

CULTURAL FACTORS INFLUENCING USE OF SWEETPOTATO FLOUR FOR CONFECTIONERY IN IMO AND EBONYI STATES OF NIGERIA

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ABSTRACT

A study was conducted in Imo and Ebonyi states to determine the influence of cultural factors in the utilization of the sweet potato flour for confectionery. Imo and Ebonyi States were purposively selected. Structured questionnaire was used to elicit data from respondents. Data collected were analyzed and presented using descriptive and inferential statistics. Specifically, the probit model statistics was employed to determine the influence of cultural factors on utilization of the technology. Results of the analysis revealed that there was a medium level of utilization. Cultural factor such as who takes agricultural decision in the home, land inheritance, involvement of women who inherit land, and those who cultivate sweetpotato did not encourage utilization of the technology. Though culture influenced utilization it was not significant.

Key words: cultural factors, sweetpotato flour, confection

INTRODUCTION

Sweetpotato (*Ipomoea batatas* (L. Lam) is a nutritious, high energy crop that is rich in carotene, vitamins and dietary fibers (Kays and Kays 1997). Sweetpotato equally contain high levels of minerals and proteins (Wolfe, 1992). It is the 4th major rootcrop in Nigeria, the 7th most important food crop in the world. It has a diverse range of positive attributes which include high yield potential, high nutrition value, resistance to production stress (Kays, 2004). The sweetpotato potentials if properly harnessed play a major role in poverty reduction and food security. In spite of these highly desirable attributes, sweetpotato is still not very well integrated into the average Nigerian diet. Currently, it is not common to find sweetpotato being served in restaurants, workers canteen, and boarding schools like other root and tubers which are widely consumed in a variety of preparation. In a bid to increase consumption in the country various products were developed by the relevant research programmes.

In line with this, sweetpotato was processed into sweetpotato flour for confection and disseminated to Imo and Ebonyi end-users through the Agricultural Development Programmes of the two states. In order that the technology will be readily acceptable to end-users it must fit into the culture of the end-users as indicated by Unaman, (2002), who indicated that agricultural innovation needed to be accepted into the culture of the people for whom it was recommended. The objective of the study was therefore to determine some cultural characteristics which influenced the utilization of the sweetpotato flour for confection technology.

METHODOLOGY

The study was conducted in Owerri and Okigwe zones in Imo state and Ebonyi north and Ebonyi central zones in Ebonyi state. These two states were purposively

selected because the sweetpotato flour for confection technology had been disseminated to them.(REFILS 1999). The study mainly used primary data collected in June 2008. The main instrument for data collection was structured questionnaire administered to farmer groups in the study areas. Multi- stage sampling technique was used where Imo and Ebonyi states were purposively selected and Owerri, Okigwe, Ebonyi north and Ebonyi central were randomly selected. Two hundred and forty end-users were administered with structured questionnaire.

Data collected included extent of utilization, land acquisition by women, land inheritance, decision maker in the household, cultivation of sweetpotato in the community and whether culture permitted use of the technology. Analysis of the data was done using descriptive statistics such as percentage. The five point Likert-Type rating was used to ascertain extent of utilization and the probit model was used to evaluate relationships between the dependent and the independent variables.

The probit model represents a type of statistical analysis used for studying binomial distributions. It is expressed intrinsically as

$$Y = Bx_i + U_i$$

Which in the normal practice is represented by observable dummy variable y defined by

$$Y = 1 \text{ if } y_i > 0$$

$$Y = 0 \text{ if otherwise}$$

indicating the estimation of outcome of binary variables (Liao 1994). The occurrence of an event in a binary variable is expressed in a generalized probit probability function

$$\text{Prob}(y = 1) = \Phi \left(\sum_{i=1}^n B_i X_i \dots n \right)$$

$$i=1$$

Where $\text{pro}(y=1)$ = probability of y occurrence

Φ = standard normal cumulative distribution function

Σ = summation effect

B = constant.

$X_i \dots n$ = Outcome of binary variables (Liao 1994).

