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CONTRIBUTION OF FORMAL FINANCIAL INSTITUTIONS TO CASSAVA PROCESSING IN BENUE STATE, NIGERIA

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ABSTRACT

The study was carried out to assess the contribution of Formal Financial Institutions (FFIs) to income of cassava processors in Benue state, Nigeria. Multistage sampling technique was used to select 234 cassava processors from 18 communities in the state. Data on credit sources and uses, processing activities and income were collected using structured questionnaires. The data were analyzed using descriptive and inferential statistics while the impact of the credit was assessed using the before and after comparison. The result shows that about a third of the processors had access to formal credits. The Nigerian Agricultural Bank ranked highest (83%) in terms of patronage. Commercial and microfinance banks' lending to cassava processing represented about 12% and 5% respectively of the total credit received. Majority (70%) of the processors received less than N100, 000 per year; an average of N63,152, which is about 12% of total amount, required. Credit financing from formal financial institutions was found to have significant effects on both the output of garri and flour processed and the profit from garri, flour and chips' processing. The credit use structure shows that over 65% of the credit was use to increase processing scale, through increase in the purchase of raw tubers and payment for processing labour.

Keywords: *Benue State, Cassava Processors, Credit, Contribution, Formal Financial Institutions.*

INTRODUCTION

Thinking on development has long held that agricultural growth is an important step toward economic development and rural transformation. However, the new challenges facing African agriculture in today's more globalized environment have led some to question whether conventional wisdom about the role of agriculture in development is still applicable to Africa. Although, agriculture remains important to the livelihoods of at least 50percent of Nigerian (FAO, 2011), the sector has not experienced sustained growth since the early 1970s. Agriculture fell from 48 percent contribution of GDP in 1970 to 20.6 percent in 1980 and

was only 23.3percent of GDP in 2005 (Daramola, *et. al.,* 2008). The share of agriculture export to total export was, also, about 1.56% in 2008, while yield and income from agriculture has reduced in the last decade. A major reason given for the dismal performance of the agricultural sector is the lack of value-adding activities and export of primary agricultural products with low and highly variable prices. Where there is some form of processing at all, poor quality products with low competitive advantages is usually the outcome. Low processing efficiency due to lack of financial intermediation in produce processing has been highlighted as a major drawback in promoting effective value-addition in the sector. As the country attempts to improve living condition and its human development rating, sustained production and increase in varieties of available food for the teeming population becomes germane. Also, with the obvious failure of the industry-first paradigm in Nigeria's development history, agriculture remains vital driver of economic development**.**

While concentration on the production of crops at farm level is fundamental to alleviating the food crisis situation, improving the processing side of the value-chain is invaluable to facilitating market for farm commodities as well as helping farmers and rural people earn more income. Osibo (2007) posited that inadequate investment in cassava processing is a major cause of the periodic glut in raw cassava market.

FFIs hold great promise in fostering growth of the agricultural sector through the provision of the much needed financial intermediation and other non-financial services. In the light of these, the study was intended to provide to provide answers to the research questions of what is the effect of the FFIs credit on cassava processor's income and for what processing activities are FFIs credits mostly employed for the various products. Specifically, the objectives of the study were to: Determine the effect of FFIs credit on different cassava products processors' income and to Determine the credit allocation structure for the various activities in processing

METHODOLOGY

The study was carried out in Benue state, Nigeria, which is commonly referred to as "the food basket of the nation". The State is located in the North Central geographical zone of Nigeria, longitude 6^0 35' E to 10^0 E and latitude 6^0 30'N to 8^0 N of the equator, the grains belt, with largely derived savannah vegetation. The estimated human population is about 4,219,244 (NBS, 2010). Major crops grown are cassava, potatoes, fruits, yams and beniseed. The state accounts for over 70percent of Nigeria's cassava production (IITA. 2004). Multistage sampling procedure was used to select 234 cassava processors from 18 randomly selected communities in the state. The communities were purposively selected based on prominence in cassava processing economy of the state. Primary data were collected from a sample survey of using questionnaire as the interview guide. Information on processing activities and inputs used, credit sources and application as well as socio-economic characteristics was elicited. Secondary data were collected from the relevant FFIs on loans advanced, disbursement timing and conditions. Data collected were analysed using descriptive statistic, Ordinary Least Squares (OLS) regression analysis and t-test statistic. The "before and after" project comparison was used to assess the impact of FFIs on income.

