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# Determinant of Demand of Ijebu Development Initiative on Poverty Reduction (IDIPR) Loan among Fish Farmers in Odogbolu Local Government Area of Ogun State, Nigeria

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**Abstract**

**Fish farming business are the kind of business in which, people engage in order to take care of fish right from breeding to marketing period. As a result of these business activities, the fish farmers require some amount of money or credit to enhance their business activities. This study considered the determinant of Ijebu development initiative on poverty reduction loan among fish farmers in Odogbolu local government area of Ogun state. Multistage sampling procedure was used to select 100 respondents, Interview guide was used to obtain primary data on the socio-economic and production characteristics of the fish farmers, the constraint encounter by the fish farmers from fish production activities, identify the factors responsible for accessibility to IDIPR loan. Data were analyzed using frequency counts, percentages, and regression analysis. Results showed that71.0%, 68.0%, 52.6 %, 40.0%, of the respondents were male, single, had between 1-3 family members, and within the age of 31-40 years respectively. Also 97.0% of the respondents acquire their land by rent and 57% of the fish farmers harvest fishes of more than 2000kg per fishing season. Major factor that affect accessibility of farmer to the loan is the late approval of credit. The results of the regression analysis shows that educational level ($p<0.01$), farming experience ($p<0.05$) and amount spend on fish feed $p< 0.01$ were positive and significantly influence the amount of loan demanded. Constraint to the fish production in the study area were poor quality of fish stocked (94%) and cost of feeds (91%). The study concluded that although fish farmers benefitted from this cooperative programme, many of the fish farmers still complain about the non-involvement of government and also the non-access to the credit facilities on time for fish production. Also, the Central Bank Agricultural Credit Guarantee Scheme should encourage IDIPR to give large amount to farmers.**

**Key words: fish farmers, Loan, Poverty, IDIPR, Determinant**

## Introduction

Throughout the centuries fish has been an important component of the populations' diet in many part of the world and the rapid increase in population as resulted in over fishing in the rivers and sea thereby resulting in decrease in the stock (Eira carballo *et al*, 2008).

Aquaculture is one of the ways of producing food rich in protein that is now in short supply especially in Nigeria (Adekoya, 1994). The importance of fish for food and development in Nigeria cannot be overemphasized given its enormous potential in terms of food and nutrition,

security, employment and income generation, poverty alleviation, and foreign exchange earnings (Omitoyin, 2007).

Fisheries constitute an important sector in Nigerian agriculture, providing valuable food and employment to millions and also serving as a source of livelihoods mainly for women in coastal communities. The fisheries subsector of the Nigerian agriculture is an essential tool for rural development through its provision of income, high-quality protein, and socioeconomic development of fishing communities in Nigeria (Olaoye *et al* 2016) .Coastal fisheries are important and contributed at least 40 percent of fish production from all sources in Nigeria between 1995 and 2008, Food and Agricultural Organization (FAO, 2010).

According to the Fisheries Society of Nigeria, small scale fisheries provide more than 82 percent of the domestic fish supply, giving livelihoods to one million fishermen and up to 5.8 million fisher folks in the secondary sector comprising processing, preservation, marketing and distribution. The total contribution of fisheries to Nigeria's gross domestic product is estimated at about $US1 billion. The importance of the fisheries sector to individuals and the economy of many developed and developing countries cannot be overemphasized. It is notable that fish provides more than 60.0% of the world's supply of protein, especially in developing countries (Olalekan J. O and Wahab G. O 2018)

According to estimates, Nigeria requires about 2.1million metric tonnes (mmt) of fish/year but produces only 0.65mmt and imports over 900mmt/year at a value of US$800m to meet this shortfall (Ajiboso, 2009). Considering Nigeria's enormous water resources, human capital and other natural endowments, the Federal Department of Fisheries (FDF) estimated fish production of over 1.7mmt comprising 201,300mt from inshore (brackish and coastal fisheries), 33,900mt (offshore fisheries), 288,200 (inland fisheries) and 1180215mt (aquaculture). Constraints to increased fish production in Nigeria include poor infrastructures, high level of rural poverty (over 80% of rural poor live below the poverty line), environmental problems (e.g. pollution in coastal areas arising from gas flaring, oil spills and industrial wastes), civil unrest in the Niger Delta, climate change effects (sea level rise, coastal erosion and flooding, increased environmental temperatures and wind storms) and degradation of coastal areas through human action (e.g. sand filling that destroys breeding grounds).

