Assessment of relevanve of radio programmes on quality of cassava products in Ogun State, Nigeria.

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ABSTRACT

The study examined socio-economic characteristics of cassava processors, identified cassava products produced, determined the relevance of radio programme to cassava processors and investigated the problem of accessing appropriate information on cassava processing. Through a multi-stage sampling technique, 144 cassava processors were randomly selected as respondents. Data were collected by structured interview scheduled and analyzed by percentages, frequencies, tables and Pearson Moment Correlation statistics. The results of the study showed that 34.7% of the respondents were between 41-50 years of age, with an average of 50.1 and 29.1 years of experience in cassava processing, indicating that the processors were old. Furthermore, 82% of the processors had one form of formal education while 60.41% of them comprehended radio broadcast in English Language. In addition most of the processors were involved in gari and fufu production with a small proportion of them involved in cassava flour (29.8%), starch (28.5%) and alcohol (18.8%) processing. Furthermore, 49.3% of the respondents reported inadequacy in the frequency of the programme while 61.1% of them owned radio sets. The Pearson Correlation Moment Statistical analysis established a significant relationship between quality of cassava flour and listening to radio progrmme by the processors ($r = 0.562$, $P \leq 0.05$) as well as ethanol ($r = 0.612$, $P \leq 0.05$) and gari ($r = 0.193$, $P \leq 0.05$). It was concluded that radio programme has the potential to improve on the quality of cassava products and increase processor's income. Processors were enjoined to harness their resources for purchase of equipments and radio sets.

Keywords: Cassava Processing, radio programmes and quality of products.

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INTRODUCTION

Background of the Study

Effective communication (dissemination) of agricultural information is a necessity for rapid development of agriculture sector of any economy. The development of agriculture requires among inputs, a timely and systematic transmission of useful and relevant agricultural information (technical message) from the technology generation system (source) via various communication media (channel) to the intended audience (receiver). It is expected that the clients react to the message (effect), passed back to the source (feedback) for communication process to be completed. Agricultural information includes technological innovations and reliable scientific findings. In Nigeria, these are presented to the users through either face to face discussion, telephoning, office calls, result demonstration, leaflets, magazine, newsletter, newspaper, pamphlets, radio, television, among others, (Dare,1990). Among them, radio is the most preferred tool of mass communication in Nigeria (Ekumankama, 2000). He observed that radio programmes are usually timely and capable of extending messages to the audience no matter where they may be as long as they have a receiver with adequate supply of power. He further observed that illiteracy is no barrier to radio messages since such messages can be passed in the audience's own language. The absence of such facilities as road, light and water are no hindrance to radio. Thus, it is one of the most cost effective methods of reaching the masses of the rural areas. It is probably because of these advantages of radio that many governments accord radio high priority to it as a means of reaching farmers. Information dissemination does not only depend on the content of the information alone but also on the source of the information, alongside with the medium of dissemination, its relevance to the processors for the attainment of acceptable quality products to the consumers. It is desirable that improved methods of processing get to the appropriate end users if cassava processing is to be sustainable in Nigeria.

At a time when a variety of approaches to poverty alleviation are being considered by governments in the developing world and their development partners, increased attention is being paid to the potential of cassava (*Manihot esculenta*) as a food security and a cash crop. Accordingly, cassava plays a food security role because of its relative tolerance of poor soil, pests/disease problems and in areas prone to drought, famine, possessed the ability to survive and give appreciable yields in different ecological zones. This makes it a world acclaimed food crop (FAO, 2005). The crop's ability to provide a stable food base is a function of its flexibility in terms of planting, harvesting and

processing strategies. Cassava is a major source of income for rural people and dietary energy source for low income consumers in many parts of tropical Africa, including major urban areas (Dahniya, *et al.,* 1991, Berry, 1993, Nweke, 1994). By giving producers the flexibility to adjust to changing market conditions, cassava facilitates income stabilization and mitigates the effects of risk for specialized commercial producers, as well as for low income farmers who consume a large share of their output. For full potential of the crop to materialize, there is general agreement that there is a need for a global strategy for cassava development (IFAD, 1996).

