

## **Analysis of Investment Pattern of Cooperative Farmers in Sardauna Local Government Area of Taraba State, Nigeria**

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### **ABSTRACT**

The study analyzed the investment pattern of cooperative farmers in Sardauna Local Government Area of Taraba State, Nigeria. Data were obtained from 110 respondents drawn using simple random sampling technique and analyzed using descriptive statistics and multiple regression analysis. The result showed that the cooperative farmers were mostly male-headed (56%) and below the age of 40 years. About 55% had household size between 1 to 10 people, 80.9% engaged in farming as their major occupation with farm size ranging from 0.5 to 4 hectares. The multiple regression results revealed that the coefficient of determination ( $R^2$ ) was 0.5404 (i.e. 54%), indicating that the variations in investment pattern was accounted by 54% of the independent variables used for the analysis. The multiple regression results on the socio-economic characteristics of respondents influencing their investment shows that age, income, cooperative experience and credit facilities positively influenced the respondent's investment pattern in the study area at 1 Percent and 10 percent levels of significance. The study identified inadequate finance, low incomes of farmers, and high number of dependants as some of the constraints on investment in the area. The investment level of the cooperative farmers can be increased if loans are adequately made available and proper monitoring of the funds for specific production purposes is put in place. Also, policy on investment should consider farmers' socio-economic characteristics as well as subsidy on farm inputs would also encourage farmers to invest more.

**Keywords:** Analysis, Investment Pattern, Cooperative Farmers, Sardauna Local Government Area, Taraba State, Nigeria.

### **Introduction**

Agriculture in Nigeria accounted for over 70% of the non-oil export and provides over 80% fishery needs of the country (Adegboye, 2004). The country has a total land area of 98.3 million hectares, but at present, about 34 million hectares (i.e. 48%) are under cultivation. Agriculture in Nigeria is mostly

practiced at subsistence level and is characterized by numerous farmers operating several scattered small and fragmented plots of land using traditional methods such as land rotation, bush burning and crude implements.

According to Olawepo, (2010), the majority of the rural populace in Nigeria either depends entirely on farming and farming activities for survival and generation of income, or depends on other non farming activities to supplement their main sources of income. Most farmers have limited resources, a factor that limits their productivity, income, savings and investments. In the midst of these, farmers have resorted to a number of options to enhance their farm production and improve their well being. One of these options includes pooling their resources and working together as a cooperative society. According to Pur and Sodangi (2009), Cooperative societies are people with very small resources to improve their levels of living by pooling their resources together and assisting one another.

According to Ijere,(1992) cooperative society is defined as an association of person usually of limited means, who have voluntarily come together to achieve a common economic objectives and through formation of a democratically controlled business organization making a suitable contribution to the capital requirement and accepting a fair share of the risk and benefits of the undertaking.

An investment could be considered as an act of laying out money now in return for a future financial reward or the sacrifice of something now for the prospect of later benefits (Ajayi, 1998). The reward in this context may be received in the form of an income flow or by the receipt of a single capital sum or a combination of both. It can be pointed out that two elements are fundamental to our understanding of investment. First, the anticipated return which is easier to perceive and measure. Secondly, the risk which is a difficult concept to perceive and possess serious conceptual and analytical problems in terms of measurement.

One of the basic problems confronting the development of agricultural sector in Nigeria could be attributed to inadequate savings and investment by the small-scale farmers. Despite this problem, policy makers have not really drawn up adequate and comprehensive investment scheme that will ginger the farmers to invest their capital productively (Ogwanighie, 1997). Several significant questions remain in the minds of many people as to what really the problem is. Such questions include among others as do farmers in Taraba State and

Sardauna Local Government in particular have significant capacity to invest? If so, what factors influence the investment behavior of cooperative farmers?

The broad objective of this study was to analyze the investment pattern of cooperative farmers in Sardauna Local Government Area of Taraba State, Nigeria. The specific objectives were to describe the socio-economic characteristics of the respondents, determine the respondents' socio-economic characteristics that influence their investment pattern and identify the factors that militate against investment by cooperative farmers in the study area.

## **Methodology**

### **The Study Area**

This study was conducted in Sardauna Local Government Area of Taraba State (Mambilla Plateau, Nigeria). The Local Government is sharing boundary with Cameroun Republic in the East and South West with Gashaka Local Government Area, Taraba State, Nigeria. It is a mountainous area with an altitude of about 1930 meters above sea level around Nguroje (Taraba State Diary, 2012).

The total area of the plateau under crop production is about 2000 hectares; it has a temperate climate with constant rainfall/waterfalls which has potentials of generating hydro-electric power. The major agricultural products found in the area includes; Coffee, Tea, Kola nut, Irish Potatoes. Also, livestock production, especially cattle is predominant in the area.

