

Influence of Agricultural Credit Guarantee Scheme Fund (ACGSF) on Fishery Development in Nigeria

Oparinde, Lawrence Olusola; Amos, Taiwo Timothy and Adeseluka, Michael

Department of Agricultural and Resource Economics, The Federal University of Technology, Akure, P.M.B. 704, Akure, Ondo State, Nigeria.

Correspondence: looparinde@futa.edu.ng or saintlawrence8@yahoo.com

Abstract

Access to credit has been identified as a crucial tool in increasing fish production in the developing countries like Nigeria. Agricultural Credit Guarantee Scheme Fund (ACGSF) was established for the purpose of boosting agricultural production (fish production inclusive). It is, therefore, imperative to study the Influence of Agricultural Credit Guarantee Scheme Fund on fishery development in Nigeria. Secondary data between 1981 and 2012 were collected on relevant variables and analysed using Descriptive statistics, Growth function and Regression analysis. The results of the analysis showed that fishery sub-sector was the least financed in the agricultural sector of the economy. This is reflected in low contribution of fishery sub-sector to Gross Domestic Product (GDP) due to the fact that the required importance is not given to the sub-sector as it is poorly financed by ACGSF. Also, growth rate of fishery contribution to GDP was 10.63% and the proportion of GDP from fishery to total GDP from Agriculture was 0.005%. The results further showed that volume of ACGSF loan to fishery sub-sector and agricultural sector had significant influence on the GDP contribution from fishery sub-sector. In conclusion, fishery sub-sector has been experiencing poor finance from Agricultural Credit Guarantee Scheme Fund. Therefore, the study recommended that volume of ACGSF credit devoted to fishery sub-sector should be significantly increased if sustainable development will be recorded in the sub-sector. Also, credit given to the sub-sector should be monitored in order to prevent diversion and poor management.

Keywords: Agricultural Credit Guarantee Scheme Fund, Fishery, Development, Nigeria.

Introduction

It is an indubitable truism that fish has become the important source of protein to people in order to substitute for other animal proteins (Oparinde and Ojo 2014) because fish products are seen to be relatively cheaper compare to beef, pork and other animal protein sources in Nigeria (Amao, Oluwatayo and Osuntope 2006). Millions of people around the world including many in developing countries like Nigeria derive their means of livelihoods along fishing value chain while about 2.6 billion people get their protein from seafood. Also, fishing provides job opportunities for millions of people in Africa and provides a vital source of protein to over 200 million people. Another fact is that about 30% (29.5 Mt) of the world fish catch is used for non-human consumption such as production of fishmeal and fish oils that are used as feeds and raw-materials in agriculture, aquaculture, and industries. Fishmeal and fish oils are important in aquaculture production as they form key dietary components depending on the species being cultured (Adebo and Ayelari 2011).

A supply deficit of 2.04 million metric tons is required to meet the ever increasing demand for fish in Nigeria. Nigeria is a large importer of fish with official records indicating 681,000 metric tons while export in 2008 was 0.065 million metric tons and valued at US\$40.5 million. The local supply consists of productions from the artisanal was (89.5%-85.5%) while industrial and aquaculture subsector was (5%-2.5%) and (5.5%-12.0%) respectively (FDF 2009). However, it has been demonstrated that Nigeria is capable of substituting fish importation with domestic production in order to create employment, reduce poverty in rural and peri-urban areas where 70% of the population live and ease the balance of payment deficits (Olaoye 2010).

Access to credit has been identified as a crucial tool in increasing fish production so as to bridge the gap between fish demand and supply in the developing countries like Nigeria. Increased domestic fish production will discourage fish importation but facilitate job creation. This is the reason why the Federal Government of Nigeria established Agricultural Credit Guarantee Scheme Fund (ACGSF) as it acknowledged the importance of agricultural credit to boost agricultural production including fish production. Therefore, evaluation of the influence of the ACGSF on the fishery development will give useful information for the formulation of policies targeted towards food security and sustainable fishery development in Nigeria. This is necessary since domestic fish production cannot meet up with the demand even with the establishment of ACGSF.

