

## Seasonal determinant of expected poverty status among cashew farmers in Oyo State, Nigeria

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### Abstract

This study investigated the seasonal determinant of expected poverty status among cashew farmers in Oyo State. Multistage random sampling procedure was used to collect panel data from cashew farmers in Oyo State. Ogbomoso Agricultural Development Project (ADP) zone was purposively selected out of the four ADP zones in Oyo State due to high concentration of cashew farmers in the zone, then based on proportionate to size technique a total of 25 villages were selected from the LGAs. Finally 10 farmers were selected from each of these villages. This resulted in a total of 250 respondents, but due to absence of 29 respondents during off-season, 221 respondents were used for the study. The Foster, Greer and Thorbecke (FGT), descriptive statistics and Three-Stage Feasible Generalized Least Squares (3FGLS) were used to analyze data collected. Result showed that 68.80% of the cashew farmers were poor during off-season, with high poverty intensity (47.40%) and severity (38.10%), respectively. During on-season, 57.90% of cashew farmers were poor, poverty intensity and severity were 38.10% and 30.80% respectively. 40% of the farmers poor in both seasons. 28.05% of them transitioned from poor to non-poor, about 17.65% of non-poor transitioned into poor while only 28.10% were non-poor in both seasons. 3FGLS result shows that seasonal production of cashew and household size were inversely related ( $p=0.001$ ) with poverty status of the respondents. Farming experience, age and gender positively ( $p=0.001$ ) influenced farmers' poverty status positively. Conclusively, majority of cashew farmers were poor while poverty intensity and severity increased more during off-season.

**Keywords:** Seasonal poverty; Cashew farming; Ogbomoso; Three-Stage Feasible Generalized Least Squares (3FGLS)

### 1. Introduction

Poverty is a situation where a household is economically deprived compared to others. It means a lack of basic security, limited resources, a low standard of living, a lack of entitlement, exclusion, inequality, dependency, and severe hardship. [1,2]. On the contrary, vulnerability generally refers to the potential for damage caused by an event or change. [3] argue that vulnerability is not limited to income vulnerabilities but also, as they point out, include risk factors like health problems, violence or the effects of exclusion from society which can make a large difference in household life. Vulnerability to poverty is, therefore, the risk that a household will fall under the poverty line, if currently non-poor, or if presently poor, will stay in poverty or fall deeper into poverty.

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Cashew (*Anacardium occidentale*) is native to North Eastern Brazil. It is a member of the family Anacardiaceae, an evergreen tree with spreading large canopies which can attain a height of 9 - 13 metres. It was formerly grown to prevent soil erosion in coastal areas because of its extensive root system. In the 15th and 16th centuries, the Portuguese took it to West Africa, East Africa and India [4]. It is believed to have been introduced to Nigeria between the 15<sup>th</sup> and 16th Centuries by Portuguese explorers.

Nigeria is one of the leading producers of raw cashew nuts globally, rated fourth in the world, with an estimated yearly export volume of at least \$167m and an untapped potential of over \$115.8m. In Nigeria, Cashew producing States are Kaduna, Abia, Kogi, Enugu, Kwara, Oyo, Niger, Imo, and Abuja FCT. Nigerian cashew nut production has a significant advantage over other countries because of the low unit cost of production. As such, the country nuts are classified as the cheapest in the world. The reduced production cost in Nigeria is due to combined factors of cheap labour and low pests and disease incidence. In addition to zero chemical fertilizer application, the latter factor confers opportunity for organic cashew production that is practically impossible in most other countries with low soil fertility, highly infested plantations and mandatory chemical control measures. This quality parameter endears Nigerian cashew nuts to foreign and local processors [5].

The most significant investment potential in Nigerian cashews is the value addition of local nuts processing for exports and regional markets. Currently, 75-80% of cashew nuts produced in Nigeria are exported to Asia and few processing plants within neighbouring West African countries like Ghana and the Benin Republic. The enormous available raw nuts have continually attracted investments, and new private processing plants are currently being established. In contrast, old public ones abandoned in the past have been reactivated and privatized for efficient and profitable management. The recent injection of more funds into the Nigerian cashew processing industry has been hinged on improved quality of the nuts and acceptability of her kernels in European and American markets. The industry has entered the Brazilian market recently [ 6].

