POTENTIALS OF CASSAVA VALUE-ADDING TECHNOLOGY IN POVERTY REDUCTION IN SELECTED LOCAL GOVERNMENT AREAS OF ABIA STATE

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ABSTRACT

The potentials of cassava value adding technology for reducing hunger and poverty among rural people in Abia State was studied. About 10 rural communities in Abia State, Nigeria have benefited from this participatory training programme. A total of 200 trained respondents from four Local Government Areas of Abia State were purposively sampled for the study. Data were collected with use of structured questionnaire and analyzed using means, percentages, tables and frequencies. Results of the study revealed that 55% and 64% of respondents were conversant with processing of cassava flour and odourless fufu respectively, even though processing the products was still on a very small scale. The technology showed potentialities for providing many food forms of cassava (63%), hunger reduction (56.2%), and poverty reduction (44%) in the study area. It is therefore recommended that the technology should be fully popularized and widely adopted among the rural dwellers so as to explore its abundant potentials for hunger and poverty reductions as well employment for the teeming rural households in Abia State.

Key Words: cassava, value- adding technology, poverty reduction

INTRODUCTION

Cassava is a root crop and a very important source of food in many parts of Nigeria and other parts of the world. In different parts of the world where the plant is grown it is usually processed into different types of primary products such as fufu, garri, starch flour, etc (Asiedu, 1989). Processing cassava into garri for income has been the practice of many Nigerians in the rural areas (Ekwe, *et.al.*,2008). Furthermore, agricultural produce can be used in different forms through processes of value addition in the processing or conversion of the produce into more conversant, diversified and acceptable forms to the consumers (Malcolm, 1977). Utilizing cassava primary products (eg the flour) to obtain various other food forms refers to the cassava value adding technology (Nwakor *et al.,* 2006). Attempts by National Root Crops Research Institute, Umudike, Nigeria to add value to cassava resulted in the development of several products such as cake, bread, chin-chin from cassava in order to diversify its utilization. The Institute embarked upon a rural empowerment campaign through promotion, popularization and training of rural households on the cassava value addition technologies The values acquired by the processed cassava make it able to generate more revenue for the farmer than the unprocessed cassava. According to Yohanna and Abinuke (2004), a farmer who harvested a basin of cassava and sold it at five hundred Naira (N500) has the opportunity of making N5,000 Naira from that basin of cassava through the value addition technology.

Amamgbo *et al.,* (2005) stated that diversification of the uses of cassava promised high capacity for fighting hunger, alleviating poverty, as well as enhancing the livelihoods of many rural farm households. Onoja and Audu (2005) stated that solving the problem of agricultural productivity and rural development through processing and utilization will go a long way in poverty reduction and elimination of hunger. National Root Crops Research Institute Umudike in 2005, embarked upon a rural empowerment campaign through promotion, popularization and training of rural households on the cassava value addition technologies. About ten rural communities in Abia State, Nigeria have so far benefited from this participatory training programme (Nwakor *et al.,* 2006). As a result, some of these cassava value adding technology practices are presently being

utilized by some local farmers in Abia State though at a very small scale. Also, farmers have been making reasonable amount of profit from the technology and it has also become a source of employment and poverty reduction. For this reason, it was considered needful to carry out a survey to ascertain the potentialities of the cassava value adding technology for poverty reduction in the rural communities of Abia State.

METHODOLOGY

The study was carried out in Abia State. Four Local Government Areas (LGAs) of Abia state were purposively selected for the study area due to their involvement in the training workshop. The LGAs involved in the study included; Arochukwu, Ukwa East, Umuahia South and Umunneochi where some women groups had received trainings on cassava value adding technologies for production of the various cassava-based food forms. In 2005, a total of 391 participants from Arochukwu (73), Ukwa East (80), Umuahia South (178) and Umunneochi (60) were involved in participatory training workshops on the use of cassava flour for production of a range of end products such as cakes, chin-chin, doughnut etc.

In 2006, a field survey was conducted in the four local government areas (LGAs) where the training workshops held to ascertain the potentials of the cassava value addition in the reduction of poverty and hunger in the study area. The selected attributes of the technology considered in the study included its potentialities for a) making different food forms, b) income generation, c) self employment, d) hunger reduction and e) poverty reduction. By simple random sampling technique, 50 women farmers who took part in the training workshop were selected from each LGA. This summed up to a sample size of 200 respondents for the study. Using structured questionnaires, data concerning income generation, poverty reduction as well as self employment potentialities of the cassava value addition technologies were collected from the respondents.
Data collected were analyzed with descriptive statistics, such as frequencies, tables, means and percentages.

