

Effects Of Rural Agripreneuership Investment On Income Generation And Poverty Reduction In Southeast, Nigeria

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Abstract

The study assessed the effects of rural agripreneuership investment as nexus for poverty reduction and income generation in southeast Nigeria using 200 respondents selected through random sampling technique. Data were collected using questionnaire administered in the form of interview schedule. Data collected were analyse using descriptive statistics such as frequencies percentages, and multiple regression. Results indicated that agripreneuership investors were mainly male (63%) investors with average age of 41years and were married with average household size of 6 persons. Furthermore, the agripreneuers investors' had 10 years average experience in agripreneuership investment that earned average annual household income of ₦676,176.00, and were members of co-operative societies. Result also showed that the income distribution of female agripreneuerial households was at high inequality as seen in the convex nature of the Lorenz curve to the line of equality. Results also showed that the income distribution of male agripreneuers where evenly distributed as it was almost parallel to the line of equality. Result further showed agricultural enterprises accounted for 72% changes in income generation of agripreneuers as evident from the R^2 of 0.72 that income from livestock production (3.390), crop production (2.710) and processing sector (1.301) were positive and significantly related to the income generation. Similarly, agricultural enterprises accounted for 84% changes in poverty reduction as production (1.674) and processing sector (3.688) were positive and significantly related to poverty reduction. From the finding, it was concluded that rural agripreneuership investment had positively and significantly influenced agripreneuers income generation and poverty reduction in Southeast, Nigeria. The study recommended for the creation of environment that favours investment in the rural areas especially in linking rural areas with microfinance.

Keywords: Rural, Agripreneuership, Investment, Income, Poverty reduction.

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I. Introduction

Per capita income, life expectancy and GDP are factors that come together to define the level of development of any country. To generate income, one needs to engage in an activity that will yield the income. Income-generating operations simply refer to activities that affect an individual's or community's ability to obtain or increase income that will lead to poverty reduction. Income-generating activities also emphasise maximizing the use of locally accessible resources for the greater good of the community. Furthermore, income-generating activities can provide additional benefits that help to eliminate poverty, increase community well-being, and encourage empowerment, self-reliance, and community development (Durrani, Usman, Malik and Ahmad, 2021). One of such activities is agripreneuership. Nigeria has been reported with low levels of per capita income and life expectancy, which is obviously as a result of agripreneuership development challenges facing the nation.

Agripreneuerial investors can earn money by making wise investments with his or her existing resources. The development of a piece of land by planting a crop for sale is an example of such income production (FAO, 2019). The proceeds from the crop sale would be considered income. The money earned from agripreneuerial investments is then considered income which its indirect effect is poverty reduction (Durrani *et al.*, 2021). Therefore, agripreneuership is also thought to be the most effective means of alleviating rural poverty (Van der Sluis *et al.* 2020). This is because agricultural and agriculture-related activities account for most of the employment in rural areas in most developing countries (Van der Sluis *et al.* 2020). Agriculture helps to alleviate poverty in rural, urban, and national settings in the following ways: provision of food; employment creation; an increase of real wages; and improvement of farm income (FAO, 2020). According to the findings of research undertaken in numerous countries, agricultural growth can have a significant and far more effective pro-poor role than other sectors in alleviating poverty and hunger in both urban and rural areas (FAO, 2020).

Agripreneuership entails the entire value chain from the input of raw materials to the final output wherein the finished products reach the ultimate consumers (Agbaeze, 2017). Agripreneuership operates on a

new shape, scope, platform, and direction. It involves not just crop cultivation but incorporates the combination of agriculture and agripreneurship which converts agriculture into an enterprise, therefore, making it appeal to the modern and technologically developed stakeholders. Agripreneurship creates a business opportunity (such as value addition, global marketing, and high tech agriculture) that can be exploited to boost job creation, increase productivity and become a foreign income earner (Ikenwa, 2017).

According to Nwibo, Mbam, and Biam (2016), agripreneurship is a profitable fusion of business into agriculture whereby farmers can become determined, creative, innovative, willing to take calculated risks and always looking for opportunities to improve and expand a business. Shailesh, Gyanendra, and Yadav (2013), described agripreneurship as a dynamic process of creating incremental wealth from agricultural sector. The above definitions suggest that sustainable development in agriculture requires the development of agripreneurial and organizational competencies among farmers. Suffice it to say, that agripreneurship is all about inventions capable of generating aggregate income, earning country's foreign exchange through value addition and community export (Mukembo and Edward, 2016).

