

Assessment of Cassava Production, Utilization and Marketing among the Rural Farmers of Ondo East and West Local Governments of Ondo state, Nigeria

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Abstract

Cassava is one of the major staple arable crops that are a source of carbohydrate and popularly grown and consumed among southwestern Nigerians. A field study was conducted to assess the fertilizer management, utilization and marketability of cassava in two local government of Ondo State southwestern Nigeria. Twelve town and villages were randomly selected for interview. A well structured questionnaire was administered to individual respondent. The field survey showed that none of the sampled farmers applied any form of fertilizer to increase the yield of cassava but relied on cropping systems. Also, none of the farmers or marketers export cassava produce. All the respondents consumed cassava in various forms. The measurements for the sale of cassava were graduated that both poor and rich can afford to buy.

Key words: Kongo, farmers, marketers, consumers, mineral fertilizer

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Introduction

Cassava is one of the most popular crops being grown by the arable farmers in southwestern Nigeria (Ogbe, et al. 2007). Ondo state is known to be one of the most states producing yam and cassava in Nigeria. Cassava has two varieties named *Manihot palmate* and *Manihot utilisima*. *Manihot palmate* is different from *Manihot utilisima* because utilisima has cyanic acid than palmat. Palmata can be eaten raw while utilisima can only be eaten after fermentation.

According to FAO/IFAD (2001), Nigeria is the largest producer of cassava in the world with about 45million metric tones. The tuber is the major part that is consumed. Cassava has comparative advantage over other arable crops because its stem is used as propagative materials unlike other arable crops like yam, cocoyam and maize that the part consumed is used as planting material.

Mass production of cassava is possible because it tolerates wide range of soil and climatic conditions. Cassava is highly tolerant to acid soils and need no additional fertilizer especially phosphatic fertilizer because the roots of cassava form symbiotic association with the fungus in the soil thus helping cassava plants to absorb phosphorus and micronutrients from the soil (Howeler et al., 1990). Pandey et al. (2000) on the other hand emphasized that cassava requires fertilization especially nitrogen, phosphorus and potassium; and that; cassava requires more nitrogen than phosphorus. Ezumah, and Okigbo (1980) suggested that farming systems such as intercropping grain legumes with cowpea, alley cropping, green manuring and animal dung would increase cassava yield than the mineral fertilizer.

Commercial production of cassava can alleviate the poverty problem ravaging most of the countries in Africa since it tolerates wide range of soil.

Cassava is consumed in variety of ways. It is locally consumed as flour of various form, tapioca, fried after fermentation (popularly called gari in Nigeria). Cassava can be pounded with yam to form a delicious food that is consumed with soup or stew especially among the old people. The practice of mixing yam with cassava to make pounded yam is common among the poor people who could not afford to buy yam for making pounded yam because of the high cost of yam. Cassava alone can also been sundried , mixed with water and pounded into paste called fufu in southern part of Nigeria and consumed with

soup or stew. Fufu can be kept for about three days unlike pounded yam that is eaten immediately after preparation. The leaves are used to prepare soup especially in the eastern part of Nigeria. The peel can be used as animal feed. It can also be processed into starch for textile use. Cassava is used in industries for baking bread, biscuits, confectioneries and adhesive. It is used as biofuels in other countries. Cassava is a major source of carbohydrate (Alvees, 2002, Nweke, 2004). Cassava plant grows to a certain particular height usually form canopies that conserve soil. The leaves that are shed from the cassava plants serve as organic manure while the canopies suppress weeds.

In order to solve the problem of hunger in the society, there is need to increase production of crops with minimum effort, find market for the produce and and improves its quality for acceptability by the public. Cassava is one of such crops. It requires minimum management practices such as weeding and fertilizer application. Hence the objectives of this study were (i) to assess the fertilizer management practice among the cassava growers in Ondo, southwestern Nigeria. (ii) to assess the consumption rate of cassava (iii) to assess marketability of cassava.

