

PROFITABILITY AND VIABILITY OF CATFISH ENTERPRISES IN ABIA STATE OF NIGERIA

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ABSTRACT

This study was designed to analyze profitability and viability of catfish farming in Abia State of Nigeria. Simple random sampling technique was used in selecting 50 catfish farmers that provided the data used for the study. The primary data were collected with the aid of structured questionnaire, administered through personal interviews and careful observations so as to elicit the required information from the respondents. The data were analyzed using net profit analysis and benefit - cost ratio (BCR). The result of the study showed that on the average, an initial capital of ₦779, 200 was used in setting up each of the catfish business and the average farm size is 0.25ha. An average annual gross revenue of ₦1, 325, 000 and average annual profit of ₦545, 800 accrued to the catfish farmers. This shows that catfish farming is a profitable business in the study area. Also, the benefit BCR was 1.33 indicating that catfish farms in the study area are viable enterprises. Thus in order to boost catfish farming in the study area, the government should assist the farmers in circumventing whatever constraint they may be facing in their production process.

Keywords: Profitability, Viability, Catfish

INTRODUCTION

Agriculture has been described as the natural engine room for economic development and a reliable key to industrialization for developing countries of the world (Igbochi, 2000, Olagunju, 2005). Fisheries occupy a unique position in the agricultural sector of the Nigerian economy. In terms of Gross Domestic Product (GDP), the fishery sub-sector has recorded the fastest growth rate in agriculture to the GDP. The contribution of the fishery sub-sector to GDP at 2001 current factor cost rose from ₦76.76 billion to ₦162.61 billion in 2005 (CBN Report, 2005).

Fish is an important source of protein to large teeming population of Nigeria. Fish provides 40% of the dietary intake of animal protein of the average Nigerian. Fish and fish products constitute more than 60% of the total protein intake in adults especially in rural areas. Most animal protein contains high cholesterol, which can induce some health disorder unlike fish. The importance of fish in human nutrition include a nutrient profile superior to all terrestrial meats (beef, pork and chicken, etc) being an excellent source of high quality animal protein and highly digestible energy; a good source of sulphur and essential amino acids such as lysine, leucine, valine and arginine. It is therefore suitable for supplementing diets of high carbohydrates

contents; a good source of thiamine as well as an extremely rich source of Omega-3 polysaturated fatty acids, fat soluble vitamins (A, D and E) and water soluble vitamins (B complex) and minerals (Calcium, Phosphorus, Iron, Iodine and Selenium); has a high content of Polyunsaturated (Omega III) fatty acids, which are important in lowering blood cholesterol level and high blood pressure. It is able to mitigate to alleviate platelet of (cholesterol) aggregation and various arteriosclerosis conditions in adult populations; It reduces the risk of sudden death form heart attacks and reduces rheumatoid arthritis; Omega-3 fatty acids also lower the risk of age related muscular degeneration and vision impairment; and it decreases the risk of bowel cancer; and reduces insulin resistance in skeletal muscles.

The inadequacies in the supply of animal protein in the diet of Nigerians have resulted in massive importation of frozen meat, fish and chicken with the consequent loss of scarce foreign exchange. Efforts to boost animal production and to bridge the gap between supply and demand are particularly directed at fish production which is traditionally regarded as a cheap source of protein. Some of these programmes aimed at increasing fish production include: (i) in-shore fisheries development project to enhance fish production and generate employment opportunities; (ii) “National Accelerated fish production project (NAFPP)” and “Canoe mechanization scheme” (CMS); (iii) “Special fisheries development project” and (iv) “processing and marketing project among others.

The implementation of these projects brought about increase fish production initially but owing to policy shifts and unsustainable implement fish production has declined steadily over the years. Recently, there has been renewed efforts towards revitalizing the fishery sub-sector. Nonetheless, fishing and related occupations remain, the mainstay of most rural communities. Catfish is of the family *Claridae*, the most commonly cultivated fish in Nigeria now, is largely being boosted by a steady rise in catfish culture. Since the culture of *Clarias gariepinus* through hypophysation was initiated in the Western Nigeria in 1973, the procedure has been widely practices throughout Nigeria thus, leading to increase of farm-raised catfish form the 1980s to date. The favoured ctfish species in Nigeria aquaculture include *Clarias gariepinus*, *Heterobranchus bidorsalis*, *Clarias X Heterobranchus hybrid* (*Heteroclarias*) and *Clarias nigrodigitatus*. *Heterobranchus sp* is more commonly cultivated in the South Eastern part of Nnigeria (Omisotin, 2007).

The story of aquaculture in Nigeria is essentially the story of catfish culture and the hope of fish supply in Nigeria hangs on its development and culture. Recent trends all over the world, point to a decline in landing from capture fisheries, an indicator that fish stocks hhave approached or even exceeded the point of maximum sustainable yield. Aquaculture therefore remains the only viable alternative for increasing fish production in order to meet the protein needd of the people. Statistics indicate that Nigeria is the largest African aquaculture producer, with production output over 15, 489 tonnes per annum. This constitutes about 4 percent of the nation’s agricultural GDP. However, FAO (1993) estimated that Nigeria imports about 560, 000 tonnes estimated at about US\$400 million annually while annual domestic fish supply in Nigeria stands at about 400, 000 tonnes. This makes Nigeria one of the largest importers of fish in the developing world. To solve the country’s high demand for

fish, Nigerians must turn to their under-utilized inland water for improved fish production and aquaculture. However, aquaculture expansion has been slow as private sector fish farmers have faced major constraints including lack of quality feed (Akolisa and Okonji, 2005)

The problem of malnutrition, particularly protein malnutrition is a real one in most developing countries of the world. These countries are mostly located in the warm humid tropics where the level of animal production intake represents about one tenth of the level of intake in some advanced countries (Oluyemi and Robert 2000). An average Nigeria diet contains 7gm/caput/day of animal protein as against the recommended intake of 28gm/caput/day for normal health (Ikeme, 1994; Ibe, 1999; Njoku, 2002). This represents a gross shortfall of 70 percent and has predisposed many Nigeria to malnutrition and disease.

