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ANALYSIS OF SAVING AND INVESTMENT BEHAVIOR AMONG IRISH POTATO FARMING IN JOS SOUTH LOCAL GOVERNMENT

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Abstract:

This study analyzed the saving and investment behavior among Irish potato farming households in Jos South Local Government Area, Plateau State, Nigeria. A multistage random sampling technique was used to select 90 respondents across nine villages from three autonomous communities. Data were collected using structured questionnaires, and analyzed using descriptive statistics and multiple regression models. Results indicated that 90.4% of the respondents save their income while only 9.6%of the respondents were not involved in savingeducation, 78.7% of the respondents have bank account, 81.3% of the respondents have personal savings Family size, and sources of income significantly influenced savings and investment behaviors at 1% and 5% significance levels. The linear regression model, which was chosen as the lead equation, had an R^2 of 0.722, indicating that 72.2% of the variation in savings and investment behavior was explained by the independent variables. Some personal reasons for saving are saving for unexpected expenses and for the rainy day. The study concluded that enhancing farmers' access to financial services and implementing supportive government policies could significantly improve their financial behavior, productivity, and overall standard of living. Policy recommendations were made that provision of accessible loan facilities through microfinance banks and policy reforms should be made to promote rural savings and investments.

Keywords:

Analysis, Savings, Investment Behavior, Irish Potato and Farming .

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INTRODUCTION

Background of the study

The farming households is of utmost importance to 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. Savings 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 incomes generated yearly from farm activities (Ayawale 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 household.

Irish potato (Solanumtuberosum L) is the world's fourth largest food crop in terms of production after maize, rice, and wheat (FAOSTAT, 2016). It is thus the largest non-cereal food crop cultivated in the world. It was first cultivated in South America (Zhang *et al*., 2016) and is easily substituted for cereal in many developing countries; making Irish potato very crucial for food security.

One of the basic problems confronting the development of agricultural sector in Nigeria could be attributed to inadequate savings, income and investment by the small-scale farmers. Despite this problem, policy makers have not really drawn up adequate and comprehensive rural savings scheme that will motivate the farmers to invest their capital productively (Odoemenem*et al*.
2013). According to Shitu (2012) capital accumulate is a major prerequisite of economic development and if the volume of savings are inadequate to meet investment requirements, major bottlenecks are likely to develop in the process of capital formation and the drive for development.Based on the aforementioned, the following objectives were answered at the end of the study.

Identify the respondents' areas of income and savings; analyze the determinant of savings and investment of the respondents; andIdentify the factors that influence savings and investment behavior among farming households;

Materials and Methods

Study Area

Jos town, the capital of Plateau state, on the Jos Plateau of central Nigeria lies on the Delimi River and near the source of the Jamaari River (called theBunga farther downstream). Its headquarters are in the town of Bukuru at9°48′00″N 8°52′00″E. Jos south LGA consists of 12 wards. It has an area of 510 km² and a population of 1,001,000 at the 2023(Macrotrends). Language spoken in Jos South is Berom. The major occupations are farming, teaching, trading of pre-dorminant crops grown in the areas such as rice, sorghum, Cowpea, groundnut. Although the state is best known for its mining production, agriculture is the major occupation of the people Historically, although some Berom worked in the mines and lived in

the town, by 1905 the mineral wealth had attracted to Jos large numbers of outsiders, including Hausa, Igbo, Yoruba, and Europeans.

Sampling Procedures

The population of the study comprises of all the farming households saving in both formal and informal forms in the study area. Multistage random sampling technique was used to select respondents for the study. First, three autonomous communities were randomly selected from the twelve autonomous communities in the study area. In the second stage there was a random selection of three villages from each of the selected three autonomous communities, to give a total of nine villages. Questionnaires weredistributed to ten (10) selected respondents in each village, to give a sample size of ninety (90).

Table 1: Showing sampling procedure

L.G.A	COMMUNITIES	NAMES OF VILLAGES	RESPONDENTS
Jos-south	Bukuru	Gero	10
		Bwandang	10
		Kirana	10
GyelTanchol		10	
Gero		10	
Nyango		10	
	Du	Anguldi	10
		Hwolshe	10
		Zawan	10

Data collection

Data was elicited from respondents using structured questionnaire.

Data Analytical Technique

Descriptive and inferential statistics were used for analyses..

Multiple Regression

Multiple regression was used.

Explicitly, it expressed as:

$Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + a_5X_5 + a_6X_6 + a_nX_n + U$

Where:

Y = Savings (#)

X_1= Age (Years)
X_2 = Sex (Male/female)
X_3 = Education (Years)
X_4 =Family size (Numbers)
X_5=Source of income (#)
X_6= Various expenditures (#)
a_0 == Constant
$a_1 - a_6$ = Coefficient of Variables
U = Error term.

Y = Investment (#)
X_1= Age (Years)
X_2 = Sex (Male/female)
X_3 = Education (Years)
X_4 =Family size (Numbers)
X_5=Source of income (#)
X_6= Various expenditures (#)
a_0 == Constant
$a_1 - a_6$ = Coefficient of Variables
U = Error term.