Despite all these numerous advantages of cashew production in Nigeria, the country is weak compared to other producing countries due to four areas of the country's weakness (political and economic stability, government policy trust, research and development and stakeholders partnerships) [7]. Also, foreign investors in the cashew nut business have almost taken over the business from the indigenous farmers because of their solid financial muscles and poor government policy to protect the local farmers; the continuous increase in cashew production will depend on the international competitiveness and the effects of government policy intervention [ 8]. Moreover, the Ogbomoso ADP zone is the home of the best quality cashew, which has endeared importing countries' hearts. A recent visit to the ancient town attested to this as the mainstay of the residents. This is because the Ogbomoso ADP zone has the best soil and climate for cashews in Nigeria and produces the best quality cashew nuts. The cashew nuts commands high price in the international market, yet the farmers are still poor, and the fewer non-poor are vulnerable to poverty. Although several authors have studied poverty status among different categories of farmers, such as arable farmers, cocoa farmers, root and tuber farmers, etc., the study of seasonal poverty status among cashew farmers is particularly very sketchy; therefore, this study intends to fill this gap. Given these, this study identified the poverty decomposition, describe the poverty dynamics, profile the socioeconomic characteristics of the respondents based on poverty status of cashew farmers and identify factors predisposing cashew farmers (marketers) to be poor.

Cashew cultivation has not always translated into increased yield per hectare, particularly in developing countries where standard agricultural practices are difficult to apply, despite the growing interest and high value of this product for export. In addition, it might be more important than production to secure the ownership of vacant land by having a cashew plantation [9]. The relatively limited yield per hectare is mainly due to limitations in improving cashew varieties through conventional breeding. Thus, there is still little understanding of vegetative propagation methods and factors. Other factors, such as size, fertilizer, etc., should be noted. Nigerian cashew nuts are sold on the world market at a discount of about 20 to 30% [10]. Among the limiting factor for reasonable pricing of Nigerian cashew includes low quality, small nut and kernel size, and, more importantly, poor kernel peel ability (that is, the difficulty in the removal of the testa from the kernel), which adds more to the cost of processing. Poor peel ability may result from the single or complex effect of poor harvest and post-harvest handling, abiotic factors or inherent genetic composition of the Nigerian cashew.

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## 2. Methodology

The study was conducted in Oyo State. Oyo State is one of the 36 States of Federal Republic of Nigeria with headquarters in Ibadan. It has a land area of 27,249 square kilometres[11]. The state is bounded in the North by Kwara State, in the South by Ogun State, in the East by Osun State, in the West partly by Ogun State and partly by Republic of Benin (Figure 4). It is located between latitudes 7°3 and 9°12 North of the equator and longitudes 2°47 and 4°23 east of the Meridian.

The average temperature is 27°C. The Oyo state consists of four Agricultural Development Project Zones and thirty-three (33) Local Government Areas (LGAs).

A two-period panel data and multistage random sampling procedure were used to select a representative sample for this study. Ogbomoso ADP zone was selected out of four zones in Oyo State because of the high concentration of cashew marketers in this zone. In the second stage, the five blocks in the zone were selected, including: (Ogbomoso North, Ogbomoso South, Oriire, Surulere and Ogo-Oluwa Local Government Areas). The next stage is the use of proportionate to size technique to select 25villages from the LGAs chosen to arrive at 25 villages. The last stage is the selection of ten (10) farmers each from the villages. This resulted in a total of two hundred and fifty (250) cashew nut marketers. However, 221 respondents were finally used due to the inconsistency of the information provided and the absence of respondents during the off-season.