### **Method of Data Collection**

The data for the study were collected from both primary and secondary sources. The primary data were obtained through a structured questionnaire while the secondary information was sourced from journals, textbooks, seminars, internet, and conference papers.

### **Sampling Techniques and Sample Size**

The samples for this study were drawn from a population of registered cooperative societies in the area. A sampling frame of 563 registered cooperative members from five (5) cooperative societies namely: Magu (132), Kakara (87), Nguroje (81), Gembu 'A' (111) and Gembu 'B' (152) were obtained and used for the selection of the respondents. Simple random selection of 20% of the respondents in each cooperative was done through lottery method to give a total sample size of 113 respondents for this study.

### **Method of Data Analysis**

The analytical tools used for the study were descriptive statistics such as frequency counts, percentages, means as well as multiple regression analysis.

### **Model Specification**

Multiple regression analysis was used to determine the influence of some socio-economic characteristics on the investment pattern of cooperative farmers. The implicit function is presented as follows:

$$Y = F(X_1, X_2, X_3, X_4, X_5, X_6, X_7, U_i)$$

Where:

- Y = Investment (Naira)
- X<sub>1</sub> = Household Size (number)
- X<sub>2</sub> = Education Level (years)
- X<sub>3</sub> = Age (years)
- X<sub>4</sub> = Farm Income (Naira)
- X<sub>5</sub> = Sex (dummy: Male =1, female =0)
- X<sub>6</sub> = Cooperative Experience (years)
- X<sub>7</sub> = Total Credit Obtained by Members (Naira)
- U<sub>i</sub> = Error Term.

### **Results and Discussion**

#### **Socio-Economic Characteristics of Cooperative Farmers**

Table 1 shows the Socio-Economic Characteristics of the Cooperative Farmers. The finding reveals that about 56% were male and young adult (55%) of below 41 years of age. This implies that male dominate in cooperative and are in their productive age who can aggressively invest their resources in both farming and non-farming activities. The study also reveals that most (80.9%) of the respondents were married and majority (44%) had a household size between 6-10 people. This implies that cooperative farmers in the study area are likely to have more family labour on the farm. This is expected to reduce the amount of money spent on hired labour, and could rather enhance their investment. This agreed with the findings of Obayelu (2012) who identified labour as one of the variables that significantly influence output.

Table 1 further showed that majority (60%) of the respondents were literate and may be capable of employing new investment techniques that will enhance their livelihood. Also, most (54%) of the respondents were fully engaged in farming as their main occupation and majority (96%) cultivated between 1-4 hectares of land. This implies that, cooperative farmers in the study area were

predominantly small-scale farmers. This is the characteristics of agriculture in most rural areas in Nigeria, where farmers produce for family consumption, thus this leads to low income, low savings and low investment of the farmers in the rural areas. This is contrary with the findings of Babatunde *et al.* (2007) who found out that the higher the size of a household, the higher the propensity to save which invariably leads to more investment. The findings in Table 1 also reveals that most (53.7%) of the respondents had an annual income of ₦50,000. This implies that majority of the cooperative farmers had low income which is likely to affect their investment pattern.

### **Determinants of Investment among Cooperative Farmers**

Table 2 shows the regression estimates for the Determinant of Investment by Cooperative Farmers in Sardauna Local Government Area of Taraba State. Based on the  $R^2$ , F-value, t-statistics and the *a priori* expectation of the variables, the linear function was chosen as lead equation. The coefficient of determination ( $R^2$  was 0.5404 (i.e. 54%), which indicates that 54% of the variations in cooperatives farmers investment were explained by the independent variables included in the model. The F-Statistics (4.613) confirms the suitability of the overall regression equation. The result shows that the coefficient of household size was negatively related but statistically significant with investment at 10% level. This is in agreement with the *a priori* expectations that the lower the number of a household size, the higher they would invest.

Furthermore, the influence of educational level of cooperative farmers on investment had a negative coefficient and was not significant. This disagreed with the popular believe that education is a strong determinant of investment. This implies that anybody could invest irrespective of his level of education, and cooperative farmers are aware of the benefits of investment, so their educational status becomes immaterial to investments. The result further reveals that income is one of the major determinants of investment and has direct influence on the investment of the cooperative farmers. The result shows the coefficient of income was positively related with investment at 1% level. This agreed with the *a priori* expectations that income is a strong determinant of investment. This also conformed to the findings of Odoemenem *et al.* (2013) who reported that the ability to invest depends on the level of income, other things being the same.

