Research Paper E-ISSN NO : 2455-295X | VOLUME : 10 | ISSUE : 3 | MARCH 2024

COMPARATIVE ANALYSIS OF INCOME INEQUALITY AND POVERTY STATUS BETWEEN CASSAVA AND MAIZE FARMERS IN SAWONJO, YEWA NORTH LOCAL GOVERNMENT AREA, OGUN STATE.

ADEAGBO, T.A. [1] | AMAO, S.A. [2] | AFOLABI, G.M. [1] | OGUNJIMI S.O. [3]

[1] DEPARTMENT OF AGRICULTURAL EXTENSION AND MANAGEMENT, OYO STATE COLLEGE OF AGRICULTURE AND TECHNOLOGY, IGBOORA.

[2] DEPARTMENT OF AGRICULTURAL TECHNOLOGY, OYO STATE COLLEGE OF AGRICULTURE AND TECHNOLOGY, IGBOORA.

[3] DEPARTMENT OF CROP PRODUCTION TECHNOLOGY, OYO STATE COLLEGE OF AGRICULTURE AND TECHNOLOGY, IGBOORA.

ABSTRACT:

Reducing inequality within and between countries is part of the Sustainable Development Goals (SDG 10) that many countries aim to achieve by 2030. High inequality is an indication of persistent disadvantage for a group of people in society. This situation can lead to stunted economic growth, political instability and social unrest. Economic literature recognizes that income inequality in the world has a serious impact on poverty. Poverty refers to the rate of change in the mean income of a population and the change in the income distribution, suggesting that poverty stems from changes in average income or income distribution. The study focused on comparative analysis of income inequity and poverty between cassava and maize farmers in Sawonjo, Yewa North local government. Multistage sampling technique was used to select 59 maize farmers and 80 cassava farmers making 139 respondents in Yewa North. Structured interview guild was used to obtain needed information. Descriptive Statistic, Budgetary Analysis and Foster, Greer and Beck (FGB) index were employed. Total revenue for the maize farmers was ₦66,592,000 while the total revenue of the cassava farmers was ₦15,829,500. The result of benefit cost ratio (BCR) of the maize farmers was 1.73 while 2.86 was the BCR of the cassava farmers. The result obtained concluded Majority of the both respondents had good number of farming experiences which had improve their knowledge and understanding on the improved method of planting and how to solve any problem that may rise in their cost of production. The research also recommended that there should be diversification in cassava and maize production among farmers.

KEYWORDS:

INCOME, INEQUALITY, POVERTY, STATUS AND COMPARATIVE.

PAPER ACCEPTED DATE:	PAPER PUBLISHED DATE:
19th March 2024	28th March 2024

INTRODUCTION

Multidimensional nature of poverty has made it difficult to define. It is a relative concept involving individual's perception of medical care and security, which are thought necessary based on shared values of human dignity (Quisumbing et al., 2001). Small-holder farmers engage mostly in mixed farming and cropping in order to ensure steady flow of income. Income level and poverty status are related, income is expressed as the output of activities and it measures both in cash and in kind contributions (Schwarze, 2004). According to De Janvry et al., (2005), income is referred to as household income from various sources including monetary income or income in kind. In Nigeria, studies reveal that income inequality is increasing in rural and urban areas and this can be linked to the growing dimension of poverty. Aigbokhan (2000) argued that inequality adversely affects growth through a number of channels. Firstly inequality may generate social conflict over dimensional issues that diminish the security of property rights thereby lowering investment and economic growth. Secondly, he said that the need to reduce poverty through lowering inequality in the face of social conflict might encourage higher taxes.

