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WOMEN EMPOWERMENT IN CASSAVA PRODUCTION AND PROCESSING AS A REMEDY FOR POVERTY REDUCTION IN ODOGBOLU LOCAL GOVERNMENT AREA, OF OGUN STATE

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Abstract

This research was conducted to examine women empowerment in cassava production and processing as a remedy for poverty reduction. The 100 respondents for the study were chosen using a simple random sampling procedure. Tools for analyses were descriptive statistics such as frequency, tables, percentages and t-test for the hypotheses. The results of the analysis showed that mean age of the women was 40 years. Results of intensity of cassava production revealed that factors such as age ($p<0.001$), occupation ($p<0.01$) and agro-chemicals ($p<0.01$) significantly influenced the intensity of cassava production and the results of intensity of cassava processing showed that years of participation ($p<0.0001$) and extension visits ($p<0.01$) were statistically significant and influenced the intensity of cassava processing. This indicates that the empowerment programme impacted positively on the participants' income, productivity and poverty status for farmers and processors. The multiple regression estimates revealed that when time and participation acted together, the variables of income, productivity and poverty status were significant at both 1% and 5% levels of probability indicating that time and participation in an empowerment programme significantly influences the income, productivity and poverty status of the participant farmers and processors. The major problems encountered by the farmers and processors were inadequate capital which was the major constraint to women empowerment followed by inadequate training by extension agents and poor market price for produce. In conclusion, it can be noted that women who participated in the cassava empowerment programme had increases in their income, productivity and poverty status. Thus, it was therefore recommended that due to the improvement in the poverty status of participants in the cassava empowerment programme, more empowerment programmes should be established by government in areas where there are high levels of poverty incidence so that poverty in those areas can be alleviated.

Key words: Women, Empowerment, Poverty, Cassava, Production and Processing

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Introduction

Numerous studies indicate that rural development policies directed at the household may not have their intended effects or produce unintended negative outcomes, unless the role and position of gender in rural households are explicitly taken into account (Kayode and Sunday, 2013). Women in Nigeria form an active and reserve labour force but they rarely own the means of productions (Rahman, 2004). However, the position of women in meeting challenges of agricultural development cannot be over emphasized. Women make a significant contribution to food production; they provide 60-80% of agricultural labour and are responsible for 80% of food production (Mgbada, 2002; Rahman, 2004). Socio-economic and political obstacles have for long been intensifying gender inequality and strengthening poverty among women (Rahman and Haruna, 1999).

Women are indispensable group in the development of any nation (Safiya, 2011). Women play significant and potentially transformative roles in agricultural growth in developing countries, but they face unrelenting obstacles and economic constraints limiting further contribution to agriculture. Women are responsible, in addition to seeking livelihoods, for keeping their homes and providing for their children (Lawanson, 2003). Women have great potentials necessary to evolve a new economic order, to accelerate social and political development and consequently transform the society into a better one (Safiya, 2011). (Kayode and Sunday, 2013) described Nigerian women as a crucial factor for production. According to him, they assume this status because they are largely responsible for the bulk of crops production, agro-based food processing, preservation of crops and distribution of outputs or products from farm centers to urban areas. The importance of women in the agricultural development as stated above cannot be overemphasized and this has led to the empowerment of more women in production and processing of various crops such as Cassava, maize and yam. The Government in collaboration with other private bodies has helped to empower women in order to improve their standard of living. Empowering women can mean the provision of sufficient opportunities to women to develop their potentials and contribute to the overall development of the nation. Empowering women particularly in the area of agriculture has been done using cassava which is a low risk crop with high yielding potential and a developed market for its sales.

Cassava has been identified as a very powerful poverty fighter by driving down the price of food to millions of consumers (Iheke, 2008). Cassava is the third-largest source of food carbohydrates in the tropics. Nigeria is the world's largest producer of cassava; its production is put at about 57.1 million metric tonnes per year (Food Agricultural Organization, 2020). This production performance has rated Nigeria as the largest cultivator of cassava in the world. Cassava can be cultivated with family labour, land, hoe and machete, making it an alternative and low-risk crop for poor women farmers. Also, cassava is available to low-income rural households in the farming of simple food products which are significantly cheaper than grains such as rice, maize and wheat (FAO, 2006). Cassava is mainly produced by small scale farmers in rural communities and is primarily consumed in the form of garri or fufu (Iheke, 2008). However, cassava can be processed into several other products like chips, flour, pellets, adhesives, alcohol and starch which are raw materials for livestock feed, alcohol/ethanol, textiles, confectionery, wood and food industries (Iheke, 2008).

