Full Length Research Paper

Household Savings and Capital Accumulation in Rural Nigeria: A Focus on Rural Farmers in Kwara State Nigeria

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Abstract
This study examines household savings and capital accumulation among rural farmers in Ifelodun Local Government Area of Kwara State, Nigeria. The Data used was obtained through the administration of a structured questionnaire in which a multistage sampling technique was used. Eight (8) villages were randomly selected from 8 districts. 15 farmers were randomly selected from each village totalling 120 farmers used for the study. The result of the study showed that 66% were male, 64% were within the productive age of 50 years while 59% had at least formal education. 73% of the farmers operated on fragmented farm size of 2 hectares and below. The study further showed that 88% of the farmers have access to various informal saving institutions with Esusu being the most widely spread (37%). 82% of the respondents save in cash and 61% of the farmers accumulate their capital from non-farm activities. 42% and 43% indicated that increase in production and educational training was the reason for capital accumulation respectively. The study also revealed that there is a correlation between capital accumulation, marital and educational status, while household capital accumulation was negatively correlated with household size.

Key words: Accumulation, Capital, Farmers, Formal, Informal, Savings

Introduction
Agricultural production in Nigeria is largely practiced by rural farmers. A survey by Federal Ministry of Agriculture and Rural Development (FMARD, 2000) showed that rural farmers produce more than 70 percent of agricultural products used in Nigeria. Small farms, also known as family farms, have been defined in a variety of ways. The most common measure is farm size: many sources define small farms as those with less than 2 hectares of crop land. Others describe small farms as those depending on household members for most of the labor or those with a subsistence orientation, where the primary aim of the farm is to produce the bulk of the household's consumption of staple foods (Hazell et al., 2007). Yet others define small farms as those with limited resources including land, capital, skills and labor. The World Bank's Rural Development Strategy defines smallholders as those with a low asset base, operating less than 2 hectares of cropland (World Bank, 2003). An FAO study defines smallholders as farmers with limited resource endowments, relative to other farmers in the sector (Dixon et al 2003).

In Nigeria, the bulk of the food and fibre produce came from rural farmer. Awoyemi (2007) noted that Nigeria still manifested the typical peasant agricultural practice with farms dominated by rural farmers who are responsible for producing over 70 percent of the nation's food. Other notable identifying characteristics of rural farmers include poverty, low capacity to save, cultural barriers and attitudes.

Savings has been defined as the setting aside of some income or items for future use. Shipton (2003) defined savings as all income not spent on goods and services for current consumption. Peace (2005) defined capital accumulation as the net addition to capital stock after depreciation. This net addition forms the basis for capital accumulation. Capital accumulation has been analysed by economists in two different ways (Estwell, et al 2000). The most common has been to see it as the expansion of productive potential of an economy with a given technology, which may be improved in the process.

In the agricultural sector, low level of savings either in financial or non-financial form hinders efficient agricultural financing, capital formation and agricultural development. This in turn influences the nation's agricultural domestic product (GDP) and economic development. Todaro (2000) observed that because savings are generally low and capital investment is minimal among the rural farmers, land and labour are the principal factors of production. Majority of these farmers use their family labour for agricultural production.

Rural farmers save in institutions where they are likely to get financial assistance at times of need. Ijere and Miller (2001), reported that 30 percent of sampled farmers patronized money lenders for their investment fund, 5 percent patronized co-operative societies, 10 percent patronized Ministry of Agriculture supervised credit scheme, 5 percent patronized banks while about 40 percent patronized rural saving institutions. Similarly, Agu and Soludo (2002) reported that 49% of the farmers patronized *Isusu* for their credit, 15% percent patronized money lenders, 17% from friends and relations, 11% from commercial banks and 8% from agricultural banks.

It was observed that rural farmers including the women were not well served by formal financial institutions. Saito et al. (1999) noted that only 12% of the farmers surveyed in Nigeria had access to the formal institutions, while the rest patronized informal sources. She indicated that the main sources of credit were;from relatives (54%) and savings/credit societies-cooperatives societies (34%).

It has been argued elsewhere, that the most significant sector of the Nigeria agricultural production both now and the near future is the rural farmers but these rural farmers are essentially limited by low capital accumulation and savings. This study was therefore designed to examine among other things the household savings strategies and capital accumulation.

