

SOCIO-ECONOMIC ANALYSIS OF COCOYAM FARMERS IN NGOR OKPALA LOCAL GOVERNMENT AREA OF IMO STATE, NIGERIA

Angela Izukanne Emodi¹· Chinwe Joy Obiora² and Justine Okere¹

¹Department of Agricultural Economics and Extension, Faculty of Agriculture, University of Port Harcourt, Nigeria

²Department of Agricultural Economics and Extension, Faculty of Agriculture, Federal University Oye-Ekiti Nigeria

ABSTRACT

The study identified the socio-economic characteristics of cocoyam farmers in Ngor Okpala Local Government Area of Imo State, Nigeria. Simple random sampling technique was used in selecting 60 cocoyam farmers from 8 randomly selected communities who participated in the study. Data were collected using validated structured questionnaire and interview schedule. Descriptive statistic including percentage and mean score were used for analysis. The statistical results show that 50% of the respondents were between the ages of 41 and 50 years. Majority (55%) of the respondents were females, about 72% were married, over 80% were literate whereas about 42% had an average farming experience of 6-10 years. Results also reveal that 90% had no contact with extension agents, 87% source information on cocoyam from friends/relatives while 37% had a monthly income of between 11,000-20,000 Naira. Generation of income (M=2.9) and high demand for cocoyam (M=3.62) were some factors influencing cocoyam cultivation. The farmers use local/indigenous method (M=3.48) in processing and preservation of cocoyam. No incentives from government (M = 3.78), problems of pest and disease (M=2.67) and absence of improved technique/information on cocoyam (M=3.45) were the major constraints faced by the respondents in cocoyam production. Based on the findings of this study, women are the major producers of this crop and to sustain women empowerment through cocoyam production, the study recommends that the government at the local level should as a matter of urgency deploy agricultural extension agents to these farmers. The agents should take improved techniques/information/innovation on cocoyam (example better ways of processing and preservation of cocoyam) to the respondents. This will invariably help in sustainable production of cocoyam which at the long run will imply sustainable development

Keywords- Cocoyam, Farmers, Imo State, Ngor Okpala, Socio-economic

INTRODUCTION

Root and tuber crops constitute the main source of starch in the greater part of the tropical population. These crops are not that important in the world market but they are of immense help locally. The major root and tuber crops planted in Nigeria include cassava, cocoyam, sweet potatoes and yam.

Cocoyam (*Colocasia spp* and *Xanthosoma spp*), a member of the Araceae family is an ancient crop grown throughout the humid tropic for its edible corms, cormels and leaves, as well as for other traditional uses Onwueme and Charles (1994). The Aracean family is made up of more than fifteen hundred species, and grows mostly in tropical and subtropical area. The aroids as they are very often called grow mainly in moist or shady habitats. Cocoyam contributes significantly to carbohydrate content of the diet of individuals in developing countries, and provides edible starchy storage corms or cormels. According to Opera (2002), cocoyam though less important than other tropical root such as yam, cassava and sweet potato, yet a staple food in most part of tropics and sub tropic. It has more crude protein than other root and tubers. Its starch is highly digestible because of the small size of the starch granules. It contains calcium, phosphorus, vitamins A and B.

Despite the economic importance of cocoyam as a food material in most parts of the tropics and sub tropic, there is limited information on their cultivation which perhaps contributes to the scarcity of cocoyam in the market (Ojinnaka, Akobundu and Iwe, 2009). The high content of calcium oxalate 780mg per100g in some species of cocoyam, has been implicated in the acidity or irritation caused by cocoyam. Oxalates tend to precipitate calcium and make it unavailable to use by the body. The acidity of high oxalates cultivars of cocoyam can be reduced by peeling, grating, soaking and fermenting during processing (Sanful and Darko, 2010). Cocoyam is used essentially the same way as yam yet it is not considered as prestigious as yam. According to Sanful and Darko, 2010, its flour is highly digestible and is used for invalids and as an ingredient in body foods.