The coefficient of age was positive but not significant. This contradicted the *a priori* expectation meaning that, age is not a barrier in investment as both the old and young can invest. Also, the result of gender shows positive coefficient

but not significant. It was contrary to the *a priori* expectation. The positive relationship between gender and investment suggest that both male and female are mostly involved in investment. Years of cooperative experience also had positive coefficient but was not significant. This is in agreement with the *a priori* expectations, but was contrary to the views of Akpan *et al.* (2011), Osuntogun and Adeyemo (1981) who reported a positive significant relationship in the respondent's participation in investment. Credit also had a positive coefficient but was not statistically significant. This agreed with the *a priori* expectation. When farmers have outstanding credit or loan to pay back, this could reduce the amount of money that they would invest in the society.

### **Factors Militating Against Investment by Cooperative Farmers**

Table 3 shows that 100% of the respondents had the problem of low income. The respondents inadequate finance for investment is in line with the result of Adesimi (1983) that the larger the income the greater the propensity to save and invest. Conversely, people with low income have low tendency to invest. More so, majority (91.8%) of the respondents had high dependant/relations. This finding agreed with Babatunde *et al.* (2007) who pointed out that the larger the household size, the higher the expenditure and the smaller the amount to save and invest.

Inadequate enlightenment on investment opportunities constitute 91.8%, which implies that most cooperative members were not adequately educated on the pattern of investment in the study area. This confirms the findings in Table 2 where educational level does not positively relate with the investment, thus having negative coefficient in the regression estimates.

### **Conclusion and Recommendations**

This study revealed cooperative society is very vital to members in pooling their resources together and contributing to agricultural development through investment. It shows that Socio-Economic Characteristics could affect the level of investment by cooperative farmers. It specifically identifies household size, income, years of cooperative membership; credit/loan obtained as significant factors that could affect the investment pattern of cooperative farmers. However, the study revealed low income, high number of dependants and inadequate enlightenment were major factors affecting the respondents in investing in the study area.

Given this present scenario, policies, on investment should consider these factors. Also, cooperative societies should be financially empowered by

government and other financial institutions so that they would have enough funds to give as loan to interested farmers. This could be done in form of on lending to farmers through their societies. Awareness programme on the investment opportunities should be created by various agencies such as the mass media and National Orientation Agency (NOA) in the area.

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**Table 1: Socio-Economic Characteristics of Respondents (n = 110)**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	61	56
Female	49	44
<b>Age</b>		
20-30	24	22
31-40	36	33
41 and above	50	45
<b>Household size</b>		
1-5	46	42
6-10	48	44
11 and above	16	14
<b>Marital Status</b>		
Married	89	80.9
Single	11	10
Widow/Widower	10	9.1
<b>Educational Level</b>		
Non Formal education	44	40
Primary education	19	18
Secondary education	25	22
Tertiary education	22	20
<b>Annual income (₦)</b>		
50, 000	59	53.7
100, 000	23	20.9
150, 000	21	19
151, 000 and above	7	6.4
<b>Occupation</b>		
Farming	60	54
Business	18	17



Civil servant	22	20
Trading	10	9
<b>Farm size</b>		
< 1	31	28
1-2	49	44
3-4	26	24
5 and above	4	4

**Source: Field Survey, 2013**

**Table 2: Regression Estimates for Determinants of Investment by Cooperative Farmers**

Variable	Coefficients	Standard error	T-values
Household size ( $X_1$ )	-0.042329	-1.927768	0.0567**
Formal Schooling ( $X_2$ )	-0.0110106	-0.988558	0.3252
Age ( $X_3$ )	0.010757	1.478751	0.1423
Farm income ( $X_4$ )	3.73E-06	4.633663	0.0000*
Sex ( $X_5$ )	-0.123803	-1.052939	0.2949
Cooperative experience ( $X_6$ )	0.029787	0.903592	0.3683
Credit ( $X_7$ )	9.90E-07	0.246823	0.8055
$R^2$	0.5404		
F-value	4.613**		
Constant	10.393		

**Source: Field Survey, 2013.**

\* Significant at 1% level

\*\* Significant at 10% level

**Table 3: Factors Affecting the Respondents Investment (n = 110)**

Factors	Frequency*	Percentage (%)
Low income (inadequate finance)	110	100
High number of dependants/relations	101	91.8
Inadequate enlighten on investment opportunities	101	91.8

**Source: Field Survey, (2013)**

\* = Multiple responses

**References** to this paper should be made as follows: Vosanka I. P, Alam, M. K., and Rikwentishe, R. (2014), Analysis of Investment Pattern of Cooperative Farmers in Sardauna Local Government Area of Taraba State, Nigeria. *J. of Agriculture and Veterinary Sciences*, Vol. 6, No. 2, Pp. 41 - 50.

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