Fish farming business is the kind of business in which, people engage in order to take care of fish right from breeding to marketing period. As a result of these business activities, the fish farmers require some amount of money or credit to enhance their business activities, however this credit is not readily available to fish farmers and where available to the trader access to it is difficult, due to some factors. For fish farmers to be able to support their business activities, credit facilitation in terms of loans to the farmers is essential, this will allow for the sustenance of their farming business activities and also for farmers to be able to expand their fishing business activities. Credit which is of great importance to the sustenance of fish farming and agricultural development in Nigeria is however lacking in the scheme of things (Onwuka, 2006). Even when available, access to credit is difficult for farmers in the rural areas despite the fact that it is an essential input in aquaculture production (Olaoye, 2010). This could be adduced to lack of information and collateral securities among farmers.

In Ijebu-Ode, a programme to tackle poverty, unemployment, food insecurity, and general insecurity of lives was initiated that anchored on timely and adequate credit support to small scale farmers known as Ijebu Development Initiative on Poverty Reduction Loan (IDIPR).

Consequently it is necessary to assess the determinants of the demand for IDIPR loan in Ijebu-Ode in meeting the credit needs of small fish farmers, describe the socio-economic characteristics of fish farmers, examine the existing patterns of supply of loans to fish farmers in the study area, determine the output level of users of IDIPR loans amongst fish farmers and identify the factors that influence the demand for Credit (IDIPR Loans) among fish farmers in Ijebu-Ode.

Also considering the fact that majority of these farmers are poor, this loan will enable them to make reasonable output and profit, which will enable them to live a decent live and meet their various needs.

**Objective of the Study**

The broad objective of the study was the determinant of Ijebu development Initiative on poverty reduction loan (IDIPR) by fish farmers.

**Specific Objectives' were to;**

1. examine the socio-economic and production characteristics of the fish farmers.
2. identify factors that affect accessibility of farmers to IDIPR loan.
3. determine the factors that influence the demand for IDIPR loan among fish farmers
4. investigate the constraint encounter by the fish farmers from fish production activities

**Hypothesis:** This is stated in null as

$H_{o1:}$ There is no significant relationship between socio-economic and production characteristics of fish farmers and output from fish farming activities.

**Methodology**

The study was conducted in Odogbolu Local Government area which is strategically located on a large expanse of land of about 541square kilometre. It shares boundaries at the North with Ijebu local government and at South with Epe local government area of Lagos state.

Odogbolu local government has a projected population of 127, 123 (NPC 2006) (Wikipedia, 2018) and is located approximately on latitude 630 N and latitude 30 E it is also the headquarters of the local government. Topographically, it ranges from 30 meters to

around 120 meters above sea level. Temperature is high throughout the year and the average temperature is about 680c. Humidity is high during the wet season is about 80% (percent) while it is 60% (percent) during the dry season. The native vegetation is of fresh water, swamp and mangrove forest. The raining season starts around the middle of March and continues till late October.

All these make Odogbolu suitable for fish farming business. The people of Odogbolu Local Government are mainly agrarian who engage in farming, hunting, fishing, lumbering and handcraft. Notable towns / villages in this L.G.A are Omu, Ayeipe, Odogbolu, Ososa, Okun -Owa, Ijagun, Idowa, Egbe (where there is massive activities of earthen fish farming in Eruwe axis) and etc.

**Sampling Procedure**

The sample techniques employed for this study was multi-stage sampling technique. A list of farmers group was collected from IDIPR, and from this a random sampling technique of ten (10) farmers group were selected. Finally, ten (10) were randomly selected from each of the farmers groups, given a sample size of one hundred farmers for the study.

**Source of Data**

The main source of data for this research work was the primary source of data using interview guide to obtain data on the objectives of the study.

**Data Analysis**

Statistical package for social science (SPSS) version 20 was used to analyze the data on socio- economic characteristics using frequency counts, percentages, and regression analysis to determine the effect of independent valuable on the dependent variable.