Data collected were analysed using descriptive statistics, Foster Greer and Thorbecke (FGT), and Three-Stage Feasible Generalized Least Squares (3FGLS). FGT was used to measures poverty decomposition. It is widely used because of its consistency and additively decomposable [12]. The FGT index is given by

$$P \alpha = \frac{1}{n} \sum_{i=1}^q \left( \frac{z - y_i}{z} \right) \alpha \quad \dots (1)$$

$P \alpha$  = the weighted poverty index for the  $i$ th sub-group,  $\alpha$  = Foster-Greer-Thorbecke (FGT) index and takes on the values of 0, 1 and 2 for incidence, gap and severity of poverty measures respectively.  $Z_1$  = the poverty line for the  $i$ th sub-group  $q$  = the number of individuals below the poverty line  $N$  = the total number of individuals in the reference population,  $Y_{ij}$  = the per capita income of household  $j$  in the subgroup  $i$   $Z_1 - Y_{ij}$  = poverty gap of the  $i$ th household  $Z_1 - Y_{ij} =$  poverty gap ratio  $Z$  The quantity in bracket is the proportionate short fall of expenditure/income below the poverty line.  $q$  = the proportion of the population that falls below the poverty line  $n$  If  $\alpha = 0, 1,$  and  $2$  measures the incidence of poverty, poverty gap and severity of poverty

3FGLS was used to determine the factors predisposing the respondents to poverty. The FGLS estimation procedure was used to estimate vulnerability to expected poverty and model household socioeconomic status effect on expected future consumption and variation in future consumption. The vulnerability as expected poverty (VEP) approach was adopted in measuring vulnerability.

The following procedure obtained VEP: First, the FGT measure of headcount poverty [12] was estimated from household data. Second, the household's expected consumption and its variance of the inaccuracy term were estimated using the 3-stage Feasible Generalized Least Square (FGLS) estimation procedure. A household's vulnerability to poverty was then derived as the conditional probability of falling into poverty in the next period or the likelihood that a household's consumption would soon fall below the predetermined poverty line.

The three stages can be formally expressed as:

$$\text{Stage 1} \quad \ln E_h = X_h \beta + e_h \dots (2)$$

where  $E_h$  is a household expenditure,  $X_h$  is household characteristics, e.g. age, education, etc. and  $e_h$  is a disturbance term that captures shocks

$$\text{Stage 2} \quad \frac{e^2_{OLS,h}}{X \phi_{OLS}} = \left[ \frac{X}{X \phi_{OLS}} \right] \phi + \frac{\rho}{X \phi_{OLS}} \quad \dots (3)$$

The transformed equation is estimated using OLS for an Asymptotically efficient FGLS estimate.

$$\text{Stage 3} \quad \frac{\ln e_h}{\sigma_{eh}} = \left[ \frac{X}{\sigma_{eh}} \right] \beta + \frac{e_k}{\sigma_{eh}} \quad \dots (4)$$

Where  $\beta$  regression coefficient of idiosyncratic variables is,  $\sigma_{eh}$  is the variance of characteristic variables, and  $e_h$  is the error term OLS estimation of equation 4 yields a consistent and asymptotically efficient estimate  $\beta_{FGLS}$ . It is obtained by dividing the reported standard error by the standard error of the regression.

### 3. Results and discussion

#### 3.1. Poverty Incidence and status of the respondents in the study area

Table 1 shows the FGT poverty measure estimate for the study area during the off-season; the FGT poverty estimates are given as headcount, poverty intensity/gap and severity. The result revealed a poverty headcount of 68.8 per cent, which indicated that about 69 per cent of the cashew marketers in the study area were poor. The intensity of poverty, estimated by dividing the average by total household size, was 47.4 per cent; this showed that poverty intensity in the study area was high. This is an average cashew marketers need to contribute this amount to climb the poverty line threshold. Furthermore, the severity of poverty was 38.1 per cent, which depicts the extent of income inequality among people experiencing poverty.