Methodology

Secondary data, for this study on relevant variables, were collected from various issues of Central Bank of Nigeria Annual Reports and other relevant publications from 1981-2012. Descriptive statistics, Growth function and Regression analysis were used in the analysis of the data collected.

Growth Function Model: Following Chikwendu and Amos (1996), this study adhered to the compound growth rate that was computed by fitting the exponential function in time to the data by using the following formula;

$$Y = b_0 e^{bt} \quad (\text{Eq. 1})$$

After linearizing in logarithm, equation 1 turns to:

$$\text{Log}Y = b_0 + b_1 t \quad (\text{Eq. 2})$$

Where:

Y= GDP

t = Time trend variable

b_0, b_1 , = Regression parameters to be estimated

The growth rate (r) is given by

$$r = (e^b - 1) \times 100$$

where e is Euler's exponential constant (2.7183).

To investigate the existence of acceleration, deceleration or stagnation in growth rate of GDP from fishery and Proportion of GDP from fishery to Agriculture, quadratic equation in time variables was fitted to the data for the two periods (1981-1999 and 2000-2012) following (Akpaeti *et al.* (2014) as follows:

$$\text{Log}Y = b_0 + b_1 t + b_2 t^2 \quad (\text{Eq. 3})$$

The quadratic time term t^2 allows for the possibility of acceleration or deceleration or stagnation in growth during the period of the study. Significant positive value of the coefficient of t^2 confirms significant acceleration in growth, significant negative value of t^2 confirms significant deceleration in growth while non-significant coefficient of t^2 implies stagnation or absence of either acceleration or deceleration in the growth

process. These two periods under consideration were chosen because of increase in fund being used by ACGSF in the late 1999. CBN (2007) stated that the fund was enhanced to ₦1billion on the 8th December, 1999 from the initial ₦100 million and further increased to ₦4billion in 2006.

Regression Model: The model is specified as follows;

$$GDP_{Fishery} = a + bValloan_{Fishery} + cNumbloan_{Fishery} + dValloan_{Agric} + eNumbloan_{Agric} + u_i \text{ (Eq.4)}$$

Where; $GDP_{Fishery}$ = Gross Domestic Product from fishery sub-sector
 $Valloan_{Fishery}$ = Volume of ACGSF loan to fishery sub-sector
 $Numbloan_{Fishery}$ = Number of ACGSF loan to fishery sub-sector
 $Valloan_{Agric}$ = Volume of ACGSF loan to Agriculture
 $Numbloan_{Agric}$ = Number of ACGSF loan to Agriculture
 u_i = Error term

Results and Discussion:

It is crystal clear that crop sub-sector was given priority at the expense of other sub-sectors as it took the largest proportion of the sectoral loan from ACGSF during the period under study. This had direct impact on the level of GDP from these sub-sectors because the GDP contributions from fishery and livestock could not be compared to that of crops, which had the highest. The implication of this is that the two other sub-sectors could also record higher GDP as the value of loan allocated is increasing. Considering the level of local fish production and its importance both nutritionally and economically, it is desirable for ACGSF to drastically step up the value of loan that goes to fishery sub-sector so as to increase production that is very needful at this point in time. Fishery sub-sector is the least financed by the ACGSF, which shows lesser importance attached to sustainable increase in fish production by the Nigerian Government. It is equally important to state that failure to increase value of loan that goes to fishery sub-sector is an invitation for international communities to flood Nigerian markets with both healthy and unhealthy fishes, which could have health implication on its citizens.

