DETERMINANT OF SAVING AND INVESTMENT BEHAVIOR OF SMALL SCALE POULTRY FARMERS IN UMUAHIA AGRICULTURAL ZONE OF ABIA STATE

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Abstract

The study investigated the determinant of saving and investment pattern among small-holder poultry farmers in Umuahia agricultural zone of Abia state. The poultry farmers save little amount, so they do not have enough for their investments. The specific objectives were to: describe the socio-economic attributes of smallholder poultry farmers; identify the prevailing investment patters among the poultry farmers; estimate the determinants of savings volume of smallholder poultry farmers and identify the major challenges facing the poultry farmers in accumulating savings and expanding investment in the study area. Multistage sampling technique was used to select well structure questionnaire. Descriptive and multiple regression analysis were used to analyze the data collected. Ten 10 farmers were randomly selected from the ten villages making it 100 poultry farmers. Results of analysis showed that majority of the respondents were married with a moderate household. Majority of them were literate. Results also show that most preferred savings outlets of small holder farmers were the informal savings outlets mainly the self-help groups. It was evident from the research that there were the propensities to save among farmers in the study area, inspite of low income. There were factors that have positive influence on savings behaviour of small holder poultry farmers surveyed, such as level of income, household size, education, age and access to credit. Meanwhile, the OLS results of the estimated determinants of investment pattern with double-log functional form as the lead equation showed that age, flock size, farm income and expenditure influenced the inability to save. The study, therefore, recommended that given the significance of the income factor in terms of savings, incentives such as improved technology, appropriate farm support services; medium and long term loans should be provided by the government and other bodies to farmers in order to boost their income level. Only then can the savings being accumulated in the next economy be transformed into productive investment.

Introduction

The Nigerian Agricultural Economy delighted in decade of boom in poultry production between mid-70's and mid 80's. For instance, the population of cattle (174.3 million), goat (156.6 million) and sheep (190.31 million) while that of poultry was evaluated to be 660 million against other animal populace in 1983 (FAO, 2012). It reported that the poultry industry has turned into a diverse business with an assortment of business interest, for example egg production, broiler production, hatchery and poultry hardware business. This significance of animal protein remains undisputed: animal protein supply man with high quality nourishment with aid growth development and tissue replacement. It decides the level of nourishment of the populace and the health of the labor forces, which thusly decides the advancement of a county and its economy.

Agriculture in Nigeria is practiced at a subsistence level and is characterized by numerous farmers operating several scattered small-scale and fragmented plot of lands, using traditional methods such as land rotation, bush burning and crude implements (Odoemenem et al, 2013). According to Olawapo (2010), majority of the rural populace in Nigeria either depend entirely on farming and farming activities for survival and generation of income, or depend on other non-farming activities to supplement their main sources of income.

Olawepo (2010) posited that, over 90% of the country's of the local food production comes from the small-scale farmers, about 60% of the population earn living from these small-scale farms which usually of the size about 0.10-5.99 hectares (Olawepo, 2010). It could then be seen that most farmers have limited resources, a factor that limits their production, investment, savings and income. Agriculture plays an important role in employment and revenues generation as well as in the provision of raw materials for industrial development. However, the nation's agricultural potential are far from being fully realized and this has serious implications for food security, and sustainable economic development, the underdeveloped of the agriculture is indeed worrisome, given the fact that the country is naturally agriculturally well endowed.

Statement of the Problem

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. Agriculture in Nigeria like in most developing countries is predominated by small farm producer, and several constraints and barrier which appears insurmountable, limit the overall farming activities. Low savings capacity of farm families is one of the predominant factors responsible for stagnation of agricultural sector in Nigeria Despite this problem policy makers have not really drawn up an adequate and comprehensive rural savings scheme that will ginger the farmers to use their capital productively (Odoemenem et at, 2013).

