

**ANALYSIS OF CREDIT INPUTS AND CONSTRAINTS FACING PLANTAIN PRODUCTION
FARMERS IN EDO AND DELTA STATES, NIGERIA**

Gbigbi, T.M and Ovharhe, O.J

Department of Agricultural Economics and Extension
Delta State University Asaba Campus, Asaba

Email: gbigbitheophilusmiebi@yahoo.com; revovharhe@gmail.com

GSM NO: 08039591604; 08080568889

Abstract

The study examined credit inputs and constraints facing plantain production farmers in selected areas in Edo and Delta State, Nigeria. A total of 80 plantain farmers were randomly selected from the study area. Structured questionnaire forms were used. Multiple regression model, descriptive statistics and Likert scale techniques were used for the study. The result shows that majority (77.5%) of plantain farmers were female, 72.5% of plantain farmers are illiterate. And the result further showed that about 78.7% of the plantain farmers investigated never had good contact with extension agents. The result revealed that about 68.8% and 85% of the plantain farmers rarely access credit and cheap inputs. The major constraints the farmers faced were inadequate service by extension workers to plantain farmers, low knowledge of technology, low price index and lack of capital. The significant variables that influence credit inputs at 5% are farm size, amount of credit/inputs received, educational level, cost of suckers, income level of farmer and fertilizer use respectively. R-square of 0.685 was recorded. Based on the study carried out it is recommended fund should be made available by government and any other financial bodies dealing with disbursement of credit for improved economy.

Keywords: Credit, Constraints, Plantain Production, Propoor Farmers

Introduction

Agriculture is the bedrock of any nation for meaningful economic development. Regardless of its importance about 72 percent of farmers are wallowing in chronic poverty. In Nigeria, small scale farmers who are responsible for about 95% of total production cannot access credit facilities, modern technology and afford to procure the needed farm inputs such as fertilizers, pesticides and improved seeds, which would bring about better productivity because of poverty. Ojo (2000) identified price fluctuations, disease and pests, storage facilities and efficiency of resource utilization as the causes of low plantain production. Plantain has the potential to close the existing gap created by demand and supply of essential carbohydrate staples. The profits made through plantain production are copious but the production rate of plantain has been incoherent and squat in Nigeria

(FOS, 1999). To support plantain exporting prospective the intensity of production at the moment must be enhanced for proper utilization of the inadequate resources accessible to the plantain farmers for efficient productivity. The production of plantain has economically contributed in raising the income of small scale farmers to alleviate their poverty state in Nigeria. It was estimated in African sub-region that plantain supplied about 70 million citizens with the required energy for healthy living following cassava. The family name for plantain is *Musacea sp* and the genus *Musa*. According to John and Marehel (1995) plantain has the capacity to survive unfavourable condition of soil. It is planted for both subsistence and commercial purposes. It can be consumed in various forms such as ripe and unripe condition, cooked, fried or roasted. The cultivation of plantain is unquestionably one of the oldest crops in West and Central Africa.

Credit is the necessary tool for technology adoption by plantain farmers opined by (Nwaru, 2004). Nwagbo (1989) opined that credit, if applied adequately, would increase farm size operations, productivity and therefore earnings, encourage adoption of new technology in farming, facilitate capital formation and improve marketing efficiency to alleviate the standard of living to smoothen farmers consumption. This is because credit constitutes the key to unlock the farmers opportunities which act as the mover of economic progress. Credit needed in agriculture because of low savings capacity of farmers and rural financial markets that are poorly developed as well as availability of suitable farm technologies whose adoption is hindered by shortage of funds. On that note various government and non-governmental organizations such as cooperative thrift and savings, friends and relatives, social clubs put in place considerable financial resources to provide cheap credit facilities to the farmers and other rural entrepreneurs in a myriad of institutional settings (Nwaru *et al*, 2004). Unfortunately, these rural credit structures have not been able to achieve the expected aim of efficiently and effectively improve the inflow of financial services into the rural economy to enable farmers to employ efficient production techniques designed to raise their physical output and incomes (Nwaru *et al*, 2004). Credit is an instrument whose

effectiveness depends on the economic and financial policies attached because credit can by itself grow no crop opined by Nwaru (2004).

