

JEBS-26-14

Adoption of Processing Technologies of Cassava and its Effects on Profit Output Among Rural Women in Shabu, Lafia North LGA Nasarawa State

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Received date: May 30, 2026; **Accepted date:** June 12, 2026; **Published date:** June 30, 2026

Citation: Chinedu OM (2026) Adoption of Processing Technologies of Cassava and its Effects on Profit Output Among Rural Women in Shabu, Lafia North LGA Nasarawa State. J Environ Biol Sci. Vol.2 No.1: 14.

Abstract

The study examined the adoption of processing technologies of cassava and its effects on profit output among rural women in Shabu, Lafia North development area of Nasarawa state. This project attempts to examine the extent to which cassava processed by rural women through improved cassava processing technologies will attract large market as well as profitability. To achieve the research objectives rural women (processors) in the three (3) districts of Shabu through administration of structured questionnaire which was randomly selected throughout the three (3) district to give ninety (90) respondents for the study. Primary data were used for this study. The primary data collected from the respondents were analyzed using the Statistical Package for Social Sciences (SPSS). All the objectives for the study were achieved using simple descriptive statistics such as frequency and percentage while the null hypothesis was tested using logical regression model. The analysis indicated that most of the cassava processor are illiterate and result of the study also revealed that adoption of improved cassava processing technologies makes work easy and its effect on profit output is positive. Furthermore, age and extension visit were significant to adoption at 1%. The major constraints identified include high cost of purchase (34.5%), lack of credit facility (41.1%) and maintenance (24.4%). Following recommendations, it is imperative for any policy aimed at improving cassava processing technologies as an income generating activity that can reduce poverty and unemployment among rural women should be formulated and adopted, it will enhance technology adoption and profitability among rural women in Shabu.

Keywords: Cassava processing technologies; Rural women; Technology adoption; Profitability; Agricultural development

Introduction

Technology adoption and usage have positive connotations among policy-makers and the public at large. It is often associated with waste management, time management, speed, higher income and efficiency. It is extremely important for technology derives from its ability to serve the users and consumers of its output.

Proven technology continues to be driven by several forces, including favourable market, success in the processing of cassava by rural women can after all not be divulged from market forces, especially in the area of habits, consumers, tastes, receptivity and disposal income. Recent studies of the northern parts of Nigeria showed that rural women are involved in adopting least processing

technologies in order to improve their agricultural product for maximization or for-profit purpose. Adoption of innovation refers to the decision to apply an innovation and to continue to use It. Deborah [1] opined that many of the new technologies for cassava processing that can lead to increase yield and profitability have not been adopted to any appreciable extent by the rural women in Shabu. However, in most rural settings, especially in Sub Saharan Africa, access to sufficient knowledge, improved technology, financial services and other important social services remain a critical issue [2]. Socio-economic factor can also affect the adoptions behavior of the rural women. Socio-Economic factors refer to environment economic, social and institutional pattern and

their linkages that compass the context of development [3]. For adoption to occur, relevant improved technologies have to be available. When improved technology is available programs which bring about agricultural development should be designed to convince and encourage the rural women to change in order to change the knowledge, skills and attitudes of these rural women concern, they should be assisted to develop a frame work of mind and attitude conducive for acceptance of new Innovation. They should be educated on the necessary processing technology of cassava production. However, agricultural extension should not be seen only within the context of increasing agricultural output. It is also concern with the part of effective development of rural areas. This has become necessary in order to maintain and increase the rate of adopting cassava processing technology and its effect on profit output among rural women. In Nigeria, the Agricultural Development Project (ADP) has made an important advance in incorporating gender in agricultural extension, by modifying the ADP system midstream to provide for women processors through the creation of Women in Agriculture (WIA) Programs in the department of extension services of the states ADPs with gender focus [4,5].

The role of technological adoption on crop output has been extensively studied in recent years by several researchers in Nigeria, such as; Adejumo et al. [6], Olugbenga et al. [7], Wossen et al. [8], Abdoulaye et al. [9], Karim et al. [10] amongst others. These authors agree that agricultural growth *via* technological transformation can lead to an expanded food supply, greater efficiency of output, low cost of production, higher incomes and a reduction in unemployment. This study therefore examines the importance of technologies available to rural women, cassava processors and the resulting consequences.