RESULT AND DISCUSSION

Income and savings of respondents

1 Do you save part of your income

Table 2 shows that 90.4% of the respondents save their income while only 9.6%of the respondents were not involved in saving. This implies that farmers need to save in order to get money to further invest in their farming activities and also get money to attend to their family needs.

Table 2 shows that 46.7% of the respondents make deposits regularly and majority 53.3% of the respondent do not make deposits regularly, which could be as a result of high cost of living, challenges like repair of farm equipments, and some save after harvest.

The Table also shows that 78.7% of the respondents have bank account, 12.0% of the respondents have corporative account and 9.3% of the respondents have both account. This

implies that78.7% of the respondents, have trust in Banks more than corporative societies for safety of their money.

The Table further shows that 81.3% of the respondents have personal saving, 12.0% of the respondents have account with fellow farmers saving and 6.7% of the respondents have both savings. This implies that most of the farmers prefer to keep their savings private, for either security reasons or to avoid family and friends' pressure.

Table 2 Do you save part of your income

	Frequency	Percentage
Yes	75	90.4
No	8	9.6

Total	83	100.0
Do you make deposits regularly		
Yes	35	4.67
No	40	53.3
Total	75	100.0
Is your savings with Bank or Corporative		
Bank	59	78.7
Corporative	9	12.0
Both	7	9.3
Total	75	100.0
Is your savings Personal or with fellow farmers		
Personal	61	81.3
Fellow farmers	9	12.0
Both	5	6.7
Total	75	100.0

Source: Field survey, 2022

2 Income and volume of savings

The result in Table 3, shows the income and volume of savings made by farmers in the study area. It shows that 67.5% of the respondents fall within the range of 10000-200000 income, and 63.9% savings, 20.5% of the respondents fall within the range of 201000-400000 income and 26.5% savings, 12.0% of the respondents fall within the range of 401000 and above and

9.6% savings. This shows that majority of the respondents were small scale farmers. It was also observed that majority of small scale farmers are poor.

Table 3 Income and volume of savings

Income	Frequency	Percentage	Savings	Frequency	Percentage
10000-200000	56	**67.5**	1000-20000	53	63.9
201000-400000	17	**20.5**	21000-30000	22	26.5
4010000andabove	10	**12.0**	31000-40000	8	9.6
Total	**83**	100.0	Total	83	100.0

Source: Field survey,2022

3 How much did you start saving with?

Table 4 shows that 25.3% of the respondent started saving with₦500-5000, 37.3% of the respondents started saving with₦5100-10000, 10.7% of the respondents started saving with ₦10100-15000, 10.7% of the respondents started saving with ₦15100-20000, 9.3% of the respondents started saving with₦20100-25000, 2.7% of the respondents started saving with₦25100-30000, 2.7% of the respondents started saving with₦30100-35000,1.3% of the respondents started saving with ₦35100 and above.

Table 4How much did you start saving with

Amount	Frequency	Percentage
500-5000	19	25.3

5100-10000	28	37.3
10100-15000	8	10.7
151000-20000	8	10.7
201000-25000	7	9.3
25100-30000	2	2.7
30100-35000	2	2.7
35100 and above	1	1.3
Total	75	100.0

Source: Field survey, 2022

4 Is the savings efficient?

Table 5 shows that 69.3% of the respondents say that savings has been an efficient farming strategy since they started saving while 30.7% of the respondents say that savings has not been efficient since they started saving.

Table 5Is the savings efficient?

	Frequency	Percentage
Yes	52	69.3
No	23	30.7
Total	75	100.0

Source: Field survey, 2022

5 Benefit derived from savings

Table 6 shows that 68.0% of the respondent derived benefit from saving while 32.0% do not derived any benefit from saving. The likely effects of benefits of savings include expansion of farm, raised standard of living,

Table 6Is there any benefit derived from saving

	Frequency	Percentage
Yes	51	68.0
No	24	32.0
Total	75	100.0

Source: Field survey, 2022

B Factors that influenced savings and investment behavior of the respondents

The result in Table 7 indicates the difference between the amount saved and amount invested by the respondents. The effect of the difference on the total output was estimated using linear, semi log and Cob Douglas forms of regression model. Linear functional form was chosen as lead equation, this is based on the difference between the amount saved and amount invested that was found significant. The R^2 was estimated as 0.722 which implies that about 72.2% of the variation in the output from Irish potato farmers is explained by exploratory variables. While F value of 31.56 was found and significant at $P < 0.001$. Education(X_3) has a coefficient of (3.73) which is positive and significant at 1%, it implies that 1 unit increase in educational level will lead to equal unit increase in savings and investment. Family size (X_4) has a coefficient of (3.46) which is positive and significant at 1%. It implies that 1 unit increase in family size will lead to equal unit increase in savings and investment. Source of income (X_5) has a coefficient of (3.11) which is positive and significant at 5%.It implies that 1 unit increase in source of income will lead to equal unit increase in savings and investment.