Cassava roots are processed into a wide variety of products for human and industrial consumption, ranging from simple boiling, to fermented products, foodstuff in "easy to cook" forms and beverages. Most of the products are consumed domestically within the countries in which they are produced. However, there is a small but growing export trade in dried cassava chips and other industrial products. With technology advancement, agricultural extension agencies have come to embrace the use of mass media organization for effective information dissemination of improved agricultural technology from research institutes to farmers for sustainable agricultural production and processing. According to Idowu (1999), colonial administration in Nigeria saw the need to stimulate growth of export cash crops such as cocoa, rubber, groundnut and oil palm. Mass media were used to sensitize farmers to grow these export crops. The result was that Nigeria became a major exporter of these crops, feeding mainly the industries in Britain. Anyanwu (1987) reported that communication environment of farmers influences his information acquisition and utilization of innovation. More so, the use of mass media in national development as a means of disseminating agricultural information to farmers make learning relatively permanents, helps to arouse and maintain interest of the learners, encourage learners' involvement in the learning process, stimulate self activity, widen the range of probable experience, help to add depth and variety to learning (Agbamu, 2006). Consequently, the same information can be distributed to a much large area and audience using the organs of mass media. Information is a crucial variable in development calculus. Normally, the extension agent is basically the source of information, he alone can only reach a fraction of the farmers. However, the use of mass media will make a difference. Radio is an important channel through which agricultural information are made available to a large number of farmers. It is considered as one of the cheapest sources of information for agricultural development including processing. Nigeria currently is the largest producer of cassava in the world with an annual production of about 44 million tonnes of tuberous roots. Many women in Nigeria depend on cassava processing for

income generation. Cassava is processed into such products as cassava chips, flour, alcohol, starch and gari (for food). Cassava has therefore been recognized as one of the crops promoted in Nigeria to alleviate the poverty level of the farmers.

Statement of the Problem

Evidence has shown that inadequacy of information dissemination to farmers on modern agricultural practices proffered explanation to the higher crop yields recorded on research farms than on farmer's field, even when the same crop variety is planted on both farms (Agwu et. al.2008). It may be inferred that the difference in yield is an indication that there is production technique(s) used in research farms which are not available to, or not properly applied by low income farmers. Thus, mass media becomes a welcome idea for effective dissemination of agricultural information to farmers more so that there is limited number of extension agents whose primary assignment is to fulfill that obligation to cassava processors. In many States of Nigeria, one (1) extension agent is assigned to 4000 farmers including processors for extension services delivery. This makes it extremely difficult to reach a reasonable number of the processors for technical message delivery. However, radio has been reported as the most cost effective medium for disseminating information to farmers mostly residing in the rural areas. Inadequate and regular power outage and cost of purchase of radio and provision of battery made this electronic medium unserviceable for this purpose except those that can afford to buy batteries for their radio set.

Virtually all cassava production in sub-Saharan Africa is used domestically, so cassava has not played meaningful role as a foreign exchange earner, or in import substitution due to poor quality of products which could not meet international standards. There appears to be a window of opportunity opening up for export of cassava products, as the traditional Asian exporters appear to be having difficulties in satisfying demand particularly in the European Union market due to changes in the relative costs of production and other comparative advantages. Some sub-Saharan African countries are already taking advantage of this trend. For example, exports of cassava chips from Ghana which commenced with 500 tonnes in 1993, reached 29,000 tonnes in 1996.

There are also some import substitution possibilities for cassava flour and industrial starch. For example Djoussou and Bokanga (1995) reported that cassava flour produced by a new method is in high demand by four large biscuit manufacturers around the city of Ibadan, Nigeria. They have consequently put a high premium price on it compared to the traditional "lafun"

flour. Women's groups that were processing cassava into *gari* have organized themselves to take advantage of this new market, particularly since the price offered by the biscuits factories is higher and the returns much better than obtained from *gari.* Results of economic analysis by Djoussou and Bokanga (1995) show that with a 15 percent substitution rate of wheat flour with cassava, Nigeria could save up to US$14.8 million in foreign exchange annually, with US$12.7 million going to cassava processors and US$4.2 million to cassava farmers. The report also indicated that the average cost of production of pellets and chips may be too high to allow West Africa to compete with Asian countries in the international market. A survey of 11 cassava pellet producers in southwest Nigeria in 1996 showed that their mean production costs for dry pellets was N22,500 per tonne. Only about 10 percent of establishments produced at less than or equal to the monthly mean world market price of N13,000 per tonne for January and February 1996 (Nweke and Lynam, 1996). Post-harvest processing of cassava is laborious and a drudgery to women and children. New Cassava labour-saving and quality improving technologies exist, Ex-ante studies are needed to understand why their existence are hardly made known to most cassava processors located in the study area or where they are implanted. Therefore, the study was undertaken to proffer answers to the following research questions. What are the socio-economic characteristics of the processors in the study area? What are the cassava products that are produced by the respondents? Is the content, language and time of the radio programmes appropriate for the processors? What problems do cassava processors face in obtaining useful information through the radio aired under the back to land programme of Ogun State Government?

