DETERMINANTS OF MARKET PARTICIPATION AMONG COCOYAM FARMERS IN ABIA STATE, NIGERIA

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Abstract
This study examined the determinants of market participation intensity and assessment of the level of participation in cocoyam marketing for selling and buying households in Abia state, Nigeria.The objectives of the study are to: determine the socio-economic characteristics of cocoyam marketers among small-holder farmers inAbia state; determine the market participation intensity; and assess the level of participation in cocoyam marketing for selling and buying households in Abia state, Nigeria.Primary data were used in the study. The primary data were collected from a random sample of 200 cocoyam marketers in Abia State. The respondents were drawn from rural and urban markets in the agricultural zones of the state. The data were analyzed using descriptive statistics, ordered probit model, probit andheckitmodel.The result shows that a large proportion of the farmers (51.5%) and marketers (72.0%) had 1-10 years' experience, followed by 41.0% and 21.5% of farmers and marketers having 11- 20 years' experience. The higher the number of years of experience, the better for the marketers to adapt to the marketing system and have more interest in participation in the trade.Among the household endowment (assets), farm size, total incomes, high yielding varieties used are significant determinants of participation intensity with varied signs.It was observed that the cocoyam producers have the probability of participating in the market as sellers other than buyers. This was and directly associated with farm size, value of cocoyam, distance to the nearest town, time of leisure and high yielding varieties used. It is recommended thatland should be made available close to their residence to encourage participation since it leads to marketable surplus cocoyam in the state. It is also recommended that loan should be provided to farmers, and awareness campaigns be intensified to popularize the benefits of the crop.

Keywords: Cocoyam, Marketing, Participation and Abia State

Introduction

Colocasia esculenta originated from South East Asia (India or Malaysia) and *Xanthosoma Mataffa* originated from tropical America. Cocoyam (Colocasia and Xanthan spp) belong to the family ara Cece and it is made up of 100 genera and 1500 species. They are staple food and cash crop for Nigerians (Eke-okoro *et al*., 2005). Cocoyam can be processed into several food and food products. (Hussain *et al*; 1984), and used also as feed for livestock and as industrial crop for the production of alcohol and medicines. It is a good source of carbohydrates for diabetic patients, convalescents and fortified food for infants.Cocoyam is mostly produced in Africa and Nigeria by peasant farmers (Knipscheer and Wilson, 1980). Nigeria is ranked the highest producer of cocoyam in the world accounting for 40.0% of total global production (Eze and Okorji, 2003). The crop relates with yam and cassava as well as assorted vegetable in homestead gardens (Okwuowulu *et al*, 2000). However, the major constraints in the production of cocoyam include declining interest amongst farmers, limitation of improve and diseased/ pest tolerant varieties, low tuber yielding and poor storability (Eke-Okoro *et al.*, 2005).

Cocoyam market like many food markets in Nigeria is unorganized and participants assume different roles at different points. Prices of food items have been fluctuating partly on account of low productivity, irregular supplies and changing transaction costs. Perishable foods like cocoyam store poorly and remain available in the market during harvest seasons only to be scarce thereafter. The response of sellers and buyers of these products (cocoyam) needs to be examined

thoroughly.Under traditional farming, it is hard to identify cocoyam selling and coc**o**yam buying households. Small household farmers cultivating cocoyam as part of their enterprises find it difficult to participate in markets because an of array of constraints and barriers reducing incentives for participation (Makhura*et al.*, 2001).Economists have treated the household's decision to participate in markets as a two-step process: first, producing households decide whether to participate (buying or selling) or remain autarkic, then, conditional on participation, how much to buy or sell. (Goetz, 1992). However, when considering a market such as for cocoyam in Abia State, it is important first to acknowledge that not all households are producers. It important to add a third stage of analysis to the traditional market participation model that identifies factors influencing a household's decision whether or not to produce (Key *et al.*, 2000).

