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Sources and Uses of Microcredit in Poverty Alleviation among Fish Farmers in Osun State, Nigeria

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ABSTRACT

Aquaculture is one of the fastest growing food production systems in the world, Nigeria inclusive with the bulk of its output currently being produced within developing countries and with expectations for aquaculture sustainable food security and poverty alleviation. However, poverty which is a social condition characterised by the inadequacy of access to basic human needs for the maintenance and socially acceptable minimum standards of living is still prevalent. One of the major obstacles to achieving the objectives of poverty reduction through aquaculture is the inadequate credit facilities to boost production. The study therefore, investigated the sources and uses of microcredit in poverty alleviation among fish farmers in Osun state, Nigeria. A two stage random technique was used to select 135 respondents from the three Osun state Agricultural Development Programme (ADPs) zones. Structured questionnaire was used to collect data on demographic characteristics, microcredit sources and use, occupational, income and fish production data. Data was analysed using descriptive statistics, FGT and logit model. The result shows that both formal and informal microcredit sources were used in the area studied with high interest rate militating against the adequate use of some of the microcredit sources. Poverty alleviation through microcredit use will increase efficiency through the use of modern effective and efficient technology leading to greater production. The policies aimed at making microcredit readily available should be focused on to alleviate poverty among fish farmers.

Key words: Microcredit, poverty alleviation, fish farmers, Osun state, FGT model

INTRODUCTION

There is significant contribution to food security and livelihoods by fisheries and aquaculture with fish providing essential nutrition for 3 billion people and at least 50% of animal protein and minerals to 400 million people from the poorest countries (World Fish Center, 2008). Also, over 500 million people in developing countries depend directly or indirectly on fisheries and aquaculture for their livelihoods thus making aquaculture the world's fastest growing food production system, growing at 7% annually. Fish products are among the most widely traded foods, with more than 37% (by volume) of world production traded internationally (FAO, 2009).

African fisheries and aquaculture are at a turning point (Nigeria inclusive), with the fish sector making vital contributions to the food and nutrition security of about 200 million Africans and providing income for over 10 million engaged in fish production, processing and trade. Fish has become a leading export commodity for Africa with an annual export value of US\$2.7 billion.

However, these benefits are still at risk as the exploitation of natural fish stocks is reaching its catch limits and aquaculture production has not yet fulfilled its potential. Poverty, a social condition characterized by the inadequacy of access to basic human needs for the maintenance of socially acceptable minimum standard of living is one of the most serious problems confronting developing countries today, Nigeria inclusive (World Bank, 1996). Poverty is associated with condition under which people live and is usually defined in either relative or absolute terms.

The incident of poverty among the fish farmers can be traced to lack of inputs such as pond size, access to credit, availability of fish seed and improved varieties of culturable species.

Incidence of poverty can be classified as lack of capital available to fish farmers. This can be improved on with credit availability thereby improving fish farmer's productivity. Identifying the differences in poverty level among users and non-users of microcredit through differences in their productivity level would be necessary to know if microcredit can help in alleviating poverty among fish farmers (Mohamed, 2003; Asche and Khatun, 2006).

The study therefore, highlights the level of microcredit availability and use to fish farmers in Osun state.

MATERIALS AND METHODS

The study area is Osun state in the South western Nigeria. It covers an area of approximately 10,456 km² and lies within the tropical rain forest region. The state is located between latitude 7°0.5'E to 8°0.5'W and longitude 4°70'N-4°80'S and has 30 local government areas. Osun state according to 2006 population census has a population of 2.2 million people.

A two stage stratified random technique was used to select respondents from the three Osun state agricultural development programme zones. The primary data used for this study was collected from selected fish farmers using pre-tested and structured questionnaires with the help of trained enumerators from Osun state agricultural development project. A total of 150 structured questionnaires were distributed and 135 were retrieved back.

Data collected include demographic characteristics, occupational characteristics, income data, microcredit and fish production data. Data was analysed using descriptive statistics, FGT and logit model.

RESULTS AND DISCUSSION

The analysis of the socio-economic characteristics of the sampled households (Table 1) showed that 79.3% of the respondents were male while 20.7% were female. The marital status showed that 7.4% of the respondents were single, 85.9% were married, 3.0% were widow and 3.7% divorced. The age distribution showed 3% under 30 years of age, 19.3% between 31-40 years, 25.9% falls between 41-50 years while 51.9% were 51 years and above. The educational status shows that only 3.7% do not have any form of education at all while 31.1, 19.3, 43.7 and 2.2% had primary, secondary, tertiary and Quranic education, respectively. This is in line with the submission of Govinda (2008) that investment in education is an important key to break the cycle of poverty and FAO, 2006 which affirms that Literacy is a key aspect of human development with important benefits for people's livelihoods and capabilities, influencing their ability to access information and resources and to manage change. The literacy and numeracy abilities of fishing communities play a significant role in the management of aquatic resources as well as in the maintenance and diversification of livelihoods. The household size was grouped into small (1-5 members) 50.4%, medium (6-10 members) 37.8% and large (>10 members) 11.9% while the religious profile of the

Table 1: Socio-economic characteristics of fish farmers in Osun state, Nigeria

Characteristics	Frequency	
	No.	%
Gender		
Male	107	79.3
Female	28	20.7
Marital status		
Married	116	85.9
Single	10	7.4
Divorced	5	3.7
Widowed	4	3.0
Age group		
<30	4	3.0
31-40	26	19.3
41-50	35	25.9
51-above	70	51.9
Educational level		
No formal education	5	3.7
Primary	42	31.1
Secondary	26	19.3
Tertiary	59	43.7
Quranic	3	2.2
Household size		
1-5 (small)	68	50.4
6-10 (medium)	51	37.8
10-above (large)	16	11.8
Religion		
Christians	99	73.3
Muslims	36	26.7
Occupation		
Fishing	86	63.7
Hunting	2	1.5
Artisan	20	15.0

respondents showed 73.3% were Christians and 26.7% were Muslims. The other occupation engaged in the study area showed fishing as having 63.7%, hunting 1.5%, trading 19.8% and artisans 15%.

