

# THE EMPIRICAL STUDY OF EFFECT ON FARM INGREDIENTS AND GREEN ENTERPRENUERSHIP DEVELOPMENT IN NIGERIA

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Green entrepreneurship is regarded as a practical and technical knowledge of agricultural production. This covers all the aspects of agricultural input and output. Despite the importance of the green entrepreneurship in terms of economic growth and development and yet, the sector is decreasing and the findings from the sector revealed an inconsistency results which motivated this study to make an inclusion of the Murabahah mode as a moderating variable on the relationship between the study variables. The objective of this paper is to examine the moderating effect of Murabahah mode on the relationship between farm ingredients and green entrepreneurship development. However, the results of the study indicated that there is positive relationship between farm social amenities, formal credit facilities and green entrepreneurship development. Similarly, Murabahah mode was found to moderate the relationship between farm social amenities, formal credit facilities and green entrepreneurship development. Therefore, the study recommended that Kano state government decision makers and farmer cooperatives should consider Murabahah mode as a solution to the state farm sector. More so, Islamic financial institutions should provide more opportunities to support the Kano state green entrepreneurship development. The study used a quantitative approach with 382 questionnaires and analysed Partial Least Square Structural Equation Modeling (PLS-SEM) through Smart PLS software.

**Key Words:** Green Entrepreneurship Development, Farm Ingredients, Murabahah Mode and, Conceptual Framework

## 1.0 INTRODUCTION

Economic growth and development refer to the quantitative positive changes in farm output, manufacturer's goods and services and the enhancement of the institutions and transforming people acquire skills for infrastructural development (International Fund for Farm Development (IFAD), 2014; Mohammed, Bashir & Ogunbago, 2016). Likewise, Atagana and Kalu (2014) described the skills and infrastructural development as an engine of economic growth and development as well as a vehicle for reaching the achievement of manufacturing and farm activities of a Nation. Furthermore, Manufacturing and farm activities are among the oriented pillars of economic growth and development. According to the Mohammed, Bashir and Ogunbado (2016 & 2017) Agriculture is the supplier of food and raw materials to the manufacturers for sustainable economic growth and development of a nation.

Similarly, Mohammed and Umar (2017) described agriculture as an orientation and practice of green entrepreneurship with the require skill and knowledge for a sustainable living, economic growth and development. It is also being seen as a kind of orientation and practices of green entrepreneurship with a required skill and technical knowhow on soil cultivation for the purpose of self employment (Akanji, 2006; Ahangar, Padder & Ganie, 2013). Also, green entrepreneurship is a source of employment opportunities, income to individuals and the public as well as supplier of food and raw materials to the other productive sectors of the economy (Food and Agriculture Organization (FAO), 2008; Mohammed & Umar, 2017).

Equally, agriculture as a green entrepreneurship remains a source of self employment or business management for a sustainable living and economic growth (Ammani, 2013; Chisasa, 2014b). It is also serves as machinery for global employment opportunities and poverty eradication as well as economic growth and development (Tibi & Edebiri, 2015; Ogunbado & Ahmed, 2015). Equally, the economic growth and development of farm productivity is achievable with the availability of farm facilities which, among include; access to farm credit or formal credit facilities and farm social amenities or farm infrastructure (financial institutions and services, modern storage facilities, extension workers, tractors, Planters, water pumping machines among others) (Rasouar & Hoseeini, 2011, Agatana & Kalu, 2014). The

modern farming system is employed to upgrade both human and material resources in order to improve farm output for a sustainable economic growth and development (Claessens, 2006; Ammani, 2012; Murphy, 2015). Since, improved farm output is the primary source of the global food security and raw material to the industry for a sustainable economic growth and development.

