

34

SOURCING AND USAGE OF STANDARD CASSAVA CUTTINGS BY FARMERS IN EGBEDA LOCAL GOVERNMENT AREA OF OYO STATE

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ABSTRACT

The recent trend of demand for cassava provoked by policy support for its production suggests that cassava farmers can increase cassava production if there are available clean planting materials. Getting standard cassava cuttings by farmers will help them increase their production to meet global cassava competitiveness. However; data on sourcing and use of standard cassava cuttings among farmers is scanty. Sourcing and use of standard cassava cuttings in Egbeda Local Government area of Oyo State was investigated in this study. A multi-stage sampling technique was used to select respondents for this study. Seventy percent of rural wards totalling 5 wards and one third of villages in these wards (30) were randomly selected. Fifty percent of total number of cassava farmers (241) were systematically selected resulting in a total of 120 cassava farmers. The data for this study were obtained through the use of interview schedule. Data were analysed using frequency counts, percentages and chi-square at $p=0.05$. Results indicate that mean age, family and farm size were 52.4 years, 7 persons and 3.6 acres respectively. Most respondents were male (85.0%), married (95.8%) and had one form of education or the other (60.7%). Farmers obtained standard cassava cuttings mainly from neighbours/friends (84.2%) and open market (49.2%). While 46.7% had high knowledge of features of standard cassava cuttings, 64.3% of farmers planted the standard cuttings twice a year. Benefits that had accrued to farmers utilising standard cassava cuttings included high yield (99.2%), early maturity (98.3%) and high income (98.3%). They were however constrained by scarce standard cuttings (95.8%), delayed process of getting the cuttings (95.0%) and long distance between farmers' cassava farms and sources of standard cassava cuttings (79.2%). Farmers' sex ($\chi^2 = 2.154$), age ($\chi^2 = 1.312$), marital status ($\chi^2 = 0.088$), and educational level ($\chi^2 = 3.642$) had no significant relationship with their use of standard cassava cuttings. It is recommended that both government and research institutes should readily make available standard cassava cuttings given its inherent benefits and farmers' readiness to use the improved cuttings.

Background and problem statement

Cassava, a staple widely grown in Nigeria contributes to the agricultural sector of Nigeria's economy as well as serves as food security crop. Cassava products such as cassava granules (Gari, Lafun etc), cassava pellets and chips for feed mill industry are all consumed locally. It also serves as income for the local farmers through the sale of these products thereby improving their living standard. This is in line with the goal of presidential initiative on cassava production which is to promote cassava as a foreign exchange earner as well as to satisfy national development. Cassava provides valuable industrial raw materials for making starch, glues,

filter for paints, bread, adhesive, alcohol, lubricant, monosodium glutamate to mention a few. All these increase the nation's Gross Domestic Products (GDP) which serves as a foreign exchange earner through exportation of some of these products.

This, perhaps, made the Federal Government to embark on cassava reform programme tagged presidential initiative on cassava production in 2002. The Federal Government proposed some intervening measures to meet the target of generating revenue of 5 billion US dollars from the value added cassava export by 2007. The measure include provision of improved variety cuttings,

expanding primary processing and utilization, develop new market opportunity for import substitution and export. At the global level, the food shortages in sub-Sahara Africa that is compounded by general poverty among the majority of rural and urban dwellers led to a vision that grew into cassava development strategies. The vision of the strategy is to use demand driven approach to promote and develop cassava based industries with the assistance of a coalition of groups and individuals interested in developing the cassava industry (FAO, 2001); and to spur rural industrial development and raise income for cassava producers, processors, traders, and contribute to the food security status of its producing and consuming households (Food and Agricultural Organisation, 2004).

The Global Cassava Development Strategy (GCDS) made several efforts to raise food production as well as secure more income for the rural areas and serve as foreign exchange earners in Nigeria. However, cassava farmers could not meet the objective of increasing yield and expanding annual cassava production. Production trend indicates that cassava production in 1970s and 80s was between 22.2-28.6 million tonnes and this has risen to about 36-37.9 million tonnes from 1990s till date (Nweke, Ugwu, Dixon, Asadu and Ajobo, 1999). This is because multiplication and distribution of cassava planting materials were not available and if available, were not up to standard that can give desirable result (Federal Ministry of Agriculture and Natural Resources, 2006; FAO, 2004, and Ikpi, 2002).