Generally, the high intensity and severity of poverty indicated a higher risk of future poverty. The table also showed that a headcount of 57.9 per cent was estimated during the on-season. This meant that about 58% of the cashew farmers were poor, while about 69% were poor during the off-season. This implies a relatively lower percentage of poor households during the on-season period. The intensity of poverty during on-season (38.1%) is smaller than that of off-season (47.4%). The severity of poverty was 30.8 per cent during the off-season, which was reduced during the on-season (30.8%).

**Table 1** FGT poverty measures

Poverty measures	On-season Estimate	Off-season Estimate
Headcount	0.579	0.688
Intensity of poverty	0.381	0.474
Severity of poverty	0.308	0.381

Source: Author's estimates based on fieldwork, 2023

#### 3.2. Poverty Status of the Respondents Based on Season of Production

The poverty status of the respondents is presented in Table 2. This illustrates that 57.47% of the respondents during the on-season were poor, with a mean income of ₦178,033.142. This increased to 67.87% in the off-season with an average income of ₦153,253,725. Many cashew farmers lived with income under the poverty line during the off-season of cashew nut marketing in the study area. These figures confirmed that cashew marketers were moving in and out of poverty over time.

**Table 2** Distribution of Respondents by Poverty Status

Poverty Status	Frequency	On-season Percentage	Mean of income (₦)	Frequency	Off-season Percentage	Mean of income (₦)
Poor	127	57.47	1,785,384.8	150	67.87	413,777.2
Non-poor	94	42.43		71	32.13	
Total	221	100.00		221	100	

Source: Field Survey, 2023.

#### 3.3. The socioeconomic characteristics of cashew farmers

Table 3 presents the profiled socioeconomic features of the cashew farmers. The result of the farmers' age revealed that 34.39% of the respondents were between 41-50 years, the highest among all the age groups, while 28.51% were between 31-40 years. Only 8.14% of the respondents were above 60 years, which is the lowest across the age groups. The mean age of the respondents was about 45 years, which indicates that farmers are still in their active years and, hence, are agile to withstand the rigours involved with cashew production and distribution. The table also shows that out of 76 cashew producers that fall within the range of 41-50, 33.86% were non-poor during the on-season. While, during the off-season, 32.39% of the respondents were poor. Also, for respondents within the age range of 31-40 years, 27.56% of them were non-poor during the on-season, and 30.99% of the respondents were poor during the off-season. Considering the respondents that were 30 years or below, 11.81% of them were non-poor during the on-season,

but during the off-season, 16.90% of the farmers were poor. This revealed that most cashew producers were poor during the off-season but non-poor during the on-season.