Materials and methods

A total of two hundred and forty farmers, marketers and consumers of cassava were randomly selected from twelve towns and villages in Ondo East and West Local Governments of Ondo State southwestern Nigeria. The farmers, consumers and marketers were separately interviewed. A well structured questionnaire was used. The literate respondents were allowed to fill the questionnaire while non literate respondents were helped in filling the questionnaire. Ballot paper was used to select the towns and villages. Both primary and secondary data were used to collect useful information from the respondents.

The sample towns and villages were Bolorunduro, Laagba, Italuowo, Igba, Asantan, Epe, Ondo town, Bagbe, Igunsin, Okegun, Laje and Igbindo

Tables and percentages were used to analyse the data.

Result and Discussion

Demography of the respondents

Distribution of the respondents according to sex showed that 72% of the sampled cassava farmers were female while only 28% were male indicating that female participated in cassava production than male in the study area. This data shows that most of the male respondents interviewed might have engaged in other businesses. Ondo is an agrarian community that mostly engaged in cocoa and kola production on commercial basis while most of the male only grow arable crops for family consumption.

Table 1 showed that middle Age people engaged in cassava production than the young under eighteen years and the old over fifty years. This category of people falls into the working class in the society and are expected to be energetic and productive.

The field survey showed that 26.8, 33.32, 23.2 and 16.68% of the respondents had no formal education, primary education, secondary education and tertiary education respectively. These figures imply that the farmers have low relatively academic background. The low educational background might affect the level of their performances sine they have to rely on the informal education received from their parents.

Table 1 : Distribution of respondents according to age

Age	Respondents
Below 20	16
21 – 30	56
31 – 40	80
41 – 50	64
50 and above	24
Total	240

Table 2 shows that most of the respondents are peasant farmers who cultivate less than one acre. Now that the population of the country is increasing, subsistence agriculture might not solve the problem of hunger. There is need for commercial farming.

Table 2 : Distribution of respondents according to cassava farm size (acres)

Age	Respondents
< 1	162
1 -5	80
6 – 10	12
11 – 15	6
>20	0
Total	240

Source: Field survey 2016

Fertilizer management practices

The data collected from the field showed that no farmer interviewed applied any form of fertilizer whether organic or mineral fertilizer. This response terminated further enquiries on the type, method and time of fertilizer application. All the farmers agreed that they practiced mixed cropping. Among the respondents 95% intercropped yam with cassava, 92% intercropped maize with cassava while 44% combined more than two crops such as yam/maize/cassava. No farmer intercropped cowpea with cassava in the sampled area. It was observed that most of the farmers combined the crops that belong to the same family ie. Root tubers with the same feeding zone. For example, combining yam and cassava on the same plot may reduce the yield of cassava since the two crops require nearly the same nutrients and the same feeding zone; also, cassava and maize are both shallow rooted crops. Asher (1980) stated that for cassava farm to produce the yield of 30t/ha, the soil must be able to release 164kg/ha Nitrogen, 31kg/ha phosphorus, 200kg/ha

potassium, 80k/ha Calcium and 31kg/ha for magnesium. For micronutrients, the soil must produce 3.6, 4.5, 0.5 and 0.2kg/ha for iron, manganese, boron and copper respectively. Ojeniyi, (1995) stated that even with yield as low as 1.0t/ha, maize crop remove as much as 30 – 40, 2 - 10, 5 – 30 and 6 - 30kg/ha nitrogen, phosphorus, potassium, calcium and magnesium respectively. Farmers should be advised on the best crop combination. This could be achieved through the village extension agents.