RESULTS AND DISCUSSION

The result of the study in Table 1 showed that the technology was introduced to women who had little or no access to land and who can not single handedly take decision on their own as indicated by 84.4% and 68.8% of the respondents respectively. Though 50.7% of the respondents indicated that they acquire agricultural land by inheritance. The result equally revealed that both male and female cultivate sweetpotato in the study area as indicated by 71.8% of the respondents. Over 50% of the respondents indicated that their culture did not permit the use of the technology.

The indicated medium level of utilization is shown in Table 2. This could be as a result of other factors of utilization other than culture. The result of the probit analysis as shown in table 3 indicated that the coefficients for land inheritance, involvement of women who inherit land and who cultivate sweet potato were negative but not significant even at 10% level. The coefficient of the variable for who takes agricultural decision in the home was negative and significant at 5% level. This implies that a 1% increase in this variable would lead to a 0.015% decrease in utilization. If both husband and wife take decisions, it would lead to low utilization probably due to friction emanating from other household issues that may weigh down in utilization of sweetpotato flour for confection.

The coefficient for who cultivates sweetpotato in the community had a positive relationship with utilization but was not significant.

The result in Table 2 showed that the respondents in the study areas used sweetpotato flour in the production of three confectioning out of the five taught the end-users. The level of utilization was medium although Ebonyi central had a high level of utilization.

Unamma (2002) had remarked that agricultural innovations need to be accepted into the culture of the people for whom it was recommended. In view of this respondents were required to indicate what cultural factor significantly influenced utilization of the sweetpotato flour for confection technology.

The result of the study showed that women do not inherit land as indicated by 84.9% of the respondents, while 15.1% indicated that they inherited land in the study areas. Decision in agricultural issues, whereby both husband and wife was indicated by 68.0% of the respondents in the study area. There were situations where husbands took farm decisions as indicated by 12.8% of the respondents while 18.3% indicated that only wives can take farm decision.

The result of the study revealed that both men and women cultivate sweetpotato in the study areas as indicated by 71.8% of the respondents. It was also observed that 25.2% of the respondents indicated that male cultivated sweetpotato while 2.9% of the respondents indicated otherwise. Culture was also assessed and the result revealed that their culture does not permit use of the technology although some of the respondents (47.1%) indicated that their culture permitted the use of the technology. Land for agriculture was acquired by inheritance as indicated by 50.7 percent of the respondents while 49.3% of the respondents indicated otherwise.

Furthermore, cultural factors (Table 3) like land inheritance, involvement of women who inherited land and who cultivated sweetpotato was negative and did not influence utilization significantly. 1% increase in these variables, Land Acquisition by Inheritance, Culture permit the use of the Technology and Women Inherit land would lead to -1.07710, -.50662, -.25933. The co-efficient of who takes agricultural decision in the home was negative and significant at 5% level. This implies that if both husband and wife make decision it will lead to low utilization as they may be friction on other household issue which may attach low priority on the issue of utilization of the sweetpotato flour for confection. Who cultivates sweetpotato in the community had a positive but non significant influence on utilization of the technology.

CONCLUSION

Women in the study area do not inherit land as indicated by majority of them. Most of the decisions on agricultural issues were by both husband and wife. Both men and women cultivate sweetpotato in the study area. More than 50% of the respondents indicated that their culture did not permit the use of the technology. About 50% of the respondents indicated that land for agriculture was acquired by inheritance. If decision in the home are taken by the husband and wife it would lead to low utilization due to friction emanating from other household issues. The study seems to suggest that level and extent of utilization of the technology could be attributed to other factors not necessarily culture on this basic therefore other factors are recommended for evaluation

RECOMMENDATIONS

Women who are the target audience for sweetpotato transfer should be encouraged to produce sweetpotato by making land easily available to them. Furthermore, the technology should be transferred to all sweetpotato producers irrespective of age and gender since both male and female are involved in sweetpotato production. Incentive should be provided to farmers to increase sweetpotato production. Increase sweetpotato production will redirect the focus and priority of the household towards processing excess sweetpotato produced.

