

Cassava Farmers' Perception of Cassava Initiative: Implication for Cassava Transformation in Nigeria.

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Abstract

Cassava gained a leading role among cash crops in Nigeria following the establishment of the cassava initiative, making the crop become a white gold. The initiative aimed at making the crop a source of foreign exchange earner for the country. The study was carried out in Nigeria among members of the cassava growers association. The study covered those who had being members of the association for at least 10 years. Multi-stage sampling was used to select 290 respondents for the study. Males constituted 72.8% of the respondents, 76.9% were married with mean age of 48.4±12.8 years, 65.5% had farming as their primary source of income and 53.8% had at least secondary school education. The initiative was favourably perceived among 55.2% of the respondents. For the success of the cassava transformation, respondents perceived that issues such as training on quality standards for export need to be adequately provided, agro-chemicals should be available at subsidised rate any time they are needed by the farmers. In addition, assistance of cassava inputs provided by the government should be adequate while strategies that ensure fair distribution of the resources be implemented. Adequate marketing channels for cassava were available with the initiative, Training on quality standards for export was adequately provided. Cassava initiative should reduce the cost of production in the cassava sub-sector.

Key word: Initiative, Cassava, Perception

1.0 Introduction

African countries produce over 103 million metric tonnes cassava per annum with Nigeria accounting for approximately 35 million metric tons per annum (FAOSTAT, 2009). Cassava constitutes a major item in the crop combination of the most farmers and contributes significantly to total farm income in Nigeria (Bamire *et al.*, 2004). Cassava is a crop that has benefitted from various programmes to boost its use in Nigeria. As far back as 1940, the Gold Coast hybrid was introduced in Nigeria to combat African Cassava Mosaic Virus; Varieties 60506, 60447 and 60444 developed in 1955; Federal Institute for Industrial Research Cassava plant launched in Lagos in 1968. In 1971, IITA began root and tuber improvement programme in Ibadan and Special Government Program on Maize and Cassava Production launched with import restrictions reintroduced in 1982. Between 1983 and 1986, IITA varieties TMS 4(2)1425, 30001, 30572, 50395 were made available nationally; IFAD Cassava Multiplication Project was on between 1987 and 1996 and in 1997, Nigeria Roots Crops Marketing Board started and ended in single year. In 2001, IFAD supported Roots and Tuber Crops Expansion which resulted to sporadic increase in cassava output thereby making Nigeria the highest producer of cassava in the world. In 2002 the President's Initiative on Cassava established National Committees on Cassava Production, Processing and Packaging and Market Development and Export with the aim of making cassava a major non-oil foreign exchange earner because of its comparative advantage in the country (Adebayo, 2009).

Adebayo (2009) stated that the goal of making cassava a major non-oil foreign exchange earner because of its comparative advantage in the country could not be achieved without the uptake of key innovations that tend toward higher levels of commercialisation in cassava production and processing. In order to achieve this also, an optimum production innovation could only be achieved when a farmer perceives the recommended practices as technically feasible, physically possible and socially compatible (Kaburu, 2006).

However, as a result of this initiative, Ogundari, and Brümmer, (2010) observed that cassava production increased between 2000/2001 to 2005/2006 farming seasons while production later became stagnated. A lot of factors have been linked to the sudden decline in cassava production in the country, key of which include lack of continuity of administration policies on the cassava expansion program by the government in the country (Nigerian Tribune, 2008). This is not surprising because policy discontinuity has become successive in the Nigerian government's culture. Alternatively, the current government through her Agricultural Transformation Agenda (ATA) has picked cassava as an important crop in the ATA by adopting the policy of 10% inclusion of

cassava flour into wheat flour for baking.

Based on the fore going, the study assessed perception of farmers on the cassava initiative. This is to know their view of the initiative and areas to strengthen as the current government maintains its stand in promoting the cassava sub-sector.