Objectives of the Study

The general objective of the study is to investigate the relevance of radio programmes to cassava processors in Ogun State.The specific objectives of this study were to:

(1) examine the socio-economic characteristics of the cassava processors in Ogun State, Nigeria.

(2) ascertain the types of cassava products produced by the processors.

(3) determine the relevance of the programme to cassava processors

(4) investigate the problem of accessing appropriate information for cassava processing.

Hypothesis

Ho1: There is no significant relationship between quality of processed cassava products and listening to Back to Land Radio Programme by the processors

Cassava processing is a major enterprise of the women in the study area. Women over the years were left out of extension service delivery. Thus, they were largely unreached by extension organization. Radio is expected to improve on access to information which in turn are expected to enhance the quality of cassava products. Furthermore the outcome of the study will be useful to the policy makers (state and national) on how to strengthen radio organization on airing of radio programmes relevant to cassava processors.

METHODOLOGY

The study area: Ogun state was created in Nigeria in the year 1976 alongside with six (6) other states with Abeokuta as its capital. Ogun state lies between longitude 2^{o} 45' and 3^{o} 55'East of Greenwich Meridian and latitude 7^{o} 01' and 7^{o} North of the Equator. It covers a land area of approximately 16,406.226 square kilometers. The State is bounded in the West by the Benin Republic, in the South by Lagos State and the Atlantic Ocean, in the East by Ondo State and in the North by Oyo and Osun States. The population of the state is 3,728,098 comprising 1,847,243 males and 1,880,855 females (NPC, 2006). The state has twenty Local Government Areas LGAs. These include Abeokuta North, Abeokuta South, Ado-Odo/Ota, Egbado North, Egbado South, Ewekoro, Ifo, Ijebu East, Ijebu North, Ijebu North East, Ijebu Ode, Ikenne, Imeko-Afon, Ipokia, Obafemi Ogun Waterside, Odeda, Odogbolu, Remo North, Shagamu The Local Government Area has tropical climate and enjoy rainy season from April-October with rainfall of between 1,100 -1500 mm per annum (Ogun/Osun River Basin Development Authority, 2011) and an average temperature of 32^{o}C. Farming is the major occupation of the people of study area. The major cash crops grown in the LGA include cocoa, kola nut, oil palm while the arable crops include maize, cassava, yam and vegetable. However the women are engaged in the downstream activities of agricultural production, mostly in cassava processing.

The target population for the study was the cassava processors in the study area. The study used a three-stage sampling technique to select the respondents. Stage one involved a purposively selection of six LGAs where the cassava processing is highly popular among the farmers in the State. These

include Ijebu East, Odogbolu, Odeda, Egbado North, Ipokia and Obafemi Owode. The second stage involved the random selection of four towns/villages in each LGA. The final stage was the random selection of six processors per community to make a sample size of 144

Analytical Techniques: Data were analyzed using percentages, frequencies and Pearson Moment Correlation statistical tools.

RESULTS AND DISCUSSION

Socio-economic characteristics of cassava processors

The socio-economic characteristics examined include age, gender, marital status, level of education, family size and years spent in cassava processing by the respondents. The results revealed that 34.7% of the respondents were within the age range of 41-50 with an average age of 50.1 years. Ismaila et. al. (2010) reported that ageing has an adverse effect on agricultural production. This may not exclude processing. The results revealed that 90.3% of the processors were females while less than half of them (45.5%) were married. The results indicated that 29.9%and 12.5 % of the respondents were widow or divorced respectively. Furthermore the processors have spent an average of 29.7 years in cassava processing. Thus, it might be inferred that cassava processing is one of the primary means of livelihood of the respondents in the study area. The results also show that 82% of the respondents had formal education. All the respondents (100%) and 60.41% of them indicated that they can comprehend radio broadcast in Yoruba and English language respectively. The implication of the findings is that majority of the respondents are in a position to acquire knowledge, skills involved in cassava processing and marketing opportunities through radio programmes. The results further showed that 72.5% of the respondents have family size of between 1- 3 members that might be available to assist them in processing activities. The low level of family size that can assist the processors confirms the findings of Ismaila et.al. (2010) that manual labour are increasingly becoming difficult to come by arising from ageing, HIVS/AIDS, schooling etc. This justifies the necessity to expose the processors to labour saving technologies that can replace manual labour effectively and efficiently.

