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ABSTRACT

This study focused and examined gender issues in economics of fish farming in Maiduguri and its environs. The socio-economic characteristics of the fish farmers were examined. The profitability of the industry and constraints affecting fish farming in the study area were analyzed. Stratified random sampling technique was used due to the heterogeneous nature of the population considering 30% of the fish farmers as the sampled size. Descriptive statistics and net farm income were used to analyse the data obtained. It was revealed that 81.25% of the respondents were male while female fish farmers represented 18.75% of the respondents. 84.40% of the respondents had tertiary education while farmers with secondary certificate and adult education constituted 12.50% and 3.10% respectively. Net farm income profitability analysis of male and female farmers were ₦6,193,767:00 and ₦445,557:00 respectively. It was also observed that the major constraints militating against fish farming in the study area were scarcity of fingerlings, lack of improved technology, inadequate capital, high cost of equipments, lack of land and management difficulties. It was recommended that adequate training, continuous capacity building and improved technology in fish production must be made available to farmers: and farmers should have access to sources of fingerlings.

INTRODUCTION

The consideration of men and women as separate entities when examine development activities has become virtually universal, this is justified on the basis of past and continuing inequity (Oseni, 2004). One of the most important issues discussed in Nigeria today is that of women participation in agricultural development. This is because of the important role played by them in national development and most needs of any developing nation of the world today. In Nigeria, as well as most developing countries of Africa, Asia and Latin America, about 80-85% of the total population has been described as urban inhabitant with about 65% women in agriculture providing employment and means of livelihood for as much as 75% of this population (World Bank, 1991). Although, women contribute about 60-80% of agricultural production in the developing countries, women farmers are least likely to benefit from agricultural extension services and technologies that could improve their production.

According to World Bank (1991), socio-cultural factors such as religious and culture attitudes about gender roles kept women more home bound than men. This reduces their economic option, social interactions and restricts their access to information technologies and resources needed to respond to economic opportunities. However, Global Statistics indicated that women make up 51 – 55% of the population of most African countries. In countries that are at war, the percentage of women may be as high as 65% because the men generally go to war. In Nigeria, also women make up about 50% of the nations population. Women over the year have acquired knowledge, skills and abilities that enable them to produce, distribute, process and market agricultural products more efficiently.

Fish is of immense importance in providing protein food for humans. The demand for such protein is rising exponentially with the rapidly accelerating increase in human population. It has been observed that fishes play an important role in the health and well being of most of people of Nigeria. Fisheries in Nigeria is in three main categories, artisanal, industrial fisheries and aquaculture (fish farming). Aquaculture is the rearing of aquatic organism under controlled conditions. Aquaculture has been proposed as a means of supplementing natural marine and freshwater productivity including capture fisheries where maximum sustainable yield of many lakes and rivers have been attained. Fish farming is often a supplementary activity for small – scale farmers. Different aquaculture systems can be identified not only on the basis of the intensity of the system but also on the extent to which men and/or women are involved in aquaculture. The major problem affecting the fish farming industry is inadequate fingerlings and cost of feed therefore enough fish seeds should be produced without necessarily depending on the wild lakes (natural sources) so as to meet the protein requirement of the growing population and enhance income generation of the fish farmers.

In view of the above, the Federal Government of Nigeria has formulated many policies with the aim of bringing changes in the agricultural sector including fishery and boosting fish production. These include the monetary policy measure during the pre-SAP era. During this period, the interest rate structure was used mainly to direct cheap credit to the productive sectors, including fishery. Then came the Structural Adjustment Programme (SAP) that was embarked upon in 1986 with the aim of restructuring and diversifying the productive base of the economy in order to reduce dependence on the oil sector. Despite the various policy measures used since 1975 to boost fish production and distribution in the country, a major characteristic of the sector is the short-fall in production target as the population continues to increase. It is against this background that this study is carried out to find out and compare the socio-economic characteristics of men and female fish farmers in the fishery industry and the responsibility or contribution of men and women in the industry in the study area.

METHODOLOGY

109 fish farmers were identified as the sampled frame while 30% were considered as the sampled population using stratified random sampling techniques and were given questionnaire to fill for the purpose of this study. The data on the subject matter were collected from both primary and secondary sources. The secondary data were collected from government agencies and from the record of fish farmers association, while primary data were collected from the sampled farmers using structural and open ended questionnaire. Descriptive statistics which include frequency, distribution table and percentages were used to analyse the socio-economic characteristics of fish farmers and problems affecting fish farmers in the study area, while Net Farm Income analysis (NFI) were used to determine the profitability (cost and return) of male and female fish farmers.