Poverty is one of the developmental problems facing Nigeria particularly being prevalent in rural areas where the main occupation is farming (Adekemi *et al.,* 2012). This implies that if farming operations can be improved in the rural areas, poverty will be alleviated to a reasonable extent. In

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some states in Nigeria, rural women are gradually taking over the production and processing of cassava (Afolabi, 2008). However, factors militating against women in their participation in agricultural production are many, some of which are socio-cultural and economic in nature. Also, the population of women in educational, economic, social and political programme is low, and has led to a serious set-back in the economy, thus the need for women empowerment (Safiya, 2011). The existing women-focused development programmes aimed at the rural household ought to be assessed and strengthened to achieve greater impact. Hence, the need to analyse women empowerment in cassava production and processing as a remedy for poverty reduction in Odogbolu Local Government Area, of Ogun State.

Methods and Materials

This study was conducted in Odogbolu local government area of Ogun state, Nigeria. It is located at latitude 65°0'N and longitude 34°6'E in the north-western part of the state. The area occupies a land mass of 541 km² and a population of 12,123 (NPC, 2006). It consists of tropical rain forest and a small stretch of derived savannah. The people are predominantly farmers growing food crops in virtually all the parts of the local government. The local government comprises 15 wards. The study will be a cross-sectional survey using structured interview guides for focus group discussion and questionnaires for individual farming households. The study sample comprised of two sets viz. a focus group of at least ten people per community and individual farming household. Survey design was used for this study. The survey design is a research methodology and also an investigative tool that is commonly used in studying social phenomena. Survey design is a research strategy that facilitates investigation on a phenomenon within its real-life context. Thus, the survey design permits an in-depth investigation of individuals, groups, or events which may be descriptive or explanatory.

Since this study was carried out in Odogbolu Local Government Area of Ogun State, the target population of this study were the women cassava farmers and processors in Odogbolu Local Government Area. A stratified random sampling procedure was adopted for the selection of respondents for this study. However, from the study population, a total of 10 farmers were randomly selected from 10 wards out of the 15 wards in the Odogbolu local government area.

Primary data was used for the study. The data was collected from respondents using structured questionnaire. The collected data from the respondents through the questionnaire were be coded and analyzed using frequency counts, percentages and mean, while all the research hypotheses will be tested using two sample t-test.

Results and Discussions

Socio-Economic Characteristics of Respondents

Age is an important factor which affects production. The result in Table 1 showed that the mean age of the women was 40, indicating that most of the farmers were within the economically active age range. Also the findings of this study revealed that majority (79%) of the women had educational attainment while 21% had no formal education. From the result in Table 4.1, majority of the respondents were educated. The high level of literacy among the women farmers may increase their farm productivity and production efficiency.

Furthermore, the result from Table 1 showed that, 99% of the women engaged in farming of cassava as their major occupation while 1% engaged in processing as their major occupation. This

implies that majority of the respondents had farming as their major occupation. The secondary occupation of the farmers was also examined. The result from Table 4.1 showed that 38% of the women engaged in processing as their secondary occupation, 26% in farming 25% in trading and 12% in artisan. This implies that in addition to their major occupation, they are all engaged in other forms of occupation which was expected to increased their income and their standard of livelihood at large. Table 1, also showed that 61% of the women engaged in production enterprise while 39% engaged in both production and processing enterprise. This implies that most of the farmers engaged in more than one cassava enterprise to boost their level of income.

Table 1: Distribution of respondents by socio-economic characteristics (N=100)

Variable	Frequency	Percentage
Age (years)		
26-30 years	0	0%
31-40 years	49	49%
40-50 years	51	51%
Level Education		
No formal education	21	21%
Primary	27	27%
Post Primary	38	38%
Tertiary	14	14%
Major occupation		
Farming	99	99
Artisan	0	0%
Trading	0	0%
Processing	1	1%
Secondary occupation		
Farming	26	25%
Artisan	12	12%
Trading	25	25%
Processing	38	38%
Cassava enterprise		
Production	61	0%
Processing	0	49%
Production/processing	39	51%

Source: Author's Field survey, 2023.

