

Training Needs for Fish Farmers in Ibadan North Local Government Area of Oyo State, Nigeria

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Abstract: The study assessed the training needs of fish farmers. Eighty (80) farmers were selected using snowball-sampling technique. Interview schedule was used to elicit information from the respondents. The methods of the data analysis involved the use of descriptive statistics such as frequency counts and percentages, which were used to describe the socio-economic characteristics of respondents and other variables. Binomial logit regression was used to test the relationship between training needs and selected socio-economic characteristics. More than half (55.0%) of the respondents were between ages 40 - 49 years. Majority (72.5%) had spent between 2 – 4 years of fish farming. About 80% of the respondents were not full-time fish farmers, while 20% were full-time fish farmers. Half (51.25%) purchased feed used in fish production. In assisting fish farmers level of education, method of land acquisition and size of pond should be considered as important areas of needs to address when organising training.

Key words: Fish farming • Training needs • Fish farmers and Enterprise Characteristics

INTRODUCTION

Fish farming generates employment directly and indirectly in terms of people employed in the production of fishing output and other allied business. It also generates income for all categories of people involved in fish farming and thus contributes to the national income [1, 2, 3]. When compared with livestock, it requires less space, time, money and has a higher feed conserving rate [4]. Fish and its products remains a vital source of the world dietary protein intake [1, 5, 6, 7].

Fish farming dated back to the 1950s in Nigeria [6]. However, Fish demand in Nigeria was put at about 1.5 million metric tons per annum as at 2007 while the total domestic production was about 551,700 metric tons [8, 9]. Nigeria is regarded as a protein deficient country using the Food and Agricultural Organizations (FAO) recommended 35g of animal protein per day per person [10], but less than 8g is consumed on the average [11]. Nigeria has become one of the largest importers of fish in the developing world, importing over 600,000 metric tons

annually [8, 12]. This indicates the large deficit in fish supply in Nigeria.

Ofouku *et al.* [13] and Hempel [14] have however, described training as a viable tool for enhancing the capacity of the fish farmers to overcome the fish production challenges that have hindered the sector from steady growth. Training is a process of acquisition of new skills, attitude and knowledge in the context of preparing for entry into a vocation or improving ones productivity in an organization or enterprise. Effective training requires a clear picture of how the trainees will need to use information after training in place of local practices what they have adopted before in their situation [15]. Training can also be regarded as a concept which performs the therapeutic function of shaping knowledge, skill and attitude that are required for effective performance of duties and or assignment [16]. In agricultural and community development programmes, training is aimed at communicating information, knowledge and skills, replacing old attitudes by new ones, exchanging opinion and experiences, removing doubts and difficulties [17].

Olaoye *et al.* [6] highlighted several challenge confronting fish farming in Nigeria to include poor management, inadequate supply of good quality fingerlings, lack of capital, high cost of feed and poor marketing services. However, in spite of research and extension services efforts towards improved fish production, these subsisting problems are indication that the improved fish farming technologies and other information are not adopted by farmers. Non adoption of information in agricultural development may be due to non access to relevant information or lack of adequate training [18].

Extension services are channels through which farmers' problems could be identified for research and formulation of appropriate policies to the benefit of farmers. It is therefore necessary to know the areas in which fish farmers need training so as to boost production to meet both local and international demand. Based on this, the study was mainly aimed to consider the following objectives:

- I. Identification of the socio-economic and enterprise characteristics of fish farmers
- II. Investigation into the training needs required by fish farmers
- III. Identification of the important variables to be considered when organizing training programmes for fish farmers

Hypothesis of the Study:

Ho: There is no significant relationship between the socio-economic characteristics of the respondents and their training needs.

MATERIALS AND METHODS

Study Area, Sampling Technique and Sample Size:

The population of study were fish farmers in Ibadan North Local government area. A sample size of 80 fish farmers were selected from the population by using snowball-sampling technique. This was used because; there was no record to show the list of fish farmers in Ibadan North Local Government Area. However, those who operate it know themselves.