For households that make marketing decisions sequentially, the they retain greater flexibility once they arrive in a market, making their purchases or sales volume decisions *ex-post* based on new information discovered at the market, thereby reducing traders' capacity to extract much or all of the gains from trade. Longstanding popular assumptions indicate that traders exert market power over sellers and buyers in rural markets (Takeshima, 2008). Key *et al*., (2000) developed a structural model to estimate structural supply functions and production thresholds for Mexican farmers' participation in the maize market, based on a censoring model with an unobserved censoring threshold. Their model differentiates between the effects of fixed and proportional transaction costs. Holloway *et al*., (2005) used a Bayesian double-hurdle model to study participation of Ethiopian dairy farmers in the milk market when non-negligible fixed costs lead to non-zero censoring, as in Key *et al*., (2000) but distinguishing between the discrete participation decision and the continuous volume marketed decision, as in Goetz.Mathur *et al*., (2001) employed selectivity models to identify factors of market participation involving the two-step estimation similar to Heckman's. Takeshima (2008) modified the estimation methods used to estimate elasticity'sdemand and supply of product

Articles on household marketing behaviour in developing countries thus began from fundamentally different assumptions about the nature of households' market participation choices (Bellemare and Barrett, 2006). Goetz (1992) and Holloway *et al.* (2005) explicitly assumed following choice: households initially decide whether or not to participate in the market, and then take a decision on the volume purchased or sold conditional on having chosen market participation. Key *et al.* (2000), by contrast, implicitly modelled the household as making the discrete market participation choice simultaneously with the continuous decision as to volumes purchased or sold. Bellemare and Barrett (2006), allows for the possibility that households could make marketing decisions either sequentially or simultaneously.

The motivation for the probit model for market participation comes from the perspective sequencing and jointness of the household's marketing decisions (Bellemare and Berrett, 2006). The key insight is that because a household's net sales (sales minus purchases) volume spans the real line, one can partition the continuous market participation outcome into three distinct categories: net buyer (households whose net sales are negative), autarkic (households whose net sales are equal to zero) and net seller (households whose net sales are positive) households. Moreover, these three categories are logically ordered, and since it is informative to distinguish between net buyers and net sellers rather than just lump them together as "market participants," one can estimate an ordered probit participation decision. Ordered probit specification allows the study of fixed and variable transaction costs separately, as do Key *et al*., (2000). Bellemare and Barrett (2006) used an estimator that converges more readily than does their somewhat more cumbersome likelihood function.The objectives of the study are to determine the socio-economic characteristics of cocoyam marketers amongsmall-holder farmers inAbia state; to determine the market participation intensity and assess the level of participation in cocoyam marketing for selling and buying households in Abia state, Nigeria.

Methodology

The study was carried out in Abia State, Nigeria. The state is made up of seventeen Local Government Areas (L.G.As) and has three agricultural zones namely Umuahia, Aba and Ohafia. Cocoyam is one of the staple foods in Abia State and is produced and marketed in all the zones of the state. Multistage random sampling technique was used in the study. Out of the three agricultural zones, two was selected. These are Ohafia and Umuahia. Two local government areas were randomly selected from each of the two zones, giving a total of four local Government areas. These local governments are Bende, Ohafia, Umuahia North and Umuahia South LGAs. Five communities were randomly selected from each LGA giving of 20 communities. One market was randomly chosen from each of the chosen the communities. Ten cocoyam buyers andsellers were selected randomly from each chosen community/ market. The samples gave a total number of 200 cocoyam buying and selling households. The primary data were collected through a structured questionnaire. Objective(i) was analyzed using descriptive statistics such as frequency and percentage; and in Objective (ii)market participation intensity and assessment of the level of participation in cocoyam marketing for selling and buying households in Abia State, the ordered probit model was used to estimate intensity of participation and in addressing the level of participation probit and heckit were used in the estimation.

Explicitly the seller type equation for producing, selling and consuming households is modeled as follows;

$$I_i^{\text{seller/buyer type}} = a^{pr} + a_1^{pr} Z_i^{pr} + a_2^{pr}Z_{2pr} + a_3^{pr} Z_{3pr} + a_4^{pr} Z_{4pr} + a_5^{pr} + Z_{5pr} + a_6^{pr}Z_{6pr} + a_7^{pr} Z_{7pr} + a_8^{pr} Z_{8pr} + a_9^{pr} Z_{9pr} + a_{10}^{pr}Z_{10pr} + a_{11}^{pr} Z_{11pr} + a_{12}^{pr}Z_{12pr} + a_{13}^{pr} Z_{13\,pr} + a_{14}^{pr} Z_{14pr} + a_{15}^{pr}Z_{15pr} + a_{16}^{pr} Z_{16pr} + a_{17}^{pr}Z_{17\,pr} + a_{18}^{pr} Z_{18\,pr} + a_{19}^{pr}Z_{19\,pr} + a_{20}^{pr} Z_{20\,pr} + a_{21}^{pr}Z_{21pr} + a_{22}^{pr}Z_{22\,pr} + a_{23}^{pr}Z_{23pr} + a_{24}^{pr}Z_{24pr} + U \text{------ - - - -} (1)$$