In Nigeria, the importance of cocoyam cannot be over emphasized, based on the vital role it plays in human nutrition, income generation and source of employment especially among the rural dwellers. One of the major constraints in cocoyam in the tropic is the low fertility status of most of the soil causing the crop to winter due to organic matter and nutrient status of the soil. According to Asumadu, Omenyo and Tetteh (2013), cocoyam like any other root and tuber crops is a heavy feeder exploiting greater volume of soil for nutrients and water. There is a need to encourage rural farmers in the cultivation of cocoyam for food production. Cocoyam is a staple crop that needs to be promoted and preserved. The problem however, is that rural household are rapidly abandoning cocoyam which is an indigenous staple root and tuber crop for other root and tuber crops like yam and cassava. Thus, this could cause the crop to go extinct. Therefore, this needs to be checked because cocoyam is going extinct in most farm lands and markets and can only be seen in few cultivated lands. Farmers need to be encouraged to continue/promote cocoyam production and making them available in Nigeria market. Most farmers hold on to traditional farming methods of depending on household manure instead of using fertilizer due to unavailable credit facilities and this affects grossly the output of cocoyam. Because cocoyam is almost going extinct in our farms and markets and there is need for its sustainable production, it becomes pertinent to investigate the socio-economic characteristics of cocoyam farmers in Ngor-Okpala. Specifically, the study aims at:

- (1) describe the socio-economic profile of the cocoyam farmers;
- (2) ascertain factors that influence the cultivation of cocoyam in the study area;
- (3) investigate method of processing and preservation of cocoyam and
- (4) identify constraints to the production of cocoyam.

METHODOLOGY

The research work was conducted in Ngor-okpala Local Government Area (L.G.A) of Imo State, Nigeria. The geographical location of the State lies between longitude 6.5⁰E of Greenwich meridian and 5⁰N-6⁰N of the equator (Fig 1). Ngor Okpala Local Government Area is made up of the following communities: Ntu, Alulu, Amala, Orburu, Obokwe, Eziana, Okpala, Ohekelem, Ihite, Obike, Elelem, Umuohigu, Umuhu, Imerienwe, Nguru-Umuaro. It has an area of 561km² and a population of 159,932 (Umunakwe and Johnson, 2013). Ngor-Okpala is a notable place in Imo State because of its location/position. It connects both Abia and Rivers States of Nigeria. The people engage in the production of root and tuber crops as their major crops.

All the farmers in Ngor-Okpala L. G. A formed the population for the study. Simple random sampling was used in selecting 8 communities in the Local Government Area. Five farmers were randomly selected from each of the selected communities; this gave a total of 40 farmers (i.e. 5x8=40). Snowball sampling technique was used to get 20 farmers which gave a total sampling size of 60 farmers. Interview and structure questionnaire were used to obtain data from respondents. Information on factors influencing the production of cocoyam and constraints facing farmers were determined using a 4 point Likert rating scale of 'strongly agree =4', 'agree=3', 'disagree=2' and 'strongly disagree=1'. The mean was calculated thus: $4+3+2+1=10/4=2.5$. In the decision rule, any variable with mean score of 2.5 and above were considered as influencing factors and constraints whereas any variable less than 2.5 were not considered. Socioeconomic profile of the respondents was analyzed with percentage. Data on influencing factors and constraints were analyzed using mean.