Savings is indispensable to economic development by virtue of its relationship with investment (Akubuilo, Umebali and Mgbada, 2005). According to Odoemenam et al, (2013), economic theory indicates a one to one correspondence between savings and investment so that the size distribution of savings indicates investment potentials and possibilities. If investment remain localized in accordance to size of savings generated in a specific area, there are likely to be more investments in the areas of much saving than in those of meager savings. Savings according to Igben and Akande (1988), is preferred more in the financial form which makes funds readily available to investor and other needing money to expand their business operations. It has been shown that savers in developing countries, particularly in rural areas, prefer to save their money in terms of physical and tangible assets, such as land, building and livestock. This practice leads to scarcity of monetary savings for investment purposes. Savings as a determinant of economic growth and economic development was emphasized by classical economists.

However, there has been no consensus on factors which naturally affecting the proportion of income that is saved. Several variables have been indicated as influencing saving and these include current income, permanent income, wealth, interest rates, the price level, demographic characteristics and a host of other variables (Odoemenam et at, 2013). The market forces such as supply and demand affect savings and investments.

This study therefore is designed to provide answers to the following research questions:

1. What are the socio-economic characteristics of small-holder broiler farmers in the study area?
2. What are the various patterns of savings and investment pattern of small-holder broiler farmers in the study area?
3. What are the factors influencing savings and investment pattern of small-holder broiler farmers in the study area.
4. What are the constraints to savings and investment of smallholder broiler farmers in the study area?

Objectives of the study

The broad objective of the study is to determine the saving and investment behavior of small-scale farmers in Umuahia Agricultural zone of Abia State.

However, the specific objectives are to:

1. describe the socioeconomic characteristics of small-holder arable crop farmers in the study area;
2. examine the various savings and investment patterns of small-holder arable crop farmers in the study area;
3. determine the factor influencing savings and investment of small-holder arable crop farmers in the study area;
4. identify the constraints associated with savings and investment in the study area.

Hypothesis

The null hypotheses (Ho) tested were:

i. There is no significant relationship between savings and investment and small-scale broiler farmers in Umuahia Agricultural zone of Abia state.
ii. There is no significant relationship between the socio-economic characteristics of small-scale farmers and their savings and investment in Umuahia Agricultural zone of Abia state.

Literature review

Savings

Savings may be made in kind such as jewelry, land or livestock. It may be in the form of currency notes deposited in banks or more often hoarded. Savings provide several benefits for farm households. The sustenance of household savings increases the possibility of future investment both at the micro and macro-levels in the economy. Directly, savings could be used for investment. Indirectly, savings indicated repayment ability, also increase credit rating and as collateral in a credit market (Brata, 1999). Savings is both a risk management strategy and determinant of magnitude of investment. Investment are being made in agriculture to improve the quality of rural assets and enhance productivity. The ability, willingness and opportunity of households to save and invest over time can therefore significantly influence the rate and sustainability of capital accumulation and economic growth in developing countries (Oluwakeme, 2012).

Savings is in economics normally considered as disposable income minus personal consumption expenditure. It can also be regarded as income that is not consumed immediately by buying goods and services. Income in this concept includes all the earnings from all sources during a year (Nwibo, 2013).

According to Anyanwu and Oaikhenan (1995), saving is defined as the amount of income disposable income not spent on domestic products or consumption of imported goods and services. For the firm, it represents undistributed business profits, according to Jhingan (2004), savings is termed as the difference between disposable income and consumption that is, S=Y-C, where S is savings. Y is income C is consumption. Savings can be referred to as that portion of disposable income that is not devoted to current consumption.

Investment

Jhingan, (2004) from economics perspective, defined investment as production or acquisition of real capital assets during any period of time. Keynes (1936), investment refers to real investment which adds to capital and equipments. It leads to increase in the level of income and production by increasing the production and purchase of capital goods. Investment thus, includes new plants and equipment, construction of public works like dams, roads, building, net foreign investment, inventories, stocks and shares of new companies. According of Anauanwu (1995) defines investment along the lines of gross private domestic investment or gross fixed capital formation. The national income accounts defines gross fix capital forming (GFCF) as consisting of all capital expenditure on buildings (residential and non-residential), land improvement, transport equipment, breeding stock or machinery and equipment.

