



## DETERMINANTS OF SAVINGS AND CAPITAL FORMATION AMONG RURAL FARMERS IN ISOKO NORTH LOCAL GOVERNMENT AREA OF DELTA STATE, NIGERIA

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### ABSTRACT

*This study examined the determinants of savings and capital accumulation in Isoko north local government area of Delta state, Nigeria. It specifically sought to identify the socioeconomic/demographic variables of the rural dwellers that affect their savings and capital accumulation. It also examined the strategies and motives for saving and the various constraints to savings and capital accumulation in the study area. A total of 150 households were randomly sampled from seven communities out of the 13 that make up the local government area. Data for the study were collected using structured questionnaire and analysed through the use of descriptive statistics such as means, percentages and frequency distribution as well as inferential statistics such as multiple regression analysis. Results from findings revealed that volume of savings is based on the rural farmers' farm income, nonfarm income, years of experience in a saving programme, age of the farmers and the distance to formal financial institution. The result also showed that majority of the rural farmers save or accumulate capital in non-monetary form as a strategy of saving and are motivated to save in order to increase production. The main constraints to accumulation of savings were low productivity and lack of access to financial credit. It is therefore the recommendation of the study that to further improve on rural farmers savings in the study area, the government should make credit available by empowering formal and informal financial institutions activities in rural areas.*

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**Keywords:** Savings, Capital Accumulation, Rural dwellers, Agricultural credit

### INTRODUCTION

The importance of agriculture in a developing economy cannot be overemphasized. Growth in



agriculture is often the keystone of overall socioeconomic growth and development. Rural farmers are the main actors in agricultural development as they account for about 90% of food production in Nigeria and other developing countries (Adams and Vogel, 1990; Central Bank of Nigeria, 2004). For many years to come, contribution of rural farmers to agricultural production may not change because of rural farmers' peculiar circumstances and government policies and programmes.

However, the contribution of rural farmers to agriculture is affected by access to information, access to credit, illiteracy, and cultural and numerous socioeconomic factors (Adams and Vogel, 1990). In many African countries, including Nigeria, lack of access to credit or its inadequacies is most frequently mentioned as a leading constraint to increased agricultural production. The constraint is particularly more acute for women than men, most of who could improve on their agricultural production if they had the requisite financial resources (Coleman, 1997). Generally, lack of access to credit by rural farmers is attributed to the fact that not only that most of the rural farmers rarely attain formal education, but also lack collateral, which virtually locks them out of the conventional banking system. Worse still, credit obtained from informal financial institutions is not always enough for a meaningful increase in their agricultural production (Ike, 2009).

In view of this particular circumstance of credit situation in rural sector, and peculiar constraint that surround credit availability to rural farmers, reports have shown that a sustainable way to reduce this problem is through enhanced savings mobilization from rural farmers themselves to increase the amount of loanable funds in rural banks as well as to increase the extent to which they accumulate capital for farming (Rosenzweig and Wolpin, 1993; Vonderlack and Schreiner, 2001; Central Bank of Nigeria, 2004). In addition, (Vonderlack and Schreiner, 2001) reported that policies that focus on improving services for savers are therefore, a better way to help to improve the welfare of the rural poor farmers than is cheap credit.

Saving is a means of accumulating assets that perform specific function for the saver (Ike and Idoge, 2006). It is also the setting aside of some items for future use (Shipton, 1990). Capital on the other hand is the large amount of money that is used to set up a business (capital funds) while accumulation is the process of building up capital stock through positive net investment. Capital accumulation is low in developing countries such as Nigeria due to low levels of income and low saving level. According to Pearce (1981), capital accumulation is very difficult because with low incomes, very little savings or investment occur out of existing income. Saving is categorized into financial and non-financial (Physical) savings. Cash is the most liquid asset (monetary form) while non-financial form of savings include livestock, grain, land, Gold and other valuables etc.

Overtime, many researchers have tried to analyze the determinants of savings mobilization and savings behaviors in rural areas (Zeller, 1997; Ike and Idoge, 2006). They severally came to



different conclusions. But often such differences centered on non-price factors and interest rate charged by financial institutions. Empirical evidence abounds to support the notion that interest rate charged by financial institutions is a major determinant of savings mobilization. There is also strong evidence that household socioeconomic and other non-price factors significantly affect the total savings mobilized (Udry, 1990; Deaton, 1997; Ike and Idoge, 2006).

