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Full Length Research Paper

Determinants of Informal Savings for Small-Scale Sugarcane Production in Onyadama Community, Obubra Local Government Area, Cross River State, Nigeria

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This study examined the determinants of informal savings for small-scale sugarcane production in Onyadama community in Obubra Local Government Area of Cross River State, Nigeria. It involved the random selection of 102 sugarcane farmers in the community. Both primary and secondary data were used for the study. Descriptive and inferential statistics were also used to analyze the data collected. The results of the descriptive analysis reported that majority of the farmers were males having age group between 41-50 years and married. About 52% had secondary education with household size between 6-10 people. Nearness to savings institutions was the major instrument used to mobilize savings, while 32.35% of the respondents saved because of the need to carry out future projects. The major savings institutions were Osusu collectors and rotation savings. The multiple regression results showed that age, distance to savings institutions and income of farmers were the variables influencing the savings capacity of farmers having adjusted variability R-square of 87.4%. The major problems affecting savings among farmers are large family size, illiteracy, high cost of farm inputs, seasonality of sugarcane production, greedy nature of informal institutions and low prices of sugarcane. It is recommended that farmers should form cooperatives societies and be enlightened on the need to have more cash savings. Savings mobilization organizations should adopt demand-oriented approach in designing savings programmes for the sugarcane farmers.

Keywords: Determinants, informal, savings, sugarcane. small-scale

INTRODUCTION

Savings by an individual and households form a substantial part of capital accumulation in any society. In any society, everyone at one point in time saves something of value. The rural poor in particular, make sacrifices to ensure that they keep some reserves, especially for precautionary reasons and to protect themselves against idiosyncratic risks such as sickness and covariate risks like drought and disease outbreak (Zeller, Schreider, Braun and Heidhues, 1997).

Saving is defined as the amount of income per time period that is not consumed by economic units. It is the portion of disposable income that is not devoted to current consumption (Anyanwu and Oaikhenan, 1995). In other words, it is regarded as income that is not consumed by immediately buying goods and services. This clearly indicates that savings is closely related to investment (Adegeye and Dittoh, 1985). Therefore, it is suffice to say that saving is vital in increasing the amount of capital available. Increased saving is necessary but not a sufficient condition for investment. Saving is undeniably a strategic variable in the economy of any household and nation as posited by renowned economists like Adam Smith and David

Ricardo.

According to (Bime, 2008), saving go beyond capital formation. Saving is a catalyst for capital formation and equally a major determinant of the cost of credit based on the law of scarcity which holds that 'when credit is small and scarce, it becomes more costly to obtain'. Saving lodged in banks and other financial institutions are usually known as savings deposit and can be in different forms of account such as savings account, fixed deposit account, and current account.

The farming households is of utmost importance to the Nigerian economy not only because of the income generated and the employment potentials of the sector, but also the limits set by the sector to the growth of other sectors. Saving among the farming households in a developing economy like Nigeria is of crucial importance as the degree of progress a farmer will attain depends largely upon what the farmer does with the additional income generated yearly from farm activities (Ayanwale and Bamire, 2000). The growth rate in the farming economy largely depends on the stock of capital built by a farmer and the re-investment of such stock for further improvement of the farming households. Saving is normally considered in economics as disposable income minus personal consumption expenditure. In other words, it is regarded as income that is not consumed by immediately buying goods and services. This clearly indicates that saving is closely related to investment (Adegeye and Dittoh, 1985).

Saving and saving mobilization in any economy is undertaken by formal, semi-formal and informal sources. The formal sources include banks and other financial institutions and government agencies while the semi-formal and informal sources include cooperatives, credit and savings associations, age grades, 'osusu', rotating savings associations, daily saving associations, and town clubs/associations. However, whatever motive an individual may have for saving, the rate of saving in any given society depends on the available saving institutions which themselves must fulfill conditions like efficient number, diversity, accessibility, attractive terms of operations, perfect knowledge on their existence and the usefulness and trust people have on them.

