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Management Information Needs of Fish Farmers in Egbeda Local Government Area of Oyo State

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Abstract

This study investigated the management information needs of fish farmers in Egbeda Local Government Area of Oyo State. Structured questionnaire was used to obtain data from one hundred and ten fish farmers randomly selected from four urban and seven rural wards of the area. Data obtained were analyzed using descriptive (frequency, percentage,) and inferential (chi-square and PPMC) statistics. Results show that respondents had average age of 43years, majority were male (64.8%), had primary school as highest educational level (52.4%), had 2-5 ponds, use earthen ponds (55.2%) and had 5-7 years fish farming experience. Information was most needed in hormone identification (x=2.83), fish marketing (x=2.80) and water quality management (x=2.71). Respondents indicated high cost of feed and poaching as a major challenge in fish farming. Respondents' age (r = -0.233, p = 0.017); management practices (r = 0.209, p =0.032); number of ponds (r = -0.412, p = 0.000) were correlated with management information needs. The study therefore recommends the need for extension agencies to provide robust and timely information in the areas of need highlighted by the fish farmers in order to increase production efficiency and output of the fish farmers.
Keywords: Information needs, Fish farmers, Aquaculture

Introduction

Recently, fish farming has been seen not only as a farming practice but also as a business enterprise which needs management strategies and information to thrive well. It has become for the past years an enterprise which people go into to make ends meet. According to Olaoye and Oluruntoba (2011), Nigerians are high fish consumers and offer the largest market for fish and fishery products in Africa. Fisheries occupy a unique position in the agricultural sector of Nigeria's economy. The fishery sub-sector provides employment opportunities for young and old people due to the low capital outlay required for take-off and serves as a source of foreign exchange.

The contribution of fisheries sub-sector to agriculture GDP was estimated at 0.48% in the year 2014, out of the total estimate of 20.24% being contributed by agriculture to the GDP (FDF, 2014). Fish demand in Nigeria based on the 2014 population estimate of 180 million is put at about 3.32 million metric tons per annum and the total domestic fish production can only supply 1.123 million metric tons leaving shortfall of 2.197 million metric tons of fish annually, with imports worth 700 million dollars annually (FDF, 2014). This indicates the large deficit in fish supply in Nigeria. The inability of fish production to meet demand can be attributed to a number of constraints which include inadequate capital, high cost of feed and inadequate supply of quality fingerlings. However, the main constraint is inadequate provision of management information to fish farmers, as well as the scarcity of guidelines for existing fish farmers with little or no knowledge of fresh water fauna. Hence, the average fish farmer is ill equipped for successful and sustainable fish production (Adereti et al, 2006).

Information dissemination is an important tool for promoting national development. Information is essential ingredient in agricultural development programme. Information on relevant management practices needed by fish farmers are essentially generated and provided by government research stations and Non-Government Organisations (NGOs). In spite of the efforts being made by the various extension organisations to close the gap in the production capacity in this sector of the Nigeria's economy, much work is still required in the area of capacity building to raise productivity through improved management practices (World Bank, 2010). For instance, according to Akinbile and Alabi (2010), the enhancement of local fish production can be brought about by improving the capacity in terms of enhancing access to and utilization of information. In the same vein, it requires that the technical knowledge and capabilities of fish farmers be regularly updated through enhanced information seeking behavior.

More importantly, fish farmers are usually acquainted with different techniques and methods but there is need to improve those techniques and methods. Most times, there may be available management practices that need to be assessed in order to know what can be added or introduced to the farmers for better production.

Efforts to improve fish production have focused more on production techniques without examining the management information needs of fish farmers. There is need to assess how access to management information the production level that fish farmers are able to achieve. Therefore, this study attempts to ascertain the type of management information that is available to farmers and the ones that farmers need in the study area.

Objectives of the study

The broad objective of the study was to assess fish farmers' management information needs in Egbeda Local Government Area of Oyo State. The study specifically;

- described the socio-economic/farm characteristics of fish farmers in the study area;
- investigated the management practices of fish farmers;
- determined the management information needs of fish farmers;
- identified information sources of fish farmers; and
- identified the constraints to information about management practices of fish farmers in the study area.

Hypotheses of the study

- Ho_1: There is no significant relationship between management practices and management information needs of fish farmers
- Ho_2: There is no significant relationship between selected socio-economic characteristics of fish farmers and their management information needs.

Methodology

The study was conducted at Egbeda Local Government Area (LGA) of Oyo state. The Local Government was created out of Lagelu Local Government Area in 1989. It is bounded to the East by Osun state, to the west by Ibadan North East LGA, to the North by Lagelu LGA and to the south by Ona-ara LGA. The Local Government Area currently has four urban and seven rural wards. It is located in the rain-forest agro-ecological zone of sub-Sahara Africa. The mean annual rainfall and temperature of the area are about 2500 – 2600mm and 27.50C, respectively and a total population of 281,573 (NPC, 2006). Prevalent among farmers in the area are poultry and fisheries which have tremendously supplemented households' per capita income and food consumption.

