

EVALUATION OF AGRICULTURAL INCUBATION MODEL BENEFICIARIES AND ACCESSIBILITY IN SOUTH-SOUTH NIGERIA: IMPLICATION FOR SUSTAINABLE AGRICULTURAL DEVELOPMENT

Abstract

South-South Nigeria was chosen for the research as most people were farmers. Multistage sampling procedure was used in obtaining 640 respondents. The data were collected with the help of structured questionnaires and analyzed using descriptive statistics and likert rating scales. The incubatees were mostly youth who were mostly singled while the non-incubatees were more elderly and married. The education status of incubatees and non-incubatees was secondary education with low household size. The mean income difference of incubatees and non-incubatees was 432,908 Naira revealing 21.4% increase in income. Cassava, fisheries, oil palm, plantain, rice and poultry were the major focus of the incubatees. Most beneficiaries of the incubation model were youths and LIFE-ND were mostly involved in the incubation model in the area. The financial / business support system ranked 1st was mostly available to incubatees while the least was infrastructural support systems ranked 4th. The incubatees selection criteria were more focus on unemployed youth. The null hypothesis was rejected since there existed a positive statistically significant correlation relationship between the socioeconomic characteristics of the incubatees and income. Hence it is recommended that establishment should be involved in agricultural incubation model since it is source of income and youth employment.

Keywords: Accessibility, Agriculture development, Beneficiaries, Incubation Model, Sustainability

Introduction

An incubation model is generally understood as the framework through which an incubation entity offers assistance to start-ups, thereby enhancing the likelihood of survival for its portfolio companies and expediting their growth. This model outlines how the organization or mechanism provides incubation services to start-up enterprises and generates value from them (Muriithi, Wanjau, and Omondi, 2018). More broadly, the term incubator refers to an organization that aids entrepreneurs in advancing their businesses from the ideation phase through to the launch and initial growth stages. This expansive definition encompasses a variety of organizations, including large real estate developments such as technology parks and science hubs, as well as smaller, traditional business incubators, accelerators, and innovation centers. Additionally, it covers virtual

incubators, which are entities that serve as aggregators of business support services (Adegbite, 2001). A business incubator, in a precise definition, is distinct from other types of incubators as it offers comprehensive business support and management services specifically designed for entrepreneurs and emerging ventures (Akçomak, 2011). From a general perspective, business incubation aims to equip startup enterprises with the necessary training to thrive in today's competitive business landscape (Chen, 2009). The concept of an incubator can be likened to the care provided to a premature infant, who is placed in an incubator to facilitate development. This analogy applies to startup businesses that require nurturing to navigate and overcome the challenges of the contemporary business environment in their pursuit of success. Business incubation has demonstrated its effectiveness as a mechanism for fostering economic growth globally, acting as a catalyst for the establishment and expansion of companies by supplying entrepreneurs with essential expertise, networks, and resources to enhance their chances of success. Oshewolo (2010) asserts that business incubation significantly contributes to a nation's economic development through the establishment of new enterprises and the creation or enhancement of employment opportunities. Business incubation centers offer first-generation entrepreneurs the chance to gain comprehensive exposure to various aspects of business operations, including skill development, technology identification, project and product development, and practical experience with ongoing projects. They also provide guidance on commercial elements of businesses, all within a single environment. Business incubators play a crucial role in the growth and success of startups, dedicated to fostering entrepreneurial ventures by providing a wide range of services designed to assist in navigating the challenging early stages of business development and guiding them toward success (Virtuzo, 2023). An entrepreneur is an individual who undertakes an entrepreneurial venture. While it is commonly thought that entrepreneurs possess innate skills, this is not entirely accurate; anyone can learn to become an entrepreneur through a structured entrepreneurship development process (Friederici, 2019). This process involves enhancing entrepreneurial knowledge and skills through organized training programs, focusing on entrepreneurial behavior, business dynamics, and their growth and expansion. The goals of entrepreneurship development programs are to improve the knowledge and skills of current entrepreneurs and to inspire others to pursue entrepreneurship, ultimately increasing the number of such individuals within an economy (Friederici, 2019). When the youth of a nation are educated and equipped with the right skills and access to decent employment

opportunities, it can lead to significant economic development (Mavuri, Chavali, and Vadakkiveetil, 2023). Research has shown that incubators in Africa is still in its early stages and quite small that need urgent attention especially in developing countries (Mvulirwenande and When, 2020). Hence this research is very important to the inhabitants of South-South Nigeria with growing population especially the youth. Hence the following aims were to examine the socioeconomics characteristics of the incubatees, identify the incubatees occupational enterprises, identify incubation model beneficiaries, analyze incubatees contact with incubation model, determine incubatees support systems accessibility and to identify the incubatees selection criteria.