Over the years, many farmers in Nigeria have increasingly not been able to invest adequately on their farming activities. They have as such resulted to forming cooperative movements to achieve a common goal through democratically controlled business organization. The most important economic obligation of members of the cooperative society is savings. Farmers save specific amount of money daily, weekly,

monthly or quarterly as it is convenient for the group and the individuals. This type of savings is important for agricultural production, because it allows farmers of members' access to credit at the onset of the farming season which could boost farm production and income of the farmers. Odoemenem et at., (2013) were of the view that small scale farmers invest their savings in two major areas. These are the agricultural and non agricultural sectors, investment in the agricultural sector or farm activity includes the purchase of fertilizer and chemicals, hired labour and buying more land for farming. While investment in non agricultural sector are mainly centred on education, trade expansion, building houses, dowry obligation and purchases of durable assets.

Relationship between Savings, Income and Investment

The concept of savings, income and investment are intertwined. The all complement each other, a household with high ability to save has the potential of earning more income of the savings are productively invested, Ceteris patibus, the household with high income-earnings capacity has the potential of making substantial savings.

Research Methodology

Study area

The study was carried out in Umuahia agricultural zone of Abia State. Umuahia agricultural zone of Abia State. Umuahia agricultural zone is located in Abia State, South east of Nigeria. The zone is between longitudes 7º 23' and 8º 02' East of Greenwich meridian and latitudes 5º 49' and 6º 92' north of the Equator. The population of the zone is 1,913,917 (NPC 2006). The zone is made up of five local government areas namely; Isiala Ngwa North, Isiala Ngwa South, Umuahia North, Umuahia South, and Ikwuano. There has been dense equatorial vegetation characterized by thick forest, the soil is subjected to erosion and leaching with annual temperature of between 20ºC-30ºC and rainfall ranging from 200mm-300mm (Opara, 2004).

There are two distinct seasons; rainy season which starts in March and ends in October while dry season starts in November and ends in March. The major food and cash crops produced in the area includes cassava, maize, melon, banana, oil palm, orange, mango, cowpeas. The animals reared at both subsistence and commercial levels are goats, sheep, pig, poultry and sometimes cow. The farmers of the zone also engage in other off-farm and non-farm activities like trading, civil service, welding, saloon business, baking and transport business among others.

Sampling Technique

A multi-stage random sampling technique was employed for this study

In stage one, three local Government areas namely: Umuahia South and Umuahia Local Government Areas were purposively selected due to intensity of poultry production in the areas.

In the second state, 1 autonomous community was randomly selected from the selected Local Government Areas to make it 2 autonomous communities
In the third state, 5 villages were selected from each autonomous community making it 10 villages
In the fourth stage, 10 broiler farmers were randomly selected from the selected villages making it a total of 100 poultry farmers.

Method of Data collection

The study made use of primary data, data were collected for the purpose of this study by use of standard and structured questionnaires personally administered on the small holder arable crop farmers. The data of interest includes personal and household characteristics, household income and savings amount; information will also be collected from secondary sources such as textbooks, journal, learned publication, bulletins and the internet on existing work of previous researchers for empirical studies.

Method of data Analysis

Different statistical tools were used in data analysis. Descriptive statistics such as frequencies, means, table, pie chat, bar chart, histogram and percentages were used to obtain the socioeconomic characteristics of the small holder poultry farmers (objective i), examine various savings and investment patters of small holder poultry farmers (objective ii), and constraints that militate against savings and investment of small holder farmers (objective iv). However, multiple regression model was used to estimate the factors influencing savings and investment of smallholder poultry farmers (objective iii).