REFERENCES

- Kays. S.I and Kay, S.E (1997) sweetpotato chemistry in relation to Health. In: Proceedings, International workshop on sweetpotato product system toward the 21st century. Dec 9-10 1997. Miyakonojo, Miyazaki, Japan. P.231.
- Refills (1999) Proceedings of the 13th Annual Farming Systems Research and extension workshop in South-Eastern Nigeria held at NRCRI Umudike, Nigeria.
- Unanma, R.P.A. (2002). Agricultural technology Generation and Transfer Strategies for Food Security. In: Udealor A., Ezulike T. and Aham J. (eds), Proceedings of The 16th Annual Zonal Conference of REFILS South East/South South Zones held at Umudike, Nigeria. Nov. 19-23.
- Woolfe, S. (1992) Sweetpotato. An untapped food Resource, Cambridge, University Press and International Potato centre (CIP).

Table 1: Percentage Distribution of Respondents according Land acquisition, decision in agricultural issues who cultivate sweetpotato in the community. Women inheritance of land culture permitting use of technology

Do women inherit land in your community?	Owerri	Okigwe	Ebonyi North	Ebonyi Central	SOUTH EAST ZONE
Yes	23.0	1.9	5.8	27.1	15.1
No	77.0	98.1	94.2	72.9	84.9
Total	100.0	100.0	100.0	100.0	100.0
Decision on agricultural issues	Owerri	Okigwe	Ebonyi North	Ebonyi Central	SOUTH EAST ZONE
Husband	1.1	4.3	-	11.9	12.8
Wife	4.9	85.7	28.8	16.9	99.9
Both	64.0	4.3	71.2	71.2	68.8
Total	100.0	90	100.0	100.0	100.0
Who cultivate sweetpotato in your comm.	Owerri	Okigwe	Ebonyi North	Ebonyi Central	SOUTH EAST ZONE

Male	11.9	14.9	56.1	25.5	25.3
Female	13.5	23.4	58.5	-	23.7
Both	86.5	76.6	41.5	79.9	71.9
Total	100.1	100.0	100.0	100.0	99.9

Does your culture permit the use of technology	Owerri	Okigwe	Ebonyi North	Ebonyi Central	SOUTH EAST ZONE
Yes	68.9	73.6	92.3	88.1	47.1
No	31.1	26.4	7.7	11.9	52.9
Total	100.0	100.0	100.0	100.0	100.0

How do you acquire Land for Agriculture? Inheritance	Owerri	Okigwe	Ebonyi North	Ebonyi Central	SOUTH EAST ZONE
Yes	51.7	75.0	46.2	32.2	50.7
No	48.3	25.0	53.8	67.8	49.3
Total	100.0	100.0	100.0	100.0	100.0

Table 2: Distribution of respondents according to number of confection produced from the sweetpotato flour for confection technology

Number of confection						Mean/ Ratio of Utilization	Level of Utilization
Zones	Cake	Meat pie	Doughnut	Biscuit	Chin-chin		
Owerri	-	9	16	-	16	-	low
	-	(15)	(26.67)	-	(26.67)	1.3	
Okigwe	10	11	10	6	82.	-	med
	(16.67)	(18.33)	(16.67)	(10)	(13.33)	2.1	
Ebonyi North	13	7	18	10	15.	-	med
	(25.09)	(11.07)	(30)	(16.67)	(25)	3.2	
Ebonyi Central	12	37	12	24	14.	4.8	high
	(20)	(05)	(20)	(40)	23.3	-	
South East Zone	35	60	56	40	533.1	3.	med
	(58.3)	(100)	(93.3)	(16.67)	(88.3)	3.1	

Source: Field Survey 2008
 Figures in parenthesis () represent percentages

Table 3: Probit Model Estimation of Relationship Between Cultural Factors and Utilization of the Sweetpotato Flour for Confection Technology.

Variable	Regression coefficient	Standard error	t-value
Intercept	- 1.87886	.09892	-18.99400
Land Acquisition by Inheritance	- .08862	.08226	-1.07710

Household Decision Marker	-. 10156	.04113	-2.46806**
Cultivation of Sweet Potato in the Community	.04533	.03516	1.28928
Culture Permit Use of Technology	-.01737	.03429	-.50662
Women Inherit Land	-.02829	.10904	-.25933

**Significant at 5% level