2.0 Methodology

2.1 Study Area

The study was carried out in Nigeria. Nigeria lies between latitudes 4⁰16' and 13⁰53' north and between longitudes 2⁰40' and 14⁰41' east. It is located in West Africa and bordered in the west by the Republic of Benin, on the north by the Republic of Niger and on the east by the Republic of Cameroon. It is bordered to the south by about 800 kilometres of the Atlantic Ocean. Nigeria occupies a land area of 923,738 kilometres (91 million hectares) and the vegetation ranges from mangrove forest on the coast to desert in the far north (The World Fact Book, 2007). The country comprises the Federal Capital Territory and thirty-six (36) states. Vegetation ranges from tropical forest in the south to the Sahel savannah in the north. Nigeria has five agricultural zones namely; South-West Zone, South-East Zone, Central Zone, North-West Zone and North-East Zone (FMANR, 1997). According to FAO, (2005), the cassava-growing belt falls within three agricultural zones of the southeast, southwest and the central zones. The population of the study was all cassava farmers that had been members of the cassava growers' association (CGA) for over ten (10) years. CGA is a producer association concerned with only one crop that is cassava (Ezedinma et al.2007)

2.2 Sampling Technique and Sample Size

Multi-stage sampling technique was used to draw sample for the study. The first stage involved purposive sampling of three (3) agricultural zones (southeast, southwest and the central zone) because they are the major cassava-growing zone in Nigeria (FAO, 2005). The second stage involved random sampling of twenty percent (20%) of states from each selected zone while the third stage was the sampling of twenty percent (20%) of the units (nomenclature of CGA for groups) in each of the state sampled through random sampling. The last stage was the compilation of list of cassava growers' association members that had been part of the association for ten years with the assistance of unit leaders. Through random sampling, twenty percent (20%) of members of sampled units were selected to give a sample size of 290.

3.0 Results and Discussion

3.1 Personal characteristics of cassava farmers

As shown on Table 1, majority (72.8%) of the respondents were male while few (27.2%) were female. The high percentage of male farmers in cassava farming as obtained in this study agreed with the report of Nweke *et al.* (2002) on collaborative study of cassava in Africa (COSCA), that more male are involved in cassava farming in Nigeria. In addition, Awoniyi, *et al* (2009) and Awoyinka (2009a), found that majority of the participants of the initiative on cassava were male. This also implies that males were more than female in the association. Also, 38.6% of the respondents were within age range of 36 years and 50 years, 34.1% were within age range of 51 years to 65years, 19.0% were within age range of 20 years – 35 years while very few (8.3%) were within 66 years and 90 years. This finding shows the farmers are still in their active years. Large percentage (76.9%) was married, 11.4% were singles which 9.0% were widowed and 2.8% were divorced meaning that majority were married. Higher proportion of respondents (59.7%) sampled were Christians, 36.9% were Muslims, 3.1% were traditional worshippers and 3.0% were in another religion.

Most (65.5%) respondents had farming as their primary occupation, 9.3% were artisans, 7.9% were into civil service and trading. Few (5.5%) were teachers, 2.1% were retirees, 1.0% were engineers and 0.7% were contractors. This means that cassava growers' association (CGA) embrace people from all works of life and is an agricultural based organisation as majority had farming as their primary occupation.

About 33% had secondary education, 21% had post secondary education, 20% had no formal education, 18% had primary education and 8% had adult education. This means that cassava growers' association comprises people with high level of education that will make them ready to accept innovation as education helps in adopting innovations. From respondents sampled, 80.3% were never involved in leadership in the association that is, they were members of the association while 19.7% of them had been involved in leadership in the association.

3.2 Cassava Farmers' Access to the Initiative Elements

Table 2 shows the distribution of farmers' access to the various initiative elements. Considering the extent to which cassava farmers' had access to the agro-input supply, more respondent (59.3%) always had access to improved stem cutting, followed by fertilizer and sprayers. This implies that more cassava farmers had access to improved varieties after the initiative that may be attributed to the involvement of research institutes like International Institute of Tropical Agriculture (IITA), National Root Crop Research Institute (NRCRI) and

