SOCIO-ECONOMIC DETERMINANT OF THE DEMAND FOR OGUN STATE AGRICULTURAL MULTIPURPOSE CREDITS AGENCY (OSAMCA) LOAN AMONGST FISH FARMERS IN REMO ZONE OF OGUN STATE, NIGERIA

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ABSTRACT

Inadequacy and frequent dearth of credit for financing aquaculture have been a major constraint to this sub-sector of Agriculture in most developing countries. Recognizing credit as a critical factor in agricultural development, governments in these developing countries keep implementing various projects and programme one of which is OSAMCA. The study was carried out to know the socio-economic determinant of the demand for OSAMCA loan among fish farmers in Remo zone of Ogun State, Nigeria. Eighty fish farmers were selected using simple random sampling techniques and structure interview schedule and direct interview was used to collect information from OSAMCA loan beneficiaries and non beneficiaries in four local government area of the zone. Collected data was subjected to descriptive and budgetary analysis. Statistical analysis revealed that 80% of the respondents were males, 52.5% and 50% of the beneficiaries and non-beneficiaries were within the age range of 25 and 40years, 97.5% and 95% were married, 77.5% and 67.5% practiced Christianity respectively. Many (47.5% and 45%) of the respondents had secondary education, 70% and 77.5% had household sizes between 4 and 6 persons. The annual income of beneficiaries was ₦3,324,,750 while the non-beneficiaries was ₦2,196,450. Constraints to procurement of OSAMCA loan among fish farmers are: sourcing of guarantor from government institute/agency (70.5%), distance of agency and beneficiaries (29.5%), late approval and release of loan (27.5%) and inadequacy of credits (22.5%). Beneficiaries generated net farm income of ₦2,183,300.00 while non-beneficiaries generated ₦1,969,209.00. There is a significant difference between the profit level (T = 2.068 and 0.042 (p < 0.05)) of both beneficiaries and non –beneficiaries as well as between loan demand and socio-economic characteristics of the OSAMCA loan beneficiaries.

Keywords: Beneficiaries, cost structure, demand, determinants, fish farmers, loan, OSAMCA

INTRODUCTION

Aquaculture is the husbandry of aquatic food; the need arose from the decrease in supply from ocean fisheries as a result of over-fishing and pollution. One of the ways to bridge the gap between the reduced fish supply and increased world food fish demand is through aquaculture (Fagbenro, 2002; Olaoye et al., 2007; Olaoye, 2010).

It is the rearing of aquatic organism in enclosed water bodies such as ponds, dams, cages, pen, raceways, concrete tanks, reservoirs aquatic e.t.c. Aquaculture can be done in fresh water, brackish or marine water, fish cultured in salt (marine)

water is called mariculture (Omotayo *et al.,* 2006; Olaoye, 2010). Fish farming was introduced to Nigeria in the early 1950s and which has risen steadily from a few hundred kilogrammes to over 143,000 metric tonnes in 2008 (FAO, 2007; NAERLS & NPAFS, 2010).

Despite the abundance fisheries resources and the relatively high consumption of fish in Nigeria that is the largest single consumer of fish and fish products in Africa (FDF, 2005; 2008), its domestic output of 0.62 million metric tonnes still falls short of demand of 2.66 million metric tonnes (CBN, 2007; FDF, 2008). A deficit of 2.04 million metric tonnes is required to meet the ever increasing demand for fish in Nigeria. This large deficit between the demand and supply of fish is augmented by massive importation of frozen fish and consequently effect on the exchange earnings of the national economy as well as caput consumption 9.68kg/head/year (FDF, 2008). The local supply consists of productions from the artisanal (89.5% - 81.9%), industrial (5% - 4.3%), and aquaculture (5.5% - 13.8%) sub-sectors (Adepegba, 2007; FDF, 2008; Olaoye, 2010). However, it has been shown that Nigeria can substitute fish importation with domestic production to create jobs, reduce poverty in rural and peri-urban areas where 70% of the population live and ease the balance of payments deficits (Areola, 2007; FDF, 2005, 2008; Omitoyin, 2007).

Aquaculture development in Nigeria was driven by socio economic objectives including; nutrition improvement of rural communities, generation of additional family income, creation of employment and diversification of income generating activities and was promoted by international organization and agencies and the government at federal, state and local government levels. Today, aquaculture is the fastest growing livestock production sector in Nigeria, with a growth of about 29% in 2006 and with prospects of continued growth, this is because demand for fish is on the increase in line with population growth, while catches from fisheries are on the decline, even globally (Delgado *et al.,* 2003).

According to Fagbenro *et al.* (2004), the contribution of aquaculture to the Gross Domestic Product (GDP) has not been encouraging, despite the considerable prospects and potentials of commercial aquaculture. This poor performance is primarily due to poor quality fish seed and feed, poor infrastructure, technical know-how, unstable government and defective government policies, faulty data collection, lack of environmental impact consideration, marketing of aquatic product, security of fish farm and inadequate credit facilities (Olaoye *et al*., 2011).