Furthermore, it is worthy of note that credit disbursed to small scale farmers due to lack of awareness and capacity of the technology use can prove harmful to the user (Bailey, *et al*, 1986). The absence of farmers with the knowledge, skill and energy to put the credit to adequate uses, shortage of able-bodied trained credit officers to accurately screen loan application form and monitor credit usage, negative attitudes of farmers towards government funds, and poor savings habits among the farmers are major factors for loan defaults (Igben, 1981).

Given this prime position of plantain in Edo and Delta States and given the fact that domestic supply has not been able to meet up with domestic supply, there is therefore the need to examine the determinants of credit and cheap input access and constraints to plantain production.

Methodology

The study was carried out in Edo and Delta States in the Niger Delta region of Nigeria where plantain thrives very well with available human and material resources. Plantain production is majorly done in the rural areas of both States. The inhabitants are predominantly farmers producing various crops and quite a number of the farmers are plantain producers. Purposive and multi-stage random sampling techniques were used to select respondents for the study. In the first stage, two States, namely Edo and Delta States were purposively selected for the study because the communities are leading source of plantain production. The criteria used to identify the States for selection were based on the presence of enough availability of plantain and farmers. In the second stage, four (4) Local Government Areas were purposively selected from the two States because they are farming communities. The Local Government Areas were Orhionmowon and Ovia North East for Edo State; Bomadi and Ughelli South for Delta. In the third stage, four (4) communities engaged in plantain farming were purposively selected from the four (4) LGAs of the two (2) States, giving sixteen (16) communities for the study. In the fourth stage, 80 plantain farmers were randomly selected from the selected communities for the study. The data were analyzed with the use of descriptive statistics, Likert scale, and multiple regression analysis.

A 3-point Likert type scale was used to categorize the responses on constraints results (0 = not serious, 1 = serious, 2 = very serious) Mean cut off point = 1.0. Below 1.0 = Not serious, Above 1.0 = serious

The implicit form of the regression model is expressed as follows: $Q = f(X_1 X_2 X_3 X_4 X_5 X_6, X_7, X_8 U)$ Where:

Q = Output of plantain production (kg) X_1 = age, X_2 = labour (man-day) X_3 = farm size(ha) X_4 = education, X_5 = amount of credit/inputs received, X_6 = cost of suckers(₦), X_7 = income level(₦), X_8 =fertilizer use (₦) U = Error term.

Various functional forms were used such as linear, semi-log, exponential and double-log. The double log functional form was selected and used as the lead equation. The choice of the best functional form was chosen as the lead equation based on statistical and econometric criteria such as, number of the independent variables that are significant, coefficient of multiple determinations (R^2) and *a priori* expectation of the signs of the independent variables.

Results and Discussion

Socio-Economic Characteristics of Respondents

The socio-economic characteristics of respondent in the study area analyzed include age, household size, gender, and income per year, educational level, farm size, knowledge of plantain production and contact with extension agent per year.

Age: From the results presented in Table 1, it showed that majority of the farmers (56.3%) falls between 41-50 years of age while 32.5% of the farmers were between 31 – 40 years of age. This implies that the farmers are still in their active age.

Family size: the result revealed that majority of the farmers (78.8%) had household size of 5 – 10 persons and this implies that there would be labour availability for efficient production. **Gender:** The result in table 1, indicated that 77.5% of the plantain farmers were female while the male accounted for 22.5% of plantain producers in the study area. This finding corroborates Akinngbe et al (2008) that women play more active roles in farming activities than males.

Income per year: The result further indicated that majority of the respondents (58.8%) of the respondents had less than N200, 000 per annum. About 29% had between ₦200,000 – ₦399,000 while only 12.4% of the respondents had between ₦400,000 – ₦599,000 per annum.

Educational level: The result presented in Table 1 revealed that majority of the farmers (72.5%) had no formal education while 15% and 11.3% had primary and secondary education. Only 1.3% had higher education.

Farm Size: Majority of the farmers 77.5% had farm size less than 1 ha as seen in Table 1; the least 5% had farm size greater than 3ha. The result corroborates with Olumba (2014) which showed that 84.4% of respondents had a plantain farm between 0.5 to 1.0 ha.