Reducing inequality within and between countries is part of the Sustainable Development Goals (SDG 10) that many countries aim to achieve by 2030 (Kunawotor *et al.,* 2020; Nhamo, 2017). High inequality is an indication of persistent disadvantage for a group of people in society (Kunawotor *et al.,* 2020). This situation can lead to stunted economic growth, political instability and social unrest (Anyanwu *et al.,* 2016; Anyanwu, 2016). Economic literature recognizes that income inequality in the world has a serious impact on poverty (Naschold, 2002). Poverty refers to the rate of change in the mean income of a population and the change in the income distribution, suggesting that poverty stems from changes in average

income or income distribution (World Bank, 2021). Cassava contributes greatly to the agricultural gross domestic product (GDP) of Nigeria (Ikuemonisan *et al.,* 2020; Donkor *et al.,* 2017). Nigeria is a leading producer of cassava tubers in the world, accounting for 26.40%. It also contributes to 46.70% to the cassava production in Africa (FAOSTAT, 2021). In addition, the CVC provides many employment opportunities for numerous stakeholders in Nigeria and other parts of Africa, where cassava is grown (Ikuemonisan *et al.,* 2020). Cassava also provides valuable raw materials such as starch, high quality cassava flour, cassava chips and ethanol for the industrial sector (Uchechukwu-Agua *et al.*, 2015). The majority of the cassava tubers are consumed as food in various processed forms such as gari, Lafun, tapioca, bread, cake, fritters and croquette in Nigeria (James *et al.,* 2012; Ikuemonisan *et al.,* 2020). These demonstrate that the cassava industry is paramount to achieving sustainable food and nutritional security in Nigeria (Erenstein et al., 2021)

Arable crop farmers play major roles in farm production, product processing and marketing of food and cash crops as well as in livestock production Strong (2009). In spite of these, men and households headed by men remained chronically poor members of rural communities (Ekpo *et al.,* 2010). Improving access of arable crop farmers to farm credit is central to rural development because it enables farmers to invest in and improve production in agriculture, small businesses and small-scale manufacturing all of which improve their living standard. Micro-credit to farmers empowers them to invest in agriculture and permit them to sustainably remain in farming. According to Hapazari and Loubser, (2021) the poor are poor not because they are lazy but because they have no access to credit. Accessibility to formal credit facilities has been difficult for arable crop farmers and people who are poor Ukwuaba *et al*., 2021). In Nigeria, studies reveal that income inequality is increasing in rural and urban areas and this can be linked to the growing dimension of poverty. Michael, C., & Alufohai, G. (2020) reported that poverty is also strongly influenced by education and location. In Nigeria poverty is seen as a rural problem where majority of the inhabitants engage in agricultural productions as a means of livelihood. The agricultural sector employed about 65 percent of the population for the production of food and livestock for consumption, raw materials for agro allied industries as well as pharmaceutical industries. The low performance of the agricultural sector can be attributed to subsistence level of production which consequently results in reduced income thereby causing disparity in income compared to their counterparts. To make up for this low income, farmers engage in other income earning activities which further widens the gap created by income inequality. In view of the stated problem this paper addressed the following: describe the socio-economic characteristics of cassava and maize farmers; determine the cost and return of cassava production and maize production; determine the profitability of cassava production and maize production; compare the income levels and poverty status of the cassava and maize farmer's households in the study area.

METHODOLOGY

The study was conducted in Sawonjo, Yewa North (formally Egbado North) Local Government, Ogun State, which has its capital in Ayetoro. The study area covers approximately 7km radius with the population of 10,281. The major agricultural activities are farming, hunting and fishing. Yewa North produces virtually all farm products such as yam, maize, cassava, melon among others. Primary data was used. The data was collected from the respondents using well-structured interview guide that contains information to facilitate the realization of the objective.The population of the study comprised all cassava and maize farmers in the study area.Two-stage sampling technique was used to select the respondents

1st stage: purposive selection of the five wards which were Areke 1, Areke 2, Town hall, Farm settlement and Methodist school. The wards selected were basically agrarian where agricultural activities were predominant compared to others.