Agricultural Development Project (ADP) in the distribution of the improved varieties as collaborators of the initiative. There was general improvement in cassava farmers' access to agro-input after the initiative though not in adequate measure. Similarly, after the initiative, 36.9%, 29.0%, 22.8%, 25.2%, 11.4 % and 20.7% always had access to farm gate, middlemen, regional markets, farmers' association, government agents and agro industry respectively. This trend may be due to the awareness created on cassava processing and the encouragement given by the initiative to site cassava processing industries around the producers like Ekha Agro Farms which has invested over N2.4 billion in Glucose Syrup plant along Lagos/Ibadan Expressway, Thai Farms at Ijebu Ode in Ogun state, Teejay Farms at Ijabe, Osun State. About 56.9%, 54.8% and 47.2% always had access to training on production, processing and marketing respectively. Land initiatives by the LGAs were not well accessed by the respondents after the initiative as indicated on the Table 2 by the majority of the respondents. This may be the reason why farmers did not significantly expand their farm sizes after the initiative.

Privately owned processing centre were the most accessible processing centre to the respondents. Cassava farmers had problem accessing credit which may be as a result of various bureaucratic bottlenecks characterising access to finance in Nigeria such as complex mechanism of commercial banking (Agnat, 2004; Badiru, 2010) and lack of bank collateral (Okojie et al. 2010). However, graters were the most accessible cassava processing equipment. This finding is in agreement with Adebayo (2009) who observed that cassava grater is the most prominent processing cassava processing equipment in the south.

3.3 Respondents' perception of the cassava initiative

The summary of the responses of respondents on their perception about the cassava initiative is as shown on Table 3. The mean of the total response was 3.19, therefore statements with mean score below 3.19 were considered not favourable about the initiative while statements with mean value of 3.19 and above were considered favourable about the initiative. Respondents favourable perceived that improved stem cutting supplied resulted in high output ($x=3.94$). Also, the initiative brought about improvement in the processing of cassava ($x=3.94$) and it assisted in the sales of cassava products ($x=3.47$). Market information was provided during the period of the initiative was considered advantageous ($x=3.50$) as exportation of cassava products gingered respondents to increase production ($x=3.59$). Respondents also favourable perceived that information disseminated at trainings were relevant to their cassava enterprise ($x=4.01$) and that meetings with the stakeholders ($x=3.93$) such as producer organization, agricultural agencies and processors improved the cassava enterprise. The initiative motivated the farmers to increase their farm land for cassava cultivation ($x=3.62$) as it also encouraged more people to participate in cassava farming ($x=3.94$). This corroborates RMRDC, (2004) that the cassava growers association experienced an influx of people into the association after the inauguration of the programme. Respondents favourable perceived that Cassava initiative promoted processing for export ($x=3.43$). Respondent also agreed that it was not another political programme ($x=3.62$). It established market linkages ($x=3.27$) as it enhanced access to credit ($x=3.31$). Bulk marketing was highly improved ($x=3.39$). Promotion of recommended standards of 10% inclusion of cassava for bakeries was beneficial ($x=4.12$). Labour cost was reduced than before with improved technology for production ($x=3.44$). This implies that all these issues are perceived as favourable to the initiative and also have influence on the cassava sub-sector for commercialisation of the crop to serve as a foreign exchange earner for Nigeria and at the same time raise standard of living of cassava farmers in the country. Statements with unfavourable perception were deficiencies of the initiative and needs to be properly addressed to bring transformation in the sub-sector.

3.4 Perception categories

Respondents' perception about the cassava initiative is as shown on Table 4. The perception index was categorised based on respondent's scores. Respondents with scores below mean (98.9) were categorised as having unfavourable perception while those above mean were categorised as having favourable perception. Respondents had a good perception of the initiative as 55.2% of the entire respondent had favourable perception of the programme. This finding is similar to Adeola *et al.* (2008) that farmers have a favourable attitude towards the cassava initiative programme and therefore recognised the importance of the programme towards the development of the cassava enterprise.