Knowledge in plantain production: The result showed that 75% of the respondent had medium knowledge in plantain production while 11.3% had low knowledge with 7.5% having no knowledge in

plantain production. It is also seen from the result that only 6.3% of the respondent in the study area had high knowledge in plantain production.

Contact with extension agent: The result revealed that majority (43.7%) of the respondents had no contact with extension workers throughout the year. This was followed by 35.0% of the respondents who said that their contact with extension worker was seldom. About 15.0% of the respondents said they

often had contact with extension workers while the least was 6.3% that said they had contact with extension workers very often. This implies that extension visit to farmers was very much poor which can affect adequate application of plantain production technology. This result agrees with Agwu and Afieroho (2007) who carried out a study on influence of personal and institutional factors on adoption.

Table 1: Socio-Economic Characteristics of Plantain Farmers

Social-economic characteristics	Frequency	Percentage (%)	Mean
Age			
20 – 30	1	1.3	
31 – 40	26	32.5	
41 – 50	45	56.3	
51 – 60	6	7.5	
60 – 70	2	2.5	
Household Size			
1 – 5	10	12.5	
6 – 10	63	78.8	
11 – 15	6	7.5	
16 – 20	1	1.3	
Gender			
Male	18	22.5	
Female	62	77.5	
Income per year (₦)			
0 – 200,000	47	58.8	
200000 – 399000	23	28.8	
400000 – 599000	5	6.3	
600000 – 799000	3	3.8	
800000 and above	2	2.5	
Educational level			
No formal	58	72.5	
Primary	12	15.0	
Secondary	9	11.3	
Higher education	1	1.3	
Farm Size (₦)			
0 - 1	62	77.5	
1.1 – 2	14	17.5	
2.1 – 3	4	5.0	
Knowledge of plantain			
Production			
No knowledge	6	7.5	
Low	9	11.3	
Medium	60	75.0	
High	5	6.3	
Contact with extension worker per year			
Very often	5	6.3	
Often	12	15.0	
Seldom	28	35.0	
Never	35	43.7	

Source: Field Survey 2015

Perception of access to loan and cheap inputs

The result in Table 2, showed that about 68.8% and 85% of the plantain farmers rarely access credit and cheap inputs, 13.8% and 7.5% of them had access to credit and cheap inputs, only about 7.5% and 6.3% was highly accessible to credit and cheap inputs while

only 10% and 1.3% was not accessible to credit and cheap inputs. This implies that the plantain farmers in the study area had access to both credit and cheap inputs.

Table 2: Perception on access to loan and cheap inputs (n=120)

Facilities	Highly accessible	Accessible	Rarely Accessible	Not Accessible
Credit	6(7.5)	11(13.8)	55(68.8)	8(10)
Cheap inputs	5(6.3)	6(7.5)	68(85)	1(1.3)

Figures in parenthesis are percentages.

Constraints Faced by Plantain Farmers in the Study Areas

From the results shown in Table 3, it can be seen that inadequate extension workers service, low knowledge of technology, low price index, insufficient capital, high cost of planting materials, insufficient incentives from government, high cost of labour, agro-chemical constraint, lack of processing facilities, lack of storage facilities, inadequate transportation, poor market

stalls, limited land acquisition and high level of pest and disease infection had serious effect on plantain production by the farmers. The seriousness of the effect was measured by a mean score as indicated in Table 3. The total score for each challenge by all respondents were summed up. These problems with serious effect should be tackled to improve productivity by plantain farmers in the area of study.

Table 3: Constraints faced by plantain farmers

Constraints	Ranking			Product Respondent	Mean Ranking
	0	1	2		
Insufficient capital	0	16	104	224	1.87**
High level of pest and disease infection	70	50	0	120	1.00*
Lack of storage facilities	0	49	71	191	1.59**
Insufficient of incentives (e.g. loan input) from government to plantain farmers)	0	20	100	220	1.83**
Lack of processing facilities	0	40	80	200	1.67**
High cost of labour	0	26	94	214	1.78**
Low price index especially at peak production	0	12	108	228	1.90**
Inadequate transportation	22	73	25	145	1.21*
High cost of planting materials	0	18	102	222	1.85**
Low knowledge of technology	0	10	110	230	1.92**
Agro-chemical constraints	0	21	91	203	1.69**
Limited land acquisition	6	107	7	127	1.06*
Poor market stalls	67	58	5	135	1.13*

