



## ASSESSMENT OF CATFISH PRODUCTION IN EGBEDA LOCAL GOVERNMENT AREA OF OYO STATE

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**Abstract:** *The study analyzed the catfish production in Egbeda Local Government Area of Oyo State, Nigeria. Multistage sampling procedure was adopted, while structured and validated interview schedule was used to obtain necessary information from catfish farmers. Data collected was analyzed using frequency distribution and percentages as main descriptive statistical tools, while gross margin analysis and net farm income were used as inferential tools in making inference about the data collected. Both male (78.8%) and female (21.3%) were involved in catfish production with mean age of 46 years and 11 years of experience. The average income earned by the respondents is #68,041.00. The gross margin value was #5067902.5, while net farm income was #858525.28. The study therefore recommends that Nigeria people should be given orientation as regard the profitability of catfish production; there is need to encourage people especially the catfish farmers to consider catfish production as full-time business due to its profitability; catfish production inputs should be made available for the fish farmers in order to encourage the production of fish in the area, also there is need to encourage catfish production through the provision of credit facilities.*

**Keywords:** *Assessment, Catfish, Production, Egbeda, OyoState, Nigeria.*

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## INTRODUCTION

Fish is a vital food for human existence. It is a man's most importance single source of high quality protein, that producing 16% of animal protein consumed by the world's population (FAO 1997). Fish allows for protein improved nutrition that has a high biological value in terms of high protein retention in the body (Anthonio and Akinwumi, 1991) Fish has higher protein assimilation as compared to other animal protein sources, low cholesterol content and one of the cheapest sources of animal protein (Slang, 1973).

Fishing like other hunting activities as been a major source of food for human race and has put an end to the unsavory outbreak of anemia, kwashiorkor and so on. It account for about one fifth of the world total supply of animal protein and this has rising five folds over the last forty years from 20million metric tons to exceed 150million metric tons by the year 2015 (FAO, 2010). Fish farming generate 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 this contribute to the national income when compare with livestock it require less space, time, money and has a high feed conserving rate. Food and Agricultural Organization of United Nation (FAO) (1994), asserted that fish contribute about 50% of the world's supply of protein and that 60% of the developing world derived more than 30% of their annual protein from fish. According to Ojo (2008), a small amount of fish is an important dietary supplement for people who cannot easily afford animal protein and relied mainly on starch. As in much of Africa, the most commonly cultured species of fish include catfish (*Clarias gariepinus*, the imported *C. lazera* and *Heterobronchus spp*), tilapia and carp. Many fish farm focus on catfish, as they can have a market value size of two to three times of that of tilapia (FAO, Agriculture News Letter), its widely acceptable as part of food in Nigeria, because it is a fast growing species that adapt retailed live and attract premium price (Report of Nigeria Federal Department of Fisheries). Catfish production as grown readily in the past ten years and has been proven to be a profitable enterprise for many farmers and since nearly half of the rivers catfish are completely exploited (FAO, 1999) and 70% are in need of urgent management.

In spite of the ever increasing growth being witnessed by other major sources of animal protein such as livestock and poultry industries, this problem of protein deficiencies as



continue unabated. Specifically this study identified socio-economic characteristics of the catfish farmers, investigated cost and return on catfish production in the area and constraints encountered in catfish production among the respondents in the area.

## **METHODOLOGY**

The study was conducted in Egbeda Local Government Area of Oyo State, Nigeria. A multistage sampling technique was adopted and eighty (80) catfish farmers were selected in the area. The entire population of the study area was divided into two stages that is urban political ward and rural ward, whereby four (4) wards were selected from urban ward and four from rural ward. Forty (40) catfish farmers were then selected in each stage.

## **RESULTS AND DISCUSSION**

The data presented in Table 1 shows that majority (78.8%) of the respondents sampled were male, while 21.3% were female. It implies that male are more involve in catfish production which may be due to the fact that catfish production require more energy which female may not be able to meet up with it. 40.2%, 35.2% and 9.1% of the respondents were between the age ranges of less than equal to 40 years, 41-50 years, and 50-60 years respectively, while 6.5% indicated above 60 years of age. This implies that majority of the catfish producers are mature and this is expected to influence their catfish production level in the area.