Where;

Z_1= Farm Size
Z_2= Value of Cocoyam (₦)
Z_3= Total Income (₦)
Z_4= Own a Vehicle/truck dummy
Z_5= Own Motorcycle dummy
Z_6= Own Bicycle dummy
Z_7=Extension Visits
Z_8 =Educational level (yrs)
Z_9= Distance to nearest town (km)
Z_{10}= Road conditions to nearest town are good dummy
Z_{11}=Membership of cooperatives dummy
Z_{12}=Access to credit dummy
Z_{13}=Household size
Z_{14}=Gender dummy
Z_{15}=Age of household head (years)
Z_{16}=Owns a GSM/Phone, Radio or TV dummy
Z_{17}=Dependency ratio
Z_{18}=Time of Leisure (hrs)
Z_{19}=Storage Capacity in kg
Z_{20}=Risk dummy
Z_{21}= Native Dummy
Z_{22}=Price of cocoyam (N/kg)
Z_{23}=High Yielding Varieties used (%)
Z_{24}=Crop Transportation Costs (₦/ton)
a_1_a_{24}=Coefficients to be estimated
U_i =error term

Results and Discussion

Table 1 shows the socio economic characteristics of the cocoyam sellers and buyers in the study area. These characteristics are discussed under the following headings: gender, age, marital status, type of market participation, household size, education level, farming and marketing experience and place of sale and purchase of cocoyam in the state. Table 1 shows that almost equal proportions of females (51.0%) and males (49%) are participating in cocoyam marketing in the study area and majority (58%) of cocoyam marketers are relatively young individuals who are in their youthful age (36-45 years).The result also shows that transaction and participation in cocoyam marketing is dominated by married people. This implies that the trade is a source of income to the families from which they meet their basic needs.

Table 1: Social Economic Characteristics of the Cocoyam Marketers

Gender	Number of marketer	Percentage (%)
Male	98	49.0
Female	102	51.0
Age (years)		
26-35	19	9.5
36-45	116	58.0
46-55	53	26.0
56-65	12	6.0
Marital status		
Married	176	88.0
Single	8	4.0
Divorced	2	1.0
Widowed	14	7.0
Participation		
Buyer	30	15.0
Autarkic	26	13.0
Seller	144	72.0
Household Size		
1-2	15	7.5
3-4	50	25.0
5-6	90	45.0
7-8	39	19.5
9-10	6	3.0
Educational Level		
No Formal Education	16	8.0
Primary Education	42	21.0
Secondary Education	83	41.5
Tertiary	59	29.5
Years of Experience		
0	5----2.5%	10---5.0%
1-10	102--51.5%	144—72.0%
11-20	82---41.0%	43-----21.5%
21-30	11---5.5%	3-----1.5%
place	Place They sell	Place They buy
Farm	19---9.5%	32---16.0%
Market	164---82.4%	131—65.5%
Don't sell	16----8.0%	37-----18.5%
Total	200	100.0

Source: Field survey 2014

The result shows that (72%) of the respondents only participated in selling and 13%, producing and selling Autarkic. The result equally revealed that majority of the respondents (45.0%) had household sizes of 5-6 persons. The result also showed that 92 .0% of the cocoyam marketers had

one form of education or another while 8.0% had no formal education. This shows that literacy level was high amongst them and could enhance marketing technology. The level of educationhad beenidentifed to enhance the marketing efficiency and the ability to evaluate new techniques (Obasi, 1991). A large proportion of the farmers (51.5%) and marketers (72.0%) had 1-10 years of experience, followed by 41.0% and 21.5% of farmers and marketers having 11- 20 years of experience. The higher the number of years of experience, the better for the marketers to adapt to the techniques of the marketing system and competition and this implies that they were better equipped to negotiate (Vakis and Saudoulet, 2003).

The result of the ordered probit model to estimate intensity of participation which represents the second stage hurdle of the two tier model is presented in Table 2.