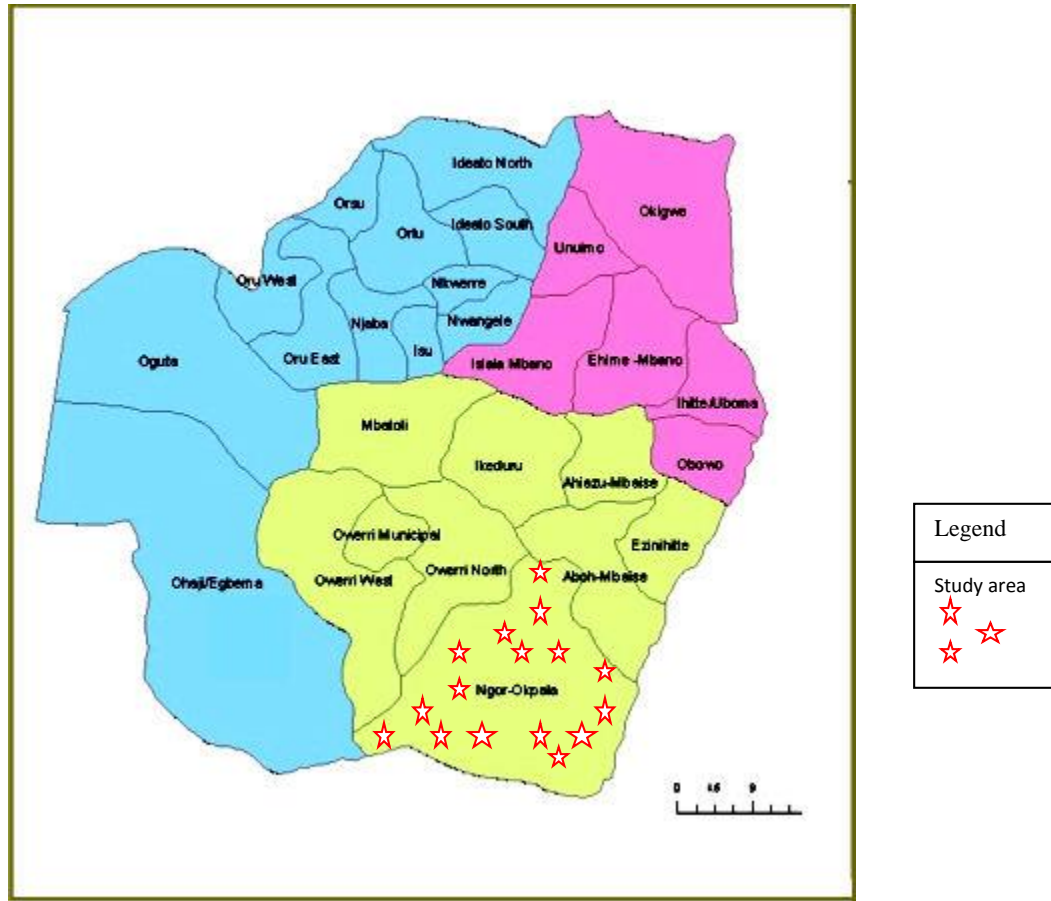


Fig 1: Map of Imo State showing the study area

RESULTS AND DISCUSSION

Socio-economic analysis of the respondents

Entries in Table 1 show that majority (55%) of the respondents were females while 45% were males. This implies that females were involved more in cocoyam cultivation than men. The findings also show that 1.7% of the respondents were between the age ranges of 21-30, 18.3% were between 31-40, 50% were between 41-50, about 27% were between 51-60 whereas 3.3% were between 61 years and above (Table 1). This implies that majority of the respondent (50.0%) were adult farmers who have experience in farming and are not within the dependency ration in the society, hence, has many dependents. Findings also show that about 17% of the respondents had no formal education, 38.3% each had primary and secondary education respectively while about 7% had tertiary education. This implies that most of the respondents were literate. Marital status of the respondents shows that 17.0% were single, majority (71.7%) of the respondents were married while 11.7% of the respondents were widow/widower. This indicates that majority of the respondents were married, therefore are faced with responsibilities of taking care of their family. Findings also show that for the household size of the respondents, 38.3% had household range of 1-5, 48.3% had 6-10, 10.0% had 11-15 while 3.3 had household size of 16 and above. This result suggests that most of the respondents in the study area had large family size implying that there are many mouths to be fed. The table also shows that

majority (70%) of the farmers cultivated less than 1 hectare of land, 20% cultivated 1 hectare while 10% cultivated more than 1 hectare. This shows that the farmers are indeed small scale farmers. The result also shows that 28.3% of the respondents were members of a cooperative society while 71.7% were not members of any cooperative society. This indicates that majority were not members of co-operative societies which may prevent or limit their access to farm resources like agro-inputs, credits facilities and even extension contact might be lean and this would not encourage cocoyam cultivation.