In spite of its large areas of cultivable land suitable for the growing of sugarcane and some recent investments in the sub-sector, Nigeria still imports 90% of her sugar. Sugar, one of the products obtained from processed sugarcane, is one such consumer good that is consumed by virtually everyone. Although, there are variants of sweeteners – honey, saccharine, and others, these are seldom used by industrial consumers of sugar (Imolehin and Wada, 2008). Another product produced from sugarcane is ethanol, which is a very useful biodiesel. Sugar is consumed by households and particularly the industries where it serves as raw materials for companies in the foods and beverage industry, confectioneries, soft drinks, breweries and in pharmaceuticals. The demand for sugar today is put at between 2.5 and 3 million tons per annum. Some of the states where sugarcane are produced in Nigeria include Cross River, Sokoto, Taraba, Niger, Kogi, Kwara and most of the northern states (NSDC, 2013). With overall sugar consumption in the region of 2.5 million tons, Nigeria is the second largest consumer of sugar in Africa after South Africa. Nigeria's sugar consumption accounts for 50% of the sugar consumed in West Africa, with her consumption rate still on the increase. About 90% of Nigeria's sugar is refined in the country, opening the door to increased exports of refined sugar (Imolehin and Wada, 2008). The federal government, in a bid to encourage local cultivation of sugarcane and processing of sugarcane into raw sugar, has provided some incentives to producers and those in the sugar value chain which includes a 5-year tax free holiday for investors (Onwueme, 2005).

Hence, there is prospect of sustained sugarcane cultivation in Nigeria.

Many formal financial institutions including Bank of Agriculture, Deposit Money Banks and Micro Finance Banks have failed to provide saving facilities that are acceptable and attractive to rural dwellers because of inadequate rural branches to cater for numerous farmers scattered over large area, inadequate staffing – in quantity and quality- in the Agricultural Finance Departments and high rate of loan default by farmers (Okorie, 1985 and Kuye, 2016). Due to this fact, many rural inhabitants save their money informally by patronizing traditional savings and credit associations, age grades, friends, relatives, private money lenders and unregistered cooperative societies (Okorie, 1985; Aneke, 1981; Ahaiwe, 1981 and Kuye, 2016).This is the case of farmers in Onyadama community in Obubra Local Government area. Although, they grow sugarcane in large quantity, they mobilize their savings for investment in sugarcane production through informal sources due to the afore-mentioned factors. Government micro-credit schemes have failed in the area of enhancing farmers' saving mobilization largely due to the fact that the schemes did not take into account the income levels of the farmers, their saving potential and unavailability of formal financial institutions in most rural areas (Jekayinka, 1981). According to Pearce (1981), saving and capital accumulation is very difficult because with low income, very little saving or investment occur out of existing income.

Therefore, the major question that this study addressed was what are the factors that determine informal saving for sugarcane production in Onyadama community in Obubra Local Government area of Cross River State, Nigeria? Specifically, the study was conducted to:

i. describe the socio-economic characteristics of the farmers;
ii. identify the various types of informal savings institutions existing in the study area;
iii. analyze the factrs that determine informal savings for sugarcane production among the farmers and;
iv. describe the factors that militate against informal savings for sugarcane production by the farmers.

MATERIALS AND METHODS

This research was conducted in Onyadama Community in Obubra Local Government Area of Cross River State, Nigeria. Obubra is located in the Central Senatorial District of Cross River State and lies between longitude 7^{o} 55'E and $8^{o}10'$ E of the Greenwich Meridian and latitude $5^{o}4'$ E and $6^{O}10'$ N of the equator. It has a population of 134,255 people and occupies a land mass of 1,086 km^2 (NPC, 2006). Obubra is bounded in the east by Ikom LGA, in the north by Yala LGA and in the South by Yakurr Local Government Area of Cross River State, while in the west by Afikpo Local Government Area of Ebonyi State, Nigeria (CRADP, 1996). Onyadama community is in the southern part of Obubra Local Government Area. It belongs to the Adun clan which is one of the three clans that Obubra is made up. The other two clans are Osopong and Okom clans. Onyadama community share boundary with Yakurr Local Government Area by a 500m bridge over River "Okwo". The inhabitants of Onyadama community are farmers, traders and a modicum engaged in civil service. The major crops they grow are sugarcane, sweet potato, swamp rice, cassava, and yam, though they grow other crops like vegetables, oil palm, oranges, plantain and banana. The farmers particularly grow sugarcane and swamp rice because they are blessed with abundant swampy areas. They also rear animals like sheep, goat, pig and poultry birds and engage in fishing because of the passage of River "Okwo" which terminates into the Cross River.

Sampling procedure/data collection

The study adopted a random sampling technique to select 50% sugarcane farmers from a list of 204 sugarcane farmers in Onyadama community collected from the Cross River State Ministry of Agriculture/ADP Extension Division Office in Obubra. This gives a total of 102 sugarcane farmers for the study. Data for the study were collected through both primary and secondary sources.