One of the constraints to increasing food production lies in lack of adequate volume and access to capital by rural farmers for improved agricultural production technologies. The improved method of production involves acquisition of larger farm land, high quality seeds and seedlings, agrochemicals, fertilizer, the use of modern equipments, improved livestock breeds, good housing and feeds. Thus if the rural farmers are to adopt new production technologies, they have to either borrow more money to acquire the modern inputs or commit a greater level of their personal resources to the farm.

Financial institutions like banks see rural farmers lending as risky since they are unable to pay back or do not have collateral security. According to Yahaya (1998), formal financial institutions such as banks and other organized financial houses like National Agricultural Insurance Scheme consider rural farmers as high-risk category of borrowers due to their poverty and high potential of repayment default. Therefore formal sector borrowing becomes a difficult option for these farmers. Hence the rural farmers are constrained to commit greater levels of personal resources to enhance production. With low investment output becomes low which leads to low income and as well translates to low savings. This situation perpetuates the vicious cycle of poverty. There is also the feeling that the socioeconomic characteristics of these rural farmers have great effect on their level of savings and capital accumulation.

Therefore this study intends to investigate the strategies employed by the farmers in Isoko North local government area to mobilize savings and accumulate capital. Also the various financial institutions patronized by the farmers and the extent of their patronage as well as various problems and constraints facing rural farmers in their savings and capital accumulation efforts were addressed. In the same vein, the effect of socioeconomic characteristics of these rural farmers on their level of savings and capital accumulation were also determined.

## METHODOLOGY

### Study Area

The study area is Isoko north local government area of Delta state, Nigeria. The local government is noted to be one of the major food producing areas in Delta state. It is composed of 13 communities which are Ozoro, Ovrode, Okpe-Isoko, Oyede, Ofagbe, Otor-Owhe, Owhelogbo,



Aradhe, Bethel, Ellu, Emevor, Iyede, Otor-Iyede. According to the 2006 population census, the local government area has a population of 114,155 people made up of 71,820 males and 72,335 females (NPC, 2006).

### Sampling Procedure

A multi-stage random sampling procedure was employed in the selection of respondents for the study. Seven communities were randomly selected from the 13 communities. 25 farming households were randomly sampled from each of the selected communities. This gave a total of 175 farming households that were sampled and administered with questionnaire for the study. However, out of the 175 questionnaire administered, 150 of those returned were found analyzable and thus utilized for the study.

### Data Collection

Data were obtained from primary sources through the use of structured questionnaire that were administered to the sampled rural farmers. The questionnaire was drawn to elicit information on the socioeconomic characteristics of the farmers, form and technique of savings and capital accumulation, various formal and informal savings institutions patronized and the rates, problems militating against their savings and capital accumulation efforts among others.

### Data Analysis

Data generated for the study were analyzed with the use of Descriptive statistics such as percentages, frequency distribution and means as well as multiple regression analysis. The multiple regression expressed the effect of socioeconomic variables on the level of savings and capital accumulated. The regression model was implicitly specified as:  $Y = F(X_1, X_2, X_3, X_4, X_5, X_6 + X_7 + X_8 + e)$

where Y = volume of savings/capital accumulated

$X_1$  = farm income,  $X_2$  = non-farm income,  $X_3$  = experience of participation in a saving/credit programme (Years),  $X_4$  = Gender (Dummy),  $X_5$  = Age of farmers (years)

$X_6$  = Farm size (hectares),  $X_7$  = Level of education (No of years spent in formal education),  $X_8$  = Distance to the nearest formal financial institution (Km)

e = Stochastic error term

The model was explicitly specified into three functional forms of linear, semi logarithm and double logarithm functions. The lead equation was chosen on the basis of conformity with *a priori* expectations of parameters, statistical as well as econometric criteria such as the magnitude of  $R^2$  and the t-values of the estimates and the number of significant variables in each estimated equation. In determining the constraints to savings, five point likertscale was used, the responses to an item for each variable were multiplied by the weight attached to obtain response scores. The mean response values are as follows:



No impact = 1; Little impact = 2; Uncertain = 3; Large impact = 4; Very large impact = 5.