In recent years, there has been a growing interest in using agricultural entrepreneurship, which is regarded as one of the most important drivers of economic growth in many countries through rural development, thus, agripreneurship seems to be a long-term solution to the problem of income generation and poverty reduction among rural agripreneurs by improving their income which in turn is expected to lead to poverty reduction of the investors. Although, there seems to be insufficient empirical evidence to establish the link between agripreneurship, income generation and poverty reduction in the study area, it is expected that the two issues are linked because the majority of the poor live in rural areas and rely on agriculture as their primary source of income that takes care of their expenditures.

In spite of the aforementioned opportunities in agripreneurship, it seems not to have measured up to expectations, evidence from the high cost of agricultural produce, both during peak and glut periods, rising unemployment rate and hunger, the missing link between agripreneurship, food production, income generation and poverty reduction. Furthermore, The concept of agripreneurship in the fields of agriculture is relatively new, and as such there is a dearth in literature on rural agripreneurship investment in relation to income generation and poverty reduction in Abia State. This study therefore will fill the literature gap.

Studies such as (Nwibo, Mbam and Biam, 2016; Jimoh and Ogunsanwo, 2018; Abiodun, Ajibola and Agatha, 2019; Nwankwo *et al.*, 2021; Umeh *et al.*, 2020) have given evidence on areas of agripreneurship investment, development among farmers, socio-economic determinants of agripreneurship choice, effect of agripreneurship on employment and income generation, but none seems to have studied directly or linked their findings to effect of rural agripreneurship investment on income generation and poverty reduction in Abia State, Nigeria. This therefore create information gap that need to be filled, hence the need for this study. Therefore, it is against these backdrops that the study described the socio-economic characteristics of the agripreneurial investors and determined the effect of rural agripreneurship investment on income generation and poverty reduction.

II. Methodology

Study Area

This study was conducted in Southeast Nigeria. The area is one of the six geopolitical zones of Nigeria and it comprises of five states, namely; Anambra, Imo, Abia, Enugu, and Ebonyi. The region is bordered by Cross river state to the east and the Atlantic Ocean to the south. It is the homeland of Kwa speaking people and the dominant language of this region is Igbo. The area has a total population of about 22 million people, around 10% of the total population of the country who are mainly of Igbo extraction (Population of Cities in Nigeria, 2022). With an approximated land mass of 58,214.7 square kilometres, the area lies between longitude 60° 50' and 80 30' E latitude 40° 30' and 70° 5' N.

Sampling Techniques: A simple random sampling technique was adopted in the selection of the two hundred (200) agripreneurial investors out of 387 registered agripreneurial investors with Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) in Southeast.

Data Collection: Data used for this study were from primary source only and were collected using questionnaire administered in the form of interview schedule. This was successfully done with the aid of research assistants who were resident at the locations of the selected agripreneurial investors in Southeast.

Data Analysis: Data collected for this study were analysed in line with the stated specific objectives of the study. Thus, objectives II was achieved using ordinary least square regression analysis

Ordinary Least Square Regression Models

Ordinary least square regression analysis was used to analyse the effect of agripreneuership investment on poverty reduction.

$$Y = P_0 + \beta_1 X_1 + \dots + \beta_n X_n + \epsilon_t$$

Where;

Y = Income from investment proxied for Poverty reduction (Naira)

β_0 = Constant

$\beta_1 - \beta_n$ = Coefficient of regression

ϵ_t = Random disturbances

X_1 = Amount invested in Livestock Production (Naira)

X_2 = Amount invested in Crop Production (Naira)

X_3 = Amount invested in Processing sector (Naira)

X_4 = Amount invested in Marketing/Distribution (Naira)

X_5 = Amount invested in agricultural Input supply (Naira)

Ordinary least square regression analysis was used to analyse the effect of agripreneuership investment on income generation.

$$Y = P_0 + \beta_1 X_1 + \dots + \beta_n X_n + \epsilon_t$$

Where;

Y = Amount invested proxied for income generation (Naira)

β_0 = Constant

$\beta_1 - \beta_n$ = Coefficient of regression

ϵ_t = White noise

X_1 = Amount invested in Livestock Production (Naira)

X_2 = Amount invested in Crop Production (Naira)

X_3 = Amount invested in Processing sector (Naira)

X_4 = Amount invested in Marketing/Distribution (Naira)

X_5 = Amount invested in agricultural Input supply (Naira)

The stated hypothesis was tested using F* statistics, which showed the overall significant of the above stated regression models