Measurement of Variable: The dependent variable of study the training need(s) of fish farmers and this was measured by subjecting the respondents to 10 items

on rating scale of Large extent = 2, some extent = 1, not at all = 0. The training needs required by the respondent were measured in order of ranking through the mean calculated. The mean is calculated by multiplying the point on the scale by the frequency and summing it up. The sum is therefore divided by the total number of the respondent to get the mean value of the training need(s) of the fish farmers. The methods of the data analysis involved the use of descriptive statistics such as frequency counts and percentages, which was used to describe the socio-economic characteristics of respondents and other variables. Binomial logit regression was used to test relationship between training needs and selected socio-economic characteristics.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Respondents:

The distribution of the social economic characteristics of the respondents is as shown on Table 1. More than half (66.2%) of the respondents were male while 33.8% were female. This showed that males were mostly involved in fish farming than females. Five percent of the respondents were between the ages 20 – 29 years, 33.8% were between 30 – 39 years, 55.0% were between 40 – 49 years, while 6.2% were between 50 – 59 years. This finding agrees with Ekong [19] that, farmers mean age is between 45 and 50 years. Also, majority (82.5%) were married, 10% were single and 3.75% were widows and separated, respectively. Also, 6.25% had PhD, 56.25% had B.Sc, 7.5% had B.Ed and 23.75% had HND, while 6.25% had NCE. This indicates that majority of the respondent were educated. This is in line with the study of Olagunju *et al.* [20] who found that majority of fish farmers were educated. Few (25.0%) of the respondent inherited the land used for fish farming, 12.5% leased the land, while 62.5% purchased the land used for fish farming. This implies that majority purchased the land used for fish farming. Majority (72.5%), had spent between 2 – 4 years of fish farming, 21.3% spent between 5 – 7 years, while 6.2% spent 10 years in fish farming. This indicates that most of the farmers were experienced. About 39% of the respondents had pond size of 1000m² while 61.2% had 1500m² as the size of their pond. This implies that the respondents were really into fish farming for commercial purposes as majority (61.2%) had between 4 to 5 ponds.

Table 1: Distribution of the respondent according to their socio-economic characteristics.

Characteristics	Frequency	Percentage
Sex		
Male	53	66.2
Female	27	33.8
Total	80	100.0
Age(years)		
20 – 29	4	5.0
30 – 39	27	33.8
40 – 49	44	55.0
50 – 59	5	6.2
Total	80	100.0
Marital status		
Married	66	82.5
Single	8	10.0
Widowed	3	3.75
Separated	3	3.75
Total	80	100.0
Level of Education		
PhD	5	6.2
BSc	45	56.3
B.Ed	6	7.5
HND	19	23.8
NCE	5	6.2
Total	80	100.0
Method of Land		
Inherited	20	25.0
Leased	10	12.5
Purchased	50	62.5
Total	80	100.0
Years of experience		
2 – 4	58	72.5
5 – 7	17	21.3
10	5	6.2
Total	80	100.0
Size of pond m ²		
1000	31	38.8
1500	49	61.2
Total	100.0	
No of ponds		
2-3	33.8	
4-5	61.2	
6-7	5.0	
Total	100.0	

Source: Field Survey, 2009.

Table 2: Distribution of the respondent according to enterprise characteristics

Enterprise characteristics	Frequency	Percentage
Mode of operation		
Part-time	64	80.0
Full-time	16	20.0
Total	80	100.0
Species of fish		
Catfish	80	100.0
Tilapia	0	0
Total	80	100.0
Type of lime		
Wood ash	10	12.5
Quick lime	46	57.5
Limestone	24	30.0
Total	80	100.0
Maggot		
Self-produced	39	48.8
Purchased	41	51.2
Total	80	100.0
Local Feed		
Self-produced	7	8.8
Purchased	73	91.2
Total	80	100.0
Imported feed		
Self-produced	0	0
Purchased	80	100.0
Total	80	100.0
Source of fingerlings		
Nursery	16	20.0
Purchased	64	80.0
Total	80	100.
Source of Finance		
Own savings	15	18.7
Bank loan	8	10.0
Cooperative	19	23.8
Own savings & Bank loan	30	37.5
Own saving, Bank loan & Coop	8	10.00
Total	80	100.00
Market Channel		
Wholesaler	46	57.5
Retailers	10	12.5
Wholesale & retailer	4	5.0
Wholesaler, retailer & Consumer	20	25.0

Source: Field survey, 2009.

Table 3: Distribution of respondent according to training needs of respondents

Training needs	Large extent	Some extent	Not at all	Mean	Rank
Fingerlings production	62(77.5)	13(16.3)	5(6.2)	1.71	1
Pellet production	34(42.5)	39(48.8)	7(8.8)	1.33	2
Drug administration	31(38.8)	39(48.7)	10(12.5)	1.26	3
Disease & pest control	35(43.8)	30(37.5)	15(18.7)	1.25	4
Feed compounding	15(18.7)	39(48.8)	26(32.5)	0.86	5
Pond management	14(17.5)	39(48.8)	27(33.7)	0.84	6
Processing	16(20.0)	29(36.2)	35(43.8)	0.76	7
Training on fish rearing	11(13.8)	30(37.5)	39(48.7)	0.65	8
Procedure for profit maximization	9(11.2)	32(40.0)	39(48.8)	0.63	9
Record keeping	4(5.0)	39(48.8)	37(46.2)	0.59	10

Source: Field Survey 2009 and Figures in parentheses are percentages.