Table 2: Determinants of intensity of participation in Cocoyam marketing in Abia State, Nigeria

Variable	Parameter	Coefficient	Std.Error	t-Valve
Farm Size	Z_1	-0.639	0.253	-2.521*
Value of Cocoyam	Z_2	-0.005	0.001	-4.363***
Total Income	Z_3	-0.009	0.001	-10.550***
Own a Vehicle	Z_4	.0.029	0.342	0.084
Own Motorcycle	Z_5	0.151	0.319	0.471
Own Bicycle	Z_6	-0.394	0.307	-1.283
Extension Visits	Z_7	0.510	0.363	1.141
Education	Z_8	-0.137	0.045	-3.020**
Distance to the nearest town	Z_9	-0.131	0.051	-2.564*
Good road condition	Z_{10}	0.828	0.358	2.311*
M/ship of coop	Z_{11}	0.567	0.160	3.541***
Access to Credit	Z_{12}	-0.634	0.514	-1.234
Household Size	Z_{13}	-0.109	0.123	0.893
Gender	Z_{14}	0.854	0.111	-7.683***
Age of HH	Z_{15}	0.045	0.024	1.874*
Own GSM (mobile phone)	Z_{16}	0.757	0.187	4.043***
Depending ratio	Z_{17}	-0.257	0.154	-1.670*
Time of leisure	Z_{18}	0.070	0.069	1.022
Storage Capacity	Z_{19}	0.020	0.013	1.591
Risky	Z_{20}	-0.102	0.297	-0.344
Native Dummy	Z_{21}	-0.075	0.293	-0.264
Price of Cocoyam	Z_{22}	0.006	0.001	6.053***
High yielding Var	Z_{23}	-0.004	0.001	3.834***
Crop Transpiration Cost	Z_{24}	-0.00003	0.0002	-0.194
C_1(purchases)	-0831		1.609	
C_2 (sales)	0.068		1.611	
Log likelihood	-77.963			
Log likelihood Ratio	96.561***			

Source: Computed from field survey (2014) Dependent variable = ordered probit (seller, buyer, autarkic)

Among the household endowment (assets), farm size, total incomes, high yielding varieties used are significant determinants of participation intensity with varied signs.Specifically, negative signs were recorded by the coefficients of farm size, total income and high yielding varieties used in cocoyam production and sales. The implication is that households with smaller farm size, income and who used high yielding varieties are likely to be autarkic than sellers and buyers *ceteris paribus*.Expectedly, low land holding has large implication on output which in turn influences

income. The same goes for reduction in the use of high yielding varieties. Both farm size and use of high yielding varieties are determinants of income among farmers and thus, their purchasing power.

Ownership of GSM (mobile phones), distance to the nearest town, road condition and membership of cooperatives (all related to access to information) are the significant variables that influenced intensity of participation to cocoyam marketing. With positive signs for ownership of GSM, road condition and membership of cooperatives, household are likely to be more autarkic than buyers and sellers. This result is consistent with Ohajiana and Ugochukwu (2011); Okoye *et al;* (2010) who had a similar sign for the access to information variables in relatedstudies. Although transaction costs theory as developed by Coase (1973), Ouchi (1980) and William (1991) holds that both fixed and variable transaction costs influence the intensity of participation, studies by (Jagwe, 2011; Moyo, 2010) have found that access to information variables tend to eliminate the fixed cost effect on smallholders coefficient and significant at 10% level of probability. A plausible explanation could be that closeness to next town had a significant negative influence no accessing information about cocoyam marketing in the study area.

Among the factors describing household characteristics, gender and dependency ratio posted negative coefficients while age of household heads and their education level gave positive signs but were significant at varied alpha levels of probability. The negative gender sign indicates that female cocoyam marketers are more likely to be autarkic than sellers and buyers. This lends credence to cultural role implication that cocoyam is a women's crop especially when its culinary value as a thickenerwas considered. The positive sign of age and education implies that older and better educated house heads are more likely to be autarkic than buyer and sellers, ceteris paribus. The result holds true probably in situations of high level of unemployment. The gender result supports prior research based on the premise that women generally tend to have better bargaining power especially in food crop related transaction (Makhura, 2001).