Model Specification

The multiple regression model of the determinants of poultry farmer's savings and investment is explicitly stated as follows:

$Y=b_o+b_1x_1+b_2x_2+b_3x_3+b_4x_4+b_5x_5+b_6x_6+b_7x_7+b_8x_8+b_9x_9+b_{10}x_{10}+ei$…… (3.1)

For savings model:

Where;

Y= Amount Saved (Naira)
X_2= Education level (number of years spent in school)
X_3= Primary occupation (farming =1, 0= otherwise)
X_4= Flock size (No. of birds)
X_6= Farming experience (years)
X_7= Membership of farmers association (Yes=1, No=0)
X_8= Access to credit (Naira)
X_9= Disposable income/Expenditure patterns (Naira) ei
Error terms b0= Intercept, b1-b9 = Regression
Parameters to be estimated.

Investment model:

Where;

Y = Amount Invested by the respondent in farm production (Naira)
X1 = Age of the respondents (years)
X2 = Household size (number)
X3 = Education level (number of years spent in school)
X4 = Primary occupation (Farming =1, 0= otherwise)
X5 = Flock size (No of birds)
X6 = Farming experience (years)
X7 = Membership of farmers association (Yes =1, No =0)
X8 = Access of credit (Naira)
X9 = Savings (Naira)
X10 = Disposable income/Expenditure patterns (Naira)

Table 4.2 shows that 62% of the farmers were married, while 35% of them were single and 1% of the respondents were widowed and divorced respectively, …….. people were more involved in farming in the Umuahia Agricultural zone of Abia state. Married farmers are usually involved in the regards as they know how best to utilize …… labour (household) available to them in farming activities. This could have ……effect on income level of the farmers (Simonyan and Onu, 2018). The result after implies …… majority of the farm households are stable. According to Nwaro (2004). This …….. and entrepreneurship, which were very important for efficient use of resources.

Table 4.3 Distribution of respondents according to age

Age (Years)	Frequency	Percentage (%)
21-30	12	7
31-40	33	38
41-50	42	42
51-60	13	13
Total	100	100

Mean: 42

Sources: Field Survey, 2021

Table 4.3 shows that 12% of the farmers were within the age of 21-30years whereas ……. And 13% of them were within the age range of 31-40 years, 41-50 years and 51-60 years respectively. Result also shows that the mean age of the farmers was 42 years. This implies that farmers in Umuahia Agricultural zone of Abia state. Whereas the youthful age, more energic and flexible to cope with risk and uncertainties that characterize farming. They were also more likely to adopt new improved technologies. As noted by Iheke (2016) and Iheke and …. (2014), the risk bearing ability and innovativeness of farmer, his mental capacity to cope with the daily challenges and demand of farm production activities and his ability to do manual decrease with advancing age.

The education level of the farmers in Umuahia agricultural zone of Abia State as shown in table 4.5 reveals that 40% of the farmers had secondary school education while 3% of them had no formal education. However, 97% of the women farmers in the study area were literate with divers formal educational levels ranging from primary school education to tertiary education. Literacy (ability to read and write) would enable the women farmers to better utilize effectively and efficiently available resources in the area especially credit avail to them for farm businesses and curtail frivolous spending. Also, possession of literacy (ability to read and write) would enable the farmers to better utilize effectively and efficiently whatever available resources in the area. As expected, higher education would enhance improved technology adoption hence increase farm income (Ezeh and Anyiro, 2012).

The farmers educational level is expected to have a positive influence on the adoption of improved technologies such as farm mechanization, fertilizer usage, agro-chemical, high yielding seeds variety which should have high potentials to increase farm productivity. Higher education would also enhance improved business ideas, skills, innovation and managerial ability to business sustainability, this result is in agreement with Nwibo and Okorie (2013).

Table 4.6 Distribution of respondents according to years of farming experience

Years of farming experience	Frequency	Percentage (%)
1-10	18	18
11-20	46	46
21-30	26	26
31-40	10	10
Mean: 18		

Source: Field Survey, 2021

Table 4.6 shows that 18% of the farmers had farming experience of between 1-10 years. Also 46% of the respondents had between 11-20 years of farming experience, while 26% of them had farming experience of between 21-30 years while only 10% of the respondents had farming experience of between 31-40. Result showed that he mean farming experience was 18 years, implying that the farmers were reasonably experienced and this has some positive implication for increased productivity. According to Nwaru et al. (2011) the number of years a farmer has spent in the farming business may give an indication of the practical knowledge he has acquired on how he can overcome certain inherent farm production problems.