**Regression model**

These are model

$$Y = bo + b_1x^1 + b_2x^2 + b_3x^3 + b_4x^4 + b_5x^5 + b_6x^6 + b_7x^7 + b_8x^8 + b_9x^9 + u$$

Where Y = Obtainable Loan

$x^1$ = Age, $x^2$ =Sex, $x^3$ = household size, $x^{4\,=}$ education, $x^5$ = experience, $x^6$ =amount spent on feed $x^7$ = price of fish, $x^8$ = salary, $x^9$ = amount of loan, u = error term

**Result and Discussion**

**Socio-economic Characteristics of the Respondents**

The results of the below table shows that 34.0% of the respondent are less than 30 years, and 17% are within 51-60 and 60 years above . This is an indicator that majority of fish farmer are still in their economically active and productive age and capable of adopting new innovation in fish farming. Majority (71.0%) of the respondent were male and (29.0%) were female this shows that male are mostly involved in fish farming, because of the nature of the job or activities to be carried out. This agrees with the finding of Olaleye *et.al*. (2010) which revealed that male are more involved in farming activities. The study further revealed that (68.0%) of the fish farmer are single, 30.0% are married 2.0% were divorce. This implies that majority of the fish farmer are single and they use the profit of their business to improve their living standard and to boast their fishing business. 54.0 % of the fish farmers had between 1-3 family members while (46.0%) had between 4 -6 members, (1.3 %) had between7-9 family members. This implies that majority of the fish farmer carry out their activities with members of their household. The results also shows that 73.0 % of the fish farmers were Christian, (27. 0 %) were Islam believers.

The results also reveal that 54.0% of the respondent had tertiary education, 45.0% had secondary education, and 1.0 % had primary education. This depict that majority of the fish farmer were educated and they use the knowledge to improve their fish farming business and they also have 1-15 years of experience in fish farming. A high proportion of the fish farmers (67.0%) are into fish farming to make living and make profit from it. While (33.0%) have other occupation, they engage in apart from fish farming and fish farming is an additional income.

**Table 1:** Socio-economic Characteristics of the Respondents

| Variables | Categories | Frequency | Percentage |
|---|---|---|---|
| **Age groups** | | | |
| | Less than 30years | 34 | 34.0 |
| | 31-40 years | 40 | 40.0 |
| | 41-50 years | 18 | 18.0 |
| | 51-60 years | 7 | 7.0 |
| | Above 60 years | 1 | 1.0 |
| **Gender** | | **100** | **1 00.00** |
| | Male | 71 | 71.0 |
| | Female | 29 | 29.0 |
| **Marital status** | | **100** | **100.00** |
| | Married | 30 | 30.0 |
| | Single | 68 | 68.0 |
| | Divorce | 2 | 2.0 |
| **Household size** | | **100** | **100.00** |
| | 1-3 | 54 | 52.6 |
| | 4-6 | 45 | 46.0 |
| | 7-9 Above | 1 | 1.3 |
| Religion | | 100 | 100.00 |
| | Christian | 73 | 73.0 |
| | Islam | 27 | 27.0 |
| **Educational level** | | **100** | **100.00** |
| | Primary School | 1 | 1.0 |
| | Secondary School | 45 | 45.0 |
| | Tertiary Education | 54 | 54.0 |
| **Farming Experience** | | **100** | **100.00** |
| | 1-5 years | 64 | 64.5 |
| | 6-10 years | 28 | 28.3 |
| | 11- 15 years | 6 | 6.1 |
| **Fishing only occupation** | | **100** | **100.00** |
| | Yes | 67 | 67.0 |
| | No | 33 | 33.0 |
| Why into fish farming | | **100** | **100.00** |
| | To augment income | 6 | 6.0 |
| | To make a living from profit | 94 | 94.0 |
| | | **100** | **100.00** |

Source: Field Survey, 2018

**Production Characteristics of the Respondents**

The study further shows that majority (97.0%) of the respondent acquire their land by rent while (3.0%) acquire the land by purchasing it. It implies that not more than ₦6, 000 per annum is being charge as rent for the usage of land. All the fish farmers are using earthen pond for raising of fish and a large percentage have 2 ponds. Most of the farmers spend within the range of ₦45, 000 to ₦60, 000 for their pond preparation.