Factors that influence the intensity of cassava production

Shown in table 2, are the women response to the factors influencing the intensity of cassava production. Majority (64%) of the respondents disagree while 36% agreed that the age of the farmer increase intensity of cassava production. 66% Agreed and 34% strongly agree, that extension visit increase intensity of cassava production. 76% strongly agreed and 24% agreed, that farming experience increase intensity of cassava production. 89% strongly agreed and 11% agreed, that fertilizer application increase intensity of cassava production. 30% strongly agreed, 5% agreed, 62% disagree, and 3% strongly disagree that cost of labour increase intensity of cassava production.

63% strongly, 13% strongly agreed and 24% disagree that education of farmer increase intensity of cassava production. 49% agreed, 13% strongly agreed and 38% disagree that occupation of the farmer increase intensity of cassava production. 87% disagreed, 12% agreed and 1% strongly agreed that cost of agrochemicals increase intensity of cassava production

Table 2: Factors that influence the intensity of cassava production

Items	Strongly Agree	Agree	Dis-Agree	Strongly Dis-Agree
The age of the farmer increase intensity of cassava production	**-**	**36%**	**64%**	**-**
Extension visit increase intensity of cassava production	**34%**	**66%**	**-**	**-**
Farming experience increase intensity of cassava production	**76%**	**24%**	**-**	**-**
Fertilizer application increase intensity of cassava production	**89%**	**11%**	**-**	**-**
Cost of labour increase intensity of cassava production	**30%**	**5%**	**62%**	**3%**
Education of farmer increase intensity of cassava production	**13%**	**63%**	**24%**	**-**
Occupation of the farmer increase intensity of cassava production	**13%**	**49%**	**38%**	**-**
Cost of agrochemicals increase intensity of cassava production	**1%**	**12%**	**87%**	**-**

Source: Author's Field survey, 2023.

Impact of empowering cassava women farmers and processors on their income, productivity and poverty status

Table 3, reveals the impacts of cassava empowerment on women. An appreciable number of respondents (89%) agreed and 11% strongly agreed that empowerment affects their productivity. 94% agreed and 6% strongly agreed that it affects their income. 98% agreed and 2% strongly agreed that it affects their livelihood. 72% agreed and 28% strongly agreed that it aids in poverty alleviation. 92% agreed and 8% strongly agreed that it helps in accessing loan. 12% agreed and 88% disagreed that it assists in paying children's school fees. 83% agreed and 17% strongly agreed that it brings economic stability. 79% agreed and 21% strongly agreed that it increases outputs of different cassava products.

Table 3: Impacts of cassava empowerment on women

Items	Strongly Agree	Agree	Dis-Agree	Strongly Dis-Agree
Empowerment of cassava women farmers and processors, affects their productivity	**11%**	**89%**	**-**	**-**
Empowerment of cassava women farmers and processors, affects their income	**6%**	**94%**	**-**	**-**

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Empowerment of cassava women farmers and processors, affects their livelihood	**2%**	**98%**	**-**	**-**
Empowerment of cassava women farmers and processors, aids poverty alleviation	**28%**	**72%**	**-**	**-**
Empowerment of cassava women farmers gives access to loan	**8%**	**92%**	**-**	**-**
Empowerment of cassava women farmers assists in paying children's school fees	**-**	**12%**	**88%**	**-**
Empowerment of cassava women farmers brings economic stability	**17%**	**83%**	**-**	**-**
Empowerment of cassava women farmers increase output of different cassava products	**21%**	**79%**	**-**	**-**

Source: Author's Field survey, 2023

The constraints to women empowerment

Majority of the respondents (84%) agreed and 16% disagreed that inadequate capital is a constraint to women empowerment. 34% strongly agreed, 3% agreed and 63% disagreed that inadequate training is a constraint. 76% agreed and 24% strongly agreed that poor marketing is a constraint. 81% agreed and 19% strongly agreed that poor transportation system is a constraint. 35% agreed and 65% strongly agreed that high cost of machine is a constraint. 54% agreed and 56% strongly agreed that gender inequality is a constraint. 49% agreed, 1% strongly agreed and 36% disagree that insecurity is a constraint. 19% agreed, 1% strongly agreed and 80 disagreed that low access to input is a constraint. 58% agreed, 40% strongly agreed and 2% disagreed that health challenges is a constraint. 4% strongly agreed and 96% disagreed that religious belief is a constraint. 29% agreed and 71% strongly agreed that land tenure system is a constraint. 18% agreed and 82% strongly agreed that lack of proper education is a constraint.

