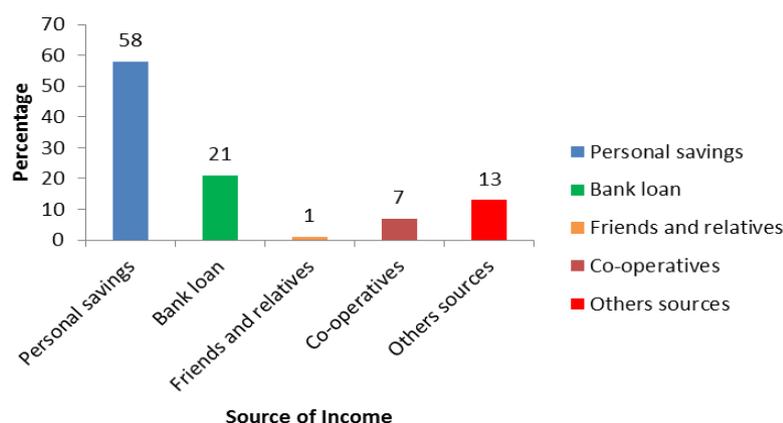


Figure 5: Sources of Income

Sources of extension services available to fish farmers

Table 3 shows that the highest number of farmers (75%) always obtained information on fish farming from extension service agents such as Agricultural Development Programmes (ADPs). Only 2% always obtained information from research institutes and universities. Unified Agriculture Extension Systems of ADP’s seemed to have

facilitated unification of message transfer to farmers but much still needed to be done in the area of capacity building and added training requirement for the extensionist especially in fisheries and aquaculture (Sanni *et al.*, 2009). The ADP utilizes the on farm adaptive research approach as a strategy for effective transfer of agricultural technologies in the country through its extension services (Okoye, 2000; Sanni *et al.*, 2009).

Table 3: Sources of extension services available

Sources of extension services to farmers	Always used		Occasionally used		Not used
	Freq.	(%)	Freq.	(%)	
ADP extension agents	72	75	21	22	3
NGO extension workers	7	7	29	30	63
Research institutes	2	2	31	32	66
Universities	2	2	15	16	82
Ministry of agriculture	13	14	74	77	9
Workshops	10	10	56	58	3
Families	23	24	59	61	15
Others	6	6	14	15	26

Fish farmers and sources of extension services

The distribution of fish farmers according to availability of extension services (Table 4) revealed that 63% of the fish farmers obtained information from Agricultural Development Programmes. The least number (6%) of farmers got information from non-governmental organizations. Access to adequate information is very essential to increased agricultural productivity (Mgbada, 2006).

Higher population (91%) of the farmers had access with extension service agents while 9% do not. Majority (80%) of the farmers indicated that extension services are always available. Only 20% of the respondents indicated that extension services

were not available. This agrees with the findings of earlier researchers like Bolorunduro *et al.*, (2003) and Olaoye *et al.*, (2014). There is relationship between farmers access to extension services and farmers profitability. Those that have access to extension services have higher profitability than those that have not (Agbebi, 2012). In terms of frequency of contact with extension agents, most of the respondents (42%) had contact with extension agents monthly. This was followed by 27% of farmers who had contact with extension agents biweekly. A cursory look at the table reveals that 5% of the respondents had no contact with extension agents.

Table 4: Distribution of fish farmers according to availability of extension services (N = 96)

Information source	Frequency	Percentage
ADP	60	63
NGO	6	6
Research institute	10	10
Ministry of agriculture	20	21
Access to extension service		
Yes	87	91
No	9	9
Availability of extension service		
Always available	77	80
Not available	19	20
Frequency of fish farmers contact with extension agents		
Weekly	26	27
Monthly	40	42
Occasionally	25	26
None	5	5

The result of chi-square analysis of selected socio-economic characteristic of respondents (namely sex, age, marital status and educational level) against information identification is presented in Table 5. No significant difference ($p > 0.05$) existed between information identification and sex, and educational

level. However, there was significant relationship between information identification and age ($p < 0.05$) and marital status ($p < 0.05$). Thus extension services have profound effect on socio-economic characteristics, age and marital status.

Table 6: Chi-square analysis socio-economic characteristics and extension services available

Variable	Chi-square χ^2	Degree of freedom (Df)	Contingency (CC)	Coefficient Decision
Sex	12.000	7	0.707	NS
Age	68.000	20	0.081	S
Marital status	36.000	15	0.038	S
Educational level	60.000	15	0.213	NS

S = indicates significant difference ($p < 0.05$)

NS = indicates no significant difference ($p > 0.05$)

Conclusion and Recommendation

Agricultural extension impact on farmers relevant information to boost fish production to meet up the high demand for fish and fisheries products. This study has shown that fish farmers in Anambra Central Senatorial District Awka Agricultural Zone of Anambra State are mainly composed of the productive age and this implies brighter future in fish farming.

- i. There is need to encourage farmers to form cooperative society to source fund easily. Effort should be intensified to encourage fish farmers to have access with extension service agents.
- ii. Although most of the fish farmers in the study area were educated, effort should be made to provide the illiterate farmers with formal education.

- iii. Fish farmers should be encouraged to make adequate use of the extension services to increase fish production.
- iv. Extension agents should be encouraged to provide more relevant information to farmers. Government should encourage fish farmers by providing them with interest free credit facilities.

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