The broad objective of the study is to examine the savings and capital accumulation strategies prevalent among rural farmers in Ifelodun Local Government Area of Kwara State. The specific objectives were to: (1) Determine the socio economic characteristic of the rural farmers, (2) Identify and discuss the different strategies and motives of rural farmers' savings and capital accumulation in the study area. (3) Ascertain the different formal and informal savings institution in the study area and compare their rate of patronage by the farmers and (4) Identify the constraints militating against farmer's savings and capital accumulation efforts in the study area.

Materials and Methods

Study area
This study was carried out in Ifelodun Local Government Area of Kwara State, Nigeria. Ifelodun is the largest Local Government Area in Kwara State with an estimated population of about 206,042 and an estimated total land area of about 3,435 km^2 (NPC, 2006, KWSMI, 2002). The major source of livelihood and occupation of the people in the area is farming. Farming is traditional in nature with emphasis on the cultivation of crops such as maize, cassava, yam, melon and Sorghum (KWSMI, 2002).

Sampling Technique
The targets of this study are the rural farmers in Ifelodun Local Government Area. The data collected for this study was mainly primary data and this was selected based on their agricultural activities using multistage sampling technique. Eight (8) villages were randomly selected from eight districts of the local government i.e. one village from each district. For each village, 15 farmers were randomly selected bringing the total number of selected farmers for the study to 120 respondents.

Statistical Analysis
The study employed the use of descriptive statistics namely mean, percentage ratio and cross tabulation. Depending on the objective being addressed, the study also employed multiple regressions, correlation analysis and graphical illustrations.

The empirical model for the multiple regressions analysis as used in this study can be expressed as;

$$Y = f(X_1, X_2, \ldots, X_n),$$

The linear form can be expressed as;

$$Y = b_0 + b_1X_1 + b_2X_2 + \ldots + b_nX_n, \epsilon$$

Where; Y = Volume of savings and capital/capital accumulated.

X_1	=	*farm income*
X_2	=	*non-farm income*
X_3	=	*experience of participation in a savings/credit programme (years).*
X_4	=	*Gender*
X_5	=	*age of farmer (years)*
X_6	=	*farm size (hectare)*
X_7	=	*level of education*
X_8	=	*distance to the nearest financial institution (km)*

Other functional form of the above linear equation includes semi log and double log models. These models were also tried in order to establish dependency of the volume of savings and capital accumulation on farm inputs and socio demographic characteristics.

Correlation Analysis
The Karl Pearson correlation coefficient was used to investigate the relationship between household size and savings. The correlation coefficient assumes a value between -1 and +1. If one variable tends to increase as the other decreases, the correlation coefficient is negative. Conversely, if the two variables tend to increase together the correlation coefficient is positive.

Results and Discussion

Socio-economic Characteristics
Empirical results shows that 66% of the respondents were male household head and 34% were female. This is typical of farmers in north central Nigeria with male folks dominating the farming enterprise. In a related study, Onojah et al.,(2013) found that maize growers in Kogi State were mostly male and that this was due to ownership or access to landholding which basically limit chances of female household members to owning this very important factor of production.64% of sampled farmers were married, 16% were single, 7% were widowed and 11% were either divorced or separated.

64% of respondents were within the productive age of 50 years and below while only 36% were above the productive age of 50 years as stipulated by the World Health Organization (WHO, 2012). This corroborates the findings of Oladunni et al.,(2013) who opined that farmers in rural Nigeria were still within the productive age.

Fig 1: Gender and Marital Status of the Respondents

Farmers in the study were fairly educated or literate. This was based on the fact that 59% attested to have had at least a formal education while 41% had no record of formal education but had some sort of informal education especially those relating to their trade. It is reasonable to conclude that farmers in the study area will appreciate trainings on new ideas and innovations that will improve productions and healthy farm practices.
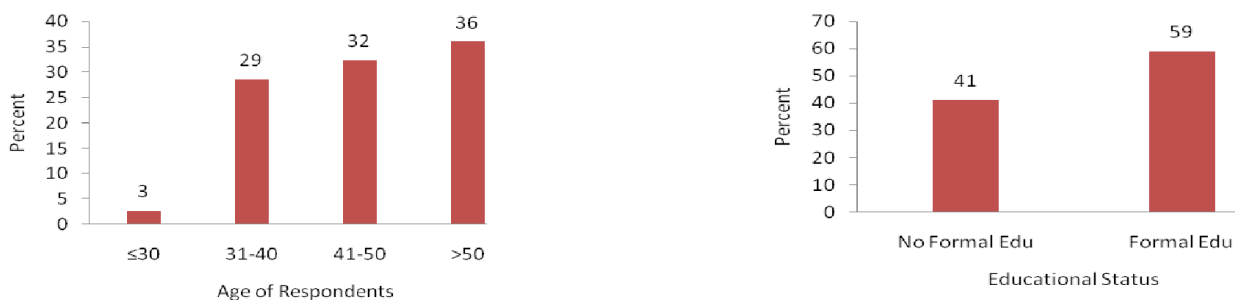