2nd stage: systematic random sampling was used to select 2% of maize farmers and 3% of cassava farmers from each ward. Therefore, the following values were got: 48 respondents from town hall (i.e. 20 maize farmer and 28 cassava farmers which represent 2% and 3% of 951 farmers), 31 respondents from Areke 1 (i.e. 13 maize farmer and 18 cassava farmers which represent 2% and 3% of 610 farmers), 18 respondents from Areke 2 (i.e. 8 maize farmers and 10 cassava farmers which represent 2% and 3% of 361 farmers), 25 respondents from farm settlement (i.e. 11 maize farmers and 14 cassava farmers which represent 2% and 3% of 491farmers), and 17 respondents were selected from Methodist school (i.e. 7 maize farmer and 9 cassava farmers which represent 2% and 3% of 342 farmers). These gave the total number of 139 respondents.

The data collected for this study was analysed using: - Descriptive Statistic, cost and return analysis, budgetary Analysis, Foster, Greer and beck (FGT) index

RESULTS AND DISCUSSION

SOCIOECONOMIC CHARACTERISTICS OF THE MAIZE FARMERS AND CASSAVA FARMERS

Table 1 showed the average age of the maize farmers and cassava farmers in the study area was approximately 47, 18.64% of the maize farmers and 16.25% of the cassava farmers were 62 and above years of age while others were below 50 years of age. This implies that many of the maize farmers and cassava farmers were still young (below 50) and were within their active working age, therefore they were physical fitted to expand their cultivated area in other to increase general production and income. The result also showed that 71.18% of the Maize and 80.00% of the cassava farmers were males. This indicates that majority of the household heads were males in the study area. Majority, 83.05% of the maize farmer and 68.75% of the cassava farmer were married.

Also, 45.76% of the maize farmers and 41.25% of the cassava farmers in the study area were Christians while 47.46% of the maize farmers and 50.00% of the cassava were Muslim worshiper while 6.78% of the maize farmers and 8.75% of the cassava farmers were traditional worshippers.

More also, 6.78% of the maize farmers and 3.75% of the cassava farmers had no formal education. This indicates that majority of the respondents in the study were literates. It was also revealed that the mean household size in the study area was 4 persons per household. It showed that 3.38% of the maize farmers and 45.25% of the cassava farmers were between 1-3 household sizes, 88. 13% of the maize respondents and 53.75% of the cassava farmers had household size of 4-7 while 8.47% of the maize farmers and 5.00% of the cassava farmers were between 8-10. This implies that they have relatively high household size which makes their work easy and faster for farmers that employed family labours.

The entire respondents in the study area engage in farming occupation. This implies that all the respondents participate in farming as their primary occupation. 32.20% of the maize farmers and 27.50% of the cassava farmers had secondary occupation refer to as artisanss, 20.3% of the maize farmers and 20.00% of the cassava farmers had secondary occupation known as civil servants, 22.03% of the maize farmers and 13.78% of the cassava farmers in the study area had secondary occupation observed as trading, while 25.43% of the maize farmers and 38.75% of the cassava farmers had an anonymous secondary occupation. This indicates that many of the respondents had secondary occupation which has the tendency of increasing their level of income.

The average income of the maize farmers was ₦50,157 while the average income of the cassava farmers was ₦41,162. 25.45% of the maize farmers and 40.00% of the cassava farmers had average income less than ₦20,000. 42.80% of the maize farmers and 25.00% of the cassava farmers had an average income range between ₦20,000 - ₦50,000. 10.17% of the maize farmers and 12.50% of the cassava farmers had an average income between ₦51,000-₦80,000, 13.56% of the maize farmers and 16.25% of the cassava farmers had an average income range between ₦81,000-₦110,000, and 8.48% of the maize farmers and 6.23% of the cassava farmers had an average income above ₦110,000. This implies that most of the respondent had low average income which may be cause by some factor like low farm experience, low capital, small farm size etc.

The average farming experience of the respondents in the study area was 18years of experience. 76.27% of the maize farmers and 68.75 of the cassava farmers were within 1-20years of experiences, 20.34% of the maize farmers and 27.50% of the cassava farmers were within 20-40year of experiences while 3.38% of the maize farmers and 3.75 of the cassava farmers were within 41-60years of experiences. This implies that majority of the respondents had good number of farming experiences which can improve their knowledge and understanding on the improved method of planting and how to solve any problem that may rise in their cost of production.