Credit is known to be a vital policy instrument for aquaculture development in developing countries. It plays a vital role in enhancing productivity. In Nigeria several attempt has been made to enhance farmers accessibility to credit through multiplicity of institutional design, there are evidence that small scale farmers face difficulties in obtaining credit for their farm operations. Among these are the cumbersome lending procedures of credit institutions which are time consuming and cost are generally beyond what a small-scale farmer can afford especially when it is realized that such expenditure is no guarantee that loan will be obtained.

Due to the considerable capital investment that often must be made before a commercial aquaculture project can began, many fish farmers must borrow money. Credit that has been discovered to be 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 by farmers in the rural areas despite the fact that it is an essential input in aquaculture production. This could be due to lack of information, administrative bottleneck, guarantors and collateral securities among farmers Olaoye, 2010; Olaoye *et al*., 2011).

However, in recent times, farmers participation in micro-credit programme as a solution to reducing their poverty and financial constraints in form of small loans without demanding for collaterals as practiced by the Nigeria Agricultural Credit and Rural Development Bank (NACRBD) and the Agricultural Credit Guarantee Scheme (ACGS) (Adegbite, 2002; Adegite *et al*., 2008).

Prior to 2003 the following exit in Ogun state: Credit delivery system was moribund, weak capital base of entrepreneurs, high interest charged by money deposit Banks, unemployment and inadequate investment. Having identified, Credit as a limiting factor to fish production, the Ogun state Agricultural and Multipurpose Credit Agency (OSAMCA) was therefore established in September 2003 by the Ogun state government with the mandate to provide micro-credit support to bonafide entrepreneurs in the state.

The objectives of OSAMCA are to: provide low interest credit for farmers and agro-entrepreneurs; meet and satisfy the loan demands of genuine farmers/entrepreneurs in need of funds; serve as growth strategy for the development of the rural areas; generate employment, reduce poverty and rural-urban migration resulting from unemployment and underemployment; make farming attractive, increase productivity and enhance the income level of our farmers.

The government flagship OSAMCA's programme to tackle poverty, unemployment, food insecurity and general insecurity to lives and properties in order to broaden the economic base of her citizenry. There are two types of loan for which beneficiaries and currently empowered on. These are (1) short - term loans for covering part of the production cost on established enterprises. (2) Medium – term loan: given as the tractor and equipment facilities program for groups.

The OSAMCA over the years has been empowering beneficiaries with agricultural loans an operational expense to match the length of the production cycle which in most cases, spans between 3 to 12 months. Findings, however, revealed that the terms of loans follows a revolving line of credit financing pattern under varying commitments specifying the amounts, timing of disbursement and loan repayment subject to a maximum borrowing limits and enterprises types.

To be eligible from the loans, the applicant must be adjudged to be of good character and poses a well established agricultural enterprise for which the loan is requested (genuine individual farmers). Other applicants are co-operatives societies and organization involved in small or medium – scale agricultural enterprises with minimum membership strength of 10 persons, and graduates of the Ogun State Employment Generation Program (OGEGEP).

The success or failure of any loan scheme starts with the ability to screen before the application forms are issued out to only applicant whose managerial ability and potential profitability and correlated with expected performance in loan recovery considered (Adegbite and Oluwalana, 2004). The study of the OSAMCA credit operations revealed that the initial task of selecting potential beneficiaries who must be genuine farmer starts with the zonal credit office before consideration and approval, and then application forms are issued by the loans committee at the administrative headquarter. Such forms are obtained on payment of sum of ₦500.00 for individual, ₦3, 000.00 for cooperative societies and ₦5, 000.00 for cooperate bodies. Payment of loan form is made into OSAMCA's account at any WEMA Bank Branch closest to the applicant's project. On completion of the form, it should be submitted to the nearest zonal office or field office.

Individual eligibility for loan includes: Individual must be credit worthy; must complete the loan application form; must be able to make themselves and their facilities available for inspection by credit officers of the agency; be ready to

provide a down payment to the tune of 10% of the loan amount requested as evidence of commitment; provide two guarantors who shall be reliable and credit worthy individuals one of whom should be a confirmed civil (public) servant in Ogun State.

Groups/cooperative society's eligibility for loan: Prospective applicants shall be a well established groups or cooperative societies and organizations that are actively engaged in agriculture or non-agricultural enterprises; the group/cooperatives society must not be less than 10; should have been in existence for not less than 4 months; must complete the loan application form; the group/cooperative society must be ready to make themselves and the facilities available for inspection by credit officers of the agency; should provide a down payment to the tune of 10% of the loan amount requested as evidence of commitment and provide two guarantors who shall be reliable and credit worthy individuals one of whom should be a confirmed civil (public) servant in Ogun State (OSAMCA Loan Guideline/Bulletin, 2006/07).