Major Methods of Savings By Smallholder Poultry Farmers In The Umuahia Agricultural Zone Of Abia State.

The major savings methods as identified by the smallholder poultry farmers in the Umuahia Agricultural zone of Abia state are presented in Table 4.7

Table 4.7: Major savings Methods by the small holder poultry farmers

Method	Frequency	Percentage
Bank	25	25.0
House	20	20.0
Cooperative thrift	11	11.0
Self-help group	32	32.0
Relative/Friend/Neighbor	10	10.0
Isusu collectors	29	29.0
Rotating savings and credit association (ROSCAs)	16	16.0

Source: field survey, 2021. Multiple responses

Table 4.7 shoes various avenues in which the poultry farmers in the Umuahia Agricultural zone f Abia state made their savings. From the result it was discovered that majority of the farmers made their savings in there self-help group which is the case of most women farmers and accounted for 32.0% of the entire farmers that made savings. Also a good proportion (29.0%) of the respondents saved their money with Isusu collectors. However, 25% of the farmers made their savings in the bank. Meanwhile, 20.0%, 11.0%, 10.0% and 16.0% others made their saving in their respective homes, cooperative thrift and credit society, through Relative/Friend /Neighbor and in Rotating savings and credit association (ROSCAs) respectively. This is a clear indication that majority of the smallholder poultry farmers made their savings in informal financial sector. This is in line with the view of Odoemenem, et al., (2013) that farmers make use of informal financial sector to mobilize savings and develop their rural communities because it gives them access to loans that they cannot get from formal financial institutions due to lack of collateral.

Prevailing Investment Patterns among the Poultry Farmers in the Umuahia Agricultural Zone Of Abia State.

The prevailing patterns of the small holder poultry farmers and the average amount invested is shown in Table 4.8

Table 4.8: Distributions of Respondents on Type of Farm Enterprise and average amount invested

Enterprise	Frequency	Percentage	Average Amount invested
Crop production only	30	30.00	497,098.65
Poultry	20	50.00	654,345.09
Livestock	10	10.00	340,223.15
Fisheries	7	7.00	411,907.34
Others (apiculture, helicultureetc)	3	3.00	299,445.88
Total	**100**	**100**	

Source: Field Survey, 2021

The result indicates that 30.00% of the respondents were into arable crop production while 3.00% of the farmers diversified into other enterprises like establishment of other farm enterprises such as: apiculture, heliculture, etc. a fair proportion (50.00%) and 10.00% of the farmers were into poultry and livestock farming respectively. According to the result presented in Table 4.8, the highest average amount invested in poultry production by the farmers was ₦654,345.09. Similarly, ₦497,098.65, ₦340,223.15 and ₦411,907.34 were invested in crop production, livestock farming and fisheries respectively by the poultry farmers while other farm enterprise such as bee keeping, heliculture among others attracted an average investment amount of ₦299,445.88. This means that most of the farmers applied the fund saved in poultry, crop and livestock production because of high productivity and income.

Determinants of Savings of Smallholder Poultry Farmers in Umuahia Agricultural Zone of Abia State

The estimated regression analysis of the determinants of savings among smallholder poultry farmers in the study area are presented in Table 4.9

Table 4.9 Determinants of savings of smallholder arable crops farmers in Umuahia Agricultural zone of Abia State