From the table above it can be deduced that majority of the respondents (87.8%) make use of lime (caustic soda) for their pond preparation and (12.0%) make use of animal manure. That implies that caustic soda is the best lime for pond preparation because it is easy to apply and to carry around the farm. Borehole water is the only source of water available to the farmers and petrol water pumping machine is use to pump water out of the borehole, the farmers spent within ₦21, 400 to ₦38, 500 per farming season to purchased fuel used to pump

water from the borehole. The fish breed stock by respondent (83.0%) is *claris*. This is because *claris* mature faster for sale than hybrid and also consume less feed compare to the hybrid and they stock between 5800-9000 quantities of fishes and (44.0%) stock not more than 1500-5800 fishes and the amount spend on fish feeding is proportional to the quantity of fishes stock. . A high proportion of the fish farmers harvest fishes of more than 2000kg per fishing season. A reasonable numbers of the respondents acknowledge that their friends and relatives provide them with information on their farming activities.

**Table 2:** Production Characteristics of the Respondents

| Variables | Categories | Frequency | Percentage |
|---|---|---|---|
| Land acquisition | Least/Rent | 97 | 97 |
| | Purchase | 3 | 3 |
| | | **100** | **100** |
| **Payment for usage of land** | 5000 | 18 | 18 |
| | 6000 | 77 | 77 |
| | 7000 | 1 | 1 |
| | 25000 | 1 | 1 |
| | 4000 | 1 | 1 |
| | 8000 | 1 | 1 |
| | 9000 | 1 | 1 |
| | | **100** | **100** |
| **Kind of Pond** | Earthen pond | 100 | 100 |
| | | **100** | **100** |
| **Numbers of Pond** | 1 | 1 | 1 |
| | 2 | 73 | 73 |
| | 3 | 13 | 13 |
| | 4 | 6 | 6 |
| | 5 | 7 | 7 |
| | | **100** | **100** |
| **Amount Spent On Pond Preparation** | | | |
| | 15000 – 40000 | 14 | 14 |
| | 45000 – 60000 | 38 | 38 |
| | 70000 – 80000 | 33 | 33 |
| | 90000 – 100000 | 9 | 9 |
| | 120000 – 140000 | 4 | 4 |
| | 150000 | 2 | 2 |
| | | **100** | **100** |
| **Type of lime** | | | |
| | Animal Manure | 14 | 14 |
| | Lime (caustic soda) | 86 | 86 |
| | | **100** | **100** |
| **Cost of lime** | | | |
| | 200 – 1,150 | 14 | 14 |
| | 1,150 – 2,350 | 74 | 74 |
| | 2,350 – 4,500 | 7 | 7 |
| | 4,500 – 27,000 | 5 | 5 |
| | | **100** | **100** |
| **Source of water** | Borehole | 100 | 100 |
| | | **100** | **100** |
| **Types of pumping machine** | Petrol water pumping machine | 100 | 100 |
| | | **100** | **100** |
| **Cost of machine** | 20,000 – 86,000 | 43 | 43 |
| | 86,000 – 99,500 | 44 | 44 |
| | 99,500 – 80,900 | 3 | 3 |
| | 86,900 – 221000 | 10 | 10 |
| | | **100** | **100** |
| **Amount spent on fuel** | 10,000 – 21,400 | 15 | 15 |
| | 21,400 – 30,900 | 42 | 42 |
| | 30,900 – 34,900 | 6 | 6 |
| | 34,900 – 28,500 | 37 | 37 |

| | | | |
|---|---|---|---|
| | | **100** | **100** |
| **Types of fish breeds stock** | Claris | 87 | 87 |
| | Hybrid | 17 | 17 |
| | | **100** | **100** |
| **Quantity of fish stock** | 1500- 5800 | 44 | 44 |
| | 5800-9000 | 51 | 51 |
| | 9000-9000 | 5 | 5 |
| | | **100** | **100** |
| **Amount spent on fish feeds** | 600,000- 295,000 | 21 | 21 |
| | 295,000- 410 000 | 57 | 57 |
| | 4,100,000- 5,800,000 | 14 | 14 |
| | 5,800,000 – 9,600,000 | 8 | 8 |
| | | **100** | **100** |
| **Quantity of fish harvested** | 1500 kg | 2 | 2 |
| | 2000 kg | 17 | 17 |
| | Above 2000 kg | 81 | 81 |
| | | **100** | **100** |
| **Labour** | Self | 16 | 61 |
| | Labour | 84 | 84 |
| | | **100** | **100** |
| **Distance of farm from home** | 1.5- 5.8km | 44 | 44 |
| | 5.8-9km | 51 | 51 |
| | 9km above | 5 | 5 |
| | | **100** | **100** |
| **Sources of information.** | Friend and relatives | 87 | 87 |
| | IDIPR Supervision | 12 | 12 |
| | Agricultural extension workers | 1 | 1 |
| | | **100** | **100** |

Source: Field Survey, 2018

**Constraints encounter by the Fish Farmers from Fish Production activities**

Also, from table 2, Majority (94%, 91%) of the respondents admitted that poor quality of fish stock, cost of feeds, and also 38% of the respondents that diseases and predators constitute high to moderate constraints to fish farming in the study. These challenges encounter by fish farmers have implications on the output or quantity of fish harvested, which also affect the income or profit accruing from fish business activities.