Method of data analysis

Data that collected from the respondents by using questionnaire was analyzed sing both descriptive and inferential statistics to fulfill the objectives of the study. Frequency tables, percentages and means were used to analyze the socio-economic characteristics of the respondents, types of informal saving in the area and factors militating against sugarcane production. Multiple regression analysis using the OLS method was used to analyze the factors that determine informal saving for sugarcane production among the farmers. The regression model is explicitly represented as follows:

$Y = X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7 + u$…… (i)

Where: Y = amount saved (₦)
X_1 = age of farmer (years)
X_2 = household size (number)
X_3 = education level (dummy variable)
X_4 = gender (male = 1, female = 0)
X_5 = interest rate (%)
X_6 = distance to savings institutions (km)
X_7 = farm income (₦)
a_0 = intercept
$b_1 – b_7$ = parameters to be estimated
u = error term

Three functional forms of the regression model are explicitly expressed as follows:

i. Linear:

$Y = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + u$ …….(ii)

ii. Semi-log :

$Y = a_o + b_1\log X_1 + b_2\log X_2 + b_3\log X_3 + b_4\log X_4 + b_5\log X_5 + b_6\log X_6 + b_7\log X_7 + u$ ….. (iii)

iii. Double-log:

$\text{Log}Y = \log a_o + b_1\log X_1 + b_2\log X_2 + b_3\log X_3 + b_4\log X_4 + b_5\log X_5 + b_6\log X_6 + b_7\log X_7 + u$ …(iv)

Hypothesis testing

A single null hypothesis was formulated and tested to guide the research major objective.

H_O: Some socio-economic factors do not have significant effect on informal saving by sugarcane farmers in the study area. The F-ratio result embedded in the regression analysis results was used to test the hypothesis.

RESULTS AND DISCUSSION

Socio-economic characteristics of sugarcane farmers

The findings of on the socio-economic characteristics of the sugarcane farmers are presented in Table 1 below.

Table 1: Socio-economic characteristics of sugarcane farmers in the study area

Variable	Frequency	Percentage (%)
Gender		
Male	64	62.75
Female	38	37.25
Age		
21 – 30 years	12	11.76
31 – 40 years	35	34.31
41 – 50 years	40	39.32
51 – 60 years	14	13.73
Above 60 years	1	0.98
Marital status		
Single	29	28.43
Married	59	57.84
Divorced	14	13.73
Family size		
1 – 5 persons	20	19.61
6 – 10 persons	69	67.65
11 and above	13	12.74
Farm size		
0.1 – 0.99 ha	63	61.76
1.0 – 1.99 ha	15	14.71
Above 2 ha	24	23.53
Education level		
Never attended school	15	14.71
Primary school	21	20.59
Secondary school	53	51.96
Tertiary school	13	12.74
Farming experience		
1 – 5 years	14	13.73
6 – 10 years	42	41.18
11 – 15 years	34	33.33
Above 15 years	12	11.76
Other crops grown		
Cassava	52	50.98
Yam	26	25.49
Maize	24	23.53
Farming technique		
Sole cropping	12	11.76
Mixed cropping	90	88.24
Total	**102**	**100**

Source: Field data, 2017

In Table, 1 more males (62.75%) were involved in sugarcane production than females. The result indicates that the few females involved in the sugarcane production process means that sugarcane production is not gender selective. This conformed to the findings of Kuye (2016) who asserted that men are more energetic because they have stamina to withstand energy demanding farm operations involved in sugarcane production. More so, shows about 39.32% of the respondents were between 41 – 50 years of age. This result implies that sugarcane farming is carried out by matured adults who are in their active farming years. About 58% of the respondents were married. The preponderance of married sugarcane farmers shows that marriage is very essential among sugarcane farmers since marriage

affords them the ability to utilize the family labour that comes with marriage. Kuye (2016) asserted that marriage confers respect and responsibility on individuals that are married. Nwachukwu and Jibowu (2000) and Bammeke (2003) validated this findings by ascertaining that majority of the women involved in agricultural activities in their study areas were married. Also, about 67.65% of the respondents had a family size between 6 – 10 persons. This result agrees with that of Ebewore, Ebodion and Oboh (2013) who reported that majority 70% of his respondents had family size of between 6-10 persons. Similarly, Bameke (2003) reported an average household size of 6-10 people as the modal family size group among rural households. According to Matterson (2007) farmers with large household size tend to dissipate most of their resources on upbringing and education of their children.

Majority (61.76%) of the respondents had farm size of less than 1 hectare. This implies that sugarcane farmers in the study area are small-scale farmers. Furthermore, about 52% of the respondents had secondary education. This result implies that the sugarcane farmers in the study area would be able to read and write. This would enable them to access agricultural information and can understand the operations of the savings institutions in the area. Education plays a major role in creating awareness among farmers and could influence the adoption of techniques that will improve productivity.