Total proceed of the respondents in the study area. 22.03% of the maize farmers and 11.25% of the cassava farmers had total proceed between ₦576,000-₦1,176,000, 54.24% of the maize farmers and 47.5% of the cassava farmers had total proceed range between ₦1,177,000-₦1,776,000, 23.75% of the maize farmers and 41.25 of the cassava farmers had total proceed above ₦1,777,000.

The total expenditure of the respondents in the study area. 32.20% of the maize farmers and 7.5% of the cassava farmers had total expenditure range between ₦20,000-₦40,000, 67.80% of the maize farmers and 77.5% of the cassava farmers had total expenditure range between ₦41,000-₦60,000, none of the maize farmers and 12.5% of the counterpart had total expenditure range between ₦61,000-₦80,000, only the cassava farmers had total expenditure above ₦80,000.

TABLE 1: DISTRIBUTION OF THE RESPONDENT ACCORDING TO THEIR SOCIO ECONOMIC CHARACTERISTICS

Socio Economic characteristics	Maize		Cassava		Mean
Age (years)	**Frequency**	**Percentage**	**Frequency**	**Percentage**	
22-32	5	8.48	19	23.75	
33-42	9	15.30	13	16.25	
43-52	22	37.30	22	27.50	47
53-62	12	20.34	13	16.25	
Above 62	11	18.64	13	16.25	
Sex					
Male	42	71.18	64	80.00	
Female	17	28.82	15	20.00	
Marital Status					
Single	5	8.50	16	20.00	
Married	49	83.03	55	68.75	
Separated	0	0	6	7.50	
Divorced	4	6.80	3	3.75	
Widowed	1	1.69	0	0	
Religion					
Christianity	27	45.76	33	41.25	
Muslim	28	47.46	40	50.00	
Traditional	4	6.78	7	8.75	
Education					
No formal education	4	6.78	3	3.75	
Primary education	17	28.81	16	20.00	
Secondary education	26	44.10	36	45.00	

Tertiary education	11	18.64	24	30.00	
Others	1	1.69	1	1.69	
Household Size (person)					
1-3	2	3.38	33	41.25	
4-7	52	88.13	43	53.75	
8-10	5	8.47	4	5.00	
Primary Occupation					
Farming	59	100.00	80	100.00	
Secondary Occupation					
Artisan	19	32.20	22	27.50	
Civil servant	12	20.33	16	20.00	
Trading	13	22.03	11	13.78	
Other	15	25.43	31	38.75	
Experiences (years)					
1-20	45	76.27	55	68.75	**18**
21-40	12	20.34	22	27.50	
41-60	2	3.38	3	3.75	
Average Income (₦)					
Below 20,000	15	25.42	32	40.00	
20,000-50,000	25	42.80	20	25.00	
51,000-80,000	6	10.17	10	12.50	
81,000-110,000	8	13.56	13	16.25	
Above 110,000	5	8.48	5	6.25	
Total Proceed (₦)					
576,000-1,176,000	13	22.03	9	11.25	
1,177,000-1,776,000	32	54.25	38	47.50	
1,777,000-2,376,000	14	23.72	33	41.25	
Mean	1423457.6		1686318.8		
Total Expenditure(₦)					
20,000-40,000	19	32.20	6	7.5	
41,000-60,000	40	67.80	62	77.50	
61,000-80,000	0	0	10	12.5	
Above 80,000	0	0	2	2.5	
Mean	42,037		57,150		
Total	59	100.00	80	100.00	

Source: field survey, 2023.

COST AND RETURN ON MAIZE AND CASSAVA PRODUCTIONS

The Table 2 revealed the costs and returns on maize and cassava productions in the study area. Total revenue on maize production was ₦66,592,000 while the total revenue on cassava production was ₦15,829,500. The result of benefit cost ratio (BCR) of the maize production was 1.73 while 2.86 were the BCR of the cassava production. This implies that they were profitable. Since benefit cost ratio results fulfilled the condition which stated that when the benefit cost ratio is less than 1, the business is not profitable and when the benefit cost ratio is greater than 1 it means the business is profitable.