Table 4: Binomial logit regression between respondents' training needs and selected socio-economic characteristics.

Variable	Standardised Coefficient	t-value	p-value
Constant	-.5728322099	-.121	.9033
Sex	-.3888801896	-.541	.5884
Age	-.8208237861	-1.417	.1566
Marital Status	-.2203557529	-.468	.6396
Level of education	-.6939509925	2.131	.0331*
Method of land acquisition	-1.355493479	3.288	.0010*
Years of experience	-.6028090579E-01	-.288	.7730
Size of pond (m ²)	.2485991062E-02	-1.790	.0735**
No of ponds	-.4941045782	-1.428	.1532

Significant level *5% and **10%.

Enterprise Characteristics: The enterprise characteristics of the respondents are as shown on Table 2. Majority (80%) of the respondents were not full-time fish farmers, while 20% were full-time fish farmers. This implies that most of the fish farmers were not self-employed. The given Table also shows that 100% of the respondent cultivated only a species of fish, which is common carp (catfish). It also shows that 12.5% of respondents used wood ash, 57.5% used quicklime, while 30.0% used limestone. This implies that most of the respondents prefer using quicklime 10 wood ashes and limestone to fertilize. Also, 48.75% of respondent used maggot, which were self, produced, while 51.2% purchased maggot used, 8.8% used local feed which were self produced while 91.2% of respondent purchases local feed. Moreover, all (100.0%) the respondents purchased imported feed used. This implies that most of the feed used by the respondent i.e. maggot, local feed and imported feed were purchased. It also shows that 18.75% of the respondent had their finance from their own savings, 10.0% from bank loan, 23.75% from cooperative, 37.5% from both own saving and bank loan, while 10% from own saving, bank loan and cooperative.

More than half (57.5%) of the respondent's market channel was through wholesaler, 12.5% through retailers, 5.0% through both wholesaler and retailers while 25.0% through wholesaler, retailer and consumers. This implies that respondents had various market channel used to distribute their output.

Training Needs Required by the Fish Farmers:

The training needs as perceived by the respondents are as shown on Table 3. Majority (77.5%) of the respondents needs training on fingerlings production to large extent, while 16.3% of the respondent needs training on fingerlings to some extent. Also, 38.8% of the respondent needs training on drug administration in large extent while 48.7% of the respondent needs it to some extent. The given Table further shows that 42.5% of the respondent needs training on pellet production, while 48.8% needs training on pellet production to some extent. 43.8% of the respondent needs training on disease and pest control, while 37.5% of the respondent needs training on disease and pest to some extent. Likewise, the study Table also shows that 18.7% of the respondent needs training on feed compounding, while 48.8% needs training on feed

compounding to some extent. This implies that all the training needs were highly needed. This is because it falls between the ranges of 1-5 according to the order of ranking, while the remaining, that is, pond management, processing, fish rearing, record keeping and procedure of profit maximization were of low need; this is because they all fall between the ranges of 6-10 according to the order of ranking.

Result of Hypothesis Tested: Factors that were significant from the result in the Table 4 which include the level of education ($\beta=-.6939$; $\rho=0.0331$), method of land acquisition ($\beta=-1.3554$; $\rho=0.0010$), size of pond ($\beta=-0.2485$; $\rho=0.0735$) were the major factors that determine the training needs of fish farmers and hence profitability of the respondents' fish farming enterprise. Method of land acquisition that is significant implies from study that fish farmers will be interested in being trained in areas of need identified since majority own the land used. They will not mind adopting any type of technology for improving their enterprise. Level of education was also significant, it implies that fish farmers with high level of education do not need as much of training as others with low level of education. Size of pond was also significant.

CONCLUSIONS

Based on the empirical findings of this study, it is concluded that the fish farmers are educated. This might be due to the metropolitan nature of the study area and its implication is that the fish farmers will be very receptive to new innovations in their enterprise. They also have relatively large size of ponds and quite a number of ponds which indicates that they are really into fish farming for commercial purposes. It is recommended that, variables such as level of education, method of land acquisition and size of pond should be highly considered when organizing training for fish farmers.

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