Most importantly, the livelihood of the rural women in Shabu are house wives and processors, they constitute sixty percent adult in Shabu, major activity is processing of cassava.

Materials and Methods

The study area is Shabu, Lafia North Development Area of Nasarawa State located between latitude 08 °N and 12 °N and between longitude 08 °E and 11 °E at an altitude of 181.53 m. It has an estimated land area of about 237 Km². The target population of the study was women cassava processor in Shabu Lafia North development area of Nasarawa state. The town comprises of three (3) wards namely Shabu, Kwandere and Akriba while Angwan Madaki, Angwan Banbari and Angwan Waje were purposely selected because of their cassava processing activities.

The sample size of the processors used was ninety (90) processors selected through simple random sampling technique from the three wards each was served with thirty (30) questionnaires.

Data collected was organized and analysed through tables, percentages, mean and frequency counts and Statistical Package for Social Science (SPSS).

Results

Table 1 presents the socio-economic characteristics of the respondents. **Table 2** shows the distribution of respondents according to the benefits derived from adoption of improved cassava processing technologies. Most (45%) of the respondents improve their income level, (38%) of the respondents increase their yield and (7%) of the respondents benefit from government intervention school. This implies that most of the respondents adopted improved technologies based on the benefits.

Table 1: Distribution of the respondents according to their socio-economic characteristics.

Variables	Frequency	Percentage
Age (years)		
20-29	79	87.8
40-49	9	10
50-above	2	2.2
Total	90	100
Educational level		
Primary	24	26.6
Secondary	14	15.6
Diploma	2	2.2
Higher national diploma	-	-
Non-literate	50	55.6
Total	90	100
Marital status		
Single	3	3.3
Married	70	77.8
Widowed	14	15.6
Divorced	3	3.3
Total	90	100
Annual income (N)		
1,500-50,000	36	40
51-100,000	23	25.6
101,000-150,000	21	23.3
151,000-200,000	10	11.1
Total	90	100

Table 2: Distribution of respondents according to the benefits derived from adoption of improved cassava processing technologies.

Variables	Frequency	Percentage
Income from other source (N)		
1,000- 50,000	75	83.3
51,000- 100,000	15	16.7
Total	90	100
Land tenure system		
Leasing	4	4.4
Purchase	13	14.5
Inheritance	73	81.1
Total	90	100
Membership of co-operative		
Member	79	87.9
Non-members	11	12.2
Total	90	100
Year(S) of experience		
1-5	26	28.6
6-10	38	43.2
11-20	12	13.3
21-above	14	15.6
Total	90	100
Extension visit		
Weekly	10	11.1
Monthly	62	68.9
Quarterly	10	11.1
Yearly	8	8.9
Total	90	100

Figure 1 Illustrates the distribution of respondents according to the benefits derived from adoption of improved cassava processing technologies.

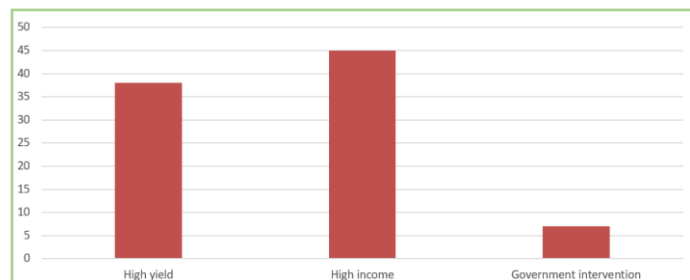


Figure 1: Distribution of respondents according to the benefits derived from adoption of improved cassava processing technologies.

Discussion

The socio-economic characteristics of the respondents are presented in **Table 1** and illustrated in **Figures 2** and **Figure 3**.