Likewise, most of the developing countries solidly depend on farm output as their source of income through export and tax charges on import of related farm input and output in which Nigeria is not in isolation. Nigeria is also a great producer and exporter of farm output with the output such as; groundnut, palm oil, Coaco, rubber, hides and skin among others. The country is blessed with good climatic conditions for farm productivity as well as two important African rivers across the country (River Niger and River Benue). The population of Nigeria reached over 180 million in 2016 and over 70 per cent employed by the farm sector. The sector remains the second contributor the Gross Domestic Product (GDP) of Nigerian in relation to the economic growth (Mohammed, Bashir & Ogunbago, 2016).

Due to the importance of farm sector to the economic growth of Nigerian, the Central Bank of Nigeria (CBN) established various programmes in order to enhance the growth of the farm sector by introduced various farm schemes and programmes among include; National Accelerated Food Production Programme, National Farm Land Development Authority, the Nigerian Incentive Based Risk Bearing System for Farm Lending, Nigeria Agriculture, Rural and Cooperative Bank, Farm Credit Guarantee Scheme Fund, Agriculture Development Bank e.t.c (Philip, Nkonya, Pender & Oni Nkonya & 2009; Daud, Yussof & Abideen, 2011).

More so, these programmes are impacted in all the 36 states of Nigeria in which Kano state is not in isolation. Since, the state is among the most agrarian as well as the most populous location in Nigeria with the estimated population that reached over 15 million in 2016 ([www.kanostate.org](http://www.kanostate.org), 2016). Also, agriculture and agribusiness are the main sources of income for the 70 percent of the population. Equally, the state remains a commercial centre in the Northern Nigeria and some part of West Africa (Mohammed, Ibrahim & Abubakar, 2014). However, the growth of green entrepreneurship is decreased as a result of insufficient farm credit and farm infrastructure. This problem is stressing the growth of the sector to the extent that, the issue of poverty and unemployment become the order of the day in Kano state and Nigeria in general, whereas, several governments, nongovernmental organizations and scholars have made a lot of initiatives for the economic growth of the green entrepreneurship and found a mixed results over the issue.

Based on the above, this study makes an inclusion of the Murabahah mode to be served as a moderating variable in order to straighten the relationship between the formal farm facilities, farm social amenities and green entrepreneurship. This is in line with the study of Baron and Kenny (1986) that a moderating variable is necessitated in a situation of inconsistent findings on the relationship between independent and dependent variables. Since, the various findings in relation to the variables of this paper revealed mixed results. Furthermore, Murabahah mode is a Shariah mode of transaction that arranged needy farmers and traders of a specified product at an agreed price and profit margin by both parties (Saddiqi, 2006; Shafiai & Moi, 2015). It is also reported that Murabahah mode is the most popular Islamic financial product in financing farm input and output globally (Mohsin, 2005; Obaidullah, 2008 & 2015).

## **2.0 OBJECTIVE OF THIS STUDY**

The objective of this paper is to show the importance, problem and to establish a relationship between farm ingredients and green entrepreneurship development. Also, to explore the moderating effect of Murabahah mode on the relationship between farm ingredients and green entrepreneurship development in Kano state, Nigeria.

## **3.0 GREEN ENTREPRENEURSHIP**

Green entrepreneurship refers to the farming orientation, which include full time utilization of soil, animal rearing and forestry management with the aim of food and raw material supply as a full time employment opportunity (FAO, 2008; Ahungwa, Haruna & Abdusalam, 2013). Economic growth of the green entrepreneurship is described as a full utilizations of soil capacity for crop grow and animal's management for satisfaction of primary need of the population and industries (Akoum, 2008; Ammani, 2012 & 2013; Mohammed & Umar, 2017). In addition, the growth of farm output or farm output refers to the higher gross of farm output after successful selection of the farm input or factors of farm production (Anthony, 2010). Furthermore, factors of production which include; capital and (farm credit), land, labour and entrepreneur (Farm infrastructure) are the key sources of the farmer's income, food security, employment generation, market and industries as well as a major channel of poverty reduction (Chisasa, 2014b; Ogunbado & Ahmed, 2015; Mohammed, Bashir, Ogunbado, Sani, Salisu & Yakubu, 2016).