Research Hypothesis

HO₁: There are no significant differences between the socioeconomic characteristics of the incubatees and selection crateria.

Materials and Methods

South-South Nigeria will be chosen for the research study as most people were farmers that mostly keep livestock (especially poultry), fishing, petty trading and arable crops. The area has a land area of 86,982 square kilometer and a population of roughly 28.8 million persons of diverse ethnic races (National Bureau of Statistics (NBS), 2016). South-South Nigeria is made up of six states namely, Akwa Ibom, Cross Rivers, Delta, Bayelsa, Rivers, and Edo as shown in Table 1.

Table 1: States of South South, Nigeria, land area and population

State	Land area (square kilometer)	Population
Akwa Ibom	6,806	5,482,177
Bayelsa	11,007	2,277,961
Cross River	21,930	3,866,269
Delta	17,163	5,663,362
Edo	19,698	4,235,595
Rivers	10,378	7,303,924
Total	86,982	28,8292,888

Source: NPC (2016)

The South-South, Nigeria lies between longitude 5.8702°N and 6.6342°N, also lies between latitude 8.5988°E and 5.9304°E. Multistage sampling procedure was used in obtaining 640 respondents for the study. Firstly four states was chosen from the six states that made up the South-South Nigeria, followed by the purposive selection of four LGAs each from the states selected making a total of 16 LGAs. Thirdly, the purposive selection of five communities each from the LGAs selected giving a total of 80 communities and lastly eight incubatees each were randomly selected amounting to 640 incubatees. The data were collected with the help of structured questionnaires and analyzed using descriptive statistics and likert rating scales.

RESULTS AND DISCUSSION

Socio-economic Characteristic of Respondents

The age of respondents indicates that most incubatees fall within the age range of 18 to 30 years with a mean age of 27 years who are mostly singled females which is in contrast with Emaziye (2020) that most farming age is 40 mean years of age while the non-incubatees were more elderly with mean age of 44 years that were mostly married females in collaborated with Ashoro *et al*, (2024) who stated that most farming age was between the ages of 40 - 47. Most respondents' education status incubatees and non-incubatees were having secondary education level with low household size of 4 and 6 respectively. Most respondents claimed that extension services were lacking and most incubatees and non-incubatees having farming experience of 6 and 10 respectively with low staff strength. The researchers Emaziye *et al*, (2022); Ogisi and Emaziye (2015) affirmed that most farming households contact with extension agents were lacking. The mean income of incubatees 2,021,950 Naira was higher than the non-incubatees having a mean income of 1,589,042 Naira. The mean income difference of incubatees and non-incubatees was 432,908 Naira revealing 21.4% increase in income as revealed in Table 2.

Table 2: Socio-economic Characteristic of Respondents

Variables	Incubatees (N = 640)	Mean/Mode	Non- Incubatees (N = 640)	Mean/Mode
Age (Years)				
18 – 30	539	27 years	89	
31 – 43	120		154	
44 – 56	01		354	44 years
57 – 69	00		43	
Gender				
Male	264		242	
Female	376	Female	398	Female
Marital Status				
Single	425	Single	98	
Married	201		487	Married
Widow	14		55	
Household size (persons)				
1 – 4	432	4 persons	108	
5 – 8	186		427	6 persons
9 – 12	21		98	
13 – 16	1		7	
Educational Status				
No formal education	91		143	
Primary School	162		220	
Secondary School	328	Secondary school	254	Secondary school
Tertiary Education	59		23	
Farming Experience (years)				