Considering the trend of demand for cassava recently, it is envisaged that cassava farmers can increase cassava production if there are available clean planting materials. Farmers' awareness, access to, and use of standard cassava cuttings will ensure adequate remuneration for all in the cassava chain (producers, processors, traders and transporters), increase production, satisfy national demand for the crop, ensure availability of clean disease free planting materials to increase yield, productivity and expand annual income to achieve global competitiveness and earn foreign exchange for the country. In other words, getting standard cassava cuttings by farmers will help them increase their production to meet global cassava competitiveness

(FMANR, 2006 and CIAT, 1994). Some features of standard cassava cuttings farmers always look out for include the fact that diameter relative to stem base should be at least 50%, with length between 20-25cm or at least 20cm and 5-7 nodes.

Based on the issues identified above, this study pursued the following specific objectives:

1. identified the selected personal characteristics of the respondents;
2. ascertained farmers' sources of standard cassava cuttings;
3. determined farmers' knowledge of features of standard cassava cuttings;
4. ascertained farmers' usage of standard cassava cuttings as planting materials;
5. determined the benefits farmers derived from planting standard cassava cuttings; and
6. determined the constraints farmers encountered when sourcing for standard cassava cuttings.

Methodology

This study was carried out in Egbeda Local Government Area of Oyo State. Annual rainfall spread over about seven and a half months with a constantly high temperature of 24°C – 27°C. Farmers who have at least 3,000 heaps or one acre of cassava farmland constituted the population for this study. Multi-stage sampling technique was used to select sample for this study. Egbeda Local Government Area has eleven (11) wards, out of which seven (7) wards fall within rural area. About 70% of the rural wards totalling 5 wards were randomly selected from the seven wards. In the second stage, a list of total villages (90) in the selected wards was obtained and one third of villages (30) were randomly selected. In the third stage, fifty percent of total number of cassava farmers (241) who had at least 3,000 heaps or one acre of cassava farmland from the villages were systematically selected resulting in a total of 120 cassava farmers. Variables measured in this study included farmers' source and usage of standard cassava cuttings, benefit derived from standard cassava cuttings, constraints to use and farmers' knowledge of features of standard cassava cuttings. Farmers were asked to answer Yes or No to a ten-item knowledge questions on features of standard cassava cuttings to determine their knowledge of

standard cassava cuttings. All correct responses attracted 1 and incorrect responses were scored zero. The data for this study were obtained through the use of interview schedule. This contains items based on the research questions, objectives and stated hypothesis of the study. Data were analysed using frequency counts, percentages and chi square.

Results and discussion

Farmers' personal and socioeconomic characteristics

The mean age of the respondents was 52.4 years. Most of the farmers (43.3%) were between 41-50 years old while 36.6% were between 51 and 60 years age range. This result indicates that the bulk of cassava farming population in the study area consists of middle aged farmers who still possess strong physique, vitality and vigour (Clark and Akinbode, 2000). These qualities are of immense advantage to agriculture and cassava production. Olowu, Iloka and Ekpere (1990) reported similar results for farmers in three local government areas of Imo State.

Table 1 further reveals that cassava farmers were mostly male (85.0%) while only 15.0% were female. Agricultural farm operations have always been perceived as tedious, strenuous and male dominated occupation (Adegbola, 2000). This may be responsible for high involvement of male in cassava production. However, women are into processing of cassava into various products like cassava granules (Gaari), Lafun,

Starch (Ikpi, Ezumah and Ekpere, 1996). This is an indication that cassava production and its value chain tow gender lines. Furthermore, most respondents (95.8%) were married while only 4.2% were widowed. Table 1 also reveals that while about 60.7% of cassava farmers had one form of formal education or the other, more than one third (35.8%) had only primary school education while 39.3% had no formal education. It is interesting to note that 4.1% of cassava farmers had tertiary education. This can be explained by forays into cassava production ventures by elites from other economic interests who were encouraged to invest in cassava due to policy thrust cassava enjoyed in recent years with the presidential initiatives to thrust cassava production.