RESULTS AND DISCUSSION

Table 1 shows the socioeconomic characteristics of the farmers in the study area. The result shows that majority (49.5%) of respondents in the four locations were between the ages of 41-50 years. Majority of respondents in Arochukwu (66%) Umuahia South (54%) and Umunneochi (56%) attended at least secondary school. In Ukwa East, majority (46%) of respondents had over 21-30 years of farming experience, while 11 20 years were the farming experience of respondents in Arochukwu (36%), Umuahia South (52%) and Umunneochi (52%). In Arochukwu (42%) and Ukwa East (46%) most respondents had 3 4 hectares of farmland while majority had 1 -2ha of farm land in Umuahia (48%) and Umunneochi (52%). Majority of the respondents were full time farmers (52%) in the study area.

The results of this survey shown in Table 2 revealed that on the average only thirty-one (31%) percent of the respondents earned income from various products of cassava value adding technology in the study area. A very high percentage of 69.5% of the earnable income was still untapped.
In terms of the amount being earned 76% of those practicing the technology earned N5,000 or less; 3.5% earned between N6,000 and N10,000 while only 16% earned N15,000 Naira and above. Also, 62.5% of the respondents in the study area were presently making different food forms from this technology; 18.5% had become self-employed from this technology; 56% used the technology for reduction of hunger, while 44% said it helped them in reducing their poverty levels. The record is a strong indication that the technology indeed has promising potentialities for boosting livelihoods, food and nutritional securities of the rural households as well as for drastic reduction of poverty and hunger in the study area.

Table 1: Socio-Economic Characteristics of the Respondents according to the selected Local Government Areas.

	Arochukwu		Ukwa East		Umuahia		Umunneochi		
Age	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Mean**
>20	0	0	0	0	2	4.0	0	0	1
21 – 30	7	14	4	8.0	10	20.0	3	6	8.8
31 – 40	14	28	5	10.0	8	16	7	14	17
41 – 50	20	40	24	48.0	20	40	35	70	49.5
Above 50	9	18	17	34.0	10	20	5	10	20.5
Marital Status									
Single	4	8.0	7	14	6	12	2	4.0	9.5
Married	34	68	30	60	32	64	34	68	65.0
Widowed	12	24	13	26	12	24	14	28	25.5
Educational Status									
No school	16	32	22	44	4	8	4	8	23.0
Primary	1	2.0	17	34	19	38	17	34	27.0
Secondary	15	30	9	18	14	28	27	54	32.5
Tertiary	18	36	2	4	13	26	1	2.0	17.0
Farming Involvement									
Part time	20	40	14	28	23	46	27	54	42
Full time	30	60	36	72	27	54	23	46	58
Farming Experience									
<10 years	12	24	1	2	0	0	16	32	14.5
11– 20 years	18	36	13	25	26	52	26	52	41.5
21– 30 years	7	14	23	46	15	30	4	8	24.5
> 30 years	3	6	13	26	9	18	4	8	19.5
Farm Size									
< 1 Hectare	6	12	1	2.0	0	0	16	32	11.5
1 – 2ha	11	22	12	24	24	48	26	52	36.5
3 – 4ha	21	42	24	48	17	34	6	12	34
Above 4ha	12	24	13	26	9	18	2	4	18

Field survey 2006

Table 2: Distribution of Respondents According to the Benefit and Potentials of the Technology

Benefit	Arochukwu	Ukwa east	Umuahia	Umunneochi	Mean of percentage
%	%	%	%	%	%
Income earned	70	08	32	12	30.5
Not earned	30	92	68	88	69.5
Amount In N					
0 – 5,000	42	80	84	98	76
6 – 10,000	8	0	4	2	3.5
11 – 15,000	14	0	4	0	4.5
Above 15,000	36	20	8	0	16
Making different food forms	54	66	62	68	62.5
Self employment	32	24	18	0	18.5
Hunger reduction	50	42	50	82	56.5
Poverty reduction	54	66	48	8	44.0

Source: Field Survey 2006

Considering the proportion of income not earned (69.5%) it implies that this technology was yet to be fully exploited in the study area. This is supported by the very small proportion (18.5%) of self-employment potentials of the technology. It is possible that if this technology is widely adopted and fully harnessed it can generate up to 80% to 90% of the earnable income; and can provide up to 90% of self-employment and poverty reduction.

From Table 3, it can be seen that cassava flour (55%) and odourless fufu (63.5%) are the major food forms produced from the technology in the study area. Cassava starch, cassava chip, cassava flakes and cassava bread were given low attention.

Table 3: Distribution of respondents according to cassava value-added products utilized in fighting poverty and hunger in the study area.

