Analysis of Constraints to Cassava Production Among Small Scale Farmers in Kogi State, Nigeria

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ABSTRACT

The study was about factors constraining cassava production in Kogi State, Nigeria and it was carried out in 2011. Primary data which were used for the study were obtained by interviewing randomly selected 360 cassava farmers with a structured questionnaire. Information collected from the farmers was on constraints encountered in the use of inputs like land, fertilizer, labour, and on the disposal of cassava output. Farmers were asked to rate the severity of the constraints with the use of Likert scale and the data obtained were analysed with mean score model. Results indicated that scarcity of land, high cost of labour, high cost and scarcity of fertilizer, low market prices of cassava products among others were rated as very serious or just serious constraints to cassava production. Recommendations made to ameliorate these problems include reviewing land tenure system to make more land available for cassava production, encouraging youths to remain in the rural areas to provide labour, making fertilizers and herbicides available to farmers at cheap prices and encouraging farmers to form cooperative societies from where they can get loan for their farm activities among others.

Key Words: *Cassava, Production, Constraints, Farmers*

INTRODUCTION

Cassava (*Manihot esculenta crantz*) is a perennial crop that stores food in its roots. It originated in North-East Brazil and Central America and was probably first grown for food by American Indians in those areas (Onwueme and Sinha, 1999). Cassava was brought to Nigeria from Brazil by the Portuguese traders who first landed on the southern coast between Bonny and Koko ports and became accepted and integrated into the farming systems of southern Nigeria (Ekandem, 1964). Emancipated slaves from Brazil, the West Indies and Sierra–Leone who returned to parts of southern Nigeria after the 1850s played an important role in stimulating the acceptance of cassava (Agboola, 1979). These emancipated slaves who knew how to process the crop into food of various forms settled among the local people of Lagos, Badagry, Abeokuta and Ijebu to whom they imparted their knowledge and also popularized the consumption of cassava products in the local food

economy (Agboola, 1979). In Eastern Nigeria, the crop was first introduced into the towns along the coast such as Calabar, Yenegoa and Port–Harcourt (Ekandem, 1964). With the acceptance of the crop in southern Nigeria, it soon began to spread into the interior. The movement of population between the south and the north and the improvement in communication tremendously helped to spread the crop inland. Cassava is now very popular among Nigerian farmers. Nigeria is currently the largest producer of cassava in the World with an estimated annual output of 37 million tones (FAO, 2004). It is a crop of high rainfall region and so most of its cultivation is in the southern and central regions of Nigeria.

The tuberous roots of cassava is the most valuable part because of its starch content which is prepared into different food recipes for human consumption. The leaves are used as vegetable because they supply protein, minerals and vitamins (Bokanga, 2004). The leaves, peels and flesh are used as animal feed (Aduku, 2004). Cassava has industrial uses in the production of alcohol and starch. Cassava is capable of filling the gap in food supply created by inadequate production of many food crops because it can grow on marginal soil. It does not require much of the labour and other inputs expended in the production of other crops. It has low fertilizer requirement because its bunchy leaves later drop on the floor to provide manure. The leaves also form canopy which protect the soil from the direct rays of the sun and hitting of drops of rain and their attendant consequences.

Despite all these comparative advantages in the domain of cassava production, most farmers cannot obtain the recommended yield on their farms. This is partly because most farmers produce on small pieces of land that are often scattered because of the prevailing land tenure systems in their localities which place limit on the amount of land they can inherit. Moreover, these small pieces of land are cultivated continuously without regard to fallow and natural regeneration of the soil nutrients. There is general poverty among the farmers as a result of low output. The financial market is not properly developed to inject enough capital into the system to empower the farmers. Our cassava and other crops are not doing as expected. Yet, previous studies in the area have not focused and identified problems that hinder the farmers from obtaining the recommended yields on their farms. Therefore, this study was carried out to identify some of those factors that make cassava to perform below standard and make necessary suggestions to ameliorate the situation.

Materials and method

The study was carried out in Kogi State of Nigeria between June and November, 2011. The State is located between latitude $6^0$30'N and $8^0$50'N and Longitude $5^0$51'E and 8^0.00'E (KOSEEDS, 2004). The State has a total population of 3, 278,487 people based on the 1996 population census which is made up of 1,691,737 males

and 1,586,750 females.
A multistage random sampling technique was used to select the respondents for the study. In stage one, three Agricultural Zones out of the four Agricultural Zones were purposively selected for the study because cassava production was dominant there. In stage two, two Local Government Areas were selected from each agricultural zone. In stage three, four settlements that were well known in cassava production were selected from each Local Government Area making eight settlements from each Agricultural Zone. In stage four, a sample of 15 cassava farmers were selected from each settlement and interviewed with a well structured questionnaire. Therefore, the sample was made up of 120 cassava farmers from each Agricultural Zone and a total of 360 cassava farmers for the State.