Gross Margin (GM) = Total Revenue (TV)- Total Variable cost (TVC)

Benefit Cost Ratio (BCR) = Total Revenue (TR) / Total Cost (TC)

Total cost (TF) = TFC +TVC

Total Revenue (TR) = No of Bags produced × TR

TABLE 2 COST AND RETURN STRUCTURE OF MAIZE FARMERS AND CASSAVA FARMERS

Variable	Amount		Percentage
Total Revenue For Maize		₦66,592,000	
Production Cost			
Maize	₦26,4000		
Chemical	₦186,000		
Fertilizer	₦1,316,000		4.94
Hoe	₦155,300		
Cutlass	₦216,000		
TOTAL		₦1,900,100	
Selling price	₦32,204,000		88.67
Cost of labour	₦11,069,500		28.76
Total variable cost	₦38,487,300		
Gross margin		₦28,104,700	
Benefit Cost Ratio		1.73	
Total Revenue For Cassava		₦15,875,500	
Processing cost for cassava	₦3,274,000		58.56
Cost of Labour	₦2,270,800		40.95
Total Variable Cost		₦5,545,400	

Gross Margins		₦10,334,100	
Benefit Cost Ratio		2.86	

Source: field survey, 2023.

COMPARISON OF INCOME LEVEL AND POVERTY STATUS OF THE MAIZE AND CASSAVA FARMERS.

Per capital expenditure average of the maize and cassava farmers in the study area were ₦291,740 and ₦333,167 respectively. In addition mean per capital expenditure of maize and cassava farmers were approximately ₦4,944.8 and ₦4,164.6 respectively.

The result of the poverty levels between the maize farmers and cassava farmers are summarized in Table 3. The result showed that 52.54% of the maize farmers and 36.25% of the cassava farmers fell above the poverty level. This implies that those respondents were not poor.

However 47.46% of the maize farmers in the study area and 63.75% of the cassava farmers fell below the poverty line. This implies that poverty is more prevalent among the cassava farmers than the maize farmers. This may be due to return to investment which is immediate and twice per year in maize farming unlike cassava farming. The result of gross margin was ₦ 28,104,700 for the maize production and ₦10,334,100 was for cassava production while the result of total revenue for maize production was ₦66,592,000 and ₦15,879,500 was for cassava production.

TABLE 3: COMPARISON OF INCOME LEVEL OF THE MAIZE FARMERS AND CASSAVA FARMERS.

Variable	Frequency	Average	Std. D
Per capital expenditure for maize	59	₦291,740	82654.21
Per capital expenditure for cassava	80	₦333,167	228036.7
mean per capital expenditure for maize	59	₦4,944.8	1911.864
mean per capital expenditure for cassava	80	₦4,164.6.	2850.459

TABLE 4: POVERTY LEVEL OF THE MAIZE FARMERS AND CASSAVA FARMERS.

Variable	Maize		Cassava	
	Frequency	Percentage	Frequency	Percentage
Poor	28	49.46	51	63.75
Not poor	31	52.54	29	36.25
Total	59	100.00	80	100.00

Source: field survey, 2023

CONCLUSION AND RECOMMENDATIONS

The results of socio economic characteristics of the respondents showed that majority (71.18% and 80.00%) of maize and cassava farmers' respectively. Also, about half of the maize farmers (47.46) and cassava farmers (50.00%) were Muslim. Total revenue for the maize farmers was ₦66,592,000 while the total revenue of the cassava farmers was ₦15,829,500. The result of benefit cost ratio (BCR) of the maize farmers was 1.73 while 2.86 were the BCR of the cassava farmers. This implies that it is profitable. Since benefit cost ratio result fulfilled the condition which stated that when the benefit cost ratio is less than 1, the business is not profitable and when the benefit cost ratio is greater than 1 it means the business is profitable. A little above average (52.54%) of the maize farmers and 36.25% of the cassava farmers fell above the poverty level in the study area. Therefore, about half of the maize farmer's standards of living are above poverty line while number of cassava farmers that were living above poverty line was about one-third of their population.