### **3.1 Farm Social Amenities**

Social amenities or infrastructural facilities can be seen as an ingredient of capital accumulation for the rise of

production (Felloni, Wahl, Wanschneider & Gilbert, 2001). Farm Infrastructure refers to the facilities use to standardize the lifestyle of the farming system. It is also be described as a necessary prerequisite for the modern style of agriculture production in which include; human capital, schools for labour training, hospital, good road, modern market, storage facilities among others (Obayelu, Olarewaju & Oyenlami, 2014; Philips et al., 2009; Rasouar & Hoseeini, 2011).

### **3.2. Farm social amenities and Green Entrepreneurship**

Farm infrastructure is a catalyst in the process of the farm growth as well as a machinery of full resource utilization in the field of agriculture and related activities. In addition, the relationship between farm infrastructure and farm output impacted on the socioeconomic growth (Agatana & Kalu, 2014). Similarly, FAO, (2014) reported that farmers in a group of 10-12 are using mobile phones and loud speaker to join with farm extension service workers, researchers and professionals. Additionally, Ammani (2012) reported positive and significant relationship between infrastructural technology and farm production output productivity in Nigeria.

On the other hand, the study of Temu, Nyange, Mttee and Kashasha (2013) reported a negative relationship between farm infrastructure and farm output in Tanzania. In addition, Ngaruko (2014) established negative relationship between educations and farm output in Tanzania. However, Okuthe, Ngesa and Ochola (2013) established a positive relationship between technological infrastructure and the growths of sorghum in South Western Kenya. Equally, the study of, Asogwa and Okwoche (2012) reported positive and relationship between technological infrastructure in relations to transportation and marketing sorghum farm output in South West Kenya. Farm social amenities influence green entrepreneurship development

## **4.0 FORMAL CREDIT FACILITIES**

This kind of farm facilities is popularly known as farm credit which is referring to financial transaction set to enhance farming activities with due respect to the received and repayment conditions over a period of time (Nwosu, Oguoma, Ben-Chendo, & Henri-Ukoha, 2010). It can also be described as an amount of money ready to release by the formal and informal money market for enrolment of farm production based on repayment conditions (Saibel, 2010; Awe, 2013). Additionally, it can be regarded as a systematic procedure of power acquisition of controlling money for a purpose of farm activities within a designated period and conditions (Simtowe, Zeller & Diagne 2009; Saibu, 2010).

### **4.1 Formal Credit Facilities and Green Entrepreneurship**

The relationship between formal farm credit and green entrepreneurship is an important issue in the production of farm produce and economic growth (Ammani, 2012; Chisasa, 2014a). Eyo (2008) established relationship between credit to the farmers and farm output in Nigeria. Farm credit is a major ingredient for enhancing the growth of the farm output (Ahiakpor & Asmah, 2012; Aburaida, 2014). It can also be seen as financial support and effort to upgrade the output. Similarly, accessibility of credit to the needy farmers is a great and technical support to the rural farmers towards minimization of production waste and maximization of output, which would lead to the increase in farmer's income and socio- economic (Onyechanya & Ukoha, 2007).

Chasisa (2014a) established a positive relationship between farm credit and farm output and revealed a positive result in South Africa. Also, in his different research Chisasa (2014b) reported a positive and significant relationship in South Africa. Nevertheless, Ammani (2012) revealed positive results in Nigeria. On the other hand, Matthew and Uchechukhu (2014) reported a negative result on the relationship between credit to the farmers and farm output in Nsuka, Nigeria. Omonijo, Toluwase, Oludayo and Uche (2014) reported a negative relationship between credit and farm output in Isan-Ekiti, Nigeria. Equally, Reyes, Lensink, Kuyvenhoven and Moll (2012) revealed a negative result in Chile. Thus, the study state the following developed proposition. Proposition 2: formal credit facilities influence green entrepreneurship development