RESULTS AND DISCUSSION

The distribution of the socio-economic characteristics of the processors is presented to show the peculiar social and economic attributes of the FFIs credit user. The mean age was 40.4years; while more than one third (41.40%) of the respondents were between 31-40 years of age, which implies that they are still within the active, and economic productive age bracket. Hence given the necessary resources, they have the potentials to attain higher levels of processing productivity.

About half of the processors (48%) had at least, primary education which could have influenced their ability to access information on services offered by FFIs, understanding the requirements and processes involved in accessing the services. Nasiru *et. al.* (2005) reported that there is a strong association between farmers' education level and their ability to meaningfully utilize credit facilities. The average household size was found to be 8.4 persons which corroborates the findings of Oluwasola and Alimi (2007) and Aihonsu (2002) (above 6 persons) among processors. The large family size is typical of most rural farming households in Nigeria, where, family labour is the most important source of labour. Also, about two in every three processor belong to the processors' cooperative which serves as the coordinating organ for the furtherance of the social and economic interests of members.

Table 1. Personal characteristics of the cassava processors (n=234)

Variable	Frequency	%	Mean
Age (years)			
21-30	39	16.70	
31-40	97	41.40	40.4
41-50	68	29.10	
51-60	22	9.40	
61-70	8	3.40	
Sex			
Male	125	53.40	NA
Female	109	46.60	
Marital Status			
Married	193	82.50	NA
Single	24	10.30	
Divorced	4	1.70	
Widowed	13	5.50	
Educational level			
No formal Education	30	12.80	NA
Primary school	110	47.10	
Secondary	60	25.60	
Tertiary	34	14.50	
Religion			
Christianity	209	89.30	NA
Islam	17	7.30	
Traditional	8	3.40	
Household size			
≤3	34	14.53	
4-6	71	30.34	
7-9	74	31.62	9.00
10-12	34	14.53	
13-15	11	4.70	
>15	10	4.28	

Source: Field survey (2011)

The groups are actively involved, also, in assisting members to assess credits from FFIs through group applications. Majority (72%) of the processors are involved in full time cassava processing activities, all year round. The average income earned from cassava processing was estimated at N65,814/yr.

Table 2. Production Characteristics of the Cassava Processors

Variable	Frequency	%	Mean
Other occupation			
Farming/processing	45	20.38	
Artisans	8	2.60	NA
Trading	4	1.18	
Traditional Healthcare service	1	0.40	
No other occupation	70	31.20	
Processing	103	44.00	
Membership of cooperative organization			
Yes	166	70.90	NA
No	68	29.10	
Regularity of Processing			
Seasonally	21	8.24	NA
All year round	213	91.76	
Years of experience in cassava processing			
1-10			
11-20	180	76.90	7.20
21-30	44	18.80	
>30	9	3.90	
	1	0.40	
Major source of start-up income			
Own saving	55	23.51	NA
Formal Financial institution	67	28.63	
Informal sources	112	47.86	

Source: Field survey (2011)

Table 3 shows the loans condition for assessing credit from the three sources to finance cassava processing. As shown, membership of cooperative group is not considered by commercial banks as a condition for lending. However, more formal and stringent conditions are put in place by the banks to guarantee the security of the facility extended. The requirement of formalized securities (certificate of occupancy and registration document) is not enforced by the microfinance banks, this may not be unrelated to the small volume (usually less than N100,000) of credits advanced.

The effect of the credit on output of cassava products processed is shown in Table 6. Credit had significant positive effect on output of major products. Although, cassava flour was the most processed product, in terms of spread, however, the response of garri output to increase in funding from credit was higher. The output of cassava flour rose by 31% (from 29,328.36Kg to 38,283.58Kg/yr) as a result of credit support.

Table 3. Conditions for Credit to Processors by lender category

Requirements	Commercial Banks	NAB	Microfinance banks
Account relationship			
Must be 18 – 60 years			
Must be a practicing processor/farmer			
Must be a member of a cooperative			
Deposit of 25percent of loan for loans above one million Naira			
Registration of company and cooperative			
Certificate of Occupancy (C of O) as collateral (Loan request above N1million requires landed property as collateral)			
Deposit of 10percent of loan required			

Source: Field survey 2011

Key

Condition for loan
Not a condition

The output of garri rose by 32% (27,985.07Kg to 36,940Kg) while quantity of cassava Chips increased by 16% (20,373.13kg to 23,731.34kg). The output of fufu and starch also increased after the support from 18,134.33kg and 15,447.76kg to 21,716.42kg and 16,343.28kg respectively. The low processing level of *fufu* and starch is attributed to the low, local, domestic demand for the products in the state. The difference of means test shows a significant difference between the before and after processing levels for garri ($t = 4.48$, $P \leq 0.05$) and flour ($t = 2.85$, $P \leq 0.05$).