Fig 2: Age and Educational Status of the Respondents

Analysis of farm size shows that 73% of farmers operated on fragmented farm size of 2 hectares and below. 21% operated on farm size of 3-5 hectares and only 6% operated on farm size of more than 5 hectares. Many studies such as Achem et al., (2013), Onojah, (2013) also found that rural farmers are mostly constrained in terms of farm size and operated on fragmented farm land ranging from 3 hectares and below.60% of farmers had 6-10 members in their household, 32% had at most 5 members in their household. Only 8% had more than 10 members in their household. The mean household size was approximately 9 persons excluding immediate parents. According to the focus group discussion, typical household also include extended family members and step parents which when added up could be as large as 14-16 members. This they said provided the bulk of the labour input during farming seasons.

Fig 3: Household Size and Farm Size of the Respondents

Nature and Strategies of Rural Farmers Savings and Capital Accumulation
Availability of Formal and Informal Saving Institution
Table 1 shows the available formal and informal saving institutions in the study area. By formal saving institutions we mean saving institutions with legal backing in terms of modality and operationality and this include; Banks and Cooperative Societies and by informal saving institutions we mean any informal settings with verbal agreements or informal principle guiding its operations, and this includes but not limited to; *Esusu*, Thrift, *Age-Grade*, Town Union, Money Lender, *Ajor Ojo Jumo* (Daily Contribution), *Kolo* (a secure hollow container for saving money) etc. The study shows that only 38% of respondents had access to about two formal saving institutions. Informal saving institutions seem to be widespread across the study area with about 88% of farmers having access to various informal saving institutions. The unavailability of formal saving institutions may have hampered access to credit facilities such as soft loans which could one way or the other have improved agricultural productions in

the study area. It is reasonable to conclude that widespread informal saving institutions despite limited fund could have contributed its quota to agricultural development in the study area. Be it as it may, formal saving institutions within the reach of farmers are highly advocated as it has the potential to boost agricultural productivity in rural Nigeria.

Table 1: Available Formal and Informal Saving Institution

Category	Formal	Informal
None	62	12
Two	38	44
Four	0	30
Six	0	14
Eight	0	0

Source: Author's calculation

Mode of Saving

The analysis of type of traditional saving institutions and mode of savings was presented on Table 2. As earlier asserted, savings institutions available to farmers in the study area were mostly traditional and they include; *Esusu* Group, Age Grade, Cooperative Societies, Town Unions, Money Lenders etc. Of all the traditional saving institutions available in the study area, *Esusu* Group were wide spread (37%), this was followed by cooperative societies, *Age-Grade* and /or Money Lender (18% each). Over whelming majority (82%) save in cash form while only 18% save in non-monetary forms. By non-monetary form we mean setting aside of some farm produce such as crops, landed property, livestock rearing etc. Respondents indicated to have used some part of the fund to acquire some properties that they feel appreciate within a short time and disposed them when the need arise.

Table 2: Mode of Saving

Type of Traditional. Saving Institution		Mode of Saving	
	%		%
Esusu Group	37	In Cash	82
Age Grade	18	Non-MonetaryForm	18
Cooperatives	22		
Town Union	3		
Money Lender	18		
Others	2		

Source: Author's calculation

Method and Reasons for Capital Accumulation

Table 3 enumerates method of capital accumulation used by the rural farmers to include; personal savings (11%) non-farm income (33%), selling of properties (5%), regular contribution (28%) and others (23%). Cumulatively, it can be inferred that 61% of respondents accumulate their capital from non-farm activities while 39% could have accumulated their capital through saving and regular contributions which may have come from sales of farm produce. The huge accumulation of capital from non-farm produce shows that rural farmers often times engaged in other non-farm enterprise in an attempt to diversify their source of income. Although this practice is advantageous in terms of improving the living standard of rural farmers, but the long term effect of this is the likelihood of declining agricultural production and development in the rural Nigeria.