Agriculture in general and fisheries in particular are the sectors for sustainable development because hunger is the most visible manifestation of poverty in any society. Hence any activities in these sectors is not only a fight against hunger but a necessary ingredient for economic development as well. It has therefore become pertinent and indeed imperative to examine the profitability and viability of catfish enterprises. The result of the study would enable policy makers, the government and other stakeholders in formulating and implementing policies that would boost fish production in the country. It would also serve as a stimulus for entrepreneurs to invest in the sector and for people to take up fish farming confidently as a means of livelihood if viable and profitable and would go a long way towards solving unemployment in the country.

METHODOLOGY

This study was carried out in Abia State of Nigeria. Abia state lies within approximately latitude 4°40' and 6°14' North and longitudes 7°10 and 8° east. It covers an area of about 5,243.75 square kilometers and has a population of about 2,833, 999 million people (FRN, 2007; NPC, 2006). The predominant occupation of the inhabitants is farming.

Purposive and simple random sampling technique was used in selecting catfish farmers that provided the primary data used for the study. Four Local Government Areas (LGAs) namely Umuahia North, Umuahia South, Aba North and Aba South were purposively selected out of the 17 LGAs in the State. They selected LGAs were the major areas where catfish farming is practiced. The list of catfish farmers in each chosen LGA formed the sampling frame from which 50 respondents were randomly selected.

Data collected using structured questionnaire; interview schedules and personal observations were analyzed using net profit analysis, benefit-cost ratio and frequency tables and percentages. Data relates to the 2011 production year.

The net profit is given by:

$$\pi = TR - (TVC + TFC)$$

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Where π is profit, TR is the total revenue, TVC is total variable cost and TFC is total fixed cost.

The benefit-cost ratio is given by:

$$BCR = PVB/PVC \quad 2$$

Where BCR = benefit-cost ratio; PVB = present value of benefit (revenue) and PVC is the present value of cost.

$$PVB = \sum_{3} \{(B_n)/(1+r)^n\}$$

$$PVC = \sum_{4} \{(C_n)/(1+r)^n\}$$

Where in 3 and 4, B_n is benefit each year, C_n is cost each year; r is the discount rate (17%) and n is the number of years.

RESULTS AND DISCUSSION

The profit analysis of catfish enterprises

The profit analysis of catfish enterprises in the study area is presented in Table 1. The Table revealed annual gross revenue of ₦1, 325,000. However, a net profit of ₦545, 800 accrued to the farmers. Therefore, catfish farming is a profitable enterprise in the study area. People should be encouraged to take up catfish farming as a means of livelihood. This could be through the provision of soft loans to enable them to establish their own catfish business.

Table1: Net profit analysis of catfish farm enterprises

| Item | Value (₦) |
|-----------------------------|-------------------|
| Revenue | |
| Sale of fingerlings | 125, 000 |
| Sale of matured catfish | 1, 150, 000 |
| Sale of smoked catfish | 50, 000 |
| Total revenue | 1, 325,000 |
| Variable cost | |
| Transportation | 100, 000 |
| Feed | 450, 000 |
| Water | 48, 000 |
| Labour | 180, 000 |
| Total variable cost | 778, 000 |
| Fixed cost | |
| Depreciated value of assets | 1,200 |
| Total cost | 779, 200 |
| Profit | 545, 800 |

Source: Computed from Survey data, 2011

Discounted cash flow statement of catfish enterprises

The discounted cash flow statement of catfish enterprises is presented in Table 2. The Table posted a total present value of benefits/returns to be ₦2667892 and total present value of cost to be ₦2008173. The benefit-cost ratio was 1.33, indicating that catfish farming is a viable enterprise in the study area.

Table 2: Discounted cashflow statement of catfish enterprises

| Year | DF | Costs | Present value of costs | Revenue | Present value of revenue |
|-------|-------|---------|------------------------|---------|--------------------------|
| 1 | 0.855 | 1250000 | 1068750 | 1100000 | 940500 |
| 2 | 0.731 | 621000 | 453951 | 1232000 | 900592 |
| 3 | 0.624 | 778000 | 485472 | 1325000 | 826800 |
| Total | | | 2008173 | | 2667892 |

BCR = 1.33

Source: Computed from survey data, 2011

Problems encountered by the catfish farmers

Table 3 shows the problems encountered by the catfish farmers in the study area. The Table revealed that the major problems confronting the farmers were high cost of feed (100%), unavailability of improved seeds (100%), Poor feed quality (60%) and lack of retail outlet for purchase of feed (50%). Other problems were inadequate finance, poor infrastructure which is believed to have contributed to lack of storage and processing facilities.

Table 3: problems encounted by catfish farmers

| Nature of problem | Frequency* | Percentage |
|--|------------|------------|
| High cost of feed | 50 | 100 |
| Lack of retail outlet for the purchase of feed | 25 | 50 |
| Unavailability of improved seed | 50 | 100 |
| Poor feed quality | 30 | 60 |
| Inadequate finance | 19 | 38 |
| Poor infrastructure | 5 | 10 |

Source: Survey data, 2011

* Multiple responses recorded

CONCLUSION

From the study, it could be concluded that catfish enterprises are profitable and viable in the study area. Therefore, people should be encouraged through the provision of soft loans to take fish farming as a veritable means of livelihood. Also, the government should assist the farmers in circumventing the problems militating against catfish farming so as to attain increased productivity and achieving self-sufficiency in animal protein production.

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