The result also indicated that 71.3% of the respondents were married, while only 28.7% were unmarried. It implies that majorities (71.3%) are married and this is expected to influence catfish production level among the respondents. This finding is in line with Akintonde (2009) that marital status is a fact that may suggests a high degree of level of responsibility and great capability for sound ration decision making among farmers.

Majority (37.6%) of the respondents sampled were primary school leavers, 25.1% and 15.0% were secondary and tertiary school levers, while 22.6% of them did not have formal education. It implies that majority of the respondents are literate with different educational background and this is expected to have significant impact on their production level. This finding corroborate the study by Seyoum *et al.* (1998) stated that farmers with more years of schooling tend to be more technically efficient than the farmers with no education. Again, majority (72.6%) have between 16-20 years of experience, 19.0% and 6.3% have between 6-10 years and less/equal to 5 years of experience, while 2.6% have between 11-15 years of



experience. This implies that all the respondents have different years of catfish production experience, which indicates that all the respondents sampled are not novice in catfish production and this is expected to have a positive influence catfish production. This is in line with study by Awudu and Richard (2001) that farming experience contributes positively to agricultural production.

According to Table 2, it revealed that majority (86.2%) of the respondents sampled do not engages in catfish farming as primary occupation but just only 13.8%. The secret behind this may be due to the fact that this type of fish production does not require full-time commitment. A fact that suggests that catfish farming can be done on part-time basis. The respondents also indicated their other occupation, 43.5% forming the majority engages in artisan as secondary occupation, 24.6% and 14.5% were civil servants and traders, while 17.4% of them did not make clear response about this aspect of the interview schedule.

Result in Table 3 shows the distribution of respondents according to type of labour used and 55.0% indicated hired labour, 26.35 indicated family labour and 18.7% claimed that they used both labour type. This implies that labour is available for catfish production in the area. The decision of the labour type to be employed may depend on the choice of individual farmers. Again the respondents indicated the income earned from the catfish production with respect to last fish production season and 40.7% of them indicated #50,001.00 – #150,000.00 as income earned level, 30.4% indicated #10,000.00 - #50,000.00 income level, while only 11.9% indicated above #150.000.00 income level and 11.0% of them did not responded at all. This implies that the catfish farmers earned different income from catfish production. The variation in the level of income earned may be due to differences in pond size, number of pond, capability and other catfish production strategies employed by the individual farmers.

Table 4 indicated that 31.4% of the respondents claimed above 23200m<sup>2</sup> as their pond size, 26.5% and 25.2% indicated 1000m<sup>2</sup> – 8600m<sup>2</sup> and 8700m<sup>2</sup> – 17600m<sup>2</sup>, while 17.7% indicated 17700m<sup>2</sup> – 23200m<sup>2</sup> as pond size where they produce their respective catfish. The differences in their pond sizes may be due to access to various catfish production inputs and capability of individual catfish farmers.

Result in Table 5 shown different constraints encountered in catfish production in the area. The response are multiples and 58.8% and 70.0% indicated inadequate fish feed and access



to credit problem, 87.5% 75.0%, 50.0% and 46.3% indicated weather problem, overflow of river, soil acidity and predators as different constraints encountered, while all (100.%) of them indicated seasonality changes as part of the constraints encountered under catfish production in the area.

### **Test of profitability of catfish production**

For this test, Gross Margin Analysis and Net Farm Income were used

#### For Gross Margin Analysis

$$GM = TR - TVC$$

Where: GM = Gross Margin; TR = Total Revenue; TVC = Total Variable Cost

$$GM = \#5177839.25 - \#109936.68.00$$

$$= \#5067902.5.$$

According to the calculation above, it shows that the average total revenue is #517783.25, while that of total variable cost is #10.9936.68, hence the total GM is positive and far from zero which suggest that the catfish production is highly profitable.