Variable	Linear	Exponential	Semi-log	Double-Log+
Constant	6.823	1.626214**	11.508	12.840
	(0.549)	(3.349)	(9.6251)**	(9.0234)***
Age of the	-0.013211	0.01	-0.2306	-0.7498
household head	(-2.8925521)	(5.811)**	(-1.31)	(3.0022)**
Farming Experience	2.332	0.331	-0.03	2.0111
	(1.2228)	(0.960)	(-1.40)	(1.33)
Educational level	-142.007	0.0045	0.05	0.8966
	(-1.330)	(0.103)	(2.64)**	(11.21)***
Household size	3.647805	13340.86	0.57	-0.8966
	(3.6021614501)	(1.829392)**	(-3.41)**	(-3.41)
Flock size	0.699	2.88E-006	0.03	0.452
	(12.652)	(4.703)***	(2.45)**	(0.32)
Access to credit	0.018676	-697.626	0.024	0.6444
	(0.014296)	(-1.1059)	(0.20)	(2.14)**
Membership of	-0.61476	1.626124	1.23	13.14
cooperative society	(-0.37231)	(0.349)	(1.02)	(0.12)
Net farm income	6.823	0.01	0.44	0.825
	(2.549)**	(5.811)**	(2.68)**	(2.24)**
Occupation	-13900.82	-38225.05	0.0155195	-0.4193066
	(-0.67)	(-0.73)	(0.07)	(-0.85)
Expenditure	0.1804892(0.45)	0.3550777(2.24)**	11607.68(0.71)	5.51e-06
				(1.00)
R2	0.237	0.421	0.56	0.623
Adjusted R2	0.294	0.342	0.550	0.625
F-ratio	14.509**	21.207**	21.146**	28.328***

Source: Field survey, 2021 (*) = 10% level of significance (**) = 5% level of significance

The double log model was choosed as lead equation based on the number of significant explanatory variables, the F-ratio, the value of the R2 and conformity with a priori expectations. The F-ratio was significant at 1% showing the overall significant of the result. The R^2 was 0.625 which implies that 62.5% of the variation in the dependent variable (Savings of smallholder household farms) was explained by the independent.

The study also showed that age, educational level, household size, access to credit and net farm income positively influenced savings of the small holder poultry farmers at $P \leq 0.05$.

The result shows that the coefficient of age of the household head (-0.7498) and savings are inversely related. This is in line with a prior because the older one becomes the less he saves.
The coefficient (0.8966) of education is positively signed and statistically significant at 1% alpha level suggesting positive effect of education on savings of the smallholder poultry farmers. This is suggestive of the fact that as small holder poultry farmers acquire more education, they get a better well-paid job that will increase their income. With increase in income, savings is also expected to increase.

Small holder poultry farmers access to farm credit gave a positive coefficient (0.644) and was highly significant at 1.0% alpha level, indicating that an increase in farmers access to farm credit would increase savings. The sign identity of this variable makes sense for the study and conforms to a priori expectation. Access to credit have been identified as an important factor in farm business and useful in funding transaction cost for farm wage activities (Ibrahim and Srinivasan, 2013). It also regarded as one for the key elements in raising productivity and income and hence savings.

The coefficient (0.825) of farm income per capital was significant and positive. The marginal effect value for farm income per capital was statistically significant at the 5.0% level. This implies that an increase in farm income of the small holder poultry fares will stir up increased amount of savings. Small holder poultry farmers with higher levels of income have a higher tolerant of risk. Hence, they are most likely to save more funds for the rainy days. Limited financial resources at the disposal of farmers' limit savings. This result also shows that household would spend more and save less with rising household income, household size and presence of dependent and risk group (infant and pregnant women). More is spent on infant, pregnant women and students for their upkeeps and schools and so smallholder household with this kind of household composition spends more and saves less and vice versa.

This is also suggestive of the fact that with increase in income, there is every tendency that households would save more for the rainy days.

Determinant of Investment Worth by Smallholder Poultry Farmers in the Study Area

The estimated regression analysis of the determinants of investment worth amount smallholder poultry farmers in the study area are presented in Table 4.10

Table 4.10: Multiple Regression Estimates of determinants of farm investment by smallholder poultry farmers.