The Table equally shows that 13.3% of respondents had 1-5 years farming experience, 41.7% were 6-10 years farming experience while 28.3% ranged from 11-15 years and 16.7% had the farming experience of 16 and above. This implies that majority of the respondents have the adequate experience needed for cultivation. The Table also shows that 95.0% of the respondents had no contact with extension agents while only 5.0% had contact with extension. This is not good because visit or contact with extension agents provide opportunity for transfer of skill, knowledge and information which facilitates cultivation of cocoyam. Findings also shows that 20% of the respondents used family labour for cultivation, 61.7% used both family and hired labour while 18.3% used hired labour for the cultivation of cocoyam. From the Table, about 87.0% obtain information on cocoyam cultivation from friends/relatives/neighbours, 1.7% from extension agents, 6.7% from radio, while 5.0% from newspaper. It shows that the majority of the respondents obtained their source of information from friends/neighbour/relatives and little or no information from extension agents, radio and newspapers. The result also show that 25% of the respondents income is below ₦10,000, 36.7% is between 11,000-20,000; 18.3% is between 21,000-30,000; 13.3% is between 31,000-40,000 while 6.7% is above 40,00. This is an indication that majority of the respondents is leaving on below one dollar daily.

Table 1: Percentage distribution of respondents on socio- economic characteristics (n=60)

Variables	Frequency	Percentage (%)
Sex		
Male	27	45.0
Female	33	55.0
Age		
21-30	1	1.7
31-40	11	18.3
41-50	30	50.0
51-60	16	26.7
61 and above	2	3.3
Educational level		
No formal education	10	16.7
Primary education	23	38.3
Secondary education	23	38.3
Tertiary education	4	6.7
Marital status		
Single	10	16.7
Married	43	71.7
Divorced	-	-
Widower/widow	7	11.7
Household size		
1-5	23	38.3
6-10	29	48.3
11-15	6	10.0
16 and above	2	3.3
Member of any co-operative		
Yes	17	28.3
No	43	71.7
Farming experience		
1-5years	8	13.3
6-10years	25	41.7
11-15years	17	28.3
16 and above	10	16.7
Farm size		
Less than one hectare	42	70
One hectare	12	20
More than one hectare	6	10
Contact with extension agent		
Yes	3	5.0
No	57	95.5
Type of labour used		
Family labour	12	20.0
Family + hired labour	27	61.7
Hired labour	11	18.3
Source of information on cocoyam		
Cultivation		
Friends/relatives/neighbours	52	86.7
Extension agent	1	1.7
Radio	4	6.7
Television	--	--
Newspaper	3	5.0
Income level		
Below 10,000	15	25
11,000-20,000	22	36.7
21,000-30,000	11	18.3
31,000-40,000	8	13.3
Above 40,000	4	6.7