For Net Farm Income

$$NFI = TR - TFC$$

Where: NFI = Net Farm Income; TR = Total Revenue and TFC = Total Fixed Cost.

$$NFI = \#5177839.25 - \#748588.6$$

$$= \#858525.28$$

The result of NFI is positive and far from zero which suggests that the catfish is a profitable venture.

### **CONCLUSION**

The results of the study reported here indicate that both male and female are involved in catfish production and regardless of age groups. Majority of the catfish farmers are married, while only 28.7% are single. Catfish production as occupation can be combined with other forms of activities as secondary or primary occupation. The catfish farmers earned different income which may be responsible by access to different production inputs, capability, production strategies employed, pond size, stocking rate and years of experience of individuals catfish farmers in the area. The result of gross margin analysis and Net Farm Income test conducted revealed that catfish production is a profitable venture in the area.



The study therefore recommends that Nigeria people should be given orientation regard the profitability of catfish production; there is need to encourage people especially the catfish farmers to considered catfish production as full-time business due to its profitability; catfish production inputs should be made available for the fish farmers in order to encourage the production of fish in the area; and there also need to encourage catfish production through the provision of credit facilities.

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**Table 1: Distribution of Respondents by Socio-economic Characteristics N= 80**

<b>Sex</b>	<b>Frequency</b>	<b>Percentage</b>
Male	63	78.8
Female	17	21.3
<b>Age (years)</b>		
≤ - 40	15	19.1
41 – 50	32	40.2
51 – 60	28	35.2
above 60	5	6.5
<b>Mean = 46</b>		
<b>Marital Status</b>		
Married	57	71.3
Unmarried	23	28.7
<b>Educational level</b>		
No Formal	18	22.6
Primary	30	37.6
Secondary	20	25.1
Tertiary	12	15.0
<b>Years of Experience</b>		
≤ 5	5	6.3
6 – 10	15	19.0
11 – 15	2	2.6
16 – 20	58	72.6

**Mean = 11**

**Source: Field Survey, 2011.**

**Table 2: Distribution of Respondents by Catfish as Major Occupation and Other**

**Occupation**

<b>Catfish as major Occupation</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	11	13.8
No	69	86.2
<b>Other Occupation</b>		
Civil service	17	24.6
Trading	10	14.5
Artisan	30	43.5
No response	12	17.4

**Source: Field Survey, 2011.**



**Table 3: Distribution of Respondents by Labour Used and Total Income Earned as of last**

Production Year    N= 80		
Labour Type	Frequency	Percentage
Family	21	26.3
Hired	44	55.0
Both	15	18.7
<b>Income Earned</b>		
10,000 - 50,000	24	30.4
50,001 - 150,000	32	40.7
Above 150,000	14	11.9
No Response	10	11.0

**Mean = 68,000**

**Source: Field Survey, 2011.**

**Table 4: Distribution of Respondents by Pond Size and Stocking Rate**

Pond Size (M <sup>2</sup> )	Frequency	Percentage
1,000 - 8,600	21	26.5
8,700 - 17,600	20	25.2
17,700 - 23,200	14	17.7
Above 23,200	25	31.4
<b>Stocking Rate</b>		
1,500 - 3,000	17	21.4
3,001 - 6,000	27	33.9
6,001 - 12,000	21	26.4
Above 12,000	15	18.9

**Source: Field Survey, 2011.**

**Table 5: Distribution of Respondents by Constraints Identified**

with Catfish Production		N= 80
Constraints	*Frequency	Percentage
Inadequate catfish feed	47	58.8
Inaccessibility to credit facility	56	70.0
Weather problem	70	87.5
River Overflow	60	75.0
Soil Acidity	40	50.0
Predators	37	46.3
Inadequate Water During Dry Season	80	100.0

**Source: Field Survey, 2011.**

**\*: Multiple Responses**