The remaining significant variables are price and value of cocoyam which have opposing sign identities, positive and negative respectively. Although the variables are related to transaction costs, their individual posture has large implication on the participation status of the households. From the result, increase in price of cocoyam propels household to be autarkic than being buyers and sellers while declining value of the commodity constrains households to be autarkic than sellers and buyers.

The ancillary parameter reveal that the non-zero censoring points are of negative signs, with the bottom censoring threshold recording-0.831 cocoyam net purchases while the top threshold posted 0.068 net sales. These imply that purchases or sales of less than 1kg are generally uneconomical. This consolidates the findings of Bellemare and Barret (2006) who had a similar outcome and averred based on the finding that people are more willing to enter the market for smaller volume sales than purchases. The log likelihood ratio of 96.561 with high level of significance suggests that the regressors taken together influenced market participation decisions.

Assessment of the Level of Participation in Cocoyam Marketing for Selling and Buying Households

In addressing the level of participation among selling and buying household, the Heckman model was applied. The application of the Heckman model in this study traced out an innovative path which has been explored by prior studies. Consistent with the two-stage selectivity procedure, the first step is the probit analysis that provides results to determine the probability of participating in the market as a buyer or seller (equivalent to the effects of fixed transaction costs). The second stage provides Heckit analysis that determines the level of participation (equivalent to the effects of fixed and variable transaction costs).The result of the probit and Heckit analysis is presented in Table 2.

Table 2: Estimated Probit and Heckit Results of the Level of Participation in Cocoyam Marketing in Abia State, Nigeria

Variables	Probit(SE)	Direct (SE)	Indirect
Constant	1.660 (1.274)	296.096 (1294.941)	1.660 (1.274)
Farm Size	0.601 (0.216)**	681.828 (244.784)***	0.201 (0.216)
Value of Cocoyam	0.001 (0.003)***	0.888 (0.242)***	0.0003 (0.001)
Total Income	-0.001 (0.001)	1.118 (0.840)	-0.001 (0.001)
Own Vehicle	0.506 (0.286)*	655.984 (291.133)**	-0.506 (0.286)*
Own Motorcycle	-0.152 (0.249)	26.103 (234.609)	-0.152 (049)
Own Bicycle	0.265 (0.246)	196.953 (305.517)	0.265 (0.249)
Extension Visits	0.402 (0.311)	102.036 (378.163)	0.402 (0.311)
Education	-0.089 (0.360)*	-68.221 (33.009)*	0.029 (0.360)
Distance to the nearest town	0.091 (0.041)*	13.540 (43.098)	0.91 (0.21)***
Road Condition	-0.277 (0.249)	560.174 (211.965)*	-0.277 (0.249)
M/ship of coop	-0.071 (0.309)	879.594 (285.296)**	-0.071 (0.309)
Access to Credit	-0.170 (0.475)	626.696 (413.025)	-0.170 (0.475)
HHS	-0.099 (0.093)***	112.914 (103.307)	-0.099 (0.934)
Gender	0.692 (0.254)	-943.384 (266.453)***	-0.692 (0.254)**
Age of HH	-0.014 (0.020)	18.594 (24.983)	-0.014 (0.020)
Own GSM, radio/TV	0.165 (0.326)	1236.658 (379.248)**	0.165 (0.326)
Depending ratio	0.151 (0.124)	6.177 (140.044)	0.151 (0.124)
Time of leisure	0.149 (0.057)**	82.607 (115.178)	0.149 (0.057)**
Storage Capacity	0.006 (0.008)	1.530 (9.519)	-0.009 (0.004)*
Risky	-0.236 (0.247)	21.400 (296.356)	-0.236 (0.247)
Native Dummy	-0.118 (0.240)	-176.870 (237.292)	0.118 (0.240)*
Price of Cocoyam	-0.001 (0.001)*	-0.484 (0.894)	-0.001 (0.001)
High yielding Var. used	0.002 (0.001)***	-1.031 (1.286)	0.002 (0.001)
Crop Transportation cost	-0.001 (0.001)	-0.294 (0.139)*	45E-5 (1.3E-4)
Mills lambda	37.135		
Wald Chi^2 (48)	70.22		
Wald test of indecency eqns (rho)	0.386		
R^2	0.789		

Source: computed from survey (2014)

NB: ***, ** and * denote significance at 1.0%, 5.0% and 10.0% levels respectively. Values in parentheses are standard errors.