Source: Field survey, 2012

FACTORS THAT INFLUENCE THE CULTIVATION OF COCOYAM IN THE STUDY AREA

High demand of cocoyam (M= 3.62) was the major factor that influence cocoyam cultivation in the area (Table 2). This might be traceable to its high nutritive value and this agrees with the findings of Food and Agriculture Organisation of United Nations (FAO), (1998), who noted that cocoyam produced the highest yields of calories per unit of land area when compared with other root and tuber crops. Command of high price (M=3.00), generation of income (M=2.95). Less labour (M= 2.72) were other factors influencing cultivation of cocoyam in the study area. This is in conformity with the findings of Opera (2002), who asserted that cocoyam served as a major staple crop as well as command high selling price due to its nutritive value and digestibility in some parts of Nigeria and West Africa. Scott, Rosegrant and Ringler, (2000) also noted that cocoyam served as a food security crop, alleviating seasonal shortages of food caused by natural or man-made disaster and the yield are stable under conditions where other crops may not succeed. The Table equally reveals that low demand (M=1.87), low selling price of produce (M=1.97) were some of the factors seen not to influence cultivation of cocoyam in the study area.

Table 2: Factors that influence cultivation of cocoyam among farmers

S/N	Statement	SA	A	D	SD	Mean	Remark
1	Cultivation of cocoyam generates income for you	3(5.0)	51(85.0)	6(10.0)	----	2.95	A
2	Cultivation of cocoyam demand less labour	7(11.7)	31(51.7)	20(33.3)	2(3.3)	2.72	A
3	Demand for cocoyam is low	39(65.0)	19(31.7)	2(3.3)	----	1.87	D
4	Demand for cocoyam is high	1(1.7)	1(1.7)	47(78.3)	11(18.3)	3.62	A
5	Cocoyam commands high selling price	6(10.0)	48(80.0)	6(10.0)	----	3.00	A
6	Cocoyam commands low selling price	-	6(10.0)	46(76.7)	8(13.3)	1.97	D

Mean (M) = ≥ 2.5

Source: Field survey, 2012

METHOD OF PROCESSING AND PRESERVATION OF COCOYAM

Table 3 shows that local methods of preservation (M= 3.48) communication channels in marketing (M=2.65) were the major strategies employed by farmers in the processing and preservation of cocoyam. This agrees with the findings of Okoedo-Okojie and Onemolease (2009), who had noted that awareness level of rural farmers influence their adoption of modern technology and as such farmers were more involved in the use of local methods and indigenous knowledge in the cultivation and preservation of cocoyam in the study area. However, lack of access to loan (M=1.63) information from extension agents

(M=1.82). Credit facilities (M= 1.90) were seen to be strategies that were underutilized in the cultivation of cocoyam. This agrees with the findings of Owolabi, Abubakar and Amodu, (2011) that had noted that farmers lacked access to extension service which would significantly improve their production.

Table 3: Methods used by farmers to process and preserve cocoyam

S/N	Statement	SA	A	D	SD	Means	Remarks
1	There is access to loan	----	1(1.7)	36(60.0)	23(38.3)	1.63	D
2	There is access to credit facilities	----	7(11.7)	40(66.7)	13(21.7)	1.90	D
3	There is incentive from government	----	1(1.7)	13(21.7)	46(76.7)	1.25	D
4	There is information about the marketing of cocoyam from extension agents	1(1.7)	3(5.0)	40(66.7)	16(26.7)	1.82	
5	I use modern method to preserve the cocoyam	----	2(3.3)	50(83.3)	8(13.3)	1.90	D
6	I use local method to preserve the cocoyam	30(50.0)	29(48.3)	1(1.7)	----	3.48	A
7	I use communication channels to market cocoyam	4(6.7)	35(58.3)	17(28.3)	4(6.7)	2.65	A

Mean (M) = ≥ 2.5

Source: Field survey, 2012

CONSTRAINTS TO THE PRODUCTION OF COCOYAM.