III. Results And Discussion

Socioeconomic Characterization of Rural Agripreneuership Investments

Results indicated that agripreneuership investors were mainly male (63%) and female (37%). This showed that men were more active in agripreneuership investment and therefore dominated agripreneuership investment than their female counterparts. The high dominance of males in the agripreneuership investment could be attributed to the dominance of males in the control of agricultural production resources such as greater access to investment capital than the females who have greater role in agricultural processing and household domestic activities. This agreed with the findings of Nwaigburu and Eneogwe (2020), who reported that agripreneuership investments were dominated by male due to their greater access to investment capital and agricultural production resources as a result of variation in culture and tradition which favoured the male investor compared to the female investors (Table 1)

The average age of the investors was 41 years. This implied that the investors were in their active age which implied that the age of the agripreneuers investor would influence their attitudes, motivation and behavioural pattern which in turn influence innovation adoption and sensitivity to risk (investment behaviour). Therefore, the age of an investor has been identified to have influence on the type of agribusiness invested by agripreneuers in Ebonyi State. This agreed with Ebitu *et al.*, (2018) who reported that age of the agripreneuers is a factor the influences his or her investment decisions especially agricultural investment decision which is dominated by risks and uncertainties.

The marital status showed that 68% of the agripreneuers investors were married which implied that agripreneuers would also contribute to the investment decisions of the household and the level of household income generation and poverty reduction. Thus, married agripreneuers investors have been identified to be principal investors in the key areas of agricultural subsectors. The preponderance of investors whose father/mother were agricultural investors has been identified to have had influence in the choice of their investment hence, such investors invested more in farm input supply and processing than any other subsector as, agricultural investors without agricultural investment history were more in marketing/distribution of agricultural products. Ebitu *et al.*, (2018) who reported that married agricultural investors were principal investors as they always pass investment ideas unto their children.

The household size (6 persons) observed in this study showed that agripreneuers investors in the study area have moderate household size. The moderate household size could mean diversified income sources from

members of the household which would translate to incomes generation of the household and poverty reduction. The moderate household size observed in this study agreed with the finding of Adenutsi (2023), who reported that moderate household size ensures availability of labour for investors to address their labour challenges.

Agriprenuers investors' had 10 years average experience. This implied that individuals with high experience in the industry may have a better understanding of market trends, risks, and opportunities, allowing them to make more informed and strategic investment decisions. Experienced individuals might have also developed specialized skills and knowledge that can help them identify profitable investment opportunities and effectively manage their investments in agricultural industry. On the other hand, individuals with limited or no experience in agribusiness investment may need to rely on external advice and support, potentially leading to more cautious or conservative investment decisions. This corroborated with the finding of Maiti and Bhattacharyya (2020) who reported that agricultural investors with more experience in agricultural business would be more efficient, have better knowledge of climatic conditions, better knowledge of efficient allocation of resources and market situation and are thus, expected to run a more efficient and profitable enterprise

Average annual household income was ₦676, 176.00k, This showed that the income level of an individual is a key determinant of their investment in agriculture. Individuals with higher incomes may have more financial resources available to invest in agricultural enterprises, whether it be purchasing land, equipment, or expanding operations. On the other hand, individuals with lower incomes may have limited resources and may need to start small or seek external financing options to make investments in agriculture. This is consistent with the findings of Asamoah, (2020) who reported that agricultural investors with higher farm income would easily be involved in entrepreneur activities than those of their counterpart who have poor farm income.

Majority (89%) were membership of cooperative society which has been identified as one of the key factors in investment especially investment in agricultural subsectors. This could be attributed to the fact that resources of the cooperators are pooled together to achieve business objectives at minimum cost through bulk discount. This corroborated with the finding of Idowu *et al.*, (2020) who reported that membership of cooperative society affords agricultural investors the opportunities of sharing information on modern production practices and project a collective demand.