From the probit result in Table 2, it was observed that the cocoyam producers have the probability of participating in the market as sellers other than buyers. This was and directly associated with farm size, value of cocoyam, distance to the nearest town, time of leisure and high yielding varieties used. This is hinged on the fact that they posted positive coefficients. More specifically, the positive coefficient of farm size could be associated with the fact that a larger area provides a greater opportunity for the production of marketable surplus cocoyam in the state. This is consistent with Makhura *et al* (2001) who had a positive sign for land in a study on maize markets in Northern Province of South Africa. The value of cocoyam was also positively associated with the high (1.0%) probability of participating as seller in cocoyam markets. This is predicated on the fact that high value of the commodity guaranteed good marketing margins to the marketers. Consistent with *apriori* expectation, distance to the town directly related but positively with the participating as a seller more than a buyer. The chances of recovering expenses arising from transportation are higher if he participates as a seller more than as a buyer. However, the result is not in consonance with Goetz (1992) who had a negative coefficient for the variable in a related study.

The desire to generate higher revenue from the marketable surplus explains the positive coefficients on of time leisure and high yielding varieties used. Time of leisure had indirect influence on participation while high yielding varieties had neither direct nor indirect influence.Conversely, the likelihood of market participation increases directly and indirectly with ownership of vehicle, directly with education, neither directly nor indirectly with household size, and price of cocoyam. The posture of this result is such that ownership of vehicle helps in reducing transportation cost and hence transaction cost. Ownership of vehicle affects quantity sold directly and indirectly given its significant coefficients. The negative sign explains the effect of the selectivity bias and predicts on the long run effects that accrue from tears and wears of the vehicle. This effect can be nullified if the scale operation is reasonably high. This is consistent with Makhura (2001) who had a related result in a similar crop in South Africa.This result is consistent with apriori expectation but runs counter with Jagwe (2011) who had a contrary sign identity.

With increasing household size, the farmers are likely to participate as buyers. This is plausible given the new posture of cocoyam in the tropics. According to Azeez and Madukwe (2010), cocoyam is now accepted as a crop that can guarantee food security; because it is relatively low priced and could therefore feed many low income families. This assertion counteracts the result on price of cocoyam but may not deem exclusive to the locality within which this study was conducted. Education is directly and negatively related to quantity sold. This result is not in line with expectation but holds true based on the fact that most educated people would not show interest in cocoyam marketing except as researchers. In line with expectation, ownership of vehicle has a positive a coefficient and significant hold on the fact that the use of vehicle reduces the transaction cost and assists conveyance of more quantities ownership of vehicle affects quantity sold directly and indirectly given its significant coefficients. The negative sign explains the effect that accrues from tears and wears of the vehicle. This effect can be nullified if the scale operation is reasonably high. This is consistent with Makhura (2001) who had a related result in a similar in South Africa. Education is negatively related to quantity sold. This result is not in line with expectation but holds true based on the fact that most educated people would not show interest in cocoyam marketing except as researchers.

In line with expectation, female producers tend to participate more in cocoyam marketing than their male counterparts. This consolidates the fact that cocoyam has been described as a woman's crop as reported by Okoye *et al* (2009) and Azeez and Madukwe (2010). Road condition had directsignificance in participation in cocoyam marketing. Its effect is related to that of the vehicle which reduces transportation cost. Other significant variables with direct influence on participation include ownership of GSM (mobile phones), Radio and TV and membership cooperatives. These are practical media of access to information and as such, the result is anticipated. The other negatively signed variables with direct influence on participation include transportation cost which has huge implications on sales. The inverse mills ratio (lambda) is significant, implying that there covariates of condition the cocoyam was marketed conditional on the probability to participate either as a buyer or seller. The R^2 of 0.789 explains how well the data fit into the regression line. This indicates a good fit of 79%.

Conclusion

The study has shown the determinants of market participation intensity and assessment of the level of participation in cocoyam marketing for selling and buying households in Abia state, Nigeria.Female producers tend to participate more in cocoyam marketing than their male counterparts. It is therefore recommended that male should be encouraged since it is a source of livelihood for the families. Land should be made available close to their residence to encourage participation since it leads to marketable surplus cocoyam in the state. Awareness campaigns should be intensified to popularize the crop and its benefits so that more marketers will participate.

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