Table 1: Socio- economic-Characteristics of the Cassava Processors

Characteristics	Frequency	Percentage N=144
Age (Years)		
21-30	5	4.8
31-40	21	16
41-50	50	34.7
51-60	41	27.1
61-70	27	18.8
Average	50.1 years	
Gender		
Male	14	10
Female	130	90.0
Marital Status		
Single	17	11.8
Married	66	45.8
Widowed	43	29.9
Divorced	18	12.5
Household Size(Numbers)		
1- 3	104	72.5
4-6	36	25.0
7 and above	4	2.5
Average	3	
Educational Level		
No Formal Education	10	6.9
Adult Education	16	11.1
Primary Education	52	36.1
Secondary school Education	45	31.3
Tertiary Education	21	14.6
Years of processing Experience		
1-10	11	7.8
11-20	27	18.2
21-30	44	30.7
31-40	45	31.2
41 and above	17	12.1
Average	29.7	
Language Proficiency		
Yoruba:		
Ability to read	120	83
Ability to write	121	84.02
Ability to comprehend in radio broadcast in Yoruba	144	100
English Language:		
Ability to read	115	79.9
Ability to write	105	72.9
Ability to comprehend in radio broadcast in English	87	60.41

Source: field survey 2011

Types of cassava products produced by cassava processors

The results of the study revealed that cassava is processed into six (6) major products namely gari, cassava chips, fufu, starch, flour, and ethanol. However all the respondents are involved in gari production. This might be due to high demand of gari arising from ease of preparation of the food, requirements of less sophisticated technology and low initial capital outlay for the processing equipments. Also 60.41% of the respondents were involved in the production of fufu. Arising from these findings, it may be inferred that the demand of gari is higher than that of fufu. Majority (96.5%) of the respondents are involved in the processing of cassava chips widely consumed in the study area and with used in livestock feed industry, alcohol production et cetera. However, the processors 29.8%, 28.5%, and 18.8% were involved in cassava flour, starch and ethanol production. The end users of these products dictate the quality standards which many of the respondents could not probably easily meet.

Table 2: Types of cassava products produced by cassava processors

Cassava products	Frequency	Percentage N=144
Gari	144	100
Fufu	87	60.41
Cassava chip	139	96.5
Cassava flour(for confectionery)	43	29.8
Starch	41	28.5
Alcohol	27	18.8

Source: Field survey, 2011

Respondents' Perception on the Relevancy of Radio programmes to Cassava Processing Activities

In order to ascertain the importance or relevance of radio programmes to cassava processing activities, the processors were requested to indicate if they strongly agreed, agreed, moderately agreed, disagreed and strongly disagreed to the messsages of the radio progrmmes aired under the Back to Land . The results of the study, Table 3, showed that about half of the respondents (50.7%) strongly agreed that the programme was informative on technique of pressing grated cassava which will make gari produced to be free of stones or any forms of contaminants while more than half of them strongly disagreed that the radio progrmme was offering enough information on sieving of grated cassava. The implication is that technology in this respect is yet to be passed to the processors as part of quality assurance for gari production. Similarly more than half of the respondents 59.7% 56.7% and 50.7% of them strongly disagreed

that the radio programs provided information on ethanol, cassava flour and starch production respectively. The inadequacy of information on the processing of these products partly explains why the processors were limited mostly to production of gari and fufu. These are cassava products that are mostly consumed locally. The inability of the processors to participate in the production of lucrative and exportable products such as ethanol, flour and starch, currently imported into the country in large quantity might have been constrained by inadequate access to processing information or technologies. These are products that required stipulated standards (quality) by the end users. However, many (68.1%) and 53.9% of the respondents were satisfied with the language, timing of the Back to Land radio programme In addition about half (52.1%) of the respondents were satisfied with the marketing information aired under the programme. The implication is that the programme has not assisted the processors to get a good return on their investment arising from poor marketing information.