## **5.0 FARM SOCIAL AMENITIES, MURABAHAH MODE AND FORMAL CREDIT FACILITIES**

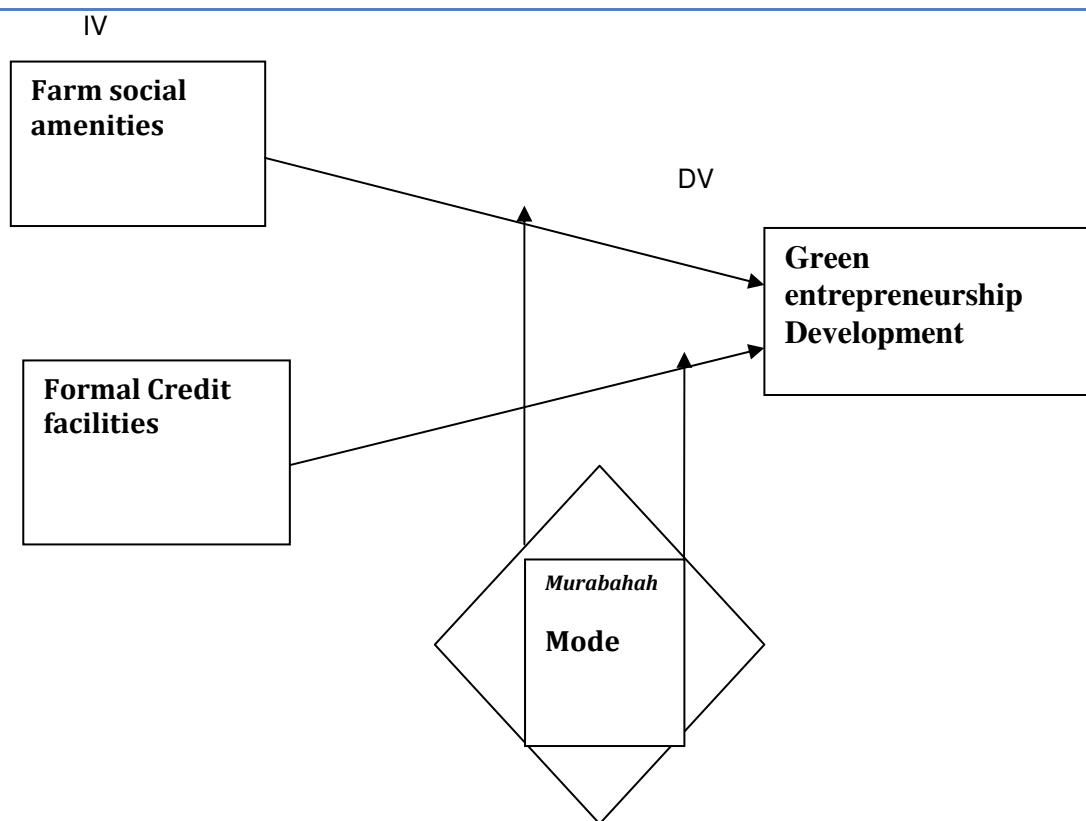
Murabahah mode is a Shariah financial product use in the Islamic mode as a mode of transaction in which a commodity price and the profit margin are all known and agree by both buyer and seller at the spot or by differ payment (Khan, 1996; Ayub, 2007; Dandago, Muhammad & Osain, 2013; JinjiriRingim, 2013). Similarly, Murabahah mode was set to improve trading of commodities, including farm input such as; fertilizer, tractors, planters, harvesters and modern farming technologies among others (Khaleeqzammzn & Shirazi, 2012; Saqib, Nazeer, Khan & Zafar, 2013). Obaidullah and Mohamedsaleem (2007) established positive relationship between Murabahah and farm financing in Sri- Lanka. Also, Putri and Dewi (2011) indicated a positive relationship between Murabahah and farm financing in the Indonesia.