RECOMMENDATIONS

Based on the research findings, it is recommended that there should be diversification in cassava and maize production by farmers: the appreciation of the fact that poverty level is higher among cassava production than maize production necessitates that cassava farmers should engage more in other income generating activities or they should practice mixed cropping especially during the period of market failure or unstable equilibrium of one produce, the other produce may not be affected and this may help to increase the profitability of the production and increase their income level.

REFERENCES

1. Aigbokhan, B. E. (2000). Poverty, growth and inequality in Nigeria: A case study.

2. Anyanwu, J. C. (2016). Analysis of gender equality in youth employment in Africa. *African Development Review*, *28*(4), 397-415.

3. Anyanwu, J. C., Erhijakpor, A. E., & Obi, E. (2016). Empirical analysis of the key drivers of income inequality in West Africa. *African Development Review*, *28*(1), 18-38.

4. De Janvry, A., Sadoulet, E., & Zhu, N. (2005). The role of non-farm incomes in reducing rural poverty and inequality in China.

5. Donkor, E., Owusu, V., Owusu-Sekyere, E., & Ogundeji, A. A. (2018). The adoption of farm innovations among rice producers in Northern Ghana: Implications for sustainable rice supply. *Agriculture*, *8*(8), 121.

6. Ekpo, U. F., Oluwole, A. S., Abe, E. M., Etta, H. E., Olamiju, F., & Mafiana, C. F. (2012). Schistosomiasis in infants and pre-school-aged children in sub-Saharan Africa: implication for control. *Parasitology*, *139*(7), 835-841.

7. Erenstein, O., Chamberlin, J., & Sonder, K. (2021). Estimating the global number and distribution of maize and wheat farms. *Global Food Security*, *30*, 100558.

8. Hapazari, J., & Loubser, N. D. (2021). Rural people's perceptions regarding causes and solutions of poverty: The Lesotho milieu. *Eastern Africa Social Science Research Review*, *37*(1), 103-121.

9. Ikuemonisan, E. S., Mafimisebi, T. E., Ajibefun, I., & Adenegan, K. (2020). Cassava production in Nigeria: trends, instability and decomposition analysis (1970–2018). *Heliyon*, *6*(10).

10. Kunawotor, M. E., Bokpin, G. A., & Barnor, C. (2020). Drivers of income inequality in Africa: Does institutional quality matter?. *African Development Review*, *32*(4), 718-729.

11. Michael, C., & Alufohai, G. (2020). Comparative Analysis of Status of Urban Agriculture in Edo And Oyo States, Nigeria. *Ethiopian Journal of Environmental Studies & Management*, *13*(4).

12. Naschold, F. (2012). "The poor stay poor": Household asset poverty traps in rural semi-arid India. *World Development*, *40*(10), 2033-2043.

13. Nhamo, G. (2017). New global sustainable development agenda: A focus on Africa. *Sustainable Development*, *25*(3), 227-241.

14. Quisumbing, A. R., Haddad, L., & Peña, C. (2001). Are women overrepresented among the poor? An analysis of poverty in 10 developing countries. *Journal of Development Economics*, *66*(1), 225-269

15. Schwarzer, R., Knoll, N., & Rieckmann, N. (2004). Social support. *Health psychology*, *158*, 181.

16. Strong, V. (2009) .International Fund for Agricultural Development (IFAD).

17. Uchechukwu-Agua, A. D., Caleb, O. J., & Opara, U. L. (2015). Postharvest handling and storage of fresh cassava root and products: a review. *Food and Bioprocess Technology*, *8*, 729-748.

18. Ukwuaba, I. C., Owutuamor, Z. B., & Ogbu, C. C. (2021). Assessment of agricultural credit sources and accessibility in Nigeria. *Review of Agricultural and Applied Economics (RAAE)*, *23*(1340-2021-010), 3-11.