Majority (66.7%) of the farmers had between 6 – 10 persons (children, husband and wives) as members of their family. Mean family size was seven persons. While this large family size may be advantageous for agricultural purposes, the age distribution of family members has implications for labour availability during agricultural operations (Olowu, *et al*, 1990). On respondents' farm size, result in table 1 reveals that 45.3% of the respondents had between 1-5 acres of cassava farmland, 43.3% had between 6-10 acres while 10.4% of the respondents had between 11-15 acres. The farm size appears somewhat small with a mean farm size of 3.6 acres. This corroborates Akinwale (2000) who reported that most cassava farmers in Nigeria are small holders and cultivate less than 5 acres farm size.

Table 1: Respondents' personal and socioeconomic characteristics

Age distribution (year)	Frequency	Percentage	X (mean)
Variables			
Age			
31-40	3	2.5	
41-50	52	43.3	52.4
51-60	44	36.6	
61-70	21	17.5	

Table 1 Contd.

Age distribution (year)	Frequency	Percentage	X (mean)
Variables			
Sex			
Male	102	85.0	
Female	18	15.0	
Marital status			
Married	115	95.8	
Widowed	5	4.2	
Educational Status			
Non-formal education	47	39.3	
Adult education	7	5.8	
Primary education	43	35.8	
Secondary education	18	15.0	
Higher education	5	4.1	
Family size			
2-5	34	28.3	
6-10	80	66.7	6.8
11-15	6	5.0	
Farm size (Acre)			
1-5	55	45.3	
6-10	52	43.3	6.3
11-15	13	10.4	

Source: Field survey, 2007

Farmers' sources of standard cassava cuttings

Information on farmers' sources of standard cassava cuttings in Table 2 reveals that farmers obtained standard cassava cuttings mainly from neighbours/friends (84.2%) and open market

(49.2%). Other sources included research institutions (10.0%) and farmers' own farms (8.3%). The high proportion of neighbours/friends serving as source of standard cassava cuttings may be due to the fact that such cuttings

are given free hence the cheapest means of obtaining cassava cuttings for planting. The low patronage of research institutes may be connected with inaccessibility of most of the research institutes to farmers or inability of farmers to pay for such facilities. For open markets, the exploitative tendencies of such markets may account for this as found by Akinwale (2000)

Table 2: Farmers sources of standard cassava cuttings

Sources of cassava cuttings	Frequency	Percentage N = 120
Neighbours/Friends	101	84.2
Open market	59	49.2
Research Institutions	12	10.0
From own farm	10	8.3

Source: Field survey 2007

Farmers' knowledge of features of standard cassava cuttings

Data available in Table 3 on farmers' knowledge of features of standard cassava cuttings reveal that while 46.7% farmers had high knowledge of

features of standard cassava cuttings, 44.2% had average knowledge while 9.1% had low knowledge. Generally, this implies that quite reasonable proportion of farmers at least know what to look out for when sourcing for the standard cuttings.

Table 3 Distribution of farmers based on their knowledge of features of standard cassava cuttings

Variables	Frequency	Percentage
Low	11	9.1
Average	53	44.2
High	56	46.7

Source: Field survey, 2007

Farmers' usage of standard cassava cuttings as planting material

Information on farmers' usage of standard cutting materials as shown in table 4 indicates that 64.3% of farmers planted the standard cuttings every 6 months. This implies that farmers who use standard cassava cuttings do cultivate cassava twice a year. This may be as a

result of the ability of standard cuttings to mature early (short life-span). Also, 35.7% used the cuttings yearly which indicates that such was regularly done once in a year. In all, it implies that all of the farmers planted cassava using standard cuttings on their farm. It also signifies that farmers who are aware of standard cassava cuttings actually use them as planting materials.

