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Evaluation of rural women's involvement in cassava farming in the Orashi region of rivers state

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Abstract

The research aimed to evaluate the extent of women's participation in cassava farming within rural communities of Rivers State. To accomplish this, specific objectives were established to outline the socio-economic characteristics of the participants, assess the level of involvement of rural women in cassava cultivation, and identify the challenges hindering effective participation in this agricultural activity. The study was conducted in the Orashi region of Rivers State using a multi-stage sampling method. Initially, four local government areas within the Orashi region were purposefully selected. Subsequently, five communities were randomly chosen from each of these areas, resulting in a total of twenty communities. From each community, six cassava farmers were selected, culminating in a sample size of one hundred and twenty respondents who were interviewed. Data collection involved structured questionnaires and Focus Group Discussions (FGDs), alongside secondary sources such as journals, online resources, and other printed materials to gather relevant information. Descriptive statistical methods, including frequency counts, percentages, means, and analysis of variance (ANOVA), were employed for data analysis. The findings indicated that 90% of the respondents were aged between 50 and 60 years, with 60% lacking formal education and 25% holding a senior school certificate as their highest educational qualification. Additionally, 60% of respondents were solely engaged in farming, while 40% combined farming with other entrepreneurial activities for their livelihood. High levels of participation among rural women were noted in various cultivation tasks, with weeding having a mean score of 2.80, followed by planting (2.70), sourcing planting materials (2.6), soil tillage (2.50), and harvesting (2.45). The null hypothesis tested was accepted, as the p-value of 0.974 exceeded the alpha level of 0.05. Furthermore, the study identified several constraints faced by rural women, including limited access to credit facilities, use of marginal land, lack of land ownership rights for women, and insufficient collaboration between government entities and rural populations. Consequently, the study recommended promoting group formation among rural women to enhance their influence in decision-making regarding land ownership and improve access to credit facilities.

Keywords: Participation, rural women, cassava, cultivation

Introduction

Cassava (*Manihot* spp.) is acknowledged as one of Nigeria's key food crops, alongside yams, rice, maize, sorghum, and millet (NEEDS, 2004) ^[15]. This perennial root crop is well-suited to less-than-ideal growing conditions and serves as a crucial staple across regions in Africa, South America, and Asia. It was introduced to Nigeria by returning slaves from the Americas (Nwibo, 2011) ^[8]. In Nigeria, cassava is cultivated for multiple purposes, including generating income, providing food, serving as animal feed, and supplying raw materials for agro-allied industries that produce starch, alcohol, pharmaceuticals, and confectionery items (Francisco, 2004; Onwumere *et al.*, 2006) ^[11, 20]. Nigeria stands as the leading global producer of cassava, outpacing Brazil by a significant margin and nearly doubling the production levels of Indonesia and Thailand (FAO, 2004a) ^[8]. By 2005, Nigeria's total cassava output reached 38 million tons (FAO, 2006) ^[10]. When analysing crop production in Nigeria, cassava ranks first, followed by yams at 27 million tons in 2002, sorghum at 7 million tons, millet at 6 million tons, and rice at 5 million tons (FAO,

2004b) ^[9]. In terms of per capita production, the North Central region had the highest yield of cassava at 0.72 tons per person in 2002, with the Southeast region following at 0.56 tons per person (IITA, 2004) ^[12]. This crop is essential for ensuring food security among rural households due to its adaptability to poor soil conditions and resilience to drought (Ezedinma *et al.*, 2006) ^[7]. In Rivers State, where agriculture plays a vital role in the economy, cassava production significantly contributes to food security and livelihood enhancement. Women represent a large segment of the agricultural workforce and are integral to the cultivation, processing, and marketing of cassava. Recent research has underscored the critical roles women play in this sector. For instance, Akinwumi and Ojo (2021) ^[4] highlight that women are involved not only in planting and harvesting but also in processing cassava into staple products like garri and fufu. Their findings indicate that women's efforts greatly impact household food security and nutrition. Similarly, Shamsodini *et al.* (2011) ^[25] report that women are primarily responsible for various farming activities such as hoeing, weeding, harvesting, transporting,