Table 4: The constraints to women empowerment

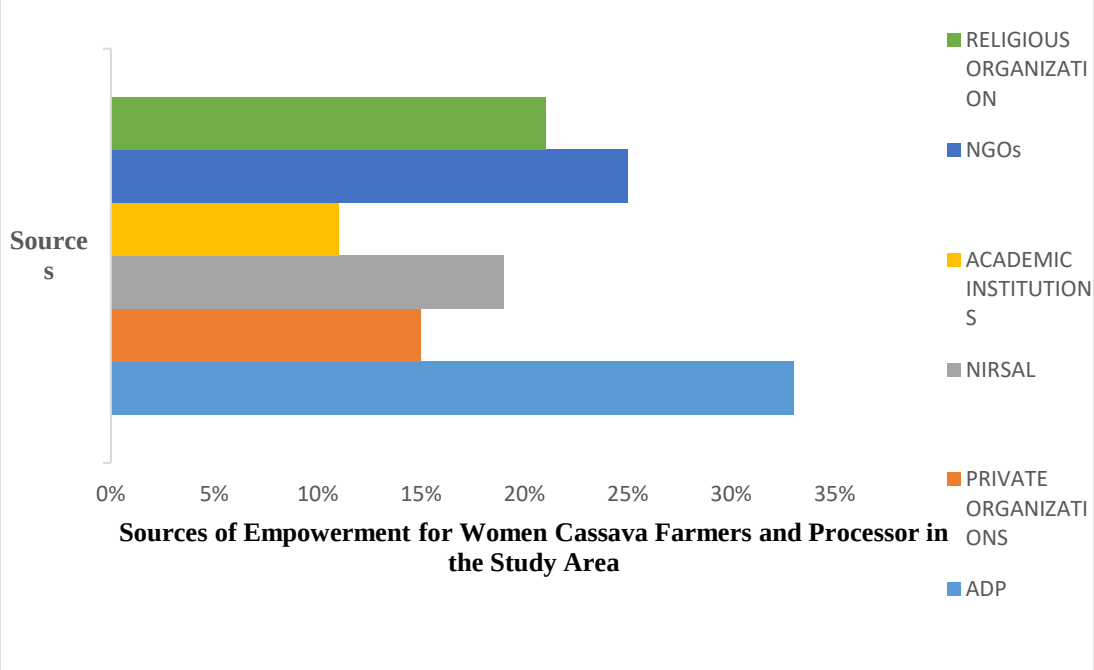
Constraints	Strongly Agree	Agree	Dis-Agree	Strongly Dis-Agree
Inadequate capital	**-**	**84%**	**16%**	**-**
Inadequate training	**34%**	**3%**	**63%**	**-**
Poor marketing	**24%**	**76%**	**-**	**-**
Poor transportation system	**19%**	**81%**	**-**	**-**
High cost of machine	**65%**	**35%**	**-**	**-**
Gender inequality	**46%**	**54%**	**-**	**-**
Insecurities	**15%**	**49%**	**36%**	**-**
Low access to inputs	**1%**	**19%**	**80%**	**-**
Health challenges	**40%**	**58%**	**2%**	**-**
Religious belief	**4%**	**-**	**96%**	**-**
Land tenure system	**71%**	**29%**		**-**
Lack of proper education	**82%**	**18%**	**-**	**-**

Source: Author's Field survey, 2023.

Sources of Empowerment for Women Cassava Farmers and Processor in the Study Area

The result for the sources of empowerment for women Cassava farmers and processors in the study area in Figure 1 shows that the most prominent source of empowerment for the women

farmers and processors in the study area is the Agricultural Development Programme (ADP) as indicated by 33% of the respondents. Also, 25% of the respondents indicated that they have benefitted from empowerment initiatives from Non-Governmental Organizations (NGOs), while 21% of the have benefitted from empowerment programmes from religious organizations in the study area. Other sources of empowerment for the women Cassava farmers and processors include Nigeria Incentive-Based Risk Sharing system for Agricultural Lending (NIRSAL) (19%), private organizations (15%) and academic institutions (11%).