Table 4: Distribution of farmers by usage of standard cassava cuttings as planting material

Frequency of planting	Frequency	Percentage N = 120
Every 6 months	63	64.3
Yearly	35	35.7

Source: Field survey, 2007

Benefits from planting standard cassava cuttings

The results in table 5 show that cassava farmers have overwhelmingly benefited from planting standard cassava cuttings in their farms. Benefits that had accrued to farmers in this regard included high yield (99.2%), early maturity (98.3%) and consequently high income (98.3%). Other benefits derived were excess cuttings

(91.7%) for sale, slow deterioration (35.6%) and resistance to pests and diseases (25.8%). Hence, benefit mostly enjoyed by farmers from planting standard cassava cuttings appears to be high yield and this is the expectation of many farmers when planting a particular variety of crop. This is the focus of the Global Cassava Strategy and the Presidential Cassava Initiatives proposition that all those in the cassava chain should be appropriately remunerated (FAO, 2001).

Table 5: Benefits of planting standard cassava cuttings among farmers

Variables	Frequency	Percentage N = 120
High Income	119	99.2
Early maturing	118	98.3
High yield	118	98.3
Excess cutting for sale	110	91.7
Slow deterioration	42	35.6
Resistance to pests and diseases	31	25.8

Source: Field survey 2007

Constraints to sourcing standard cassava cuttings among farmers

In spite of many benefits farmers stand to gain by planting standard cuttings, data on constraints farmers grappled with as shown in Table 6 suggest that they are constrained by a number of factors including scarce standard cuttings (95.8%), delayed process of getting the cuttings (95.0%) and long distance between

farmers' cassava farms and sources of standard cassava cuttings (79.2%). Other constraints included lack of awareness of where to get standard cuttings (35.8%) and adulteration of standard cuttings (28.3%). With these constraints, it is right to speculate that more farmers would have taken advantage of the standard cuttings compared to very few that are aware of advantages of the standard cuttings.

Table 6: Constraints to sourcing standard cassava cuttings among farmers

Variables	Frequency	Percentage N = 120
Scarcity	115	95.8
Not getting enough cuttings on time	114	95
Long distance from source to farm	95	79.2
High cost of cuttings	60	50
Lack of awareness of where to get standard cuttings	43	35.8
Adulteration of standard cuttings	34	28.3

Source: Field survey, 2007

Relationship between farmers' personal characteristics and use of standard cassava cuttings

Test of relationship between farmers' personal characteristics and use of standard cassava cuttings as shown in Table 7 reveals that there were no significant relationships between farmers' sex ($\chi^2=2.154$), age ($\chi^2=1.312$), marital status ($\chi^2=0.088$), educational level ($\chi^2=3.642$), and family size ($\chi^2=0.457$) as well as farm size ($\chi^2=0.891$) and use of standard cassava cuttings

by farmers. This implies that both male and female farmers, young and old, educated and non-educated, large, medium or small farm holders put standard cassava cuttings to use irrespective of their status. It equally suggests that if standard cuttings are available, farmers, irrespective of difference in their background, will exploit its advantage. Similarly, it is a pointer to the fact that standard cassava cuttings have innumerable advantages farmers can benefit from, hence they used the opportunity.

Table 7: Relationship between farmers' personal characteristics and use of standard cuttings

Variables	χ^2 cal	P-value	Decision
Age	1.312	0.519	NS
Sex	2.154	0.341	NS
Marital status	0.088	0.957	NS
Educational level	3.642	0.602	NS
Family size	0.457	0.499	NS
Farm size	0.891	0.345	NS

Conclusion and recommendations

From the above, it is evident that farmers source cassava cuttings from friends/neighbours and open markets, know what features to observe while procuring the cuttings and have put the cuttings to reasonable use. While farmers equally benefit from planting improved cuttings, they are constrained with scarce standard cuttings, delayed process of getting the cuttings and long

distance between farmers' cassava farms and sources of standard cassava cuttings. Irrespective of farmers' age, sex, educational background and farm size, they patronised use of improved cuttings. It is recommended that both government and research institutes should readily make available standard cassava cuttings given its inherent benefits and farmers' readiness to use the improved cuttings.

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