Where  $f$  = frequency of response under each mode and  $n$  = number of respondents to an item.

The cut-off point was determined by finding the mean of the nominal value assigned to the options

using the formula

$$\bar{x} = \sum - \frac{f}{n}$$

$$\bar{x} = \frac{1 + 2 + 3 + 4 + 5}{5} = \frac{15}{5} = 3.00$$

To make inferential statements, the mean score was compared with the critical mean 3.00. If the calculated mean is greater than the standard critical value, the hypothesis is rejected otherwise; it is accepted (Mitchell and Ajenmonmen, 1984).

## RESULTS AND DISCUSSION

### The strategies and Motives for Saving and Capital Accumulation

The findings of the survey of various methods of saving and capital accumulation in the study area are presented in Table 1. The result indicate that 15.3 percent of rural farmers save or accumulate capital in cash, 34% save in non-monetary from such as land, storing in barns, crop ,livestock and other valuables etc. 23.3% save in co-operative societies, and 2.67 percent save in isusu club. This implies that majority of the rural farmers in the study area save or accumulate capital in non-monetary forms.

### Motives for Saving and Capital Accumulation

The various reasons for savings and capital accumulation as attested to by the respondents through multiple responses to items are presented in Table 2. About 93% save to increase their level of agricultural production while over 86% of the respondents save to enable them educate their children. Again 56.7% were saving so as to acquire more land. This implies that most of the rural farmers are motivated to save or accumulate capital primarily to increase production as well as ensuring the proper education of their children.

### Formal and Informal Institution Patronized By Respondents

Table 3 shows that a total of 94% (94) of the rural farmers patronize informal saving institution while 6% patronize formal saving institution. This survey indicate that majority of the respondents patronize informal savings institution for credit needs. This as they claimed is because they prefer to save in institutions where they will get financial assistance in times of need.

### Constraints militating against Savings and Capital Accumulation

The survey on the constraints militating against rural farmers' savings and capital accumulation are presented in Table 4. The survey indicates that many of the rural farmers are faced with the problem of lack of access to credit or loan and this has a significant impact as a constraint to savings. The inadequate access to credit reduces what the rural farmers can produce and this in turn affects what they can save. Other major factors that militate against savings in the rural areas as identified by the study are the amount spent on training of children and the general poor economic condition of the country which is characterized by high increases in price level (inflation). Poor harvest of agricultural produce is also a major factor which inhibits the farmers' ability to save and accumulate capital in the study area.

### Determination of Impact of Socioeconomic Characteristics on Savings and Capital Accumulation

A multiple regression model was constructed to capture the responsiveness of socioeconomic characteristics of rural farmers on total savings and capital accumulation. Test produced for multiple regression result on the determinants of impact of socioeconomic characteristics of the rural farmers on savings and capital is as presented in Table 5. The semi-log model was chosen as the lead equation and it shows that the model is relatively good on the basis of the value of  $R^2$  and F-ratio. The  $R^2$  value of 0.7468 indicate that about 75% of the variations in the dependent variable were influenced by the independent variables as entered in the model. In the same vein, an F-ratio of 15.90 indicates that the overall equation is significant at 5% level.

Among the eight parameters included in the model five were significant. These are farm income (0.1560), non-farm income (0.5125), year of experience in saving programme (0.5052), Age (0.295) and distance (-0.165). This implies that the rural farmer's volume of saving or accumulated capital is based on their farm income, non-farm income from business, the year of experience in a savings programme, age of the farmer and the distance to financial institution. The results of the statistical significance of the individual explanatory variable in the model are discussed as follows:

**Farm Income:** The rural farmer's farm income is expected to bear a positive relationship with the volume of savings and capital accumulation. The result of this study shows that volume of savings was sensitive to farm income of the farmers. This is because it gives an indication that a farmer with large farm income is likely to save or accumulate enough capital to increase production.