Empirical results from Table 3 also showed reasons for capital accumulation to include; increasing production (42%), marrying more wives (3%), educational training of wards (43%), acquisition of properties (9%) and others (4%). It can be concluded from the foregoing that the bulk of capital accumulated among other things goes to increasing farm production and educational training of wards. The former suggest that rural farmers in the study are more inclined to increase production if given access to credit facilities such as intervention fund or soft loans. This is a clarion call to all government and non-governmental agencies saddled with the responsibilities of poverty alleviation among rural farmers and the vulnerable groups. Also with the educational training of wards taken care of, rural farmers in the study area will be able to channel the whooping sums of fund spent on their wards into farming enterprise to boost agricultural productions. Therefore, the so called free education advocated should be implemented in the rural areas.

Effect of Socio-economic Characteristics on Capital Accumulation and Savings

Experts have argued that the propensity to save or to accumulate capital is a function of some socio-demographic characteristics of an individual or household. Rural farmers in the study area are no exception; therefore, the study also examined the effect of some socio-economic characteristics on capital accumulation. Results from Table 4 shows that marital status of a rural farmer was a contributing factor to his or her ability to save or accumulate capital. The positive coefficient of marital status could mean that married individuals are more likely to accumulate capital or save despite family responsibility than those who are not married. This is impressive and anticipated of responsible members of the community the community despite their concerned for the welfare of their wards. The study earlier asserted that higher percentages of the amount saved were used for the educational training of wards. This explains the correlation between capital accumulation and marital status.

Educational status of the rural farmers also plays a vital role in their propensity or ability to save and /or accumulate capital to expand their agricultural production. Farmers with record of formal education no doubt show appreciation for the training they received including the need to set aside fraction of their earnings for the trouble days ahead and also to expand their business,

diversify their production and for educational training of their wards. This explained the significant effect of educational status of the rural farmers on savings or capital accumulation.

Table 3: Method of Capital Accumulation and Reasons for Capital Accumulation

Method of Capital Accumulation	%	Reasons for Capital Accumulation	%
Through Personal Savings	11	To Increase Production	42
Non-farm Income	33	To Marry More wives	3
Selling of Properties	5	For Educational Training of Wards	43
Regular Contribution	28	To Acquire more Land & Properties	9
Others	23	Others	4

Source: Author's calculation

Similarly, despite operating on fragmented farm holdings, it seems that the higher the farm size, the higher the likelihood that the farmers will save or accumulate capital. Land or farm holding is an important capital of production which when properly utilizes will yield appropriate output and returns. Therefore, it is expected that all other things being equal, high farm size will ultimately yield more returns which in turn will lead to higher capital accumulation/savings.

Table 4: Effect of Social Economic Characteristics on Savings

Amount Saved Annually	Coef.	Std. Err.	t	P>t		95% CI
Gender	-52765.030	42294.530	-1.250	0.217	-137338.200	31808.110
Marital Status	40297.360	20075.330	2.010	0.049*	154.264	80440.460
Age	-1501.897	1842.361	-0.820	0.418	-5185.926	2182.131
Educational Status	60798.860	31791.110	1.910	0.041*	-2771.400	124369.100
Farming Status	-7626.620	40070.410	-0.190	0.850	-87752.370	72499.130
Farming Size	43894.700	24729.580	1.770	0.081*	-5555.138	93344.550
Household Size	-5444.599	7406.872	3.740	0.025*	-9366.357	20255.560
Years of Experience	28077.090	30593.340	0.920	0.362	-33098.070	89252.250
Source of Income	96459.310	22554.570	4.280	0.001*	51358.660	141560.000
Constant	-233477.700	173226.200	-1.350	0.183	-579864.900	112909.600

Marital Status (Dummy 1-married, 0-not married), Gender (Dummy 1-Male, 0-Female), Educational Status (Dummy 1-Formal Education, 0-Non-formal Education), Source of Income (Dummy 1-Personal savings, 0-Otherwise)
significant at p≤0.05

Personal Savings refers to the setting aside fraction of fund from regular earnings and allow for it to accumulate with time and thereafter put it into use either by way of re-investing it or complete use of it. With almost insignificant presence of formal saving institutions, source of income automatically take on the conventional *personal savings*. The significant coefficient of source of income on Table 4 shows that rural farmers in the study area rely heavily on personal savings as source of capital accumulation. This is in agreement with findings of Wivine *et al.*,(2013). The study therefore advocate for intervention of relevant authorities to solve the problem of poor funding in the rural agricultural practices bearing in mind the contribution of rural farmers who are known to produce 70% of food crops in Nigeria and Sub-Sahara Africa.