Majority (41.18%) of the respondents had 6-10 years of experience in sugarcane farming. This implies that sugarcane farming is the way of life of the people due to the high number of years put into sugarcane farming by the respondents. The number of years put into sugarcane farming could suggest that sugarcane farming is a well-developed enterprise in the community. The results of this study conformed to those Ugwumba and Okwukanaso (2012) who reported that experienced and educated farmers would be able to spend higher amount of money on farm inputs than inexperienced and illiterate farmers. Hence, they have higher income that could be mobilized for savings.

Types of informal savings institutions available in the study area

The types of informal saving institutions available in the study area are presented in Table 2 while Table 3 presents the results on the reasons for preference of informal savings institutions.

Table 2: Informal savings institutions available in the study area

Variable	Frequency	Percentage (%)
Informal savings institutions		
‘’Osusu’’ collector	31	30.39
Money lenders	5	4.90
Trade unions	12	11.76
Rotating savings	25	24.51
Church associations	13	12.75
Age grade	16	15.69
Distance to savings institutions		
0.1 – 5 km	29	28.43
5.1 – 10 km	56	54.90
Above 10 km	17	16.67
Interest rate given		
5 - 9%	32	31.38
10 – 14%	49	48.04
15 – 19%	10	9.80
20% and above	11	10.78
Total	**102**	**100**

Source: Field data, 2017

Table 2 shows that the major informal savings institutions used by sugarcane farmers in the study was the “osusu” collectors (30.39%), closely followed by rotating savings (24.51%), while money lenders was the least (4.90%). This implies that informal savings was highly mobilized by the “osusu” collectors and

rotating savings. In agreement with this finding, Bime (2008) identified several types of informal savings such as "osusu" collectors, money lenders, cooperative associations, age-grade association, and rotating savings, among others.

Also, about 55% of the respondents had to travel a distance of 5.1 – 10km to the nearest informal savings institution. Furthermore, about 48.04% saved at an interest rate of 10-14% while only about 11% saved at an interest rate of above 20%. This result indicates that interest rate would be a veritable tool for savings institutions in the study area owing to the high interest rate given by informal savings institutions.

Table 3: Reasons for the preference of informal savings institutions

S/No.	Reasons	Yes	%
1	Readily available cash	74	72.55
2	Distance to savings institutions	45	44.12
3	High interest rate on savings	98	96.08
4	Understanding of operations	64	62.75
5	Easy mode of saving	52	50.98

Source: Field data, 2017

In Table 3 majority of the farmers agreed that high interest rate given was the first reason for their preference of informal savings in the study area. It is closely followed by readily available cash. The last reason was easy mode of saving.

Determinants of informal savings among sugarcane farmers in the study area

The factors that determine informal savings among sugarcane farmers in the study area are presented in Tables 4 below.

Table 4: Results of multiple regression analysis showing factors that determine informal saving for sugarcane production

Variables	Linear Function	Semi-log function	Double-log function
Constant	3958.451 (1.245)^{NS}	7.153 (16.770)***	3.078 (2.632)****
Age (X_1)	-161.744 (-0.224)^{NS}	-0.134 (-1.558)***	-0.26.4 (-1.578)*
Household size (X_2)	523.335 (0.676)^{NS}	3.026 (0.216)***	0.038 (0.284)^{NS}
Education level (X_3)	-597.513 (-0.848)^{NS}	24.048 (-0.581)**	-0.242 (-1.146)$^{\NS}$
Gender (X_4)	-1610.505 (-1.334)^{NS}	32.215 (-0.670)^{NS}	-0.248 (-0.965)^{NS}
Interest rate (X_5)	-16.179 (0.178)^{NS}	-0.025 (1.306)***	-0.138 (1.576)^{NS}
Distance to savings institutions (X_6)	11.201 (0.181)^{NS}	0.039 (2.767)**	0.264 (3.556)***
Farm income (X_7)	0.108 (6.775)***	13.025 (6.624)*	0.435 (4.389)***
R^2	0.673	0.874	0.763
Adjusted R^2	0.571	0.731	0.621
F-Ratio	16.732***	28.642***	19.854***

Source: Field data, 2017

NB: *, **and*** are significant at 10%, 5% and 1% levels of probability respectively. NS = not significant.

Regression analysis was used to estimate the influence of some socio-economic variables on savings amount by sugarcane farmers in the study area. The functional forms estimated were the linear, semi-log and double-log models. As contained in Table 4, the semi-log functional model gave the best fit since it

satisfies the statistical, economic and econometric criteria. It has the highest R^2 value, highest number of significant variables and the highest F-ratio. The semi-log functional model was chosen as the lead equation (LE) to explain the effect of the variation in amount saved (Y) as influenced by the explanatory variables (age (X_1), household size (X_2), educational level (X_3), gender (X_4), interest rate (X_5), distance to savings institutions (X_6) and farm income (X_7).