Equally, Mohammed and Hussien (2012) reported a significant relationship between Murabahah and the growth of agriculture in Sudan. Also, Mastoor (2014) reported a significant relationship between financial institutions and storage facilities. Similarly, the Afghanistan Investment Support Agency (2012), revealed that Ghazanfar bank in Afghanistan uses Murabahah mode of mode to serve their customers as; Individual Murabahah loans are given for a period of 6 to 12 months, with an amount of Af.20, 000 to Af.60, 000. However, old clients who have successfully repaid their loans in the past can apply for another round of loan and can receive up to Af.150, 000 for a maximum period of 18 months. Female Group loans are also based on a Murabahah system. The amount of loan disbursed to a group of female individuals ranges between Af.5, 000 and 30,000.

Proposition 3 Murabahah mode influence farm social amenities and formal credit facilities on green entrepreneurship development.

## 6.0 THE STUDY FRAME WORK

Based on the above empirical evidences, the below study framework illustrates the moderating role of the Murabahah mode on the relationship between farm social amenities, formal farm facilities and green entrepreneurship is depicted in Figure 1.



**Murabahah mode as a Moderator**

**Figure1** Frameworks of Farm Social Amenities, Formal Credit Facilities and Murabahah Mode and Green Entrepreneurship.

In explaining the moderating influence of Murabahah mode on the relationship between formal credit facilities and farm social amenities on green entrepreneurship, the present paper proposes the extent to which farm social amenities and formal credit facilities influence the green entrepreneurship. This indicated well selected farm input is subjected to the higher output. This is supported by a Cobb-Douglas theory of production function and previous empirical findings across the world. Based on the previous inconsistent empirical findings, this study incorporated Murabahah mode to serve as a moderating variable on the influence formal credit facilities and farm social amenities on green entrepreneurship.

## 7.0 DATA AND METHODOLOGY

This study covered 382 questionnaire and Partial Least Square Structural Equation Modeling (PLS-SEM) through Smart PLS software on data analysis as the study of Hair, Black, Babin and Anderson (2010) highlighted. PLS is a recognized

technique in examining the cause-effect analysis in relation to the relationship between latent variables. Equally, PLS-SEM modeling method of analysis is superior and flexible in prediction and examination of the variable's relationship and moderating effect (Ringle, Wande & Becker, 2014). The study also considered 0.70 as the accepted composite reliability coefficient.

## 8.0 DEMOGRAPHIC PROFILE OF THE RESPONDENTS

This sub-head explained the demographic nature of the participating farmers. The demographic characteristics examined includes: Gender; Age; Level of education; Farm business, Employee, and Location of the farm. See table below.

**Table 1** Demographic Characteristics

		Percent
GENDER	MALE	88.8
	FEMALE	11.2
	Total	100
AGE	1	42.7
	2	39.8
	3	17.4
	Total	100
EDUCATION	PRIMARY	16.6
	SSCE	25.5
	ND/NCE	39.8
	HND/DEGREE	16.3
	PGDE/MASTERS	1.8
	Total	100
BUSSINESS	FARMING	72
	PASTURE	12.5
	POUTRY	9.8
	FISHIERY	3.1
	FORESTRY	2.5
	Total	100
FIRMING TYPE	LARGE SCALE FARMER	7.8
	MEDIUMSCALE FARMER	43.6
	SMALL SCALE FARMER	48.5
	Total	100
EMPLOYESS	1-9	68.5
	10-49	27.1
	50-249	4.5
	Total	100
FIRMING LEVEL	NATION WIDE	4.9
	STATE	20.8
	LOCAL GOVT	29.1
	VILLAGE	45.2
	Total	100