1 – 9	568	6 years	231	
10 – 18	67		372	10 years
19 – 27	05		30	
28 – 36	00		07	
Staff Strength (persons)				
1 – 3	310		496	3 persons
4 – 6	307	4 persons	138	
7 – 9	21		05	
10 – 12	02		01	
Extension Agent Contact				
Yes	96		82	
No	544	No	558	No
Annual Income (Naira)				
550,000 – 1,150,000	65		189	
1,151,000 – 1,751,000	178		233	1,589,042
1,752,000 – 2,352,000	142	2,021,950	111	
2,353,000 – 2,953,000	234		96	
2,954,000 – 3,554,000	21		11	

Incubatees Occupational Enterprises

The parameters in Table 3 clearly indicated different enterprises undergo by the incubatees, cassava farming (43.0%) is predominant among the incubatees followed by fisheries while plantain production was the least enterprise in the area. This revealed that cassava is one of the stable food crop grown in the South-South area and the incubatees took advantage of this phenomenon. This also shown that cassava, fisheries, oil palm, plantain, rice and poultry were the major focus of the

incubatees in the incubation model in the various states. This is in pact with Emaziye and Emaziye (2022) that farming enterprise in South-South Nigeria were mostly crops, fisheries and livestock,

Table 3: Incubatees Occupational Enterprises

Enterprise	Frequency (N = 640)	Percentage	Mode
Cassava	543	43.0	Cassava
Fisheries	267	21.1	
Poultry	148	11.7	
Oil Palm	123	9.7	
Rice	85	6.7	
Plantain	98	7.8	

Source: Field data Multiple Response Observed

Incubation Model Beneficiaries

The variables revealed that the most beneficiaries of the incubation model were youths (69.2%) followed by women headed household (17.5%) while those leaving in disability were 13.3% as shown in Table 4. The incubation model was highly favoured by the youths as buck of the beneficiaries to the model were youths.

Table 4: Incubation Model Beneficiaries

Group	Frequency (N = 640)	Percentage	Mode
Youth	443	69.2	Youth
People leaving in disability	85	13.3	
Women headed household	112	17.5	

Incubatees Contact with Incubation Model

The variables in Table 5 explicitly revealed that NGOs, ministry of agriculture and LIFE-ND were mostly involved in the incubation model in the area. Among these, LIFE-ND is strongly involved with 88.3% of incubatees been sponsored by LIFE-ND.

Table 5: Incubatees Contact with Incubation Model

Incubatees Contact	Frequency (N = 640)	Percentage	Mode
NGOs	52	8.1	
Ministry of Agriculture	23	3.6	
LIFE – ND	565	88.3	LIFE-ND

Incubatees Support Systems Accessibility

The support systems available to incubatees were financial / business support (37.1%) ranked number 1st followed by training support (30.8%) ranked number 2nd while Technical support (18.0) ranked 3rd. The 4th ranked which is the least among the support systems was infrastructural support (14.1%) as shown in Table 6. These collaborated the work of Virtuzo, (2023) that incubatees supports systems were committed to nurturing the entrepreneurial enterprise progress, providing and tailoring services for business expansion. This collaborated with the research of Sudha *et al*, (2022) who revealed that business support system needed most by incubatees in Nigeria was financial support.

Table 6: Incubatees Support Systems Accessibility

Support System	Frequency (N = 640)	Percentage	Rank
Technical Support	311	18.0	3 rd
Training Support	532	30.8	2 nd
Financial / Business Support	640	37.1	1 st
Infrastructural Support	243	14.1	4 th

Source: Field data Multiple Response Observed

Incubatees Selection Criteria

The objective four assessment of incubatees selection criteria was achieved using mean and standard deviation with the aid of four likert scale to generate the data for the analysis. The incubatees selection criteria were more focus on unemployed youth ($X = 3.21$ with $SD = 0.85$), Nigerian citizen or resident especially in Niger Delta ($X = 2.92$ with $SD = 0.76$), ready, willing and able to be an incubatee in a particular enterprise ($X = 2.64$ with $SD = 0.77$), being willing to sign a prescribed code of conduct that includes environmental compliance ($X = 3.11$ with $SD = 0.84$), being willing to sell a prescribed portion of your output through the incubator ($X = 2.78$ with $SD = 0.81$) and persons leaving in disability ($X = 3.04$ with $SD = 0.91$) all these parameters signifies agreement. The weighted average mean of $X = 2.95$ with $SD = 0.82$ further confirmed that those criteria in Table 7 were the major criteria for incubatees selection. According to BDO (2014), selection process preparedness were much more vital and plays a key role in the entrepreneurial process.