storing, processing, marketing, and household chores, providing them with additional income opportunities and enhancing their contributions to food security. Rahman (2004) ^[24] also notes that while women in Nigeria form an active labor force, they often lack ownership of production resources. The significance of women's roles in addressing agricultural development challenges cannot be overstated. Women contribute significantly to food production—providing between 60-80% of agricultural labor and being responsible for 80% of food production (Mgbada, 2002; Rahman, 2004) ^[14, 24]. Despite these vital contributions, rural women face numerous obstacles that limit their full engagement in cassava production. Ogunniyi and Afolabi (2020) ^[19] identify several barriers, such as restricted access to land, credit facilities, and agricultural extension services, that hinder their production capabilities. Additionally, gender dynamics within agriculture are complex and often shaped by socio-cultural factors. Nwankwo and Njoku (2021) ^[16] argue that traditional gender roles frequently marginalize women's contributions, resulting in a lack of recognition and support for their involvement in cassava farming. This marginalization is exacerbated by inadequate policies that do not address the specific needs of women farmers. Additionally, Adeyemo and Adebayo (2022) ^[2] emphasize the necessity of empowering women through specific initiatives that improve their access to resources and

training, which in turn boosts their productivity and economic standing. Considering the importance of cassava and the vital role women play in its cultivation within the region, one would expect a substantial yield of cassava for both household use and export. However, given that the reality is quite different, it becomes crucial to evaluate women's involvement in cassava production in the study area.

Purpose of Study

The primary objective of this study was to investigate the role of women in cassava farming within the Orashi region of Rivers State, Nigeria. To achieve this goal, the study aimed to fulfill the following specific objectives:

- to examine the socio-economic profiles of the participants,
- to evaluate the extent of the participants' involvement in cassava cultivation, and
- to identify the challenges that hinder effective participation in cassava production among the respondents in the area.

Hypothesis of the study: There is no significant difference in the level of participation in cassava production among rural women in Rivers State

Methodology of the Study



Source: Abali, *et al.*, 2011 ^[1]

Fig 1: Map of Rivers State showing the four Local Government Areas that makes up the Orashi Region.

The Orashi region in Rivers State is a dynamic area known for its rich cultural heritage and ecological diversity. It

encompasses the Local Government Areas of Ahoada East, Ahoada West, Abua-Odua, and Ogba-Egbama-Ndoni. This

region is characterized by its traditional languages, cultural customs, and religious practices that embody the heritage of its seven primary ethnic groups: Abua, Odua, Ekpeye, Ngene, Ogba, Egbema, and Ndoni. The predominantly agricultural community benefits from the fertile land offered by the rainforest ecosystem, which is interspersed with streams, lakes, and rivers that sustain a diverse range of wildlife. The climate features a wet season from April to November, characterized by significant rainfall (ranging from 200 to 300 cm) and humidity levels averaging around 80%. Temperatures generally fluctuate between 20 °C and 30 °C, with moderate winds affecting overall weather conditions (Abali *et al.*, 2010) ^[1].

In addition to its agricultural activities, the Orashi region is situated in an oil-rich part of Rivers State, hosting operations from various multinational oil companies, including Nigeria Agip Oil Company (NAOC), Elf Petroleum Nigeria Limited (EPNL), and Shell Petroleum Development Company (SPDC). This industrial activity plays a crucial role in shaping the economic landscape of the area, impacting local livelihoods and raising environmental concerns. The Orashi region is significant not only for its natural resources but also for its cultural diversity and traditional practices, making it an important area within the state.

The study focuses on rural women engaged in cassava cultivation in the region, employing a multi-stage sampling method to select participants. Initially, the four local government areas in Rivers State were purposefully chosen. Subsequently, five communities were randomly selected from each of these local government areas, resulting in a total of twenty communities. Finally, six cassava farmers were chosen from each of the twenty selected communities, yielding a total of one hundred and twenty respondents who were interviewed. Data collection involved the use of a structured questionnaire and Focus Group Discussions (FGDs). Secondary sources such as journals, online resources, and other printed materials were utilized to gather relevant information for the study. Data analysis was conducted using descriptive statistics, including frequency counts, percentages, and means. The hypothesis was tested using Analysis of Variance (ANOVA). A three-point Likert-type scale was employed to assess respondents' participation levels in cassava production, with values assigned as high (3), low (2), and very low (1), where the midpoint was set at 2.0. To identify barriers to effective participation of women in cassava production, a four-point Likert scale consisting of strongly agree (4), agree (3), disagree (2), and strongly disagree (1) was implemented, with a critical midpoint value of 2.5.