RESULTS AND DISCUSSION

Socio-economic characteristics with respect to age, gender (sex), marital status and level of education indicated that old or young can be engaged in the practice. However the most active ages are between 31 and 50 years (Table 1). Only 6.25% was recorded for between 51 years and above, 12.50% were within the age range of 21-30 years, 37.50% was recorded for those between 41-50 years while 43.75% were between 31-40 years. Distribution of respondents based on gender as shown in Table 1, indicated that majority of the farmers were male (81.25%), while female farmers constituted only 18.75%. The educational level of the farmers were also widespread, although a higher percentage (84.40%) of the farmers have tertiary education, while 12.50% and 3.10% have secondary certificate and adult education respectively. Majority (93.75%) of the respondents were married while 6.25% were widows.

Table 1: Socio-economic characteristics of respondents (fish farmers)

Socio-economic Characteristics	Male respondents frequency	female respondents Frequency	Total frequency	Percentage (%)
Age				
21-30	4	-	4	12.50
31-40	10	4	14	43.75
41-50	10	2	12	37.50
51 and above	2	-	2	6.25
Total	26	6	32	100
Gender (sex)				
Male			26	81.25
Female			6	18.75
Total			32	100
Marital status				
Married	26	4	30	93.75
Single	-	-	-	-

Widow	-	2	2	6.25
Total			32	100
Educational level				
Primary	-	-	-	-
Secondary	3	1	4	12.50
Tertiary	23	4	27	84.40
Adult education	-	1	1	3.10
Total	26	6	32	100

Profitability of male and female fish farmers:

The profitability analysis of fish farming using net farm income approach indicated that the business is a profitable one. This was conformed by the net farming of the average farmer which was obtained by dividing the net farm income by the total number of sample respondents. For female farmer ₦74,260 was obtained as their mean profit per production cycle (6 months), while male farmer realized ₦238,222 as their mean profit and from the foregoing it can be clearly seen that this business was largely dominated by men as explained by the profit realized.

Table 2: Costs and returns analysis of male and female fish farmers

Cost Item	Value (₦)	Percentage (%)
Total revenue	14370700	
(fish sales)	2313000*	
Variable Cost		
Fingerlings	1595050	20
	144250*	8
Feed	3210650	39
Labour (hired)	563960*	30
And family)	270100	3
Medication	57600*	3
	100220	1
	75500*	4
Total variable cost (TVC)	5176020	
	841310*	
Total fixed cost (TFC)	30000913	37
	1026133*	59
Total cost (TVC + TFC)	8176933	
	1867443*	
Net farm income (NFI=TR-TC)	6193767	
	445557*	
Mean profit (NFI)/(N)	238222	
	74260*	

Source: Field survey, 2008

* Female farmers cost and return

Problems affecting fish farming

The results of the analysis as shown in Table 3 revealed that scarcity of fingerling and lack of improved technology knowledge ranked first among the major constraints to fish farming (13.58%) while high cost of feed affects 12.34% of the respondent. Also high cost of equipment, pest and disease was followed by high fish mortality, management difficulty which affects 9.88%, 8.64% and 7.41% of the respondents respectively as shown in Table 3.

Table 3: Distribution of respondents according to major constraints for fish farming

Constraints	Frequency	Percentage (%)	Rank
Scarcity of fingerling	22	13.58	1 st
Lack of knowledge of			
Improved technology	22	13.58	1 st
High cost of feed	20	12.34	3 rd
Inadequate capital	19	11.73	4 th
High cost of equipment	19	11.73	4 th
Pest and disease	18	11.11	6 th
High fish mortality	16	9.88	7 th
Management difficulty	14	8.64	8 th
Lack of land	12	7.41	9 th
Total	162*	100	

Source: Field survey, 2008; *Multiple choice

CONCLUSION AND RECOMMENDATIONS

This study showed that the percentage of male fish farmer's was greater than that of their female counterparts. It was also observed that fish farming contribute immensely to the livelihood of the farmers due to its high return and also the socio-economic characteristics of the farmers plays a vital role in determining the profitability and level of participation. High cost of feed and inadequate capital were among the constraints militating fish farming in the study area. The productivity of this sub-sector could be improved through adequate training and continuous capacity building and improved technology in fish farming, and sources of fingerlings for stocking of ponds should be publicized to farmers. Research Institute must as a matter of urgency start producing locally improved commercial fish feed of good quality commensurable with international standards, as this will reduce the cost of feeds tremendously. Finally working capital through organization of multipurpose cooperative societies and non-governmental organization so that more credit facilities should be made available to fish farmers.

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