Table 7: Incubatees Selection Criteria

S/N	Selection Criteria	(X)	(SD)	Decision
1	Unemployed Youths	3.21	0.85	Agreed
2	Nigerian citizen or resident especially in Niger Delta	2.92	0.76	Agreed
3	Ready, willing and able to be an incubatee in a particular enterprise	2.64	0.77	Agreed
4	Being willing to sign a prescribed code of conduct that includes environmental compliance	3.11	0.84	Agreed
5	Being willing to sell a prescribed portion of your output through the incubator	2.78	0.81	Agreed
6	Person leaving in disability	3.04	0.91	Agreed
	Weighted Average Mean	2.95	0.82	Agreed

Test of Research Hypotheses

Null Hypothesis 1: There is no statistically significant correlation between the socioeconomic characteristics of the incubatees and income.

The incubatees' age, marital status and educational status shown a positive statistically significant relationship at 10% level of significance with incubatees' income. Also household's size and farming experience shown a positive statistically significant relationship at 5% and 1% level of significance with incubatees' income respectively. The null hypothesis that there is no statistically significant correlation relationship between the socioeconomic characteristics of the incubatees and income was rejected since there existed a positive correlation relationship between the socioeconomic characteristics of the incubatees and income. This is in agreement with Emaziye *et al*, (2022) who revealed that age, educational level and farming experience have a positive correlation with rural farming households income in Delta State.

Table 8: There are no significant differences between the socioeconomic characteristics of the incubatees and income.

Explanatory Variable	Coefficient	t.stat
Constant	232 (0.311) ***	6.835
Gender	0.058(0.127)	0.704
Household Size (Persons)	0.184 (0.081) **	2.246
Extension Agent	0.060(0.119)	1.750
Farming Experience	0.760 (0.124) ***	5.032
Age (Years)	0.132 (0.072) *	1.863
Marital Status	0.173 (0.085) *	1.870
Educational Status	0.172(0.103) *	1.653

R-squared = 0.887; Adjusted R2 = 0.876; F. Statistics = 248.651; P-value (F) = 0.000

Note: *, ** and *** represent significance level at 10 %, 5 %, and 1 % respectively; standard errors in parentheses

Conclusion and Recommendation

The age of respondents indicates that most incubatees fall within the age range of 18 to 30 years with a mean age of 27 years who are mostly singled females while the non-incubatees were more

elderly with mean age of 44 years that were mostly married females. The education status of incubatees and non-incubatees was secondary education with low household size. The mean income of incubatees 2,021,950 Naira was higher than the non-incubatees having a mean income of 1,589,042 Naira. The mean income difference of incubatees and non-incubatees was 432,908 Naira revealing 21.4% increase in income which was substantial increment. This results also shown that cassava, fisheries, oil palm, plantain, rice and poultry were the major focus of the incubatees in the incubation model in the various states. Most beneficiaries of the incubation model were youths followed by women headed household while those leaving in disability were the least. LIFE-ND were mostly involved in the incubation model in the area. The support systems available to incubatees were financial / business support ranked number 1st followed by training support ranked number 2nd while Technical support ranked 3rd. The 4th ranked which is the least among the support systems was infrastructural support. The incubatees selection criteria were more focus on unemployed youth, Nigerian citizen or resident especially in Niger Delta, ready, willing and able to be an incubatee in a particular enterprise, being willing to sign a prescribed code of conduct that includes environmental compliance, being willing to sell a prescribed portion of your output through the incubator and persons leaving in disability. The incubatees' age, marital status and educational status shown a weak positive statistically significant relationship at 10% level of significance with incubatees' income. Also households size and farming experience shown a weak positive statistically significant relationship at 5% and 1% level of significance with incubatees' income respectively.

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