**Table 3:** Constraints encounter by the Fish Farmers from Fish Production activities

| **Constraint** | **Severity of constraint** | | |
|---|---|---|---|
| | **High constraint** | **Moderate constraint** | **Not a constraint** |
| Poor quality fish stock | 94 | 5 | 1 |
| Cost of fish feed | 91 | 9 | 1 |
| Disease/predators | 25 | 38 | 37 |
| Pilfering | 5 | 19 | 76 |
| Land availability | 10 | 16 | 74 |
| High inflation rate | 14 | 45 | 41 |
| Cost of fish equipment | 13 | 56 | 31 |
| Insufficient Labour | 1 | 20 | 79 |
| Technical knowledge in fish farming | 31 | 35 | 34 |

Source: Field Survey, 2018

**Identify factors that affect accessibility of farmers to IDIPR loan**

From table 3 below 59% of respondents acknowledged that administrative charges for securing loan, 54% the amount of loan giving out by Ijebu Development Initiatives for Poverty Reduction, 53% repayment period and 49%, high interest rate as factors that moderately affect access to Ijebu Development Initiatives for Poverty Reduction loan (IDIPR) while 45% of the respondents indicated late approval of credit as factor which significantly affect access to IDIPR loan.

**Table 4:** Factors that affect accessibility of farmers' accessibility to IDIPR loan

| Factors | Severity of Factors | | |
|---|---|---|---|
| | High constraint | Moderate constraint | Not a constraint |
| High Interest Rate | 32 | 49 | 19 |
| Administrative Charges | 29 | 59 | 12 |
| Late Approval of Loan | 45 | 32 | 23 |
| Amount of Loan | 27 | 54 | 19 |
| Inadequacy of Loan | 23 | 41 | 36 |
| Repayment Period | 6 | 53 | 27 |

Source: Field Survey, 2018

**Regressional Analysis**

**Reression Model**

The results of the regression analysis shows that educational level, farming experience and amount spend on fish feed were significant, while others variable are not significant. The coefficient of determination, $R^2$ shows that 43.6 % of the dependents variables were explained by the independent variable in the model while the remaining 57 % could not be explain due to some extraneous variables. The value of 4.975 shows that the overall model is significant at 1 %.

**Table 5:** The value of obtainable loan model

| Function | $B_0$ | $B_1$ | $B_2$ | $B_3$ | $B_4$ | $B_5$ | $B_6$ | $B_7$ | $B_8$ | $B_9$ | $R^2$ | $R^2$adj | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Linear | 3425.78 | 13.51 | -144.46 | -119.6 | -215.6 | 213.7 | .001 | -2.77 | .006 | -21.9 | 0.436 | 0.348 | 4.975 |
| t-Value | 459 | 184 | -1.180 | -981 | -2.031 | 2.191 | 5.136 | -184 | .224 | .267 | | | |

Source: Field Survey, 2018

**Conclusion**

The conclusion from this study revealed that majority of the fish farmers were within the economic active age and mostly male. A high proportion was single, literate with experience in fish farming. The demand for IDIPR loan were significantly influenced by educational level, farming experience and amount spend on fish feed. Fish productions were constraint by poor quality of fish stocked and cost of feed. Most of the fish farmers obtained information on fish farming. A high percentage acknowledges poor quality fish stock as a major constraint and also late approval of loan as a major factor to fish farming. It is concluded that the respondent benefitted from this cooperative programme, although the majority still complain about the non-involvement of government and also the non-access to new innovations of fish production.

**Recommendation**

In view of the findings, it is therefore recommended that IDIPR should revisit the amount of loan disbursed to fish farmers and ensure that this loan are giving to the farmers timely with low interest rate. Also, the Central Bank Agricultural Credit Guarantee Scheme should encourage IDIPR to give large amount to farmers.

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