Variable	linear	Exponential	Semi-Log	Double-Log+
Constant	40646.85	10.9132**	-138546	10.39314***
	(0.27)	(16.41)	(-0.21)	(3.64)
Age	3265.926	0.1386549	52789.12	1.359314**
	(1.41)	(7.22)	(0.52)	(2.79)
Education	17899.93	1.170292	-540.229	0.48391
	(0.89)	(6.31)	(-0.08)	(1.44)
Farming	-3812.515	-0.0040525	-17574.2	-0.0101653
Experience	(-1.00)	(0.12)	(0.50)	(-0.06)
Household size	1275.721	0.126213**	-61309.2	0.2513563
	(0.15)	(2.38)	(-0.69)	(0.60)
Access to credit	24543.54	1.803796**	25311.57	0.2065713
	(0.60)	(6.16)	(0.31)	(0.53)
Flock size	-17052.68	0.0521208	-60170.08	-0.499369**
	(0.96)	(0.31)	(-1.30)	(-2.27)
Savings	-0.0151787	1.62e-07	-025018.08	0.044764
	(-0.10)	(0.05)	(-1.46)	(0.55)
Farm income	-0.0521564	2.45e-07	12442.17	0.2559074**
	(-0.53)	(0.05)	(0.37)	(1.60)
Expenditure	.1946495	7.39e-06	22809.55	2577418
	(0.33)	(0.99)	(0.93)	(2.20)
R^2	0.2859	0.9696	0.3193	0.9889
Adjusted R^2	0.2241	0.9669	0.2437	0.9877
F-value	4.63***7767.71***		4.22***	803.15***

Source: Field survey data, 2021

,,*: variables statistically significant at 1.0%, 5.0% and 10.0% risk levels respectively. Figures in parenthesis are t-ratio. + = Lead Equation

……. Statistical and econometric considerations, the double-log functional form was chosen as the lead equation. The coefficient of determination (R2) is 0.9889, implying that the explanatory variables accounted for about 98.89% of the change in the amount invested in farming. The overall significance of the model was measured using F-test, which has a value of 50:15 which is significant at 1.0% risk level.

Specifically, the coefficient (1.359314) of age was positive and statistically significant at 99.0% confidence level. This implies that age has direct influence on the farm investment, as increase in age of farmer increases the amount invested in farming. Ibrahim and Srinvisan (2013) supported this assertion that rural households' likelihood to invest in farm activities increases as they grow older. This outcome may be due to the farming experience gathered over the years. Due to the risk and

uncertainty associated in farming younger people with less farming experience invested much fund non-farming enterprise.

The coefficient (0.2577418) of years of experience in farming had a statistically significant and positive effect on the amount invested in farming. This implies that investment amount in farming increases amount farmers within some range of years' experience. This could be explained by the fact that small holder farmers who are highly experienced in farming and most likely older farmers are not very active economically to invest on non-farm enterprise investment opportunities. They therefore prefer to depend and invest on farming only. This implying that as individuals increases his farming experience through training and learning, his investment in farming likewise increases. This affirms the earlier finding of Bosma, et al. (2009) who deduced that having had experience in farming increases investment amount in such enterprise. The marginal effect value for years of experience in farming was statistically significant at 5.0% significance level.

The coefficient (0.2559074) of farm income per capita was significant and positive. The marginal effect value for farming income per capita was statistically significant at the 10.0% level. This implies that an increase in farm income of the small holder farmers will stir up increase amount invested in farming. Small holder farmers with higher levels of income have a higher tolerance of risk. Hence, they are most likely to invest more funds in farming. Limited financial resources at the disposal of farmer's act as barrier to entry in farm enterprise investments. This outcome contradicts the finding of Oseni and Winters (2009 who reported in their studies in …… that households with increased farm income are more likely to diversity and invest …. off-farm income generating activities, hence undertake of farm work.

The coefficient of flock size (0.499369) is negatives and statistically significant at 5.0% a level that indicates that an increase in flock size leads to decrease in the amount invested in farming although the negative coefficient of flock size is at variance with a prior expectation. It …… efficiency in the use of land rather that expansion of cultivated areas as a necessary ……. That could increase the capital investe4d in farming. This result is expected considering the small scale nature of the farmers in the study area. The results disagree with Onwuka (2005) and Oputa (2005) that the larger the farm, the more quantities inputs that would be needed in the farm, hence greater investment expenditure and income.

