

# Information Needs of Cassava Farmers in Delta State of Nigeria

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## Abstract

*Within the agricultural sector, cassava has remained the major crop cultivated by Nigerian farmers. The study assessed the information needs of cassava farmers in Oshimili North Local Government Area of Delta State. Specifically, the study examined social-economic characteristics; information sources and awareness of improved farm practices associated with cassava farming. It also assessed respondents' information needs. Data were obtained from 80 randomly selected respondents and were analysed using frequency counts, percentages, means and correlation analysis. Results showed that more than half (55%) of the respondents were male, majority (61%) had households with at least 5 members, mean farm size was 1.5 hectares and cassava mean output of 1,500kg. There was high awareness among respondents about agronomic practices and low awareness about agro-chemical associated with cassava production. Findings also showed that respondents have the highest need for information on the use of herbicides (78.8%), followed by use of pesticides (60.0%) and fertilizer application (42.5%). On the other hand, educational status ( $r = -0.278$ ) of the farmers was significantly and negatively correlated to their information needs in cassava farming. It is suggested that Delta State ADP should plan programmes to address cassava famers' specific educational needs in cassava production.*

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## Introduction

Cassava (*Manihot esculenta crantz*) belong to the family Euphorbiaceae. Cassava is one of the most important staple food crops grown in tropical Africa. This is partly due to its efficient production of food energy, year-round availability, tolerance to extreme weather conditions and its suitability for farming and food system in Africa. The increasing demand in overseas and domestic markets for cassava has also attracted a considerable number of farmers interest in producing cassava.

End-use markets for cassava are rapidly expanding. Real opportunities for a boom in the production and processing of cassava roots into cassava chips, edible cassava flour (Lafun), composite flour, cassava starch and garri for international markets exist. The diversification and expansion of cassava development into new growth markets have attracted considerable research interests of governmental and non-governmental organizations. Within the agricultural sector, cassava has remained the major crop cultivated by Nigerian farmers. In view of its wide cultivation, and the potential

benefits derivable from cassava, the presidential cassava initiative was introduced in 2002. The primary objective(s) of the presidential initiative on cassava was to expand primary processing and utilization to absorb the national cassava production glut among others (Osagie, *et al.* 2002). Furthermore, the combined efforts of National Root Crops Research Institute (NRCRI) and International Institute of Tropical Agricultural (IITA) have lead to: The release of 22 improved cassava varieties to Nigerian farmers; Development of appropriate agronomic practices for cassava cultivation which included appropriate plant spacing in sole and in intercropping, the use of appropriate stem cutting as planting materials, appropriate fertilizer regimes and weed management; Integrated and control of cassava mealy bugs and green mites; Development of cultivar control measures for pests and diseases of cassava such as termites, cassava green mites and cassava mosaic disease (CMD) (Nweke, *et al.* 2002).

The IITA since 2002 has made significant inputs into the Nigerian presidential initiative on cassava. There are currently three cassava projects implemented

through the IITA in Nigeria. These are the pre-emptive management of the cassava mosaic disease (CMD), the cassava enterprise development project (CEDP) and the cassava biofortification project. These projects are implemented in 12 states of the southeast, south-south and Ondo state and are generally referred to as integrated cassava project (ICP). In 2004 and 2005, the ICP has set up four small-scale plants in Abia, Akwa-Ibom and Delta states and formed a network of cassava equipment fabricators in Nigeria. The ICP is in the business of assisting cassava farmers and vulnerable groups with micro processing centres (IITA, 2004).

Research Institutes, namely, Product Development Agency (PRODA), Federal Institute of Industrial Research (FIRO) and International Institute of Tropical Agriculture (IITA) have developed many mechanized units designed to remove the constraints that cassava processors face. Taiwo (2006) noted that several models and variations of mechanical cassava graters are available in the market.