An applicant can obtain a loan in cash, kind or both up to but not exceeding ₦250,000,000 for individual farmer while a group or cooperative society's ceiling is ₦2.00 million. The interest rate on the acquired loan is 12% per annum, but it is subjected to a review as and when necessary the repayment period is 12-18 month, for short term loan. Group and cooperative societies where necessary, would be considered for medium and long-term loans for farm equipment which are repayable within 2-3years (OSAMCA Loan Guide/Bulletin, 2006/07).

Loan defaulters will pay additional 1% interest per month of default on amount outstanding. All loan facilities are insured with Nigeria Agricultural Insurance corporation (NAIC) and the repayment of loan is targeted at when proceeds from the enterprises accrue and it is periodic.

OSAMCA'S achievements are: Number of beneficiaries (Individuals 18,372 and group 200), volume of loan disbursed ₦836,288,113, average repayment level 60% of due loans and creation of over 10,000 jobs by beneficiaries (Adeogun, 2011).

JUSTIFICATION OF THE STUDY

Credit is a necessary input as the various aspect of farm operation, in Nigeria as in most developing countries, lack of credit facilities has been regarded as the major constraint farmers' face when they try to improve their economic activities and/or living conditions (Bratton 1986; Binswager *et al.*, 1993; Agbor, 2004; Olaoye and Odebiyi, 2011).

Even when available, credit is difficult to access by farmers in the rural areas despite the fact that it is an essential input in production. In order to solve these problems, the agricultural production by providing credit where there is a high level of risk or cost than is acceptable by commercial lenders either to farmers or in respect to loan with sufficient security generally.

This justification for government support in the supply of credit to farmers raises at least two issues, first, because it seems unlikely that private sectors lender would fore go profitable lending opportunities, both the rational for this discrimination against farm borrowers and evidence that it exist needed. Secondly, even if there are some discrimination against farmers as borrowers, the fungible of credit suggests that at least some publicity supplied credit targeted agriculture would be diverted thus reducing its effect on the output (Belongia and Gilbert, 1990).

OBJECTIVES OF THE STUDY

The main objective is to examine the factors affecting the demand for credit (OSAMCA LOAN) among fish farmers in Remo zone of Ogun state. The specific objectives are to:

- describe the socio-economic characteristics of the fish farmers.
- examine the criteria or existing patterns of supply of loan to the fish farmers.
- compare the profit level of users and non-users of OSAMCA loans among fish farmers.
- determine the factors influencing the demand for credit (OSAMCA loans) among the beneficiaries.

HYPOTHESES

- **Ho$_1$**: There is no significant difference between the socio-economic characteristics of the beneficiaries and non-beneficiaries of OSAMCA loan among fish farmers.
- **Ho$_2$**: There is no significant difference between the profit levels of the OSAMCA loan beneficiaries and non-beneficiaries.

- **Ho$_3$**: There is no significant relationship between socio-economic characteristics of the respondents and demand for OSAMCA loan.

METHODOLOGY

Study Area

The study was conducted in Remo zone of Ogun state which is one of the OSAMCA zones (Egba, Ijebu, Remo and Yewa). Ogun State is located in the South Western part of Nigeria which came into being in February, 1976. She is bounded in the west by Republic of Benin in the South of Lagos State, in the North both by Oyo and Osun State and in the East by Ondo State (OGADEP, 2009). The state is situated in the rainforest vegetation belt of Nigeria between $2^0 45 - 4^0 30E$ longitude and $6^0 30 - 8^0 .00N$ latitude (Bureau of Land and Physical Planning of Ogun State, 2001) and comprises of 20 Local Government Areas (LGAs) Figure 1 (Olaoye *et al.*, 2007).

The state capital is Abeokuta and the predominant occupation of people in the state includes Agriculture, fishing, clothing and textile (Adire). The population of the state was 3,728,098 according to National population census (N P C, 2006). She is a heterogeneous state inhabited predominantly by the Egba, Yewa, Ijebu, Remo, Awori and Egun who belongs to the Yoruba Ethnic group, the largest and one group in the West Africa Coast and One of the largest and longest established ethnic group on the Africa continent (Olaoye, *et al.*, 2011).
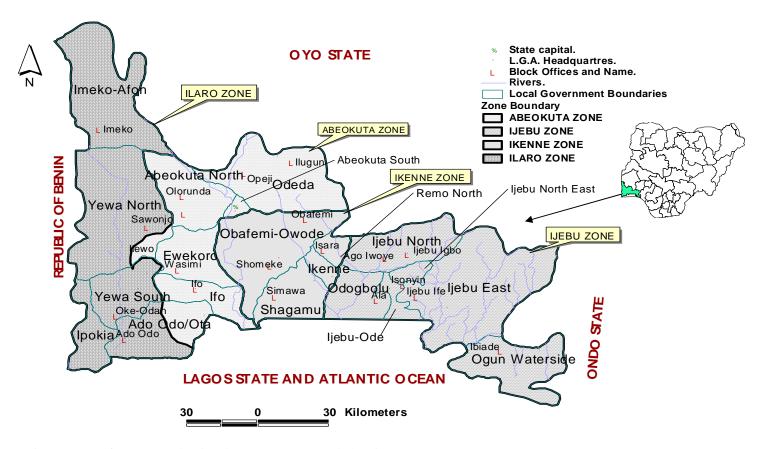
Figure 1: Map of Ogun State showing Ikenne/Remo Zone study locations

Source: Olaoye, 2010

Sampling Procedure and Sample Size

OSAMCA has four operational zones in Ogun State (Egba, Yewa, Ijebu and Remo). Simple random sampling (SRS) was used to select twenty (20) respondents both from beneficiaries and non –beneficiaries of OSAMCA Loans (fish farmers) from each of the selected four local government area under Remo zone, making a sample size of eighty respondents in the zone (Table 1).