Challenges Facing the Poultry Farmers in Accumulating Savings And Expanding Investment In The Study Area.

The constraints identified by the respondents that inhibit their attempt to save and invest as small holder farmers are shown in Table 4.11

Table 4.11: Constraints of savings and investment by small holder poultry farmers in the study area.

Constraints	Frequency*	Percentages
Inadequate income	80	80.00
Ill health	31	31.00
Insecurity of their income	67	67.00
Family and societal demand	45	45.00
Misuse of money	44	44.00
Remoteness of bank	61	61.00
High bank charges	37	37.00
Delay and congestions at bank	25	25.00

Source: field survey, 2021

Multiple responses recorded

The smallholder poultry farmers identified several constraints to their inability to put part of what they earn aside for use in the future. The main constraints to the small holder poultry farmers inability to save is inadequacy of income which was identified by 80.00% of the respondents. According to this category of respondents, their incomes are not able to meet their needs let alone some bring left of savings. They conceded that though they always try and wish to save, they are unable to do so due to their limited incomes.

Remoteness of banks (61.00%) was also found to hinder the small holder poultry farmers saving abilities. Another hindrance to the small holder poultry farmer's ability to save also has to do with the monies will not be safe if they save it in both formal and informal forms. Some of them (67.00%) mentioned that people might abscond with their savings or thieves may enter their homes and make away their savings. Pressure from the extended family as well as members of the society at large were also identified by another 45.00% of the respondents as constraining their ability to save money. 44.00% of the respondents also identified their own inability to manage their financial resources very well as constraints to their savings abilities. Other problems such as high bank charges (37.00%) delays and congestions at the banks (25.00%), another 31.00% of the respondents also mentioned ill-health as a hindrance to their ability to save money. According to these people, constant illness depletes any money that they may have and may want to put aside for future use.

Summary

…. Investigated the determinants of savings and investment patterns among-small holder ….. farmers in Umuahia agricultural zone of Abia state. The specific objectives were to …… the socio-economic attributes of smallholder poultry farmers in the study area, identify is prevailing investment patterns among the poultry farmers in the study area; estimate the determinants of investment worth by smallholder poultry farmers in the study area and identify the major challenges facing the poultry farmers in accumulating savings and expanding investing in the study area.

…… sampling technique was used to select 100 smallholder poultry farmers and information and elicit from the respondents using well-structured questionnaire. Descriptive and multiple regression analysis were used to analyze the data collected. Result of analysis showed that majority of the respondents were married with a moderate household. Majority of them literate.

Result also show that the most preferred savings outlets of small holder farmers in the stud area were the informal savings outlets mainly self-help groups. It was evident from the research that there is the propensity to save amount farmers in the study area, in spite of low income.

There are factors that have positive influence on saving behaviour of small holder poultry farmers surveyed such as level of income, household size, education, age and access to credit meanwhile, the OLS results of the estimated determinants of investment patters with double-log functional form as the lead equation shows that are, flock size, farm income and expenditure influenced investment patters significantly. The main constrains to the small holder poultry farmers' inability to save are inadequacy of income, ill-health and fear of safety of their income.

Conclusion

The study has shown that the most preferred savings outlet of smallholder poultry farmers in the study area were the informal savings outlets. There is the propensity to save and invest among small holder farmers in Umuahia agricultural zone of Abia State, Nigerian in spite of low income.

Recommendation

Based on the principal findings of this study, the following recommendations are made

1. Given the significance of the income factor in terms of savings, incentivizes such as improved technology, appropriate farm support services, medium and long term loans should be provided by the government and other bodies to farmers in order to boost their income level. Only then can the savings be accumulated in the rural economy.
2. Policies on tax rate reduction and free or subsidized education are strongly advocated. These will reduce their expenditure and subsequently increase their aggregate monthly income, which is positively related to saving. Policies that reduce household size will improve savings of the farmers in the study area.
3. Small holder poultry farmers should be encouraged to form cooperative society to enable them access credits from banks as this will encourage the accumulation of social capital in form of savings.

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