The coefficient of multiple determination (R^2) value of 0.874 indicates that the explanatory variables account for 87.4% of the total variation in the amount saved (Y) by the farmers. Results of the regression analysis show that household size was positive and significant at 1% level of significance, education and distance to savings institutions were positive and significant at 5% while gender and farm income were positive and significant at 10% respectively. These results imply that the aforementioned variables had influenced the informal saving among the sugarcane farmers. That is, if any of these variables are increased saving will be greatly enhanced. Evidences from other researchers have supported this fact. FAO (1995) opined that the rate of savings depends on individual or household capital accumulation. Otu (2010) asserted that by raising the interest payment on savings, people would be encouraged to save more. Bime (2008) observed that since the disposable income of the farming households are being owned by both males and females, hence, both sexes would be mobilized to save. Yaron, Benjamin and Piprek (1997) and Thingan (1985) explained that low income earners have high marginal propensity to consume and low marginal propensity to save. Most often, they are concerned with the day to day survival rather than savings or investment. When they fail to provide for their daily needs, they go into borrowing or use up previously accumulated savings (Upton, 1996).

The value of F-ratio (28.642) revealed that the model was significant at 1% level. The analysis gave a F-calculated value of 28.652 against F-tabulated value of 12.453, which indicates that the F-cal> F-tab ($p<0.01$). The implication of this finding is that there is a significant relationship between savings and the socio-economic factors considered in the model. This indicates that the socio-economic factors considered in the model are relevant in influencing informal saving among the sugarcane farmers. Hence, the null hypothesis was rejected and the alternative hypothesis accepted.

Problems militating against informal savings among sugarcane farmers

The problems militating against informal savings by sugarcane farmers in the study area are presented in Table 5 below.

Table 5: Problems of informal savings faced by sugarcane farmer in the study area

S/NO	Problems of informal savings	SA	A	D	SD	Mean	Rank
1	Large family size	61	31	8	2	3.44	1st
2	Small farm size	27	39	33	3	2.88	12th
3	Non-availability of savings institutions	38	40	15	9	3.04	8th
4	Low interest rate	22	50	30	0	2.92	11th
5	Distance to savings institutions	35	39	27	1	3.04	8th
6	High cost of farm inputs	47	44	11	0	3.33	3rd
7	Low prices of sugarcane product	27	56	17	2	3.10	6th
8	Seasonality of sugarcane production	38	48	16	0	3.22	4th
9	Illiteracy	53	41	8	0	3.43	2nd
10	High transportation costs	40	47	14	1	3.09	7th
11	Greedy nature of informal institutions	36	32	34	0	3.13	5th
12	Farm uncertainties	34	51	15	2	3.03	10th

Source: Field data, 2017.

Key: SA = Strongly agree, A = Agree, D = Disagree, SD = Strongly disagree
Mean = <2.5 indicates that it is not critical
Mean = ≥2.5 indicates that it is critical
Mean = ≥3.5 indicates it is severely critical

As contained in Table 5, the respondents identified among other problems militating against informal saving, large family size (1st), illiteracy (2nd) and high cost of farm inputs (3rd) respectively. In line with this finding, Otu (2010) and Egbe (2017) reported that large family size, high cost of living, high cost of farm inputs and interest rate are the major problems of informal savings among farmers in their studies.

CONCLUSION

This study reveals that majority of the respondents were males and were between 41 – 50 years. More so, among the informal savings institutions available to the respondents were "osusu" collectors, money lenders, rotating saving, church associations and age grade. It was discovered that majority (24.51%) of the respondents patronized rotating savings. The major reason given by respondents for patronizing informal saving was that cash saved was readily available for collection at any point in time. The regression results showed that household size, education, distance to savings institutions, gender and farm income were significant and positively influenced savings among the respondents.

RECOMMENDATIONS

It is recommended that farmers should form cooperatives societies and be enlightened on the need to have more cash savings. Savings mobilization organizations should adopt demand-oriented approach in designing savings programmes for the sugarcane farmers.

Since informal savings institutions are many in the study area, more savings will be generated if enabling environment is created for the institutions to operate by the operators. Going by the fact that savings is tied to confidence and security of the depositor, the operators of informal savings institutions should guarantee their customers that the deposit is maximally secured. Rural savings mobilization will improve when the savings institutions consider a variety of motives for savings when designing savings instruments.

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