Growth rate of GDP from fishery and proportion of GDP from fishery to agriculture considering two periods (1981-1999 and 2000-2012). GDP from fishery and proportion of GDP from fishery to agriculture had positive growth rate of 17.8% and 0.1% respectively in 2000-2012 while in 1981-1999, GDP from fishery and proportion of GDP from fishery to agriculture had positive and negative growth rate of 29.6% and 1.8% respectively. Considering 1981-2012, GDP from fishery and proportion of GDP from fishery to agriculture had positive growth rate of 10.63% and 0.005% respectively. Low growth rate recorded by the proportion of GDP from fishery to agriculture testified to the fact that fishery sub-sector is not given required attention as it is in other sub-sectors of Agricultural sector. The growth rate of GDP from fishery in 1981-1999 was greater than that of 2000-2012 despite the fact that the scheme was operating with larger fund in 2000-2012. This is another evidence that fishery sub-sector has not been well financed by ACGSF in Nigeria. Also, the growth rate of proportion of GDP from fishery to agriculture in 2000-2012 was greater than that of 1981-1999. However, this little difference in growth rate cannot be compared with the huge difference in funds available for use by ACGSF in the two periods under consideration.

The coefficients of t^2 for GDP from Fishery and Proportion of GDP from Fishery to Agriculture in 2000-2012 were negatively significant at 1% and 5% respectively indicating deceleration in the growth of GDP from Fishery and Proportion of GDP from Fishery to Agriculture. This has further shown that fishery sub-sector was inadequately

financed in 2000-2012 even when there was increase in the funds being used by ACGSF. On the contrary, the coefficient of t^2 for GDP from fishery was positively significant at 1% confirming acceleration in the growth of GDP from fishery in 1981-1999 when smaller amount of fund was being used by ACGSF. In the case of Proportion of GDP from Fishery to Agriculture, the coefficient of t^2 was positively significant at 5% suggesting acceleration in the growth in 1981-1999. This implies that the impact of ACGSF was positively felt by fishery sub-sector in 1981-1999 when smaller funds were being used by the scheme.

The results further showed that volume of ACGSF loan to fishery sub-sector and agricultural sector had significant influence on the GDP contribution from fishery sub-sector.

Conclusion and Recommendations:

It can be concluded that fishery sub-sector is the least financed in the Agricultural sector by Agricultural Credit Guarantee Scheme Fund (ACGSF) which manifested in the contribution of fishery sub-sector to Gross Domestic Product (GDP) between 1981 and 2012. Also, the growth rate for GDP contribution from fishery in 1981-1999 was more than that of 2000-2012 when ACGSF was operating with larger funds. Therefore, it is recommended that volume of ACGSF loan devoted to fishery sub-sector should be significantly increased if sustainable development will be recorded in the sub-sector. Also, loan given to the sub-sector should be monitored in order to prevent diversion and poor management.

References

- Adebo, G. M. and, T. A. Ayelari. 2011. Climate Change and Vulnerability of Fish Farmers in Southwestern Nigeria. *African Journal of Agricultural Research* 6(18): 4230-4238.
- Akpaeti, A. J, N. E. Basse, U. S. Okoro and K. Nkeme. 2014. Trends and Drivers of Agricultural Investments and Growth in Nigeria: The Pre and Financial Sector Reforms Experience. *Asian Journal of Economic Modelling*, 2(3): 115-127.
- Amao, J.O., I.B. Oluwatayo and F.K. Osuntope. 2006. Economics of Fish Demands in Lagos State, Nigeria. *Journal of Human Ecology*. 19(1) 25 – 30.
- Central Bank of Nigeria (CBN) 2007. Guide line for the Agricultural Credit Guarantee Scheme Fund of Nigeria (ACGSF).
- Chikwendu, D.O. and T.T. Amos. 1996. Production Trends and Response Analysis of Soybeans in Nigeria. *Nigerian J. Agri. Exten.*, 9:22-28.
- Olaoye, O. J. 2010. Dynamics of the Adoption Process of Improved Fisheries Technologies in Lagos and Ogun States Nigeria. A Ph. D thesis in the Department of Aquaculture and Fisheries Management, University of Agriculture, Abeokuta, Ogun State, Nigeria. Pp. 337
- Oparinde, L.O. and S.O. Ojo. 2014. Structural Performance of Artisanal Fish Marketing in Ondo State, Nigeria.