Population of the study

The target populations of this study included all male and female farmers involved in fish farming in each of the eleven political wards in Egbeda Local Government Area of Oyo state.

Sampling procedure and sample size

Simple random sampling technique was used to select ten (10) fish farmers from each of the 4 urban political wards and 7 rural wards making a sample size of one hundred and ten (110) fish farmers used for the study.

Method of data collection

Data were collected using structured interview schedule.

Method of data analysis

The data obtained were analysed using descriptive (Frequency and percentage table) and inferential (PPMC) statistics used in analysing the hypotheses.

Results and Discussion

Socio-Economic/Farm Characteristics of Respondents

The variables considered included age, sex, marital status, educational qualification, household size and religion. Table 1 reveals that the mean age of fish farmers in the study area was 42.9 years which implies that most of the respondents are in their active age category, which is in line with findings of Akinbile (2007) that states that population within the age group of 16 – 55 years constitutes the active workforce in Nigeria. Majority of the respondents were male (64.5%) and married (84.5%) which is in agreement with findings of Ifejika *et al* (2006) that affirms that more male engage in fish farming than women and therefore calls for need to motivate women to participate in fish farming in order to achieve food security. Also, the result reveals that 53.7% had primary education as highest educational qualification and a household size mean value of 5 which is in consonance with the 5 persons per rural household as established by the National Bureau of Statistics (NBC, 2006). Earthen pond was found to be more prevalent in the study area with 55.2% of the respondents making use of it and this management system may be due to the location while majority (47.6%) had 5 -7 years fish farming experience.

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Table 1: Distribution of respondents by socio-economic characteristics

Variables	Percentage (n = 110)	Mean
Age		
20 -29	9.09	
30 – 39	27.27	
40 – 49	34.55	42.9
50 – 59	24.54	
60 & above	4.54	
Sex		
Male	64.5	
Female	35.5	
Marital status		
Single	10	
Married	84.55	
Widow	3.64	
Divorced	1.81	
Educational Qualification		
Primary	52.73	
Secondary	30.90	
Tertiary	14.55	
Adult literacy	1.82	
Household size		
1 – 2	15.46	
3 – 4	33.64	4.7
5 – 6	26.36	
7 – 8	24.54	
Type of ponds		
Earthen	55.2	
Concrete	36.2	
Tanks	8.6	
Years of Experience		
2 – 4	17.1	
5 - 7	47.6	6.6
8 – 10	32.4	
11 – 13	2.9	

Source: Field survey, 2015

Information Sources Utilized by Fish Farmers

Results in Table 3 reveals that 85.7% of the respondents obtained information through radio broadcast, 84.8% through extension agents and 50.5% through television broadcast. This shows that extension service delivery is effective in the study area. By implication, it contradicts the work of Okunlola, Oludare and Akinwalere (2011) that majority of the farmers did not have access to extension activities which is supposed to be a major source for disseminating information to respondents on new technologies. Also, 76.2% obtained information through informal meeting which shows that farmers value the bonds that exist among them and utilize the bond for enhancing agricultural productivity.

Table 3. Distribution of respondents by source of information utilized

Source of Information	Yes percentage	Rank
Radio Broadcast	85.7	1st
Extension Agent	84.8	2nd
Informal meeting	76.2	3rd
Friends & Relations	60	4th
Posters	57.1	5th
Co-operative society	54.3	6th
Television Broadcast	50.5	7th
Newspaper	35.2	8th
Village criers	11.4	9th

*Multiple responses
Source: Field survey, 2015

Production Management Practices of Fish Farmers

Results in Table 4 reveals that majority of the fish farmers engaged in cleaning (86.7%) all the time, weeding (87.6%) and disease control (85.7%) as often as possible. This implies that cleaning is one of the most important management practices that must be maintained if higher production is to be achieved.

Table 4: Distribution of fish farmers by production management practices

Management practices.	Never	Not Timely	As often as possible	All the Time
	%	%	%	%
Cleaning	1.0	1.0	11.41	86.7
Fertilization	1.0	1.9	38.1	59.0
Water quality Mgt	- 1.9	53.3	44.8	
Weeding	11.0	4.8	87.6	6.7
Disease control	1.9	6.7	85.7	5.7
Liming	3.8	15.2	68.6	12.4
Harvesting	1.9	12.4	66.7	19.0

Source: Field survey, 2015

Management Information Needs of Fish Farmers

Results in Table 5 shows that hormones identification (x = 2.83), fish marketing (x = 2.80) and water quality management (x = 2.71) were areas that management information are highly needed as they were ranked 1st, 2nd, and 3rd respectively. This negates the findings of Olasunkanmi (2012), who reported that information on fish marketing was not a serious problem. The implication of respondents' high demand for information on hormones identification, water quality management and fish marketing is that fish farmers in the study area are not sufficiently knowledgeable in these areas. Also, there was high need of information on disease identification (x = 2.67), fish preservation (2.67) as well as fish processing (2.67). This indicates the need for improvement in the area of value addition for better profit maximization.