Table 1: Sample Number and Study Location

OSAMCA ZONE	Number of Respondents	Local Government Area
	20	Ikenne
	20	Sagamu
REMO ZONE	20	Remo North
	20	Obafemi –Owode

Data Collection

The data are essentially from **p**rimary source that is the small scale fish farmers in Remo zone. Structured interview schedule and face – face interview were used to collect information on the socio-economic characteristics of the respondents, source of information on OSAMCA loan, determinants of fish farming business, constraints to procurement of OSAMCA loan, cost and returns structure. The sampling frame was obtained from OSAMCA facilitators and OGADEP frontline extension officers, out of which 80 fish farmers were randomly selected. Secondary data were collected from annual reports from OGADEP, FDF and OSAMCA guide line/compendium.

Data Analysis

The data collected for the study were analyzed using descriptive, budgetary and regression techniques. The descriptive analysis involved the use of frequency distribution; percentages, mean, standard deviation and tabulation of data were used to highlight the socio-economic characteristics of the respondents, source of OSAMCA loan information, the problems encountered by fish farmers and constraints to procurement of OSAMCA loan. The budgetary and regression techniques are expatiated upon below. The budgetary technique is used to determine the profitability of the aquaculture enterprise. Gross Margin of fish farming is the difference between the total value of production (total revenue) and the total variable costs of production. The total revenue refers to the gross income accruing to fish farms as a result of the sales of table-sized fish. This is obtained by multiplying the unit price of average table-sized fish by the quantity sold. The variable costs are those costs that vary with the level of output. In this study the relevant variable costs items are fish feed, fingerlings, labour, and fertilizer/lime among others. The fixed costs items under fish farming are land, pond construction, hatchery construction, and other equipment. The addition of total variable cost and total fixed costs gives the picture of the overall cost incurred in production.

Gross margin (GM) is expressed as:

GM = TR – TVC

NFI = GM - TFC

Where GM = Gross margin/ha

TR = Total revenue (₦)

TVC = Total variable cost (₦)

TFC = Total fixed cost (₦)

NFI = Net farm income (₦)

TGM = Total Gross margin/ha

Regression Analysis: This is a statistical tool that measures the relationship between independent variables (regressors i.e. determinants) and the dependent variable (regressand i.e. demand for OSAMCA loan). In this study, the regression analysis was carried out to examine the factors affecting demand for OSAMCA loan. A production function was fitted to available data. The production function establishes the proportion of variation in the dependent variable that can be explained by the independent variables.

The implicit form of production function is:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7 \ldots X_n U)$

Where Y = Loan demanded (₦)

X_1 = Sex

X_2 = Age (Years)

X_3 = Household size (number of persons)

X_4 = schooling experience (years)

X_5 = Fish farming experience (years)

X_6 = Annual income from fisheries (₦/production period)

X_7 = Size of fish farm in hectare (ha)

X_n = other variables identified on the field

U = error term

Four functional forms, (linear, semi-log, double log and exponential) were fitted to the

production function in order to investigate which production function has the best fit for the

phenomena. The lead equation was chosen based on economic, statistical and econometric criteria.

The explicit forms of the four functional equations were:

Linear:

$Y = b_o + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + b_7 X_7 \ldots X_n + U)$

Semi-log:

$Y = b_o + b_1 \log X_1 + b_2 \log X_2 + b_3 \log X_3 + b_4 \log X_4 + b_5 \log X_5 + b_6 \log X_6 + b_7 \log X_7 \ldots X_n + U)$

Double log:

$\log Y = b_o + b_1 \log X_1 + b_2 \log X_2 + b_3 \log X_3 + b_4 \log X_4 + b_5 \log X_5 + b_6 \log X_6 + b_7 \log X_7 \ldots X_n + U)$

It is expected that the value of each of the variables i.e. b_1-b_7 will be positively related to the total value of the outputs. In other words, the more the amount expended on these variables the more the value of production ceteris paribus.

On the basis of selection criteria, viz: apriori expectation in terms of sign and magnitude of the coefficient, the economic rationale, the significance of the coefficients and the overall performance of the model, double log functional form was eventually considered as the lead equation, because the adjusted R^2 is the highest and most of the variables were significant at 1% and 5% with appropriate signs on most of them. The apriori expectation is that the sign should be positive for all the variables and that the variables should significantly accounted for by the dependent variables at 1%, 5% or 10% level.