**Table 3** Distribution of Profiled Socioeconomic Characteristics of Cashew Farmers

		Pooled		Non-poor		Poor	
		Freq	%	On-season	Off-season	On-season	Off-season
Age (years)	<=30	27	12.22	15(11.81)	15(10.00)	12(12.77)	12(16.90)
	31-40	63	28.51	35(27.56)	41(27.33)	28(29.79)	22(30.99)
	41-50	76	34.39	43(33.86)	53(35.33)	33(35.11)	23(32.39)
	51-60	37	16.74	24(18.90)	29(19.33)	13(13.83)	8(11.27)
	>60	18	8.14	10(7.87)	12(8.00)	8(8.51)	6(8.45)
Gender	Male	167	75.57	100(78.74)	117(78.00)	67(71.28)	50(70.42)
	Female	54	24.43	27(21.26)	33(22.00)	27(28.72)	21(29.58)
	Total	221	100	127(100)	150(100)	94(100)	71(100)
Marital status	Single	11	4.98	7(5.51)	11(7.33)	4(4.26)	0(0.00)
	Married	196	88.69	108(85.04)	129(86.22)	88(91.85)	67(94.37)
	Divorced	5	2.26	4(1.81)	1(0.45)	1(0.45)	4(1.81)
	Widow	9	4.07	8(6.30)	9(6.00)	1(1.06)	0(0.00)
Year of experience	1-10	72	32.58	37(29.13)	42(28.00)	35(37.23)	30(42.25)
	11-20	37	16.74	21(16.54)	25(16.67)	16(17.02)	12(16.90)
	21-30	39	17.65	25(19.69)	29(19.33)	14(14.89)	10(14.08)
	31-40	71	32.13	43(33.86)	53(35.33)	28(29.79)	18(25.35)
	>40	2	0.90	1(0.79)	1(0.67)	1(1.06)	1(1.41)
Educational status	None	30	13.57	16(12.60)	20(13.33)	14(14.89)	10(14.08)
	Adult Educ.	17	7.69	8(6.30)	10(6.67)	9(9.57)	7(9.86)
	Pry Educ.	20	9.05	13(10.24)	13(8.67)	7(7.45)	7(9.86)
	SecondEduc	69	31.22	42(33.07)	50(33.33)	27(28.72)	19(26.76)
	Tertiary	85	38.46	48(37.80)	57(38.00)	37(39.36)	28(39.44)
Household size	1-5	54	24.43	26(20.47)	33(22.00)	28(29.79)	21(29.58)
	6-10	116	52.49	73(57.48)	81(54.00)	43(45.74)	35(49.30)
	11-15	31	14.03	13(10.24)	18(12.00)	18(19.15)	13(18.31)
	16-20	8	3.62	5(3.94)	7(4.67)	3(3.19)	1(1.41)
	> 20	12	7.41	10(7.87)	11(7.33)	2(2.13)	1(1.41)
	Total	221	100	127(100)	150(100)	94(100)	71(100)

Source: Field Survey, 2023.

The gender distribution of the respondents revealed that most of the respondents were male, accounting for 75.57%. At the same time, the females were 24.43%. This implies that males were more involved in cashew nut wholesale farming than their female counterparts. This corroborates Salau *et al.* (2017) that most (81.1%) cashew nut marketers were male. The majority (about 76%) of the male were poor during both seasons relative to their female counterpart. It was also discovered that most of the respondents (86.22%) who were married were poor during the on-season, which

was (94.37%) during the off-season. This may be due to the responsibility of meeting of the needs of the household required by married respondents. The average farming experience was 20.38 years. It is expected that the higher the experience, the better the farming skills. It was noticed that more respondents with more than 30 years of experience were non-poor. In comparison, the majority of the respondents with 1-10 years of experience were poor during the off-season. This implies that more years of experience position the farmers to cope better during the off-season.

The table further reveals that more of the respondents (38.46%) had tertiary education, 13.57% of the respondents had no formal education, 9.05% of the respondents had primary school education, 7.69% of the respondents had adult education and 31.22% of the respondents had secondary school education. This implies that most of the respondents were literate. This would improve the moral of the farmers in that literate farmers would find it easier to adopt new technologies on cashews than the illiterate ones. Also, a cashew producer has more household members who were poor during the off-season than during the on-season. This could result from a reduction in the respondents' income level during the on-season. The result also showed that above 45.74% of the respondents with a 6-10 household member range were poor during the on-season. In comparison, about 49.30% of them poor during the off-season.

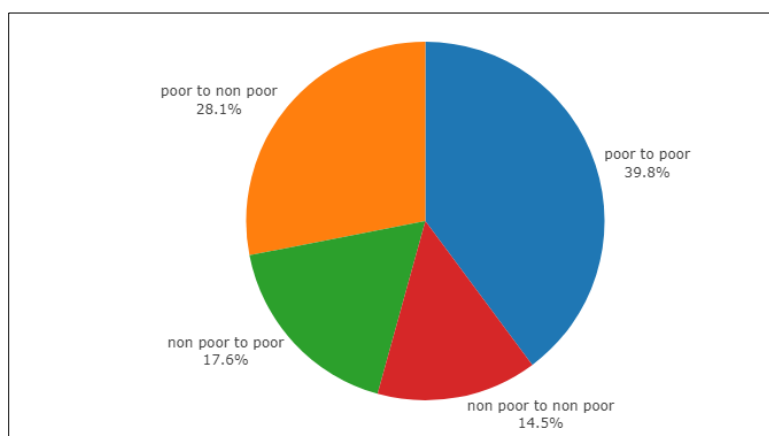
### 3.4. Poverty Transitions Among the Cashew Farmers