Objective of the study was achieved by allowing the respondents to weigh the constraints to cassava production with a three point likert scale. The constraints were weighed as very serious (3), serious (2) and not serious (1) and these were analysed using mean score model in the tradition of (Osuala, 1993). The mean score model was stated as follows:

Table 1: Farmers' ratings of the constraints to cassava production

Constraints	VS	N	NS	Mean Score	proportion of respondents (%)	
Inadequate farm land	330	30	0	2-8	96-7	
High cost of labour	332	28	0	2.9	97.3	
High cost of fertilizers		292	64	4	2.8	93.3
Scarcity of fertilizers	280	64	16	2.7	91.0	
Losses due to pests and diseases		0	36	324	1.1	36.7
Inadequate extension service	0	33	316	1.0	32.3	
Low market prices of cassava	232	92	36	2.5	84.7	
Inadequate credit facilities		256	72	32	2.6	87.3
High cost of transportation		332	28	0	2.9	97.3
Inadequate processing facilities		260	92	8	2.7	90.0
High cost of pesticides		36	33	280	1.3	42.0
High cost of herbicides		68	228	64	2.0	67.0
Pilferage of cassava products	124	204	32	2.3	75.3	

Legend: VS=Very serious; S=Serious; NS=Not serious.
Source: *Field Survey Data, 2011.*

There is scarcity of labour as a result of the migration of able bodied youths from the rural areas to the cities, ageing of the current farmers, emergence of some white collar jobs such as teaching and agricultural extension services in the rural areas

and increase in school enrolment by rural youths. All these result in scarcity of labour and the tendency for the few available ones to ask for more pay.

High cost and scarcity of fertilizers which were presented as separate constraints were rated as very serious with mean scores of 2.8 and 2.7 respectively. The proportions of the respondents who agreed with the ratings were 93.3 percent for high cost of fertilizers and 91.0 percent for scarcity of fertilizers. This is in agreement with the finding of (Saliu, 2010) who found out that 89.4 percent and 82.8 percent of the farmers in Kogi and Benue States respectively rated high cost and scarcity of fertilizers as very serious constraints. A bag of fertilizer was sold between N3,000.00 and N5,000.00. This means that one hectare that required 8 bags of fertilizers will cost a farmer between N24,000.00 and N40,000.00. Farmers cannot invest this huge amount of money on fertilizers alone.

Majority of the respondents with a mean score of 2.5 and a proportion of 84.7 per cent of the respondents rated low market prices of cassava as a very serious constraint. Prices of cassava have great role to play in how farmers allocate their land and other resources to cassava production. Unfortunately, farmers cannot determine the prices at which they sell their cassava and its by-products. Prices of cassava in the national and international markets depend on the forces of demand and supply. In the national market, the price of cassava can be as low as N5,000.00 per tone while in the international market the importing countries seem to play more significant role in price formation than the exporting countries (Federal Institute of Industrial Research Oshodi FIIRO, 2006).

Inadequate credit facility was rated as a very serious constraint with a mean score of 2.6 and a proportion of 87.3 percent of the respondents. This result is in agreement with (Mbah, 2008) who reported that capital was still a major hindrance to increased rural production in Owerri, Imo State, Nigeria. Credit in form of money is needed to buy farm inputs and improved technologies. Most farmers don't have access to it because of their low income and absence of collateral security with which they can take loan from commercial banks.

High cost of transportation was rated as a very serious constraint with a mean score of 2.9 and a proportion of 97.3 percent of the respondents. A good transport system is necessary for the movement of people, inputs and outputs in agriculture. An inefficient and expensive transport system adversely affects input and output cost and supply thereby reducing farmers' potential income (International Institute of Tropical Agriculture IITA, 1990).

Inadequate processing facilities were rated as a very serious constraint with a mean score of 2.7 and a proportion of 90.0 percent of the respondents. Cassava root tubers

are highly perishable and so they should be processed into various forms soon after harvest. The roots should be processed almost immediately after harvest to avoid deterioration because enzymic processes of deterioration accelerate 2-3 days after harvest (Fulani and Anda, 2006).

High cost of herbicides was rated as a serious constraint with a mean score of 2.0 and a proportion of 67.0 percent of the respondents. This is in agreement with (Olatunji, 2008) who found that farmers in Abia and Akwa Ibom States experienced difficulty with obtaining the required quantity of herbicide, timely supply of required quantity of herbicide and cost of required quantity of herbicide with mean score of 3.40, 2.75 and 2.27 respectively. Herbicide is a new technology in cassava production and its adoption and wide usage will reduce the cost of production as less man days of labour will be required for supplementary weeding.

Pilferage of cassava products was rated as a serious constraint with a mean score of 2.3 and a proportion of 75.3 percent of the respondents. Theft of cassava products disposes farmers of their investment leading to loss of income. Pilfering is a determining factor in the adoption and use of new technologies in agriculture because farmers who have fallen victims of pilferage and suffered great financial losses are likely going to reduce their investments in farming, and may eventually become reluctant to adopt and use agricultural innovations (Anonguku, Obinne and Daudu, 2008).
Losses due to pest and diseases, inadequate extension service and high cost of herbicide were presented to the farmers and were rated as no constraints to cassava production in the area.

Conclusion
Cassava production is a farm business with many challenges. Farmers and those that are outside farming derive food and other benefits from its production. The challenges encountered are in the area of input supply, marketing and product transformation.

Recommendations
Based on the findings of this study, the following recommendations are made to improve cassava production in Kogi State and Nigeria as a whole.
Land tenure system in operation in different parts of the country should be reviewed to make more land available to cassava farmers.

Projects that will make youths to stay in rural areas should be embarked upon so that rural-urban migration can be minimised. Electricity, pipe bone water and schools should be provided for this purpose.

Fertilizers, herbicides and other agricultural chemicals should be made available at cheap prices for farmers to use. Most of our farm lands have lost their natural nutrients and so they need artificial fertilizers to supplement the nutrients.
Farmers should be encouraged to form cooperative societies from where they can obtain loan for their farm operations. Farmers can also negotiate and get better prices for their farm produce through cooperative societies.

Good transport system should be put in place to reduce cost of transporting farm produce. Roads should be constructed to link up farm areas. Spare parts for vehicles should be made available at affordable prices.

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