Results and Discussion

Social-economic characteristics of the respondents

Table 1 shows that 80% of the participants reported having between 1 and 5 children, whereas 12.5% had between 6 and 10 children. Furthermore, 16.67% indicated they had more than 10 children, and 4.17% stated they had no children at all. Regarding educational background, 60% of the respondents had received non-formal education, 15% were participating in an adult literacy initiative, and 25% possessed a senior school certificate as their highest level of education. This aligns with the findings of Onyemauwa

(2006) ^[21] and Aqeela *et al.* (2005) ^[5], who noted that women and girls constitute two-thirds of the one billion illiterate people globally. The authors emphasized that this educational deficiency could impede the effectiveness of institutional support aimed at improving farmers' productivity. Oyemauwa (2012) ^[22], citing Poly-Mbah and Udeogu (2007) ^[23] and Nwaru (2007) ^[17], highlighted that low educational attainment might also restrict these individuals from forming groups and accessing agricultural credit. Illiteracy and inadequate education are recognized as major obstacles to effective institutional support for agriculture. Lastly, Table 1 reveals that 60% of the respondents depend exclusively on cassava farming for their income, while 40% participate in both cassava cultivation and other business ventures. Additionally, the data show that 75% of the respondents identify as Christians, whereas 25% adhere to traditional religious practices.

Table 1: Distribution of respondents by selected socioeconomic characteristics

Selected Personal Characteristics	Percentage (%) (120)
Age (Years)	
21-30	3.33
31-40	10.00
41-50	6.67
51-60	90.00
Above 60	-
Sex	
Male	-
Female	100
Marital Status	
Single	4.17
Married	83.33
Divorced	4.17
Widow	8.33
Widower	-
Number of Children	
0	4.17
1-5	66.66
6-10	12.50
Above 10	16.67
Livelihood activities	
Farming only	60.00
Farming & other entrepreneurship	30.00
Education	
Non-formal	70.00
Adult literacy	5.00
Primary	-
Secondary	25
Tertiary	-
Religion	
Christianity	75.00
Muslim	-
Traditional religion	25.00

Source: Field survey 2024

Levels of women's participation in cassava production

Table 2 displays the average participation scores of respondents in various aspects of cassava production. The findings indicate the following mean scores: weeding operations averaged 2.80, planting operations had a mean score of 2.70, while both the supply and sourcing of planting materials recorded an average of 2.60. Stumping received a mean score of 2.50, harvesting scored 2.45, and

the application of fertilizer or manure had a mean score of 2.20. These results align with the research conducted by Shamsodini *et al.* (2011), which highlighted that women are predominantly responsible for a wide range of agricultural tasks, including hoeing, weeding, harvesting, transporting, storing, processing, marketing, and various domestic responsibilities. These activities not only create additional income opportunities but also significantly contribute to enhancing household food security. Conversely, land clearing was noted to have a low participation mean score of 1.58, reflecting minimal involvement in this task. This observation is supported by Onyemauwa (2012) ^[22], who reported that women typically refrain from participating in land clearing for cassava cultivation due to the strenuous nature of the work. Table 2 displays the average participation scores of respondents in various aspects of cassava production. The findings indicate the following mean scores: weeding operations averaged 2.80, planting

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Table 2: Mean scores of the respondents on the level of participation in cassava production

Activities	Ahoada West	Ahoada East	Abua/Odual	ONELGA	Mean (average)
Sourcing of cuttings	2.50	2.60	2.70	2.60	*2.60
Stumping	1.80	1.70	1.50	1.30	1.58
Soil tillage/ridge making	2.60	2.50	2.30	2.65	*2.50
Planting	2.80	2.70	2.60	2.70	*2.70
Weeding/mulching	2.70	2.90	2.70	2.90	*2.80
Supply	2.60	2.70	2.50	2.60	*2.60
Fertilizer application	2.10	2.20	2.40	2.10	*2.20
Harvesting	2.40	2.50	2.35	2.55	*2.45
Total mean	21.90	22.30	21.65	21.90	21.93
Average mean	2.43	2.47	2.41	2.43	2.44

Source: field Survey 2024

Note: high=3, low=2, very low=1 *indicated high level of participation

Maximum Mean Score = 3

Test of Hypothesis of the study

Table 3: ANOVA test on the level of participation of rural women in cassava production

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.031	3	0.010	0.073	0.974
Within Groups	4.603	32	0.144		
Total	4.634	35			P>0.05

Source: field study, 2024

According to the data presented in Table 3, the p-value of 0.974 exceeds the alpha level of 0.05. Therefore, we accept the null hypothesis, which posits that there is no significant difference in participation levels among the respondents. Accepting this hypothesis suggests that the different communities involved in the study exhibited similar levels of participation. Additionally, the study has previously indicated a high involvement of women in cassava farming.