Results and Discussion

This section presents the results and discussion emanating from the study.

Socio – economic Characteristics of Respondents

Table 2, shows that majority of OSAMCA loan beneficiaries and non-beneficiaries fells within the age categories of 25-60 years with a percentage of 85 and 67.5 and a mean age of 46.12 and 43.6 years, respectively. This implies that most of the farmers are still within their productive and active working age range, hence their ability to participate or produce to earn some revenue and repay loan in the OSAMCA project area is eminent. The implication is that many of the respondents were matured and could efficiently carry out both domestic, business and community responsibilities. It was gathered that most (80% and 80%) of the OSAMCA loan beneficiaries and non-beneficiaries were males, respectively, while 20% each were females. This shows the extent of gender sensitivity on occupation like farming. This could be attributed to the fact that agricultural production is faced with a lot of risk and uncertainties and women are risk averted, so also is the result of drudgery that aquaculture business is involved in (Agboola, 2011).

Majority (80% and 70%) of the respondents belonged to cooperative society. This implies that the fish farmers can pulled their resources together and collectively accessed credit to increase productivity. Most (97.5% and 95.0%) of the OSAMCA loan beneficiaries and non-beneficiaries were married, respectively. The implication was that more family

labour will be available and enhanced production as well as will be more responsible in loan repayment. Many (47.5% & 45%) of the OSAMCA loan beneficiaries and non-beneficiaries had secondary school education, respectively. This implies that information on sources of loan, aquaculture and knowledge will be acquired with ease. It showed that fish farming required high technical know-how and skills thus, people who were literate can really cope very well with fish farming and this was in line with the work of Jinadu, (1997) that literacy rate was quite high (about 70%) among the fisher folks and fish traders. This is in agreement with a similar study conducted by (Yusuf *et al.*, 2002) in Ibadan metropolis, and is an indication of high literacy level which may be required for effective management of fish farms. Majority (77.5% and 67.5%) of the respondents of the OSAMCA loan beneficiaries and non-beneficiaries practiced Christianity, while 22.5% and 32.5% practiced Islam, respectively. Majority (70% and 77.5%) of the OSAMCA loan beneficiaries and non-beneficiaries had mean household size of 6 and 5 persons, respectively. This implies that aquaculture enterprise is family business and cost of hired labour will be diverted to other economic recourse for boosting families' welfare (Olaoye, 2010). The implication is that the relative large household size may likely enhance labour supply on the farm hence supporting the favourable productive capacities of the farmers already enhanced by their ages. This collaborates (Adegbite and Oluwalana, 2004) that the larger household size, the more the likelihood of sustainable loan efficiency on farmers' farm given the constant labour supply. Mean annual income of OSAMCA loan beneficiaries was ₦3,324,750.00 while that of non–beneficiaries was ₦2,196,450.00.

Table 2: Percentage distribution of socio-economic characteristics of the respondents (N=40)

Variables	BENEFICIARIES (OSAMCA LOAN)					NON-BENEFICIARIES (OSAMCA LOAN)				
	Freq	%	Mean	Std	Serror	Freq	%	Mean	Std	Serror
Age distr. (Yrs)										
25-30	2	5.0				2	5.0			
31-35	4	10.0				8	20.0			
36-40	7	17.5				10	25.0			
41-45	7	17.5				7	17.5			
46-50	10	25.0	**46.12**	**9.0**	**1.42**	2	5.0	**43.6**	**9.1**	**1.44**
51-55	4	10.0				6	15.0			
56-60	4	10.0				4	10.0			
>61	2	5.0				1	2.5			
Sex Distribution										
Male	32	80				32	80			
Female	8	20				8	20			
Co-operative society										
Membership	**32**	**80**				**28**	**70**			
Non Membership	**8**	**20**				**12**	**30**			
Marital status										
Single	1	2.5				1	2.5			
Married	39	97.5				38	95.0			
Divorce	0	0.00				1	2.5			
Total	**40**	**100**				**40**	**100**			
Level of education										
No formal education	1	2.5				1	2.5			
Primary education	11	27.5				14	35			
Secondary education	19	47.5				18	45			
Tertiary education	9	22.5				7	17.5			
Religion										
Christian	**31**	**77.5**				**27**	**67.5**			
Islam	**9**	**22.5**				**13**	**32.5**			
Household Size Distribution (Persons)										
<3	2	5.0				3	7.0			
4-6	28	70.0				31	77.5			
7-9	9	22.5	**5.6**	**1.9**	**0.29**	5	12.5	**5.1**	**1.6**	**0.25**
>10	1	2.5				1	2.5			

Source: Field Survey, 2009
Socio – economic characteristics of respondents continued