The simple regression models fitted to explain the effect of credit on output of the five cassava products is presented in Table 6. The estimated coefficient was transformed from the linear form to show the degree of responsiveness (elasticity) to changes in credit. Credit use elasticity was found to be high and positive for fufu, garri and chips processing, while, it showed a negative non-significant response for starch. Cassava flour processing responded the most to credit employment, as a unit (thousand naira) increase in credit increased output processed by 13.2 percent.

The credit use structure shows the allocation of the credit to different activities in cassava processing. The result is presented in Table 7, It shows that purchase of tubers and hiring of labour for peeling accounted for over half (61%) of the use of the credit. The implication of this is that the increase in processing output recorded from the credit use is due to increase in the variable costs components. It also indicates that interven-

tions that will reduce the cost of tubers as well as the numbers use and cost of peeling labour will go a long way to increase income from processing. The low fixed cost component also shows that processing methods adopted are mainly labour intensive rather capital intensive.

Table 4: Output of Processed Cassava before and after credit support

Output (kg)	Before FFI support		After FFI support		Percentage Change (%)
	Quantity (kg)	Mean	Quantity (kg)	Mean	
Garri					
<30,000	55.00		45.00		
30,001-60,000	5.00		10.00		
60,001-90,000	1.00		5.00		
90,001-120,000	3.00	27,985.07	2.00	36,940.00	32%
120,001-150,000	2.00		2.00		
>150,000	1.00		3.00		
Flour					
<30,000	57.00		52.00		
30,001-60,000	3.00		2.00		
60,001-90,000	-		3.00		
90,001-120,000	3.00	29,328.36	1.00	38,283.58	31%
120,001-150,000	-		4.00		
>150,000	4.00		5.00		
Starch					
<30,000	66.00		65.00		
30,001-60,000	1.00		1.00		
60,001-90,000	-	15,447.76	1.00	16,343.28	6%
90,001-120,000	-		-		
120,001-150,000	-		-		
>150,000	-		-		
Fufu					
<30,000	65.00		64.00		
30,001-60,000	-		-		
60,001-90,000	-	18,134.33	-	21,716.42	20%
90,001-120,000	1.00		-		
120,001-150,000	1.00		-		
>150,000			3.00		
Chips					
<30,000	64.00		62.00		
30,001-60,000	-		2.00		
60,001-90,000	-	20,373.13	-	23,731.34	16%
90,001-120,000	1.00		1.00		
120,001-150,000	1.00		1.00		
>150,000	1.00		2.00		

Source: Field survey 2011

Table 5: Test of significant difference between before and after FFI support

Output of cassava product	Mean (kg)		t-value	P<0.05
	Before	After		
Garri	13900	23500	2.48	0.02*
Flour	19800	29100	2.85	0.01*
Starch	855.39	2234.39	1.49	0.14
Fufu	4574.03	12900	1.41	0.16
Chips	11200	17900	1.96	0.06

***Significant ($p \leq 0.05$); Source: Data Analysis (2011)**

Table 6: Effect and Elasticity of credit on output of cassava products

Product	Garri	Fufu	Flour	Chips	Starch
Constant	379.82	1780.72	2497.58	848.51	502.82
Credit	0.43* (3.98)	0.12(1.04)	0.45* (2.71)	0.25* (2.62)	-0.02 (0.85)
Credit elasticity	0.021	0.063	0.132	0.028	-0.016

Significant ($p \leq 0.05$); Values in parenthesis are t-values
Source: Data Analysis (2011)

Table 7: Credit use structure for the average cassava processor

Activities/inputs	Amount	Percent
Tubers	29,671	45.51
Peeling labour	10,276	15.76
Cutting and Soaking labour	6,002	9.21
Sieving and drying/frying labour	10,210	15.66
Fixed input	5,031	7.71
Transport and other Marketing cost	4,012	6.15

This study has supported earlier findings on the important role of micro-credit in improving livelihood situation of small-scale holders in agriculture. Through increased volume of output after the FFI financial support, the relevance of finance to increasing output and improving income of small-scale holders is further established. There is however the need to increase access of the smallholder processor to the more secured, regular and large financial credit base provided by FFIs. The study therefore recommends that there is the need to integrate a smallholder friendly, credit policy into FFIs loans portfolio scheme by involving NGO and agricultural extension outfits that work closely with local people. Also, cassava processors should be encouraged to form groups to improve their chances of obtaining loan from the FFI.

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