Barriers to women's effective participation in cassava production

The barriers to effective participation of women in cassava production identified by respondents in Table 4 included several key factors: inadequate funding, which had a mean score of 3.80; dependence on marginal land (mean = 3.75);

insufficient land ownership among women (mean = 3.70); poor collaboration between government entities and rural women (mean = 3.70); lack of group organization (mean = 3.70); limited interaction with extension services (mean = 3.50); absence of formal education (mean = 3.40); and difficulties in accessing fertilizers (mean = 3.40). These results are consistent with the findings of Ajani and Onwubuya (2013) ^[3], referencing Akinnagbe (2010) ^[4], which categorized various challenges in cassava production into agronomic, cultural, institutional/technical, infrastructural, and financial constraints. Furthermore, Makarau *et al.* (2011) ^[13] corroborated that despite women's significant contributions to cassava farming, their access to financial credit is often restricted, which may lead to a decrease in production capacity.

Table 4: Barriers to women's effective participation in cassava production

Factors	Mean scores	Remarks
Inadequate funding	3.80	Agree
Use of marginal land.	3.75	Agree
Non-land ownership by women.	3.70	Agree
Lack of synergy with the government at all levels	3.70	Agree
Lack of group formation.	3.65	Agree
Lack of contacts with extension personnel.	3.50	Agree
Lack of formal education.	3.45	Agree
Poor access to improved planting materials.	3.40	Agree
Inadequate procurement of fertilizers.	3.40	Agree
Lack of training	3.40	Agree

Source: Field survey 2013, **Maximum means score: 4**

Conclusion and Recommendations

The study revealed that a significant majority of respondents, 90%, were aged between 50 and 60 years, and 70% did not have formal education. Additionally, 60% of the participants were exclusively engaged in farming, while 40% combined farming with other entrepreneurial ventures to sustain their livelihoods. Women were actively involved in various aspects of cassava production, including weeding, planting, sourcing planting materials, tilling the soil, harvesting, stumping, and applying fertilizers or manure; however, their involvement in land clearing was notably limited. The research identified several barriers hindering effective participation in cassava production, such as restricted access to credit, dependence on marginal land, lack of land ownership for women, inadequate education and training, and insufficient collaboration between government agencies and rural communities. These challenges have contributed to lower production levels among rural women. In light of these findings, the study suggests the following recommendations:

1. Creating effective cooperative societies among rural women to enhance their decision-making capabilities and facilitate better access to credit.
2. The government should implement policies and legislation to dismantle cultural barriers that hinder women's land ownership.
3. Credit facilities should be made more accessible to rural women in the study area to promote their involvement in cassava farming.
4. There should be increased support for the promotion of improved planting materials through the engagement of agricultural extension officers.