Table 7 Factors that influenced savings and investment behavior of respondents

Items	**Linear**	**Semi log**	**Cob Douglas**
Constant	0.097	-57.50	0.3246
	0.03	-1.33	0.86
Age (X_1)	-0.4115	14.78	0.1227
	$(-0.78)^{NS}$	$(0.67)^{NS}$	$(0.64)^{NS}$
Sex |(X_2)	0.1940	2.99	0.1089
	$(1.20)^{NS}$	$(0.13)^{NS}$	$(0.56)^{NS}$
Education (X_3)	0.11647	22.51	0.2903
	(3.73)***	$(1.00)^{NS}$	$(1.48)^{NS}$
Family size (X_4)	6.978	35.833	0.22155
	(3.46)***	(3.59)***	(2.54)**
Source of income (X_5)	1.7989	7.01	0.1019
	(3.11)**	$(0.50)^{NS}$	$(0.84)^{NS}$
Various expenditures (X_6)	0.01663	15.23	0.1484
	$(1.61)^{NS}$	$(1.27)^{NS}$	$(1.42)^{NS}$
R^2	0.722	0.678	0.717
R^2 adjusted	0.699	0.627	0.672
F	31.56	13.35	16.05

Source: Field survey 2022 *** = 1%, ** = 5% and *= 10%

C Factors that determine the level of savings and investment of the respondents

Types of worker

Table 8 shows that 18.1% of the respondents were government workers,24.1% of the respondents were private worker, 55.4% of the respondents were self-employed and 2.4% of the respondents were not working.

Table 9 Types of worker

	Frequency	Percentage
Government worker	15	18.1
Private worker	20	24.1
Self-employed	46	55.4
Not working	2	2.4
Total	83	100.0

Source: Field survey, 2022

2 Barrier to savings in Jos-South

Table 10 shows that 6.0% of the respondents have culture barrier to saving in Jos-south, 27.7% of the respondents have easy access to credit barriers to savings in Jos-south, 4.8% of the respondents have high level of debt barriers to savings in Jos-south, 18.1% of the respondents have lack of appropriate savings products from banks, 12.0% of the respondents have lack of incentives to save barrier to saving in Jos-south and 16.9% of the respondents have low income levels barrier to saving in Jos-south.

Table 10 Barrier to saving in Jos-South

	Frequency	Percentage
Culture	5	6.0
Easy access to credit	23	27.7
High level of debt	4	4.8
Lack of appropriate savings products from banks	15	18.1
Lack of incentives to save	10	12.0
Low income levels	14	16.9
Total	83	100.0

Source: Field survey, 2022

3What Impacts your ability to save

Table 11 shows that 24.0% of the respondents have a better standard of living, 18.7% of the respondents have to cater for family, 22.7% of the respondents have to pay their children's school fees, 10.7% of the respondents have emergencies to attend to, 8.0% of the respondents have exigence of present situation, 16.0% of the respondents have expansion of farm and family emergency and 5.3% of the respondents have family ability to save.

Table 11 What Impacts your ability to save

	Frequency	Percentage
A better standard of living	18	24.0
Cater for family	14	18.7
Children school fees	17	22.7
Emergencies	8	10.7
exigence of present situation	6	8.0
Expansion of farm and family emergency	12	16.0

Total	75	100.0

Source: Field survey, 2022

. Personal reasons to have made savings or investments.

Table 12 shows that 33.7% of the respondents save for a rainy day, for unexpected expenses, 10.8% of the respondents save for retirement, 15.7% of the respondents save to get income in the form of interest, increased market value of assets, 10.8% of the respondents save to leave something for children to inherit, 12.0% of the respondents save to increase their leaving standards in future, 13.3% of the respondents save for spending purpose and 3.6% of the respondents have no particular reason, this is a family tradition.

Table 12 Personal reasons to have made savings or investments.

	Frequency	Percentage
For a rainy day, for unexpected expenses	28	33.7
For retirement	9	10.8
To get income in the form of interest, increased market value of assets, etc	13	15.7
To leave something for children to inherit	9	10.8
To increase my leaving standards in future	10	12.0
I like saving rather than spending money	11	13.3
No particular reason, this is a family tradition	3	3.6
Total	83	100.0

Source: Field survey, 2022

Conclusion and policy recommendation

Conclusion

The study found that education level, family size, and source of income significantly influenced the savings and investment behavior of Irish potato farmers in the study area. The linear regression model,was significant, the F-value, showed that these factors explained a substantial portion of the variation in output. Most respondents were self-employed, highlighting the importance of targeted policies that support education and income diversification to enhance farmers' financial behavior and productivity. Having a better standard of living is one of the reasons why Irish potato farmers save

Recommendation

Based on the findings of the study, the following recommendations were made:

i. Government should provide adequate and easier access to loan by farmers, through banks like Microfinance Banks.
ii. Government policies should be put in place to encourage and favor savings and investment by local farmers.

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