Table 1 Socio-economic Characteristics of Agriprenuership Investors

Socio-economic Characteristics	Freq. (N=200)	Percentage (%)	Mean
Sex			
Male	125	62.50	
Female	75	37.50	
Age			
Less than 30	14	7.00	
30-40	87	43.50	
41-50	73	36.50	41.00
Above 50	26	13.00	
Marital Status			
Married	135	67.50	
Single	31	15.50	
Separated	24	12.00	
Divorced	10	5.00	
Household Size			
Less than 5	74	37.00	
5-10	115	57.50	6.00
Above 10	11	5.50	
Education Level			
No formal education	8	4.00	
FSLC	16	8.00	
WASC/SSC	32	16.00	
OND/NCE/ HND	100	50.00	
B.Sc and above	44	22.00	
Annual Income of the Household			
Less Than 500,000	20	10.00	
500,000-600,000	35	17.50	
601,000-700,000	40	20.00	₦676,176.00
Above700,000	105	52.50	
Experience in Agriprenuership Investment			
Less than10	123	61.50	
10-15	63	31.50	10.00
Above 15	14	7.00	
Membership of Cooperative			
Yes	189	94.50	
No	31	5.50	

Source: Field Survey, 2024

Effect of rural Agripreneurship Investment on Income Generation

The effect of rural agripreneurship investment on income generation was analysed using multiple regression analysis and the results were presented in Table 2

Table 2 Effect of Agripreneurship Investment on Income Generation

Explanatory Variables	Coefficients	Std. Error	t	Sig.
Amount invested in livestock production	3.390	0.407	8.319	0.000
Amount invested in crop production	2.710	0.336	8.075	0.000
Amount invested in agricultural input supply	-0.295	0.063	-4.662	0.000
Amount invested in processing sector	1.301	0.218	5.954	0.000
Amount invested in marketing/distribution	0.019	0.086	0.219	0.827
Constant	299734.810	17798.651	16.840	0.000
R Square	0.720			
Adjusted R Square	0.716			
F-ratio	181.882			
Number of observations	200			

Source: Field Survey, 2024

Result of the coefficient of multiple determination (R^2) (0.720) showed that 72% of the variation in the income generated from agripreneurship investment was accounted for by the amount invested in the different areas of agripreneurship investment engagements included in the model. This implied that income generation of agripreneurs is a function of the areas of agriculture where the investors made their investment. The f-ratio value of 181.882 which was significant at 1% level implied that the model is of good-fit. The model had a significant constant value of 299734.810, which showed that areas of agripreneurship investment had significant positive impact on income generation of the agripreneurship investors in the study area.

Amount invested in livestock production (3.390) was positively related to income generation of agripreneurial investors in the study area. This implied that successful livestock production can enhance a farmer's creditworthiness and ability to access financial services. Financial institutions often provide credit and insurance services to agripreneurial investors based on their livestock production potential, allowing them to invest in inputs, machinery, and infrastructure. Access to credit helps agripreneurial investors expand their livestock production and increase their income.

Amount invested in crop production (2.710) was positively related to income generation of agripreneurial investors in the study area. This implied that improved crop production techniques, such as the use of high-yielding varieties, efficient irrigation systems, and better farming practices, can lead to higher yields and increased production. This results in a surplus that can be sold in the market, generating income for agripreneurial investors. Furthermore, crop production can create market opportunities for agripreneurial investors. They can sell their surplus produce locally or to distant markets, increasing their income. This was in agreement with Adenutsi, (2023) who reported that increased crop output would translate to increased investors income.

Amount invested in processing sector (1.301) was also positive and significantly related to the income generation of agripreneurial investors. This implied that the more products are being processed (value addition) the more the income generated. Thus agricultural processing can improve the profitability of agripreneurial investors by reducing post-harvest losses, extending shelf life, and diversifying product offerings. Processed agricultural products generally fetch higher prices, resulting in higher incomes for investors. This enables farmers to tap into new markets, domestically and internationally, thereby expanding their customer base and income opportunities. Setting up processing facilities requires a workforce, leading to job creation in rural areas. Processing agricultural products can significantly increase their value. For example, fruits can be transformed into jams, jellies, or juices, while grains can be milled into flour or processed into snacks. Value-added products have higher profit margins, benefiting the investors and processors.

Amount invested in agricultural input supply (-0.295) was negatively related to the income generation of agripreneurial investors in Abia State. This implied the more they invest in inputs supplied, the less the income generated for the investors. This could be attributed to dwindling prices and high taxation. However, agricultural inputs such as fertilizers, seeds, and machinery play a crucial role in increasing agricultural productivity. If their supply decreases, it can result in lower crop yields and overall agricultural output, leading to lower income for agripreneurial investors. Furthermore, when the supply of agricultural inputs dwindles, their prices tend to rise due to increased demand. Agripreneurial investors may then face difficulties in affording essential inputs, affecting their ability to maximize production and generate income. Again, insufficient access to agricultural inputs can hinder technological advancements and modern investment practices. This can lower the competitiveness of agripreneurial investors in the market, resulting in reduced income generation