4.0 Conclusion

It is evident from the finding that more males in the cassava growers association. Respondents were in their productive years. Also, majority were married with farming as their primary occupation. Majority of the farmers were highly educated. Most accessed input was improved stem cuttings and local market was the most available market for cassava tuber and products. Findings of the study show that the farmers had a favourable perception of the initiative. Efforts should be directed to making sure that every element of initiative set to bring about transformation in the cassava sub-sector is made available to the farmers so that subsequent programmes will be well embraced by the farmers. Cassava growers' association should make arrangements to secure land for use from their respective local government areas for the cultivation of Cassava. The government through her micro

and macroeconomic policies should provide an enabling environment for local and international cassava market to thrive.

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Table 1: Distribution of respondents' personal characteristics

Personal Characteristic	Frequency	All respondents (N= 290) %	
Sex			
		Modal category : Male	
Male	211	72.8	
Female	79	27.2	
Age (Years)			
		Mean age: 48.4	
20 – 35	55	19.0	
36 – 50	112	38.6	
51 – 65	99	34.1	
66 – 90	24	8.3	
Marital status			
		Modal category: Married	
Single	33	11.4	
Married	223	76.9	
Divorced	8	2.8	
Widowed	26	9.0	
Religion			
		Religion Modal category: Christianity	
Islam	107	36.9	
Christianity	173	59.7	
Traditional	9	3.1	
Others	1	0.3	
Primary occupation			
		Occupation Modal category: Farming	
Farming	190	65.5	
Trading	23	7.9	
Teaching	16	5.5	
Civil service	23	7.9	
Retiree	6	2.1	
Artisan	27	9.3	
Contractor	2	0.7	
Engineering	3	1.0	
Level of education			
		Education Modal category: Secondary	
No formal	58	20.0	
Adult Education	23	7.9	
Primary	53	18.3	
Secondary	95	32.8	
Post Secondary	61	21.0	
Involvement in leadership			
Yes	57	19.7	
No	233	80.3	

Table 2: Distribution of farmers' access to the various initiative elements

Elements of the Initiative	Extent of Always (%)	Access initiative Occasionally (%)	N=290 Rarely (%)	Not at all (%)
Agro-input supply				
Improved stem cuttings	59.3	23.1	6.2	11.4
Fertilizer at subsidized rate	32.1	29.0	20.0	19.0
Sprayers	32.1	26.9	8.6	32.4
Agrochemicals	29.7	31.4	7.6	31.4
Tractor and implements	19.3	18.6	9.3	52.8
Market outlet for sales of cassava & products				
Farm gate(On the farm)	36.9	38.6	4.1	20.3
Middlemen	29.0	16.9	16.6	37.6
Local market	62.4	15.5	3.8	18.3
Regional market	22.8	12.4	6.6	58.3
Farmers' Association	25.2	23.8	12.1	39.0
Buying agent	11.4	14.5	12.4	61.7
Agro Industry	20.7	16.2	13.1	50.0
Extension services				
Training On production	56.9	22.1	7.9	13.1
Training On Processing	54.8	18.3	10.0	16.9
Training On marketing	47.2	22.1	10.3	20.3
Land by Local Govt for cluster farming				
<2 ha	21.0	13.4	8.6	56.9
2 ha-5 ha	12.8	13.4	10.0	63.8
>5 ha	10.0	11.4	5.2	73.4
Farm-gate processing centre				
Government Owned	15.9	10.0	4.8	69.3
Association Owned	23.4	20.7	5.5	50.3
Privately (Industry)Owned	53.8	20.3	6.9	19.0
Credit Facilities				
Bank	18.3	19.3	10.0	52.4
State government	16.6	22.1	12.1	49.3
Federal government	13.1	21.4	11.0	54.5
International agencies	4.5	12.4	7.9	75.2
Private Agencies	20.0	27.9	7.9	44.1
Cassava Processing Equipments				
Chipping machines	19.0	10.7	12.8	57.6
Pelletes	15.9	5.9	8.6	69.7
Graters	51.7	19.0	7.2	22.1
Press (screw and hydraulic)	48.6	17.9	6.2	27.2
Dryers	22.4	12.1	7.6	57.9
Grinder/miller	51.0	14.8	11.0	23.1
Starch vat and sift	15.9	5.5	9.3	69.3