Table 5: Distribution of Management Information Needs of Fish Farmers in the study area

Management Information Needs	Not a need %	Rarely needed %	moderately needed %	Highly needed %	Mean value	Rank
Breeding Practices						
Hormones identification	1.0	-	14.3	84.8	2.83	1st
Sex identification	2.9	2.9	42.9	51.4	2.43	9th
Selection of brood stocks	-	12.4	45.7	41.9	2.29	13th
Fertilization	2.9	10.5	31.4	55.2	2.39	10th
Production Practices						
Water quality mgt.	1	2.9	21.0	75.2	2.71	3rd
Disease symptom identification	-	3.8	24.8	71.4	2.67	4th
Security	1	4.8	38.1	56.2	2.49	8th
Pond management	1.9	9.5	38.1	50.5	2.37	11th
Feeding practices	1.9	6.7	38.1	53.3	2.43	9th
Source of fingerlings/juv.	1	1.0	31.4	66.7	2.64	6th
Feed formulation	-	4.8	31.4	63.8	2.59	7th
Processing & Marketing						
Fish marketing	-	3.8	12.4	83.8	2.80	2nd
Fish preservation	-	4.8	23.8	71.4	2.67	4th
Fish processing	1	1	28.6	69.5	2.67	4th
Market price	1	1	30.5	67.6	2.65	5th
Packaging	-	6.7	49.5	43.8	2.37	11th
Fish transportation	1.9	9.5	40	48.6	2.35	12th

Source: Field survey, 2015

Constraints to Fish Production

Table 6 reveals that high cost of feed, poaching and microcredit procurement were considered as serious constraint to fish production as they were ranked 1st, 2nd and 3rd with 81.9%, 66.6% and 48.6%, respectively by the respondents. This signifies the dissatisfaction of fish farmers with the cost of feed which affects their fish feeding rate and that invariably affects their level of productivity.

Table 6: Distribution of constraints to fish production in the study area

Constraints to Fish production	Not constraint %	Mild constraint %	Serious constraint %	Mean value	Rank
High cost of feed	3.8	14.3	81.9	1.78	1st
Poaching	6.7	26.7	66.7	1.60	2nd
Microcredit procurement	20	31.4	48.6	1.28	3rd
Inadequate capital	18.1	38.1	43.8	1.26	4th
Government policy	10.5	57.1	32.4	1.22	5th
Incidence of Diseases/pests	19	58.1	2.9	1.12	6th
Water scarcity	23.8	49.7	26.7	1.03	7th
Lack of technical skills	21.9	53.3	24.8	1.03	7th
Difficulty in fingerlings procurement.	18.1	59	22.9	1.05	9th
Poor water quality	28.6	44.6	26.7	0.98	10th

Source: Field survey, 2015

Relationship between Management Practices of Fish Farmers and Management Information Needs

Table 7 reveals that there was no significant relationship between management practices of fish farmers and their management information needs (r = 0.095, p = 0.334). This implies that the extent of involvement in management practices does not significantly affect the management information needs of respondents.

Table 7: Correlation between the management practices of fish farmers and their management information needs

Variables	r-value
Management practices	0.095*

*P≤0.05

Table 8 shows that respondents' age and number of ponds had a significant correlation with management information needs of respondents (r = -0.233, 0.088, p = 0.017, 0.000). This implies that the age of the farmers determine his or her information seeking behavior. That is, the younger ones are more likely to be more curious in seeking for

information than the elderly ones. Also, farmers with higher number of ponds would need more information on management practices for them to achieve effective fish production. Also there was no significant relationship between household size and management information needs (r = 0.088, p = 0.371). On the years of experience, the analyzed data shows that there is no significant relationship between the years of experience and management information needs (r = 0.111, p = 0.258). This implies that the farmers with higher years of experience in fish farming are not likely to need management information due to their years of experience in the sector.

Table 8: Correlation between selected socio-economic characteristics of fish farmers and their management information needs.

Variables	r-value
Age	-0.233*
Household size	0.088
Number of ponds	-0.412*
Years of Experience	0.111

P≤0.05 Source: Field survey, 2015.

Conclusion and Recommendation

Large number of the respondents obtained information on fish management from radio and extension agents. There was an urgent need for management information on the area of hormones identification, water quality management and fish marketing respectively. It is recommended that the government should initiate a programme that will build the farmers skills in feed formulation. Government and Non-governmental organizations should invest in fish farming business by creating enabling environment for fish to thrive through market availability and value addition services and Extension agents should make more effort to ensure that management information needs on hormone identification, water quality management and fish marketing and processing are timely available and accessible to farmers as this will help in achieving improvement in fish production and also contribute to the role of extension in developing agribusiness in Nigeria.

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