**Non- Farm Income:** Non- farm income turnout is one of the major determinants of volume of savings/capital accumulation of the rural farmers in the area. Non-farm income is statistically significant in the model. This implies that the earning from non-farm activities is most likely to influence their volume of saving or capital accumulation of the rural farmers. If they are intensively involved in these non-farm activities like petty trading, hair dressing, sewing etc they are likely to save or accumulate more capital than those who are not involved.



**Year of Experience in a Savings Programme:** The relationship between volume of saving and capital accumulation and year of experience in a saving programme is positive. This gives an indication of both the length of rural farmers experience and volume of savings or capital accumulation. A long experienced rural farmer in a savings programme is more likely to have realized the importance of savings and capital accumulation and where credit facilities are not available such farmers are likely to mobilize enough capital or saving.

**Age:** The coefficient of age is positive in conformity with *a priori* expectations of the volume of savings/capital accumulated. This positive relationship implies that older rural farmers save more than the younger farmers.

**Distance:** The relationship between the volume of savings or capital accumulation and distance is positive. Its coefficient is statistically significant. This implies that distance is the major determinant of volume of saving or capital accumulation because the nearer these institutions to the farmers the more they are motivated to save or accumulate capital.

## CONCLUSION AND RECOMMENDATIONS

This study investigated savings and capital accumulations strategies among rural farmers in Isoko North local Government Area of Delta State. Farm income, non-farm income, experience in a savings programme, age of the farmers and distance to saving institutions were found to significantly affect the volume of savings and capital accumulation in the study area. It shows that these socioeconomic variables have impact in the volume of savings and capital accumulation of the rural farmers.

To further improve on savings and capital accumulation of rural farmers and in view of their deficiency in the study area, it is suggested that:

The government should make credit or loan available to rural farmers by empowering formal and informal financial institutions to meet the credit needs of rural dwellers.

Government should encourage commercial banks to establish branches in the rural area to reduce distance problem which will help to improve rural savings.

The informal savings institution like the isusu club, co-operative societies among others should be brought into the national credit system. In order to achieve this, they should be allowed to register with the state ministry of commerce and industry.

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**Table-1.** Method of Saving and Capital Accumulation

Method	Frequency	Percentage
Cash	23	15.3
Non-monetary	52	34.7
Co-operative societies	35	23.3
Isusu	40	26.7
<b>Total</b>	<b>150</b>	<b>100</b>

**Table-2.** Motives for Saving and Capital Accumulation

Motives	Frequency	Percentage
Increase production	140	93.3
Marry more wives so as to add to family labour	10	6.7
Children's education	130	86.7
Acquire more land	85	56.7

Multiple responses

**Table-3.** Saving Institution Patronized by Respondents.

Institution	Frequency	Percentage
Formal	9	6.0
Informal	141	94.0
<b>Total</b>	<b>150</b>	<b>100</b>

**Table-4.** Constraints to savings and capital accumulation

Constraints	Extent of impacts					
	1	2	3	4	5	X—
Educational level	45	33	28	10	4	2.13
Bureaucracy	43	39	20	10	8	2.18
Poor access to credit*	10	15	12	29	54	3.85
Delay in disbursement*	5	15	14	35	51	3.93
Low agricultural yield*	11	16	25	28	40	3.58
Distance to savings institution*	14	20	7	25	54	3.70
Demand from children's education*	10	24	0	36	50	3.77
Low future value of savings	50	26	20	15	9	2.23

\*Significant impact as a constraint to savings

**Table-5.** Regression Result of Determinants of Savings and Capital Accumulation

Variable	Coefficient	Standard error	t-values
Constant	0.2727	0.1846	1.48
Farm income	0.1560	0.0550	2.84*
Non-farm income	0.5125	0.250	2.05*
Experience in saving programme (years)			
Gender (Dummy)	0.5052	0.1785	2.83*
Age	-0.0179	0.031	-0.58
Farm size	0.295	0.111	2.66*
Level of education	0.0113	0.250	0.45
Distance (Km)	0.102	0.151	0.675
R <sup>2</sup> = 0.75	-0.165	.080	-2.063*
F-ratio = 15.90			

\*Significant (p< 0.05) probability level