Source: Field Survey, 2015. Mean cut off point = 1.0. Below 1.0 = Not serious, Above 1.0 = serious

Regression Result on Determinants of Credit and Input Access

The result in Table 4 showed the six coefficients of the independent variables that were significant namely farm size, education, amount of credit/inputs received, suckers, income level and fertilizer use which influence farmers output in plantain production. The positive sign of the coefficients entails that one percent increase in any of these variables will enhance the productivity of plantain for easy access for credit. The variables farm size, educational level, amount of credit/inputs received, cost of suckers, income level of

farmer and fertilizer use were significant at 5% probability level.

Farm Size

The coefficient of farm size (0.746) was positive and significant at 5% probability level. This implies that increase in farm size will lead to a corresponding increase in credit input in the study area. The result on farm size corroborate with a study by Olumba (2014) in Anambra State.

Educational Level

Educational level of the respondent is statistically significant at 5% and has a positive sign. The

implication is that that any increase in educational level of the respondent will guarantee easy access to credit input for greater productivity in plantain production. This agrees with the findings of Faturoti et al (2006) who emphasized strong positive influence of education on plantain production.

Amount of Credit/Inputs Received

The coefficient of amount of credit/inputs received (1.912) was positively significant at 5% probability level which implies that any increase in amount of credit/inputs received will lead to increase in output of plantain production. This support Ugbajah and Chidebelu (2012) who conducted a study on access to financial services by rural farmers in Anambra State.

Cost of Suckers

The coefficient of cost of suckers (0.074) was positively and statistically significant at 5% probability level. This implies that cost of suckers is directly related to plantain production. This confirm the views of Fakayode et al (2011).in a study on economic assessment of plantain in Rivers State.

Income Level of Farmers

The coefficient of income level of farmers (0.015) was positively signed as expected. This implies that

increase in income level of farmers will lead to a corresponding increase in the output of plantain production. These agree with the findings of Ekwe (2004) that income is positively related to farmers adoption of modern technologies to improve the output of plantain production. This implies that income is a strong determinant in adoption of technologies.

Fertilizer Use

The coefficient of fertilizer use (0.232) was positive and significant at 5% level of probability, implying that increase in fertilizer usage will lead to a corresponding increase in the output of plantain production in the study area. This agrees with Bates et al, (2010) who studied factors affecting yield performance of banana farms in Philippines.

However, age and labour variables were not significant but also positive. The F-value 21.74 shows that all the explanatory variables jointly exert significant influence on the level of output. The coefficient of multiple determinations (R^2) with value of 0.685 implies that 68% of the total variation in the level of output is accounted for by all the explanatory variables in the regression model.

Table 4: Determinants of credit and inputs access (n = 80)

Variables	Coefficients	Standard errors	T-values	Significant level
Age	0.090	0.174	0.517	0.468
Labour	0.120	0.065	1.846	0.082
Farm size	0.746	0.280	2.664	0.025**
Education	0.454	0.211	2.152	0.003**
Amount of credit/inputs received(₦)	1.912	0.483	3.959	0.011**
Cost of suckers	0.074	0.032	2.313	0.040**
Income level of farmers	0.015	0.007	2.143	0.026**
Fertilizer use	0.232	0.112	2.073	0.043**
constant	0.409	0.189	2.164	0.002**
R-square=0.685				
F-value=21.74				

Where *, **, *** = significant at 10%, 5% and 1%

Conclusion and Recommendations

The study showed that the socio-economic characteristics of the farmers had effect on plantain production in the study area coupled with other farming constraints as a result of lack of access to credit inputs. The absence of extension activities in the area had drastically affected plantain farmers in term of technology application and this posed a problem on output resulting to low income viz-a-viz standard of living.

It is therefore recommended that:

- efforts should be urgently made to tackle the most salient socio-economic factors affecting

plantain farmers by way of providing sufficient credit to expand production because they rarely access production fund.

- extension workers services are crucial for effective information for efficient plantain production. Therefore, incentives to encourage them to make themselves available to farmers should be provided.

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