Entries in Table 3 also show the OSAMCA loan beneficiaries and non beneficiaries had average 12.5 and 11.3 years of fish farming experience. This implies that fish farming had been in existence for quite a long time in the study area. Out of the sampled fish farmers, 60% of the OSAMCA loan beneficiaries and 75% of the non-beneficiaries are practicing fish farming to make profit while 2.5% of the beneficiaries and 0.0% of the non-beneficiaries practiced fish farming for household consumption. The mean quantity of fish harvested per production cycle for the beneficiaries and non-beneficiaries was 4,742.5kg and 465.0kg respectively. This indicated that OSAMCA had contributed to the productivity of their yields in the economy. It was gathered that 55% of the OSAMCA loan beneficiaries and 40% of the non

beneficiaries purchased their land while 5% and 10% of the loan beneficiaries and non-beneficiaries got their land based on rent respectively. Almost 100% of the OSAMCA loan beneficiaries and non-beneficiaries saved part of their income for re-investment to boost production by complementing the acquired loan. It was gathered that 57.5% of the OSAMCA loan beneficiaries and 80% of the non-beneficiaries harvest their fish at 5 months while 17% of loan beneficiaries harvest at 6 months. Many (65% and 45%) of the beneficiaries and non beneficiaries of OSAMCA loan had a mean pond number of 6 and 5 respectively. Majority (87.5% and 70%) of OSAMCA loan beneficiaries and non-beneficiaries practiced fish farming at a commercial level. The implication was that animal protein will be available, reduced malnutrition and economy development will be enhanced.

Table 3: Percentage distribution of socio-economic characteristics of the respondents (N=40) Cont'd

Variables	BENEFICIARIES (OSAMCA LOAN)					NON-BENEFICIARIES (OSAMCA LOAN)				
	Freq	%	Mean	Std	Serror	Freq	%	Mean	Std	Serror
Years of experience (Years)										
≤ 5	8	20.0				10	25.0			
6-10	16	40.0				16	40.0			
11-15	5	12.0	**12.48**	**8.26**	**1.30**	6	15.0	**11.30**	**6.98**	**1.10**
16-20	6	15.0				3	7.5			
21-25	2	5.0				4	10.0			
≥26	3	7.5				1	2.5			
Reasons for fish farming										
To make profit	24	60.0				30	75.0			
Hobby	15	37.5				10	25.0			
Household consumption	1	2.5				0	0.00			
Quantity of fish harvested (Kg) per production cycle										
<1000	2	5.0				2	5.0			
1001-2000	4	10.0				0	25.0			
2001-3000	5	12.5				3	7.5			
3001-4000	8	20.0				5	12.5			
4001-5000	9	22.5	**4743**	**2351**	**372**	5	12.5	**466**	**2760**	**436**
5001-6000	3	7.5				2	5.0			
6001-7000	4	10.0				5	12.5			
≥7000	5	12.5				8	20.0			
Mode of land acquisition										
Inheritance	16	40.0				15	37.5			
Gift	2	5.0				4	10.0			
Rent	0	0.00				5	12.5			
Purchase	22	55.0				16	40.0			
Inheritance	16	40.0				15	37.5			
Proportion of income saved by respondents										
	40	100	22.98	10.38	1.64	40	100	23.05	7.16	1.13

Source: Field survey, 2009

The Respondents' Response to OSAMCA Loan Package

The result in Table 4 signified that 52.5% of loan beneficiaries obtained loan between the range of ₦75, 000 and ₦100, 000 while 5% obtained loan ranging from ₦150, 000 and above, an average amount of capital that is expected to be used judiciously by fish farmers to boost fish production (Olaoye and Odebiyi, 2011). This implies that the beneficiaries obtained the loan to complement their other sources of funds for fish farming enterprises. Majority (72.5%) of the

OSAMCA loan beneficiaries applied once before loan was granted while 27.5% of the beneficiaries applied twice before the loan was granted. This means that the respondents are literate and follows the loan guide lines secretly. It was gathered that 45% of OSAMCA loan beneficiaries took loan for purchase of fish seed while 7.5% collected the loan for payment of salary to their workers. Majority (80%) of the loan beneficiaries had a timely approval of loan while 20% beneficiaries had little delay in approval of loan. Majority of the OSAMCA loan beneficiaries preferred this source of loan because of the relatively low interest rate compared to the other fund source. Most (70%) of the OSAMCA loan beneficiaries had no complaint against OSAMCA while 30% of the beneficiaries complained against OSAMCA loan. From the sampled fish farmers, 50% respondents of the OSAMCA loan suggested an increase in the amount of loan given, 20% suggested collateral instead of civil servant guarantor, and 20% of the respondents said OSAMCA should give a timely release of loan while 10% suggested reduction in interest rate. The implication was that beneficiaries found it difficult to default because of civil servant was one of their guarantors.