Effect of Rural Agripreneurship Investment on Poverty Reduction

The effect of rural agripreneurship investment on poverty reduction was analysed and the results were presented in Table 3

Table 3 Effect of Agripreneurship Investment on Poverty Reduction

Predictor Variables	Coefficients	Std. Error	t	Sig.
Amount invested in Livestock Production	5.431	2.347	2.314	0.022
Amount invested in Crop Production	1.674	0.250	6.682	0.000
Amount invested in Agricultural Input Supply	-0.135	0.037	-3.671	0.000
Amount invested in Processing Sector	0.153	0.258	0.593	0.554
Amount invested in Marketing/Distribution	3.688	0.235	15.721	0.000
Constant	243477.443	27778.273	8.765	0.000
R Square	0.836			
Adjusted R Square	0.832			
F-ratio	215.307			
Number of observations	200			

Source: Field Survey, 2024

From result in Table 3, it was observed that the coefficient of multiple determination (R^2) was 0.836 implied that the amount invested in the different areas of agripreneurship investment explained 84% changes in the poverty reduction of the investors. The f-ratio value of 215.307 that was significant at 1% level showed that the coefficient of the explanatory variables included in the model was statistically different from zero.

Income from various aspects of the agricultural value chain, including crop production, livestock production, marketing and distribution, processing, and input supply, can contribute to poverty reduction by providing diverse income opportunities, adding value to agricultural products, improving market access, and increasing agricultural productivity. By engaging in multiple activities along the value chain, individuals and communities can enhance their economic resilience, create employment opportunities, and improve their overall well-being and quality of life.

Amount invested in livestock production (5.431) was positive and significantly related to the reduction of poverty of agripreneurship investors. This implied that successful livestock production especially in when economies of scale was observed would increase income and subsequent reduction of poverty level of investors. Furthermore when livestock production goes beyond production to value addition, more income would be generated and that would lead to improvement in the welfare of the investors.

Amount invested in Marketing/Distribution (3.688) was positively related to poverty reduction of the agripreneurship investors in Abia State. This implied that engaging in marketing and distribution activities can help agripreneurship investors' access larger and more profitable markets for their products. By connecting with buyers, wholesalers, retailers, and exporters, agripreneurship investors can increase their market reach and sell their products at better prices instead of farm gate prices. This increased market access can lead to higher incomes and improved financial security for individuals and communities involved in agripreneurship investment, ultimately contributing to poverty reduction. This agreed with Sanele and Rautenbach, (2023) who reported the positive relationship between marketing and distribution and income generation of the investors

Amount invested in crop production (1.674) was positive and significantly related to poverty reduction. This could mean that increased crop production would translate to increased output. This results in a surplus that can be sold in the market, generating income for improved welfare of agripreneurship investors. Furthermore, increased income from crop production can create market opportunities for agripreneurship investors. They can sell their surplus produce to distant markets, increasing their income and poverty reduction. Moreover, processing and value addition of their products from crop can further add value to the crops and fetch higher prices in the market that translates to higher income and poverty reduction.

Amount invested in agricultural input supply (-0.135) was negatively related to the reduction of poverty of agripreneurship investors in the study area. This implied the more the investors increase their investment in input supply the lower their income and the chances of being poor. This could mean that rural investors may have technical marketing skills that would translate to increased profit margin. This in-turn could have translated to poverty reduction due to the fact that there are tendencies that they may be incurring losses and hence the reason for the negative relationship. However, access to quality inputs, such as seeds, fertilizers, and pesticides, is essential for increasing agricultural productivity and yields. By engaging in input supply activities, agripreneurship investors can ensure timely access to affordable and high-quality inputs, leading to improved crop and livestock production. Higher yields can result in increased income levels and improved food security, ultimately contributing to poverty reduction. This agreed with Akpan *et al.*, (2016) who reported poor price fluctuations to have resulted in the poor performance of agricultural input supply and its effect on farmers' income.

IV. Conclusion

From the results of the study on effect of rural agripreneurship investment on income generation and poverty reduction in Abia State, Nigeria, it was concluded that rural agripreneurship investment had positively and significantly influenced agripreneurs income generation and poverty reduction in Abia state, Nigeria.

V. Recommendation

Based on the findings the following recommendations were made

- 1) Agricultural policies aimed at encouraging females to embrace agripreneurship investment in order to contribute to household income generation.
- 2) There is the need for creation of environment that favours investment in the rural areas especially in linking rural areas with microfinance.
- 3) There is need for adequate sensitization on the nature and area of agripreneurship investment to avoid loss of income by investors.

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