On the type of cassava cultivated by the sampled farmers, 93% of the farmers grow TMS varieties. The varieties are prolific and early maturing. The field survey showed that the yield of cassava recorded in the sampled area was lower than the recommended yield for the soils of southwestern Nigeria. It could be argued that the low yield might be as a result of low nutrient status of the soils since most of the farmers planted cassava and yam that are both tuberous crops and also yam and maize with the same feeding zone. On oral interview, most of the farmers held the opinion that cassava does not require additional nutrients. This opinion might be true in the past that there was shifting cultivation where the farmers opened new land for cassava cultivation. There is extinction of shifting cultivation. Even, the bush fallowing system being practiced is giving way to continuous cropping as a result of different uses of land apart from farming. The low yields recorded by the sampled farmers showed that, cassava production require fertilization especially where the soil is poor.

Cassava consumption pattern

Table 3 showed the varieties of ways the sampled residence could consume the cassava produce. The table showed that all the respondents consume cassava in one way or the other. The shows the significance of large scale production of cassava and that commercial production of cassava is feasible because it has market. Among the various ways in which people could consume cassava, few people eat the cassava cooked with yam and pounded together and eaten with soup. It is assumed that the people who could not afford to buy yam alone for pounded yam because of its cost that integrate cassava with yam.

All the respondents agreed that they consume cassava that are fermented and toasted either with palm oil or without palm oil (popularly known as gari in Nigeria). All the respondents ate gari that was fried without oil. The gari that is fried with oil pal;m is

more nutritious than the ordinary one yet the consumption rate is low. Oral interview showed that gari fried with oil palm add extra cost to production hence the producers go for the gari that will be less costly with much gain. It could be deduced from the findings that the people of Ondo east and west local governments prefer gari and cassava flour called ‘lafun or elubo’ in southwestern Nigeria where this research was conducted. Few people use cassava tubers to feed farm animals.

Table 3 Utilization of cassava produce among the Respondents

cassava produce	respondents	
	yes	no
Did you consume cassava ?	240	0
If yes to 1 above in what form ? :	20	220
cassava tuber pounded with yam	180	60
cassava flour	8	132
Tapioca	240	0
Toasted granules processed with palm oil	12	128
Toasted granules processed without palm oil	240	0
Soup/stew	6	234
Starch	60	180
animal feed	38	202

Source: Field survey 2016

The interview schedule to show how the cassava produced in the study area are being sold showed that no respondent export cassava for sale showing that the cassava are consumed locally. Out of 240 respondents, 95% of the respondents processed their cassava tubers before sale while only 5% sold their fresh tubers directly to the processors. Also, 96% of the respondents processed their cassava tubers into toasted granules called gari. Gari is food that is cherished by both old and young in the sampled local governments. All the respondents sold their produce locally by the farmers themselves. Only 30% are sold to the middle men in 100kg bag size who in return sold to the retailers. Cassava marketers were also interviewed. The oral interview showed that majority of the farmers processed their cassava tubers before sale because cassava tubers deteriorate very fast and that they prefer to sell their cassava produce during the dry season when the produce would command high price. The higher price of cassava during

the dry season might be as a result of difficulty being experienced in harvesting tubers when the soil is hard. There is no known machinery that harvest cassava tubers. Tubers are harvested manually. This might be one of the reasons why cassava is grown on subsistence level. The container popularly called kongo or mudu (1kg) is the standard measurement used by the retailers. It was gathered that the containers are in sizes. The prices are according to the sizes (Table 4). Among the sellers interviewed sold toasted granules while only 1% sold cassava flour hence, the researchers focused on toasted granules (Table 5).

Table 4: Different measurements used to sell cassava toasted granules (gari)

Size	Price in naira
Kongo	150 -170
Derica (half of kongo)	75 - 80
Milk can (1/10 th of kongo size)	40 - 45
Basin (12 kongos)	1,200
Bag (100 kongos equivalent)	15,000 – 16,500

Source: field survey 2016

Conclusion

The research conducted in Ondo west and Ondo East local governments of Ondo State Southwestern Nigeria showed that cassava can boost the nation economy and reduce poverty if well managed. Cassava production, processing and marketing are still at subsistence level.

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