Table 4: Percentage distribution of the respondents' response to OSAMCA (N = 40)

RANGE	Freq	Percentage (%)
Amount of loan applied for (₦)		
≤50,000	5	12.5
50,000 – 75,000	5	12.5
75,000 – 100,000	21	52.5
100,000 – 125,000	0	0.00
125,000 – 150,000	7	17.5
≥150,000	2	5.0
Number of application before loan was approved		
Once	29	72,5
Twice	11	27.5
Total	**40**	**100**
Purpose of loan		
Purchase o fish seed	18	45.0
Purchase of fish feed	14	35.0
Payment of salary	3	7.5
Purchase of fishing equipment	5	12.5
Approval of loan		
Timely approval of loan	32	80
little delay in approval of loan	8	20
Reasons for taken OSAMCA loan		
Low interest rate	25	62.5
Availability	5	12.5
Easy accessibility	10	25.0
Complain against OSAMCA		
Positive	30	70.0
Negative	10	30.0
Suggestion to complains		
Increase in loan amount	20	50.0
Collateral instead of guarantor	8	20.0
Timely approval of loan	8	20.0
Reduction in interest rate	4	10.0

Source: Field survey, 2009
Constraint to Procurement of Loan among Fish Farmers

Results in Table 5 shows that sourcing of guarantor from government institute agency was the most (70.5%) constraints to procurement of OSAMCA loan among fish farmers followed by distance of agency and beneficiaries (29.5%), late

approval and release of loan (27.5%) and inadequacy of credits (22.5%). The implication was that beneficiaries were prevented from defaulting, so future continuity of the agency is assured due to plough back effect.

Table 5: Constraint to procurement of loan among fish farmers

CONSTRAINTS	VERY SERIOUS	SERIOUS	NOT SERIOUS
	%	%	%
High interest rate	12.5	0.00	87.5
Inadequacy of credit	22.5	55.0	22.5
Repayment time/period	0.00	12.5	87.5
Late approval and release of loan	27.5	50.0	22.5
Distance of agency and beneficiaries	29.5	25.0	44.5
Administrative bottlenecks	2.5	7.5	90.0
Sourcing of guarantor from government institute agency	70.5	6.0	20.5
Provision of collateral	0.00	12.5	87.5

Source: Field survey, 2009

Cost and Return Structure

Various cost element used by both the OSAMCA loan beneficiaries and non-beneficiaries is presented in the Table 6; the annual income of beneficiaries is ₦3,324,750 while that of the non-beneficiaries is ₦2,196,450. The table also revealed that the proportion of variable cost is relatively higher than the associated fixed cost, the variable cost accounted for 95.96% and 97.38% of the total cost, while the fixed cost was analyzed to be 4.04% and 2.62% for the beneficiaries and non-beneficiaries of OSAMCA loan respectively. Furthermore, the feeding cost constitute 77.76% and 87.50% of the total cost for the beneficiaries and non-beneficiaries respectively, this relatively high cost of feeding can be attributed to the fact that cultured fishes has to be fed intensively to attain desired weight within the shortest period of time. OSAMCA loan beneficiaries generated net farm income of ₦2,183,300.00 while non-beneficiaries generated ₦1,969,209.00. The relatively higher profits earned by the beneficiaries compared to the non-beneficiaries can be easily traced to the use of OSAMCA loan.

Table 6: Cost and Return Structure

Cost item	Beneficiaries OSAMCA LOAN Amount	% of TC	Non- beneficiaries OSAMCA LOAN Amount (₦)	% of TC
Variable cost (VC)				
Fuel cost	102331.4	8.97	0.0	0.00
Fish seed cost	52100	4.56	49912.5	4.28
Fish feed cost	887575	77.76	986250	87.50
Lime cost	3666.667	0.32	237.5	0.02
Labour cost	45680	4.00	597437.5	5.27
Land/pond/tank preparation cost	4000	0.35	1900	0.17
Total variable cost	**1095353**	**95.96**	**1097738**	**97.38**
Fixed cost				
Land purchase	5225	0.46	3402.5	0.30
Earth pond cost	10948.96	0.10	7543.94	0.67
Dragnet cost	6170.12	0.54	7048.93	0.63
Cutlass/file cost	250.50	0.02	192.09	0.02
Weighing scale cost	6096.96	0.53	5752.08	0.51
Gen. Cost	10785.71	0.94	0.00	0.00
Net fencing cost	5742.5	0.50	4670	0.41
Bucket cost	877.22	0.80	896.63	0.08
TFC	**46096.89**	**4.04**	**29506.17**	**2.62**
Total Cost (TC)	1141450	100	1127244	100
Annual income	3,324,750		2,196,450	
Gross margin	2229397		1098712	
Net farm income	2183300		1969209	

Source: Field Survey 2009

Hypotheses

Table 7 shows that there is no significant difference between the socio-economic characteristics of the beneficiaries and non-beneficiaries of OSAMCA loan. It revealed that all the variables tested were positive and non significant at 5% and 10%. Therefore, the socio –economic variable were not significant to the demand for OSAMCA loan

Table 7: Regression analysis of the socio-economic characteristics of the beneficiaries and non-beneficiaries of OSAMCA loan