Table 3: Relevancy of Radio programmes to quality of Cassava Products

Cassava processing activities	**SA**	**A**	**MA**	**D**	**SA**
The programme is informative on Gari production: Grating	53 (36.8)	45 (31.7)	7 (4.8)	15 (10.4)	24 (16.7)
Pressing	73 (50.7)	25 (17.4)	2 (1.4)	15 (10.4)	29 (20.1)
Breaking/Sieving	32 (22.3)	21 (14.6)	9 (6.3)	27 (18.6)	55 (38.2)
Frying	31 (21.1)	26 (18.1)	3 (2.3)	21 (14.6)	63 (43.8)
The programme is informative on Fufu production:	73 (50.7)	17 (11.8)	1 (0.7)	29 (20.1)	24 (16.7)
The programme is informative on quality of cassava flour processed	15 (10.4)	21 (14.6)	6 (4.2)	20 (13.9)	82 (56.9)
The programme is informative on Quality of starch produced	13 (9)	12 (8.3)	2 (1.4)	73 (50.7)	44 (30.6)
The programme is informative on quality of ethanol produced	17 (11.8)	10 (6.9)	5 (3.5)	26 (18.1)	86 (59.7)
The timing is appropriate for accessing the information	27 (18.6)	77 (53.5)	6 (4.1)	21 (14.6)	13 (9)
The duration of the programme is adequate	28 (19.4)	34 (23.6)	8 (5.6)	56 (40.3)	16 (11.1)
The language is appropriate	98 (68.1)	24 (16)	3 (2.1)	6 (4.1)	13 (9)
The marketing information is appropriate	23 (15.9)	13 (9)	8 (5.6)	25 (17.4)	75 (52.1)

Source: Field Survey (2011) *Figures in parenthesis represent percentages.

Problems of accessing radio programme by cassava processors

The result (Table 4) showed that 61.1% of the processors do not own radio set to access radio programmes without any recourse to their friends or co-processors. Consequently, it was 78% of the respondents that listened to radio programmes on cassava processing on regular basis as a result of owning of radio set or through their friends or co-processors. It is obvious that under this arrangement vital information that can bring fortune or improvement to their processing ventures is likely to be missed. The result also revealed that about half (49.3%) of the processors reported that the programme is not frequently aired. This situation might debar many of the processors from

accessing relevant information through the programme. However, majority of the respondents (72.9%) were satisfied with the duration of the programme while 60.1% of them were satisfied with the presentation of the the progamme over the radio.

Table 4: Problems of accessing radio programme by cassava processors

Items	Frequency	Percentage
Ownership of radio	88	61.1
Listening to Radio Programme on cassava processing on regular basis	113	78
Adequacy of the frequency of the radio Programme	71	49.3
Presenter handled the programme satisfactorily	87	60.1
Duration of the programme is adequate	105	72.9

Source: Field survey, 2011

Results of Hypothesis Tested.

The results of the hypothesis tested and shown in Table 5 indicate that there is a significant relationship between quality of cassava products and listening to Back to Land radio programme. The Pearson Correlation Moment Statistics established a strong, positive, linear and significant relationship between cassava flour and listening to radio progrmme by the processors ($r = 0.562$, $P \leq 0.05$) and ethanol ($r = 0.612$, $P \leq 0.05$). While a weak and significant relationship exists between gari ($r = 0.193$, $P \leq 0.05$) and fufu ($r = 0.213$, $P \leq 0.05$) and listening to radio progrmme. The implication is that processors should be constantly informed of innovations/processing techniques that economically advantageous in increasing quality output which can correspondingly increase income of the processors. Presently, both both flour and ethanol are products that are in high demand in the industrial sector of the economy.

Table 5: Analysis of relationship between processed cassava products and listening to Back to Land Radio Programme by the processors using Pearson Correlation Statistics (N= 144)

Variables	r	P	Remarks
Gari	.193	.049	Significant relationship exists
Fufu	.113	.014	Positive ,linear and significant relationship exists
Cassava chip	.305	.013	Positive and significant relationship exists
Cassava flour(for confectionery)	.562	.004	Positve and significant relationship exists
Starch	.223	.024	Positive ,linear and significant relationship exists
Ethanol	.612	.015	Positive ,linear and significant relationship exists

Source: Field survey, (2011)

Significant at $p \leq 0.05$ level.

CONCLUSION

The study has shown that radio programme initiative on Back to Land in Ogun State is found to be relevant to cassava processing. Specifically, listening to the radio programme has led to improvement in the quality of cassava products such as gari and fufu which are widely consumed in the country. The radio initiative has also exposed the cassava processors to innovations on production of industrial products such as cassava flour, ethanol and starch. Therefore, it is concluded that radio programmes on cassava processing has the potential to increase the product base of the processors, open up international market opportunities, increase income base of the government and the processors as well as foreign exchange preservation for the country.

It is recommended that the frequency of airing the radio programme on cassava processing is increased such that all the processors will have ample opportunity to access useful information, processors should harness their resources to assist each other to own radio and constitute themselves into viable processing cooperative group. This will facilitate joint purchase and use of cassava processing equipments. The marketing information made available through the programme should be improved upon.

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