Although large household size was advantageous in terms of labour inputs, Table 4 shows that it can sometimes have negative impact on the ability of the household to accumulate capital. The negative coefficient of household size underscores the fact that large household size has contributed to low capital accumulation of rural farmers in the study area. Figure 4 showed the graphical illustration between the household size and capital accumulation. It is obvious that household capital accumulation was negatively correlated with household size i.e. larger household size will result to lower household capital accumulation. This may be due to the undue pressure of providing the daily needs and other requirement of the large members of the household that no doubt require huge resources to take care.
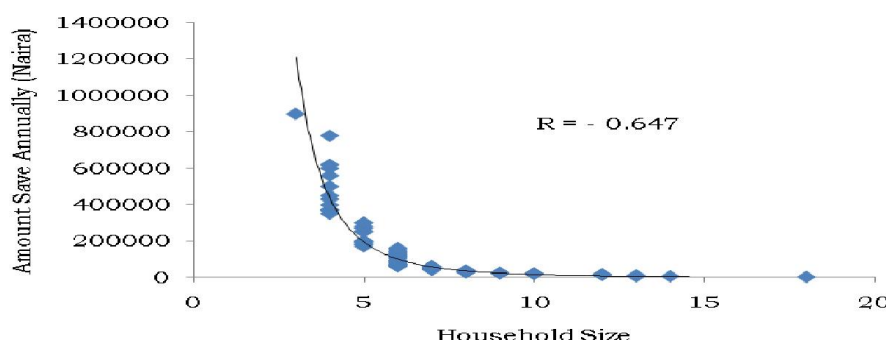

Fig 4: Relationship between Household Size and Capital Accumulation

Summary of Findings

The study has shown that 66% of rural farmers in the study area were male and are mostly married (64%). Majority of farmers in the study area were within the productive age of 50 years and below (64%). Farmers in the study area were fairly educated or literate (59%). 73% of farmers operated on fragmented farm size of 2 hectares and below. 60% of farmers had 6-10 members in their household while 32% had at most 5 members in their household.

The study showed that only 38% of respondents had access to about two formal saving institutions. Informal saving institutions seem to be widely spread across the study area with about 88% of farmers having access to various informal saving institutions. Of all the traditional saving institutions available in the study area, *Esusu* Group were the most spread (37%), this was followed by cooperative societies, Age Grade and /or Money Lenders (18% each).

Over whelming majority (82%) save in cash form while only 18% save in non-monetary form. Reasons for capital accumulation included the following; increasing production (42%), marrying more wives (3%), educational training of wards (43%), acquisition of properties (9%) and others (4%).Married individuals are more likely to accumulate capital or save despite family responsibility than those who are not married.

Educational status of the rural farmers also plays a vital role in their propensity or ability to save and /or accumulate capital to expand their agricultural production. Despite operating on fragmented farm holdings, it seems that the higher the farm size, the higher the likelihood that the farmers will save or accumulate capital. The significant coefficient of source of income on Table 4 showed that rural farmers in the study area rely heavily on personal savings as source of capital accumulation. Large household size sometimes has negative impact on the ability of the household to accumulate capital.

Conclusion

Rural farmers in Ifelodun Local Government Area of Kwara State North-central Nigeria are faced with limited formal saving institutions, which have adversely affected farming activities and livelihood. There is therefore need to cite formal saving institutions in rural areas in order to boost investment in agricultural sector. Huge capitals accumulated were spent on educational training of wards. This also has hampered production. The study proposes provision of basic free education to citizens generally so as to lessen the huge burden placed on parents in terms of training of wards. Education seems to have influence on capital accumulation. Thus training of farmers on need to accumulate capital and on diversification of investment is also proposed by this study.

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