The sources of microcredit used (Table 2) showed that cooperative society had the highest patronage with 37%, followed by commercial bank (20%), micro finance institution (17%), friends and relatives (11.9%) and rotational savings (5.2%). This is similar to the observation of Tietze *et al.* (2007) and Omitoyin and Fregene (2008) that through actively promoting self-help groups and cooperatives among women in coastal fishing communities and through linking these associations with financial institutions, investment and working capital needs of their members can be met. The result of the cross tabulation shows that more male fish farmers use the various microcredit sources than their female counterparts and the married patronized the various sources than the single, divorced or widowed. Fish farmers with tertiary education were also seen to have higher patronage of all the microcredit sources. The microcredit was used for various activities which include fish production (40.7%), payment of debts (5.9%), family matter (22.2%), socials (11.9%) and school fees (19.2%) while the problems militating against microcredit use were

Table 2: Microcredit data

		Frequency			

Timeliness of microcredit		No.	%		
Yes		56	41.5		
No		79	58.5		

		Rate of patronage			

Sources of microcredit	No.	%	Mean interest rate	Time lag (months)	Loan duration (months)
Relatives and friends	16	11.9	3.5	2	4
Cooperative society	50	37	7.7	4	12
Commercial banks	27	20	21	12	18
Rotational savings	7	5.2	3.4	3	4
Money lenders		60	>1	<1	
Personal saving	12	8.9	3	>1	<1
MFI	23	17	15	1	<1
Total	135				

		Frequency	

Uses of microcredit	No.	%	
Fish production	55	40.7	
Payment of debts	8	5.9	
Family matter	30	22.2	
Socials	16	11.9	
School fees	26	19.2	
Total	135		

		Frequency	

Problems of microcredit	No.	%	
Location	9	6.7	
Educational status	18	13.3	
Asset or collateral	36	26.7	
Interest rate	60	44.4	
Administrative bottle necks	12	8.9	
Total	135		

interest rate (44.4%), asset or collateral (26.7%), educational status (13.3%), administrative bottle necks (8.9%) and location or distance to microcredit source (6.7%). The timeliness of release of microcredit showed that 58.5% did not receive their money as at when due while 41.5% were positive about the time of release. This could be a reason why the credit was diverted to other purposes.

The Foster Greer and Thorbecke (FGT) analysis reveals that 60% of the fish farmers fall below the poverty line which was set at ₦3010.35. Twenty nine percent (29%) of farmers below poverty line required about ₦1063 to reach the poverty line (poverty gap) while 23.26% of them require ₦1452 to reach the poverty line (poverty severity). Twenty three percent (23%) of the fish farmers that do not use microcredit belong to the core poverty group. This shows that a greater percentage of fish farmers that do not use microcredit belong to the core poverty class as compared with those that use credit (Table 3). Tietze *et al.* (2007) found that poverty has remained a serious problem

Table 3: Poverty analysis

	Frequency	
	No.	%
Non poor	54	40
Poor	81	60

Table 4: The maximum likelihood estimate of the logit model

Variables	Coefficient	z-statistics	Marginal effect
Age	0.012	0.55	0.002
Sex	-0.503	-0.84	-0.104
Marital status	1.012***	1.79	0.233
Number of wives	0.893**	1.91	0.185
Years of education	-0.212	-0.86	-0.044
Years of experience	-0.003	-0.15	-0.001
Occupation	1.268*	2.99	0.273
Farm size	0.074	0.86	0.015
Fish pond size	0.113	1.09	0.023
Output	0.000	-0.46	0.000
Constant	-1.837	-0.97	
Log likelihood	-54.66		
LR χ^2 (11)	72.40*		
Pseudo R ²	0.4		

*, **and ***denotes level of significance at 10, 5 and 1%

in fishing communities in Orissa and Maharashtra. IFAD (2001) states that increasing access to assets is crucial for broad-based growth and poverty reduction while Tietze and Villareal (2003) recognised the importance of microfinance as a crucial development tool for poverty reduction.

The maximum likelihood result of the logistic regression (Table 4) shows that marital status, number of wives and occupation were significant at 1, 5 and 10% and were all positively related to the poverty status of fish farmers. This means that an increase in number of wives also increased the likelihood of being poor while married fish farmers and those who have farming as their major occupation are more likely to be poor than their counterpart.

CONCLUSION AND RECOMMENDATION

Higher productivity, made possible by technological changes and the associated reduction in production costs have been the main drivers of growth in modern aquaculture production in poor countries, aquaculture contributes to poverty alleviation and food security through employment and income generation for several million people.

There is therefore, significant potential for further growth in productivity and reduction of production costs. As lower production costs increase profitability, this will lead to increased production and lower prices. There will certainly be boom-and-bust cycles as production at times will increase faster than the productivity growth, but the underlying trend is clearly one of sustained growth. Capacity needs to be strengthened at all level for research, technology transfer and policy development.

There is therefore, an urgent need to develop guidelines and policies that would create a conducive aquaculture investment climate and at the same time provide safeguards against environmental and social risks.

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