Source: Author's Field survey, 2023. *Multiple responses allowed

Fig 1: Sources of Empowerment for Cassava Farmers and Processor in the Study Area

Tests of Hypotheses

The results from the paired t -tests in Table 5 revealed that the difference in the means of income, productivity and poverty alleviation of both farmers and processors were significant at 1% levels of probability. That is when the t value is greater than 0.01 ($t>0.01$), the null hypothesis (H_0) is to be accepted and the alternative hypothesis (H_1) rejected. On the other hand, if the p value is less than 0.01 ($t<0.01$), we are to accept the alternative hypothesis (H_1) and reject the null hypothesis (H_0)

Test of hypothesis 1 (H_0): There is no significant difference in the income of participants and non-participants in cassava production and processing.

From table 5 below, it shows that the values of **t** were 11.21 and 2.27 for cassava production and processing respectively, which are higher than the expected 0.01. Hence, the null hypothesis is rejected while the alternative hypothesis is accepted. Therefore, there is significant difference in the income of empowered women (cassava producers and processors) and those that were not

Test of hypothesis 2 (H_0): There is no significant difference in the productivity of participants and non-participants in cassava production and processing.

The values of **t** were 4.89 and 15.9 for cassava production and processing respectively, which are also higher than the expected 0.01. Hence, the null hypothesis is rejected while the alternative

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hypothesis is accepted. There is significant difference in the productivity of empowered women (cassava producers and processors) and those that were not.

Test of hypothesis 3 (H_0): There is no significant difference in the poverty status of participants and nonparticipants in cassava production and processing.

The values of **t** were 2.42 and 2.83 for cassava production and processing respectively, which are also higher than the expected 0.01. Hence, the null hypothesis is rejected while the alternative hypothesis is accepted. Therefore, there is significant difference in the poverty alleviation of empowered women (cassava producers and processors) and those that were not.

Table 5: Results of two samples t-tests

Farmers	Participants	Non-participants	d	t-statistics
Mean of income	69956	31331.6	38625.4	11.21(1.98)
Mean of productivity	13230.53	9464.211	3766.32	4.89(1.98)
Mean of poverty Status	1.634	1.4266	0.21	2.42(1.98)
Observations	**100**	100		
Processors				
Mean of income	35620.19	32730.77	2889.42	2.27(1.98)
Mean of productivity	468.9103	250.6657	218.244	15.9(1.98)
Mean of poverty status	1.5594	1.37496	0.1844	2.83(1.98)
Observation	100	100		

Note: Value in Parentheses = Critical Value

Discussion of findings

The mean age of the women (40) indicates that most of the farmers were within the economically active age range. According to Fakoya and Daramola (2005), respondents within this age range are more innovative, motivated and adaptable persons who can withstand challenges arising from production. The high level of literacy (79%) among the women farmers may increase their farm productivity and production efficiency. Literacy rate in Nigeria according to National Literacy Survey 2010 among adults is 71.6% and from the result in this study, it can be said that most of the participants are literate.

Most of the farmers engaged in more than one cassava enterprise to boost their level of income. The result tallies with the findings of Okwuche and Obinne (2010); they found out that women play a major role in the production of food crops and also undertake activities such as trades to earn income. Akorede (2004) opined that cassava production has attained its potential of increasing farmers' income and improving their standard of living. Onwudike *et al.,* (2014), assert that rural women farmers benefits economically from cassava production, and that cassava production is seen as a source of livelihood to rural farmers especially women. Also, of the view that the income realized from cassava production and utilization is used to take care of their immediate needs. Fakoya, *et al.,* (2010) opined that farmers' income can be optimized through cassava production and utilization with a resultant effect on meeting the basic needs of his family

The result gotten of constraints to women empowerment is closely similar, with that of Nimzing *et al.,* (2022) that the constraints militating against women empowerment in cassava production include, low access to farm inputs, cultural factors. Financial factors, insecurities, lack of

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empowerment programmes gender inequalities, lack of proper education, health challenges, low access to machineries, religious beliefs, and land tenure practices. In which low input has the highest percentage.

Conclusion

Cassava women empowerment programme has significantly helped to improve the poverty status of women who participated in the empowerment programme. The incidence of poverty especially among the women could be reduced through effective participation in empowerment programmes which are associated with increased income, and productivity. However, those who did not participate in the empowerment programme witnessed a decrease in their poverty status. Thus, there is room for the establishment of more empowerment programmes who would encourage women in areas experiencing high incidence of poverty.

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