The table above indicated that male = 88.8%; female = 11.2%; age group of 18-29 years = 42.7% represented by 1. Also, the age group of 30-39 years = 39.8% represented by 2. More so, age group of 40-49 years = 16.3% and represented by 3. Additionally, in terms of Education, 16.6% participant were primary school leavers, followed by SSCE with 25.5%; ND/NCE were 39.8 %; HND/Degree = 16.3 %; PG/Masters = 1.8 %; farm business 322 = 2 %; crop farmers = 12.3%; pastoral = 9.8 %; poultries = 3.1%; fisheries = 2.5%; forestation farmers = 2.5. Equally, farming size = 7.8 %; large scale farmers = 43.6% were medium farmers = 48.5%; small scale farmers = 68.5 % were employed 1-9 labour, then 10-49 = 27.1%; labour, equally, 50-249 = 4.5%; labour. More so, in terms of farming level, nationwide farmers = 4.9%; state level = 20.8%; farmers at local government level = 29.1 %; village level = 45.2 %. However, data screening is done, because the quality and the meaningful outcome of the analysis depend more or less on the initial data cleaning. Thus, missing data, and Outliers were checked and treated accordingly.

## 9.0 DESCRIPTIVE ANALYSIS OF THE LATENT CONSTRUCTS

The descriptive statistics for the latent variables of this study is used on computing means and standard deviations in relation to the latent variables as indicated in the below table.

**Table 2: Descriptive Statistics**

Variable	N	Mean	Std. Deviation
AGRIC OUTPUT	382	3.875	.877
FCF	382	4.036	.828
FSA	382	3.967	.810
MF	382	4.270	.818

Meanwhile, the above table explained the entire mean of the study latent variables which indicated that mean ranged between 3.875 and 4.270. More so, the mean and standard deviation for farm social amenities 3.967 and 0.810, formal farm facilities 4.036 and 0.828, 4.270 and 0.818, 3.875 and 0.877 for farm output respectively.

**Table3:Cross Loadings**

CODE	LOADING	AVE	Composite Reliability
GED	.663	.615	.888
FCF	.817	.605	.753
FSA	.610	.569	.796
MF	.929	.740	.849

The above table indicated the composite reliability coefficient, which is considered instead of Cronbach's alpha since they save the same purpose in measuring the reliability and validity. This means any of the above is reliable as their internal consistency value is above 0.70. Moreover, measurement of internal consistency reliability through composite reliability coefficient was in line with the rule of thumb (Bagozzi and Yi, 1988).

## 9.0 HYPOTHESIS PREDICTION

After full model assessment, Hypothesis 1 predicted that farm social amenities had a significant positive relationship with green entrepreneurship ( $\beta = 0.533$ ,  $t = 12.204$ ,  $p < 0.05$ ). Also formal credit facilities had a significant positive relationship with green entrepreneurship at ( $\beta = 0.179$ ,  $t = 3.607$ ,  $p < 0.05$ ). As well as Murabahah mode moderated the relationship between farm social amenities and green entrepreneurship development ( $\beta = .163$ ,  $t = 3.999$ ,  $p < .000$ ). Also, Murabahah mode moderated the relationship between formal credit facilities and green entrepreneurship ( $\beta = -.074$ ,  $t = .783$ ,  $p < .038$ ).

## 10.0 CONCLUSION AND IMPLICATION

The paper discusses the moderating influence of Murabahah mode on the relationship between farm ingredients (formal credit facilities and social amenities) and green entrepreneurship development as depicted in figure 1. Meanwhile, self-report method were used and provided a reasonable statistical support regarded to the moderating effects of Murabahah mode on the relationship between green entrepreneurship development and the research independent variables. Similarly, the path coefficients revealed a positive relationship between formal credit facilities and green entrepreneurship development. Also, it revealed a positive relationship between farm social amenities and green entrepreneurship development. More so, Murabahah mode was positive and significantly moderated the relationships between formal credit facilities, farm social amenities and green entrepreneurship development. This indicated that the proposed hypotheses were all supported.

Therefore, this study recommended that financial institutions and farmer cooperatives in Kano, Nigeria should use this model as an essential solution to the current inefficiency of farm mode and services. Finally, the current paper introduces a new framework in the Kano state farm sector. More so, the paper hoped that; the proposed model will add more knowledge on the role of Islamic financial products in financing agriculture, agribusiness and agro allied industries as well as individual and group of farmers. Furthermore, further research should look for other Islamic financial product and relate it other farm input in Kano state and Nigeria in general.

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