Through these broad based projects and research activities, a lot of technical knowledge and information about cassava production has been generated (Nweke, et al. 2002). The technical knowledge and information constitutes recommendation packages of the state-wide Agricultural Development Programme (ADP) which have direct access to farmers. The recommendations include among others: high yielding, pest, disease tolerant and early maturing varieties (TMS series), choice of land and land preparation methods, seed treatment, time of planting and spacing. Others are planting method, fertilizer application, weed control and pests and disease management techniques (Babaleye, 2002). In spite of this treasure of knowledge and information about cassava farming, Oyakhilome (2000) noted that most farmers lack sufficient information about markets, production and post-harvest technologies and other information needed to successfully produce and market cassava. For cassava farmers to move from their crude production system to a better and more commercialised farming, they need adequate agricultural information on modern agricultural farming techniques. ICS-Nigeria (2007) noted that the sustainability of cassava production is threatened by a vicious cycle of declining soil fertility and increasing problems of pests, diseases

and weeds. Moreover, the lack of knowledge on how to add value through proper storage, processing and marketing impedes agricultural growth. There is, therefore, a need to improve the level of farmers' knowledge and information about cassava production.

Agricultural information dissemination is crucial to the productivity of farmers and makes them learn about those things which they are not aware of (Banmeke and Olowu, 2005). However, different categories of household and individual have different information needs, and their current expressed need for and potential access to information sources may also be different. Different people have different levels of access to the individuals and institutions which mediate these flows of information. If we can identify those to which people have most access or regard as the most reliable, external agencies can use them as channels for getting new agricultural information into the communities or to specific categories of people and obtaining feedback information needs. According to EC and CTA (1998) farmers need training in technical knowledge if their productivity is to be enhanced. The transformation of traditional or peasant agriculture of farmers must of necessity emphasize the training and education of rural farmers.

This study was undertaken to assess the information needs of cassava farmers in Oshimili North Local Government Area (LGA) of Delta State. The specific objectives of the study were to:

1. examine the socio-economic characteristics of cassava farmers.
2. identify cassava farmers' sources of information on improved farming practices.
3. assess cassava farmers' level of awareness of cassava production information.
4. ascertain cassava farmers' information needs and

#### **Hypothesis of the study**

There is no significant relationship between cassava farmers' age, educational status and their information needs.

#### **Methodology**

The study was carried out in 2012 in Oshimili North

LGA of Delta State, Nigeria, where farming is the major occupation of the people. The main crops cultivated by the people are cassava, yam, maize, cocoyam, plantain and banana. The people are also engaged in livestock and poultry productions as well as in trading of farm produce. A two-stage sampling technique was employed to select the respondents of the study. The first involved the random selection of four (4) villages. In the second stage, 20 respondents were randomly selected from each of the four (4) villages, giving a total of 80 respondents.

The primary data were collected through the use of interview schedule. The interview schedule was divided into six sections. Section one solicited information on respondents' demographics profile, section two sought information on sources of information of the respondents, section three and four dealt with respondents' awareness of and adoption of improved farm practices; sections five and six obtained information on respondents' level of awareness, production information needs. Questions in the interview schedule were read to the respondents and their responses were recorded by the enumerators who had earlier been trained on how to conduct interview with the respondents. The instrument was face-validated by three different experts: an agricultural educator, an agricultural extensionist and an agricultural economist. The inputs from these three experts and the experience gained when the initial draft was pilot-tested on 30 cassava farmers were used in revising the instrument. Data collected were analysed using simple descriptive tools such as frequency counts, percentages and means. Spearman correlation was used to test the hypothesis.

Sex was measured as either male or female, age in years and education as number of years spent in formal education. Marital status was categorized as married, divorced and single while cassava farming experience was measured in years. Nine techniques associated with cassava production and promoted by the Delta State ADP were identified. Cassava farmers were asked to indicate if they are aware of all or any of the production technologies. Farmers' production information needs was measured on a five – point response rating scale beginning from: not understood at all (1), not very needed (2), not needed (3), needed (4) and highly needed (5).