Technology	Arochukwu	Ukwa east	Umuahia	Umunneochi	Mean of percentage
%	%	%	%	%	%
Cassava flour	54	62	50	54	55
Cassava fufu	74	64	32	84	63.5
Cassava starch	52	44	14	16	32.5
Cassava chips	58	22	12	100	48
Cassava flakes	44	12	8	100	41
Cassava bread	56	28	32	50	41.5

Source: Field Survey 2006

This means that many respondents were not conversant with techniques neither were they knowledgeable in the economic values of the last four products. As a result, most of them concentrate in the production of fufu and cassava flour which actually limit the earnable income from the value added products because the quantity of cassava flour and odourless fufu in their markets was much thereby lowering their prices (Anyanwuocha, 1996).

Many of the respondents agreed that the technology, if fully developed and adopted, is capable of empowering the people financially as well as reducing their levels of poverty; but they listed some of major constraints in utilizing the technology. Some of these constraints are listed in Table 4 below and they included: lack of capital (76%). Lack of appropriate equipment (73.5%); lack of interest in the products (43%); no market for the products (27%); technology is difficult to practice (25.5%) lack of technical skills (48%). Among these constraints, it can be deduced that lack of capital and processing equipment were the most critical. This then implies that if an initial capital and appropriate processing equipment are made available, many of the unemployed youths and rural dwellers can take up this technology as their profession and consequently employ themselves in it, reduce hunger for themselves and others as well as reduce the general level of poverty. It is also important to not that if capital is made available and processing equipment can be easily acquired, those who did not have the interest before will become interested and those who lack the skills will strive to acquire it.

Table 4: Percentage Distribution of Respondents according to the Constraints associated with use of the Technology

Technology	Arochukwu	Ukwa east	Umuahia	Umunneochi	Percentage mean
%	%	%	%	%	%
Lack of Capital	72	88	60	84	76.0
Lack of processing equipment	98	82	60	54	73.5
No interest in the products	10	92	10	60	43
No market for the products	40	48	2.0	2.0	23
Technology difficult to practice	36	6	16	44	25.5
Lack of technical skill	54	80	24	24	48

Source: Field Survey 2006

CONCLUSION

The result of our work reveals that cassava value adding technology is just one of those numerous improved technologies the local people are yearning for access and utilization. Results of the study revealed that 55% and 64% of respondents were conversant with cassava flour and odourless fufu production respectively, but process these products on very small scales. Also the technology showed potentialities for providing many food forms of cassava (63%), hunger reduction (56.2%), and poverty reduction (44%) in the study area. It is therefore recommended that the technology should be fully popularized and widely adopted among the rural dwellers so as to explore its abundant potentials for hunger and poverty reductions as well employment for the teeming rural households in Abia State.

REFERENCES

Alabi R.A. and Oviasogie D.I. (2005) Cassava Production and Processing in Nigeria: Opportunities and Challenges. Proceedings of the 39th Annual Conference of the Agricultural Society of Nigeria held at University of Benin October 9th - 13th, 2005. Pp. 22-25.

Amamgbo L.E.F., Ekwe K.C. and Aniedu C. (2002): Consumers Acceptance of Instant fufu, Odourless fufu and garri forms of NR8082. Proceeding of the 36th Annual Conference of ASN held in the Federal University of Technology Owerri, October 20 24. Pp. 34 - 36.

Anyanwuocha R.A.I. (1996): Fundamentals of Economics for Senior Secondary Schools, 1st Edition. African Pep Publishers Ltd. Ibadan Pp. 167.

Asiedu J.J. (1989) Processing Tropical Crops (A Technological Approach) 1st Edition. Macmillan Ed. Ltd. London Pp. 1 - 23.

Ekwe, K.C., Nwachukwu, I and Ekwe, C.C (2008) Determinant of Improved Garri Processing Technologies' Utilization and the Marketing Profile among Rural Households in South-Eastern Nigeria. The Nigerian Journal of Rural Sociology.8(1): 1-8.

IITA (1997) Cassava Development in Nigeria: A case study towards a global strategy for cassava development prepared by International Institute for Tropical Agriculture (IITA), FAO publication Rome, Italy.

Malcolm C.B. (1977) Post Harvest Food Loss. Cornell University Press New York Pp. 1 - 30

Nwakor F.N., Ekwe K.C. Amamgbo L.E.F., Anyaegbulam H.N., Ironkwe A.G. and Asumugha G.N. (2006) A Report presented at the Annual in-house Review Workshop of NRCRI Umudike on February 26th 30th 2007.

Onoja A. O. and Audu S.I. (2005). The Potentials and Constraints of Biotechnology Adoption in Poverty Reduction in Nigeria. Production Agriculture and technology (PAT), An International Journal of Agriculture Research 1 (1): 26- 26.

Yohanna T.K. and Abinuke O.E. (2004) Economics Analysis of Cassava Production and Processing into Flour in Shabu Areas of Nasarawa State Nigeria. Proceeding of 39th Annual Conference of ASN at held Nasarawa State College of Agriculture, Lafia; October 17th 21st, 2004.