Socio-economic characteristics	Freq	Mn	Std	Sig	T	Df	Sig	Decision
Marital	0.001	1.98	0.16	0.98	-0.57	78	0.57	N.S (Accept H_0)
Level of education	0.097	3.88	0.85	0.76	0.66	78	0.51	N.S (Accept H_0)
Religion	3.97	1.23	0.42	0.05	-0.10	78	0.32	N.S (Accept H_0)
Age	0.09	46.1	9.00	0.76	1.25	78	0.22	N.S (Accept H_0)
Household size	1.02	5.6	1.85	0.32	1.44	78	0.15	N.S (Accept H_0)
Schooling experience	0.41	11.18	4.35	0.52	1.17	78	0.25	N.S (Accept H_0)
Fish farming experience	0.58	12.48	8.26	0.45	0.69	78	0.49	N.S (Accept H_0)
Annual income	2.13	33247.50	372120	0.15	1.78	78	0.78	N.S (Accept H_0)

Source: Field survey, 2009

H_{O2}: There is no significant difference between the profit level of the OSAMCA loan beneficiaries and non beneficiaries.

According to the Table 8 the T- test value of 2.068 and a significant of 0.042 showed that there is a significant difference between the profit level of both beneficiaries and non –beneficiaries of OSAMCA loan.

Table 8: Regression analysis of the profit level of the beneficiaries and non-beneficiaries of OSAMCA loan

	Freq	Mean	Std	Sig	T	df	Sig	Decision
	1.224	232990.3	3555541.74	0.272	2.068	78	0.042	S (Accept H_1)

Source: Field survey, 2009

Multiple Regression Analysis

The Double-log production function was selected as the lead equation based on its statistical properties and plausibility. This function have at least 2 of the variable significantly different from zero (0) with relatively high R^2 and F value. Though, the linear function has one of its variable significant but the relatively lower value of the coefficient of determination R^2 (22%) and its adjusted value (5%) when compared with the values recorded for the double log function (23%) and (6%) conferred the choice of equation of best fit on the double log function. From the Table 9, the adjusted R^2 value of the lead equation is 0.06, this implies that the total regressor had explained about 6% of the total variation in the regression (total revenue) while the remaining 94% were unexplainable variables (error terms and other factors that may not be accounted for by the farmers).

Therefore, the lead equation chosen is double log equation represented as:

$$T = 10.57 + 3.27X_1 + 1.97 X_2 - 2.40 X_3 + 0.24 X_4 + 0.23 X_5 - 2.411E + 9.43$$

Coefficients significant at 5% figures in parentheses are the t-values

Table 9: Regression analysis between loan demand and socio-economic characteristics of the OSAMCA loan beneficiaries

Model	Constant	X_1	X_2	X_3	X_4	X_5	X_6	X_7	R^2value	Adjusted R^2	F-value
Linear Form	46278.98	3497.84	604.82	-4799.74	1921.42	1918.14	-1.9766.03	2471.77	0.220	0.05	1.288
t value	1.270	0.0220	0.574	-0.758	1.035	1.757	-1.069	0.814			
Significance	0.213	0.827	0.570	0.454	0.308	0.088*	0.293	0.421			
Semi Log	-24341.0	-0318.77	8021.73	-5180.81	2349378	25410.65	-1421.44	7605.37	0.226	0.06	1.33
T value	-0.111	-0.019	0.186	-0.214	1.629	1.599	-0.127	-0.590			
Significance	0.913	0.985	0.854	0.832	0.113	0.120	0.900	0.559			
Double log form	10.574	3.270E-0	1.999E -02	-2.401E-02	0.237	0.227	-2.411e-02	9.429E -02	0.230	0.062	1.368
t value	4.968	0.02	0.047	-0.103	1.697	1.475	-0.223	0.757			
Significance	0.00**	0.998	0.963	0.919	0.099*	0.150	0.825	0.455			

Source: Field Survey, 2009

** = Variable Significant 5 percent probability level

CONCLUSIONS AND RECOMMENDATION

Conclusion

After a careful analysis of the factors affecting demand for OSAMCA loan among fish farmers in Remo zone of Ogun State. The major conclusion that could be drawn is that majority of the sampled fish farmers had secondary education which enhanced their technical know – how, and high number of male which are relatively economically active. Also, majority fell within the active working age group that will enhance high productivity. They also had adequate experience in fish farming. The study also revealed the undermining role played by finance (capital, credit) thus showing that OSAMCA project rapidly increase productivity and promoted development in both rural areas where OSAMCA loan are available.

Recommendation

Emphasis on agricultural credit administration should remain the major policy of the Ogun state Agricultural Multipurpose credit Agency (OSAMCA).

Based on the conclusion of this study:

i.   Government should make source of credit and good road network in rural areas an essential programme.
ii.   Fish farmers should be encouraged to form and join co-operatives societies in order to have easy accessibility for the procurement of bigger loan.
iii. There should also be provision of seminar, workshop and training support programme in area of fisheries technology.
iv.   OSAMCA should endeavour to make the compilation of compendium timely available in order to assist in further research work.
v.   Staff strength of the OSAMCA should be increased and they should be provided with basic amenities that will motivate them to perform their duties.

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