Table 3: Distribution of respondents' perception of cassava initiative

Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	WMS
1 Improved cuttings supplied did not result in high output.	6.6	6.2	7.9	45.2	34.1	3.94 (1.122)
2 Agro-chemicals were available at subsidised rate any time we need them.	4.8	33.1	10.0	35.5	16.6	2.74 (1.216)
3 Government provision of cassava inputs was adequate	3.4	24.8	13.4	45.9	12.4	2.61 (1.093)
4 Inputs supplied was well distributed among farmers	8.6	17.6	21.4	40.7	11.7	2.71 (1.147)
5 The initiative brought improvement in the processing of cassava	32.8	44.5	9.3	10.7	2.8	3.94 (1.047)
6 Adequate marketing channels for cassava were available with the initiative.	7.9	31.0	26.2	26.6	8.3	3.04 (1.108)
7 It assisted in the sales of cassava products	10.3	56.2	13.8	9.0	10.7	3.47 (1.132)
8 Market information provided was not an advantage to farmers	4.8	13.4	22.8	45.2	13.8	3.50 (1.043)
9 Exportation of cassava products gingered me to increase production	17.9	46.6	16.9	13.4	5.2	3.59 (1.088)
10 Information disseminated at trainings were irrelevant to my cassava enterprise	7.9	5.5	4.8	41.0	40.7	4.01 (1.181)
11 Meetings with the stakeholders improved the cassava enterprise.	23.4	56.2	12.4	5.9	2.1	3.93 (0.882)
12 Training on quality standards for export was adequately provided	7.9	26.2	30.0	25.2	10.7	2.96 (1.123)
13 It motivated us to increase our cassava farm size	24.8	42.8	12.4	9.7	10.3	3.62 (1.245)
14 More people were encouraged to participate in cassava farming	32.8	46.6	7.2	8.6	4.8	3.94 (1.086)
15 This did not reduce production cost.	12.1	36.2	16.6	28.6	6.6	2.81 (1.168)
16 Available agro processing facilities provided were expensive	17.6	60.0	10.7	10.0	1.7	2.18 (0.899)
17 Cassava initiative promoted processing for export	10.3	51.7	15.9	14.5	7.6	3.43 (1.096)
18 Cassava processing facilities were adequate	11.4	12.8	17.6	44.8	13.4	2.64 (1.201)
19 It was another political programme	4.8	17.2	14.1	38.3	25.5	3.62 (1.177)
20 It established market linkages	10.3	44.8	13.8	23.4	7.6	3.27 (1.154)
21 It enhanced access to credit	18.3	35.2	13.8	24.5	8.3	3.31 (1.253)
22 It did not improve cluster farming	6.2	37.9	6.6	34.8	14.5	3.13 (1.242)
23 Bulk marketing was highly improved	14.5	39.3	20.7	21.4	4.1	3.39 (1.099)
24 The initiative enhanced the timely release of funds	9.0	27.2	17.6	33.1	13.1	2.86 (1.213)
25 The interest rate on loans was high	10.3	50.3	24.1	10.7	4.5	2.49 (0.971)

26	Funds given were not adequate for cassava farming	13.1	56.9	15.5	10.7	3.8	2.35 (0.967)
27	Promotion of recommended standards of 10% inclusion of cassava for bakeries was beneficial	36.2	48.3	9.7	3.1	2.8	4.12 (0.905)
28	Disease resistance stem cuttings were not readily available	6.6	27.6	20.7	30.3	14.8	3.19 (1.184)
29	Mechanization was too expensive for farmers	41.4	44.8	4.5	8.3	1.0	1.83 (0.925)
30	Labour cost was reduced than before with improved technology for production.	14.1	44.8	15.5	22.1	3.4	3.44 (1.087)
31	The cost of producing cassava increased through the initiative	9.7	41.7	11.0	26.9	10.7	2.87 (1.220)

WMS- Weighted mean score; Grand mean ≥ 3.19 Figures in parentheses are standard deviation.

Table 4: Respondents' perception level about the initiative according to zone.

Perception categories	All respondents (N= 290) %
Unfavourable Perception	130(44.8)
Favourable Perception	160(55.2)

Figures in parentheses are percentages

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