- **Age (years):** Majority (79%) of the respondent fall within the age 20 - 39 while 40 - 49 years falls at (10%). (2.2%) fall within age 50 - above this implies that most of the respondents fall within the active age group.
- **Educational level:** Majority (55.6%) of the respondents are non-literate, (26.6%) of the respondents attended primary schools while (15.6%) of the respondents completed secondary education as well diploma was (2.2%). This implied that the respondent will not be able to comprehend extension guide and can have adverse effect on technology adoption.
- **Marital status:** Majority (70%) of respondents were married (14%) were widowed while single and Divorced were (3%) respectively. This implied that most of the respondents that adopt cassava processing technologies were married.
- **Annual income:** Majority (40%) of the respondents earned between N1, 000 - N50, 000. (25.6%) earned between N51, 000 - N100, 000. while (23.3%) earned between N 101, 000 - N 150, 000 and the least (11.1%) earned between N151,000 - N200,000. This implies that the majority of the respondents generate good level of income from cassava processing.
- **Income from other source:** Majority (83.3%) of the respondent earned between N1, 000 - N50, 000. (16.7%) earned between N51, 000 - N100, 000.
- **Land tenure system:** Majority (81.1%) of the respondent inherited their farm land, while (4.4%) of the respondent leased their farm land, (14.5%) of the respondent acquired land by purchasing. This implied that land is secured for cassava processing in the study area.
- **Membership of co-operative:** Majority (87.8%) of the respondent were member of cassava women processing group while (12.2%) were non-member. This implied that majority of the respondents were members of cassava women processing group thus, can take advantage of opportunities there in.
- **Experience of processors in years:** Majority (43.2%) of the respondents were within 6-10 years, (28.9%) were within 1-5 years while (15.6%) were within 21-above and (13.3%) were within 11-20 years. This implies that most of the respondents are new entrant into processing
- **Extension visits:** Majority (68.9%) of the respondents were aware about extension services monthly, while

(11.1%) of respondents were aware about extension visit for both weekly and quarterly and (8.9%) yearly this implies that the level of awareness of adoption of improved cassava processing technologies was high due to the monthly visit of extension agents.

The benefits derived from adoption of improved cassava processing technologies are presented in **Table 2** and illustrated in **Figure 1**.

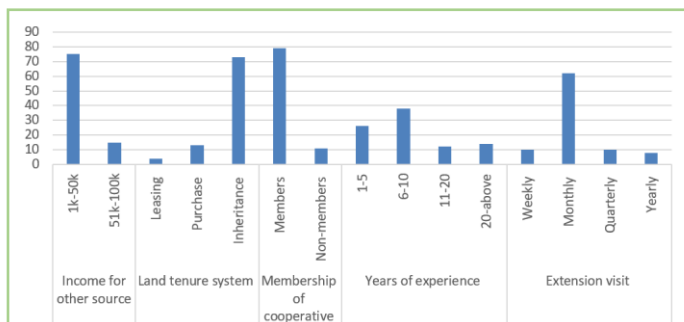


Figure 2: Distribution of the respondents according to their socio-economic characteristics (b).

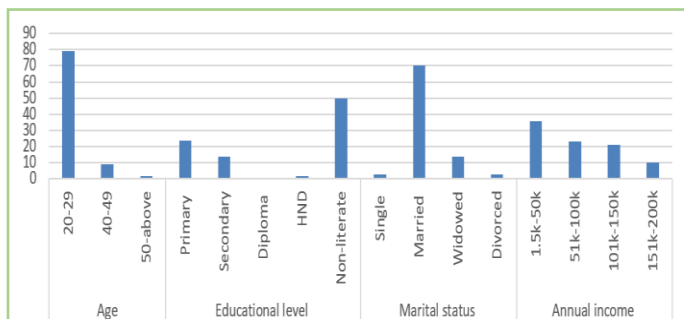


Figure 3: Distribution of the respondents according to their socio-economic characteristics (a).

Conclusion and Recommendation

The level of adoption of improved cassava processing technologies is high in the study area more so, the major socio-economic factor influencing adoption of improved cassava processing technologies in the study area are age and extension visit obtained by the respondents. Based on the result of this study, we could say that improving and adaption of cassava processing technologies in Shabu, Lafia North Development area is profitable and efficient.

Cassava processors should take advantage of government literacy opportunities. This will help them to know modern processing equipment which will be of benefit to them in processing.

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