Respondents' actual expressed need for information was determined by constructing a contingency table.

## Results and discussion

### Socio - economic characteristics of respondents

Both male (55%) and female (45%) are engaged in cassava farming but the male are in majority. Though, cassava production is male dominated, Chris (2001) said that women and children play the central roles of harvesting, processing and marketing activities in cassava production in many parts of Africa. Age distributions indicate that more than half (58%) of them are within the age bracket of 31-50 years. This implies that majority of the farmers are a mixture of young and old farmers. The younger farmers are likely to be more active in farming and also more receptive to innovations in cassava production than the older farmers. Respondents' marital status shows that majority (59%) are married and more than one-fifth (23%) of them are single. About 46% of the respondents had a household size of between 5 and 9, those with household size of 4 and below constituted 39% while 15% of them have a household size of 10 and above. Majority (61%) of the respondents have household with at least 5 members. Large households provide ready sources of labour on the farm. The educational attainment of most of the respondents is relatively high as about 82.7% of them possessed various forms of formal education. Torimiro (1997) observed that the attainment of higher level of education and professional qualification is a very good springboard for the assessment of agricultural information intake or access by farmers. It will be very difficult for a farmer who cannot read to access agricultural information package in print media.

Majority (65%) of the respondents have remained in cassava farming for a period of 14 years while those who have been farming cassava for 15 years and above constitute 35%. This wealth of experience could be exploited by extension workers when conducting adaptive research. Majority (69%) of the respondents' size of farm are between less than a hectare and 2 hectares. This means that respondents are mainly small-scale farmers. Most (70%) of the respondents harvested between 500 and 1,500 kilograms of cassava from their farms. According to the FAO (1999), root yields of cassava per hectare ranged from 1 to 60 tons and a mean of 1.1.9 tons per hectare. These yield performance of cassava are

relatively low because of small farm sizes.

### Sources of Information on Improved Practices

Findings indicate that other farmers (77.5%), family/friends (66%), radio (57.5%) and extension workers (43.8%) are the major sources of information on improved farm practices. Cassava farmers apparently rely more on fellow farmers and family friends for information about farming than formal information sources such as extension worker, radio, television and newspapers. This means that farmer-to-farmer extension is very effective in the study area. The absence of preference for formal information sources may be due to poorly functioning extension system coupled with grossly inadequate farmer-extension-research-inputs linkages.

### Respondents' awareness of improved farm practices associated with cassava production

Respondents are mainly aware of recommended planting time (90%), improved cassava/variety (88%), pesticides (70%), and recommended crop spacing (68%). However, the respondents had low awareness of recommended harvesting time (51%), planting method (49%), fertilizer application (49%) and herbicides (49%). Generally, there is high awareness about agronomic practices associated with cassava production and low awareness about agro-chemicals. This finding is consistent with the survey's finding conducted by FMARD (2000) and IITA (2004) that respondents in 25 of the 36 states in Nigeria indicated cassava farmers' high level of awareness of semi-mechanized equipment such as graters, pressers and fryers that can be used for garri processing.

### Cassava Farmers' Information Needs

Farmers expressed strong desire for more information on the use of herbicides (78.8%), followed by use of pesticides (60.0%). There is low need for information in farm practices such as recommended crop spacing (22.5%), planting method (16.3%), land preparation (11.3%), improved cassava variety (30.0%), recommended, time of harvesting (7.5%) and recommended time of planting (6.3%). Results show that differences in farmers need for more information existed mainly between information needs on the use of agro-chemicals and agronomic practices. Considering the fact that other farmers and friends/neighbours constitute the major information sources among cassava farmers in the study area,

**Table 1: Percentage distribution of respondents by awareness (n=80)**

	Aware %	Not Aware %
Cassava production technologies		
Improved cassava variety	87.5	12.5
Land preparation	88.8	11.3
Recommended planting time	90.0	10.0
Recommended harvesting time	51.3	48.8
Recommended crop spacing	67.5	32.5
Planting method	48.8	51.2
Fertilizer application	48.8	51.2
Herbicides	48.8	51.2
Pesticides	70.0	30.2

it is likely that use of agro-chemicals for cassava production is not popular or use of agro-chemicals is a complex farm practice demanding more training by extension service.