References

1. Abali I, Nnah M, Odinwa AB, Adiola. Appraisal of rural development projects of Nigeria Agip Oil Company in Orashi region of Rivers State. Presented at: 3rd International Conference on Research and Development; 2010 Nov 23-26.
2. Adeyemo R, Adebayo A. Assessing the role of women in cassava value chain in Nigeria: Evidence from Ekiti State. *Sustainability*. 2022;14(4):2215. DOI:10.3390/su14042215
3. Ajani EN, Onwubuya EA. Analysis of use of improved cassava production technologies among farmers in Anambra State, Nigeria. *Wudpecker J Agric Res*. 2013;2(12):335-341.
4. Akinwumi OJ, Ojo JA. Gender roles in cassava production and processing in Nigeria: Implications for food security. *J Gender Stud*. 2021;30(2):203-215.
5. Aqeela S, Tanvir A, Munir A, Muhammad Z. Gender participation in livestock production activities and their consumption trend of proteinaceous diet in Tehsil Fateh Jung. *Pak J Agric Sci*. 2005;42(3-4):
6. Deji OF, Adereti FO, Ilori OA. Factors associated with accessibility of female-headed households to selected agricultural production resources in Osun State, Nigeria. *Niger J Rural Sociol*. 2005;2nd ed:138.
7. Ezedinma CI, Okafor C, Asumugha GN, Nweke F. Trends in farm labour productivity and implications for cassava industrialization in Nigeria. In: *Proceedings of the 40th Annual Conference of the Agricultural Society of Nigeria*; 2006 Oct 16-20; NRCRI, Umudike, Abia State. p. 109-115.
8. Food and Agriculture Organization (FAO). Trends in cassava production. Rome: FAO; 2004a: <http://www.fao.org>
9. Food and Agriculture Organization (FAO). Online statistical database. Rome: FAO; 2004b: <http://www.fao.org>
10. Food and Agriculture Organization (FAO). FAOSTAT. Statistics Division. Subset: Agriculture. Rome: FAO; 2006: <http://faostat.fao.org>
11. Francisco DRV. The determinants of firms' growth: An empirical examination. *Series Documents of Trabajo*. 2004 Apr; Draft 3.
12. International Institute for Tropical Agriculture (IITA). Nigeria's cassava industry: Statistical handbook. Ibadan, Nigeria: IITA; 2004.
13. Makarau BS, Garba AO, Zagi I, Shekari KC. Constraints to cassava processing among rural women in Zangon Kataf LGA of Kaduna State, Nigeria. In: *Proceedings of the 25th Conference of the Farm Management Association of Nigeria*; 2011. p. 228-233.
14. Mgbada JU. Production of staple crops by rural women in Enugu and Ebonyi States: Lessons for enhancing poverty alleviation programmes. In: Olowu TA, editor. *Agricultural Extension and Poverty Alleviation in Nigeria*. *Proceedings of the Agricultural Extension Society of Nigeria*; 2002. p. 10-12.
15. National Economic Empowerment and Development Strategy (NEEDS). Abuja: National Planning Commission; 2004. 125 p.
16. Nwankwo IA, Njoku JC. Gender perspectives in cassava production: A review of women's roles and contributions. *J Agric Ext Rural Dev*. 2021;13(6):120-

130. DOI:10.5897/JAERD2021.1234
17. Nwaru JC. Gender and relative technical efficiency in smallholder arable crop production in Abia State of Nigeria. *Int J Agric Rural Dev.* 2007;10(2):25-34.
 18. Nwibo SU, Ezike KNN, Odoh NE. Cassava production, commercialization and value addition. In: *Proceedings of the 25th Conference of the Farm Management Association of Nigeria*; 2011. p. 173-179.
 19. Ogunniyi LT, Afolabi O. Women's participation in cassava production and processing in Nigeria: Challenges and strategies. *Afr J Agric Res.* 2020;15(3):123-134.
 20. Onwumere J, Nwajiuba CU, Asumugha GN. Intra-sectoral linkages in cassava-based agribusiness in Abia State. In: *Proceedings of the Nigeria Association of Agricultural Economics Conference*; 2006; LAUTECH, Ogbomosho, Oyo State. p. 53-61.
 21. Onyemauwa CS. Comparative analysis of Fadama and non-Fadama project farmers in Imo State [master's thesis]. Owerri: Federal University of Technology; 2006.
 22. Onyemauwa CS. Analysis of women participation in cassava production and processing in Imo State, Southeast Nigeria. *J Econ Sustain Dev.* 2012;3(5):81-91.
 23. Poly-Mbah CP, Udeogu BC. Women participation in root crops production: A case of Njaba, Imo State. *Int J Agric Rural Dev.* 2007;10(2):150-153.
 24. Rahman SA. Gender differential in labour contribution and productivity in farm production: Empirical evidence from Kaduna State of Nigeria. Presented at: National Conference on Family; 2004 Mar 1-5; New Theatre Complex, Benue State University, Makurdi, Nigeria.
 25. Shamsodini S, Mohammadu H, Ghasemi M. Investigation of the impacts of Iranian economic adjustment policies on agricultural sectors in Iran: The application of CGE model. *Am Eurasian J Agric Environ Sci.* 2011;11(2):192-204.