Table 4 shows that lack of incentives from government (M=3.78) was the major constraints encountered by farmers in cultivation of cocoyam and this agrees with the finding of Timmer, Falcon and Pearson (1983) who noted that farmers do not receive incentive from government in improving their production. Lack of improved techniques in farming (M=3.45), high cost of fertilizer (M=3.13), pest and disease infestation (M=2.67) were some of the other constraints faced by cocoyam farmers in the study area. This is in conformity with the finding of Dixon, Ngeve and Nukenine (2002) who had asserted that root and tuber crops suffer heavy yield losses in some area in Nigeria as a result of pest and disease infestation. Furthermore, the Table shows erosion control (M=1.65), use of fertilizer (M= 2.27), transportation of produce (M=2.30) posed lesser constraints to cocoyam cultivation in the study area. This might be traceable to the fact that majority of farmers in the study area depends more on household manner and thus do not make use of fertilizer in the cultivation of cocoyam.

Table 4: Mean distribution of respondents based on constraints in the cultivation of cocoyam

S/N	Statement	SA	A	D	SD	Means	Remarks
1	I do not apply fertilizer because it is expensive	21(35.0)	30(50.0)	5(8.3)	4(6.7)	3.13	A
2	Fertilizer is difficult to find in the market	2(3.3)	320(33.3)	30(50.0)	8(13.3)	2.27	D
3	Insect/pest/rodents attack my crops	7(11.7)	27(45.0)	25(41.7)	1(1.7)	2.67	A
4	No improve techniques to cocoyam farming	36(60.0)	18(30.0)	3(5.0)	3(5.0)	3.45	A
5	People do not eat cocoyam	1(1.7)	--	25(41.7)	34(56.7)	1.47	D
6	Many people do not use cocoyam for cooking	5(8.3)	32(53.3)	18(30.0)	5(8.3)	2.10	A
7	Cocoyam disease is a problem on the farm	2(3.3)	32(53.3)	26(43.3)	-----	2.60	A
8	Pest and disease is difficult to control	6(10.0)	34(53.3)	20(33.3)	-----	2.77	A
9	I find it difficult to transport my produce	3(5.0)	18(30.0)	33(55.0)	6(10.0)	2.30	D
10	Erosion is a problem on the farm	5(8.3)	5(8.3)	14(23.3)	36(60.0)	1.65	D
11	It is difficult to store the produce	4(6.7)	18(30.0)	30(50.0)	8(13.3)	2.30	D
12	There is no incentive from government	52(86.7)	5(8.3)	1(1.7)	2(3.3)	3.78	A
13	The environment condition is harsh for cultivation.	-----	3(5.0)	52(86.7)	5(8.3)	1.97	D

Mean (M) = ≥ 2.5

Source: Field survey, 2012

CONCLUSION

In Nigeria, the importance of cocoyam is indispensable, based on the vital role it plays in human nutrition, income generation and as source of employment especially among the rural dwellers. The study identified the socio economic characteristics of cocoyam farmers in Ngor Okpala Local Government Area of Imo state. Majority (55%) of the respondents were females, about 72% were married over 80% were literate whereas about 42% had an average farming experience of 6-10 years. Results also reveal that 90% had no contact with extension agents, 87% source information on cocoyam from friends/relatives.

The generation of income (M=2.9) and high demand for cocoyam (M=3.62) were some factors influencing cocoyam production. The farmers use local/indigenous method (M=3.48) in processing and preservation of cocoyam. No incentives from government (M = 3.78), problems of pest and disease (M=2.67) and absence of improved technique/information on cocoyam

(M=3.45) were the major constraints faced by the respondent in cocoyam production. For sustainable cocoyam production that will result in sustainable economic development, the study recommends that the government at the local level should as a matter of urgency send agricultural extension agents to the farmers.

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ABOUT THE AUTHORS:

Angela I Emodi is a Lecturer at the Department of Agricultural Economics and Extension, Faculty of Agriculture, University of Port Harcourt, Port Harcourt, Nigeria.

Justine Okere is a graduate of Department of Agricultural Economics and Extension, Faculty of Agriculture, University of Port Harcourt, Port Harcourt, Nigeria.

Chinwe J Obiora is a Lecturer at the Department of Agricultural Economics and Extension, Faculty of Agriculture Federal University Oye-Ekiti, Nigeria.