### Relationship between Cassava Farmers' Age, Educational Status and Information Needs

Correlation analysis results indicate that respondents' age ( $r=-0.113$ ) is negatively and not significantly related to their information needs. This means that farmers' desire to acquire more information about farming matters diminishes as they grow older. On the other hand, educational status ( $r=-0.278$ ) is significantly and negatively correlated to their information needs. This indicates that the more formal education the respondents acquire, less the teachings they would require on the improved cassava farming techniques. A similar finding was reported by Alfred (2000) who found a significant relationship between level of education and marketing pattern. Education is a very important variable in farm production. According to Ogunsumi *et al* (2002) educated farmers have more access to information on farm improvement techniques and credit than non-educated farmers.

There exists positive and non-significantly relationship between household size ( $r=0.080$ ), farm size ( $r=0.059$ ) and farmers' output (0.099) but the relationships are however weak. This means that these variables do not strongly influence need

**Table 2: Information needs and response scale: Percentages computed within rows.**

Information needs	Improved Variety	Land preparation	Recommended Harvesting time	Recommended Planting time	Recommended Crop Spacing	Planting Method	Fertilizer application	Weed Control	Pesticides	Sample Size
Response scale										
Not needed at all (1)	32.5%	15%	13.8%	15%	11.3%	16.3%	2.5%	2.5%	6.3%	80
Not very needed (2)	8.8%	8.8%	20%	27.5%	11.3%	8.8%	10.0%	-	3.8%	80
Not needed (3)	22.5%	32.5%	27.5%	26.3%	23.8%	26.3%	8.8%	8.8%	12.5%	80
Needed (4)	12.5%	32.5%	31.3%	25.0%	31.3%	32.5	36.3%	10.0%	17.5%	80
Very needed (5)	30.0%	14.3%	7.5%	6.3%	22.5%	16.3%	42.5%	78.8%	60.0%	80
<b>Total*</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>80</b>

\*Multiple responses exceed 100%

for more information. The negative relationship between farming experience ( $r=-0.01$ ) indicates that the greater the wealth of experience, the need for more information diminished.

**Table 3: Correlation analysis results showing relationship between respondents' socio-economic characteristics and information needs**

Variables	R
Age (years)	-.113
Household size (Absolute number)	0.080
Education (years in formal schooling)	-0.278*
Farming experience	-0.01
Farm size	0.059
Cassava output	0.099

\*significant at 5%.

### Conclusion

Both male and female are involved in cassava production in the study area. Cassava producers are largely small scale farmers. Non formal information sources such as other farmers, family / friends as well as radio constitute the major sources of information for most of the farmers. There is high awareness among farmers about agronomic practices associated with 'cassava production and low awareness about agro-chemicals used for cassava production. Cassava farmers felt the strong need for information on the use of agro-chemicals

and very low need for information about agronomic practices. Furthermore, farmers' desire for more information on farming matters is positively and significantly correlated with their educational status.

### Recommendations

Based on findings of this study, the following recommendations are made:

1. Cassava farmers expressed strong need for more information on the use of agro-chemicals in the study area. There is need for the agricultural extension workers to provide more information on the use of agro-chemicals among cassava farmers. This can be achieved if use of agro-chemicals form part of extension messages disseminated to farmers.
2. Cassava farmers need more training on the use of herbicides, pesticides and fertilizer in cassava production. Extension workers should endeavour to organize for their training through workshop and seminars.
3. Correlation analysis results showed that formal education is significantly related to information needs in farming. Adult education programmes, should be revitalized to complement the little formal education already acquired by the farmers.

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