This section investigates the extent of poverty transitions during the off-season and on-season. Poverty transitions are first presented in usual poor and non-poor classes for comparability like most other studies, and later, these are offered in a four-class system to deepen the understanding of poverty dynamics among marketers. The transition matrix in Table 4 indicates that poverty reduced considerably during the on-season by about 28%. About 68% were below the poverty line during the off-season, with about 46% escaping absolute poverty and 17.7% of the non-poor falling into absolute poverty. Overall, the average mobility is 45.7. In other words, about 46% of households live in or out of poverty during both seasons. In the off-season period, the probability of becoming poor, given the non-poor respondents, is 0.18 and the possibility of escaping poverty, given the poor respondents, is 0.28. The pictorial view of this is presented in Figure 1.

**Table 4** Respondent poverty transition matrix

Poverty transition matrix	Poor during the on-season	Non-poor during the on-season	Total
Poor during the off-season	88 (39.82)	62 (28.05)	150(67.87)
Non-poor during the off-season	39 (17.65)	32 (14.48)	71(32.13)
Total	127 (57.47)	94 (42.53)	221(100)

Field work, 2023.



**Figure 1** Transition categories of cashew farmers

Source: Author's estimates based on field work, 2023

#### 3.4.1. E. Factors Influencing seasonal poverty of cashew Farmers

Table 5 presents the factors influencing the vulnerability to poverty of the respondents using three-stage feasible generalized least squares (3SFGLS). The OLS (ordinary least square) regression result showed that years of experience

and per capital income were negatively significant at 10%, which implies that as the respondents' per capita income and year of experience increase, the respondents' vulnerability to poverty reduces. While the primary occupation of the respondent is positively significant at 10%, it implies that increase of the respondent's primary occupation will lead to an increase in vulnerability. On the other hand, age, gender, marital status, household size, secondary occupation, cashew marketing season, access to the required quantity of cashew nuts, and medium and low marketing scale were not significant. Meanwhile, large-scale marketing was omitted due to collinearity.

**Table 5** Analysis Using Three -Stage Feasible Generalized Least Squares (3FGLS)

Variable	OLS Estimates			3FGLS Estimates		
	Co-efficient	Std. err	T.ratio	Co-efficient	Std err	T.ratio
Season	-3.1676	2.0884	-1.52	-12.9695***	1.8702	-6.93
Age	0.0643	0.0413	1.55	0.4252***	0.0371	11.47
Gender	0.6348	1.1495	0.55	3.0339***	1.0270	2.95
Marital status	0.5266	0.8730	0.60	3.8540***	0.7800	4.94
Household size	-0.3320	0.2590	-0.90	-2.5232***	0.2317	-10.89
Per capital income	-2.52e-07*	1.13e-07	-2.24	-1.38e-08	1.01e-07	-0.14
Years of experience	-0.1682*	0.0890	-1.89	2.2506***	0.0798	28.20
Primary occupation	2.4989*	1.4765	1.69	-12.9775***	1.3231	-9.81
Secondary occupation	1.1001	1.0443	1.05	6.4756***	0.9338	6.93
The large scale of marketing	0	Omitted		0	Omitted	
Medium scale of marketing	-1.5358	1.3314	-1.37	-11.8238***	1.0011	-11.81
Low scale of marketing	-1.3968	1.1185	-1.05	-10.0067***	1.1906	-8.40
Access to the required quantity of cashew nut	-0.7872	2.0621	-0.85	-4.8636***	0.8240	-5.90
Constant	2.4838	2.8359	0.88	7.5605***	2.5351	2.98
R-squared	0.0816			0.8610		
Adj R <sup>2</sup>	0.0559			0.8568		
Observation	221			221		

\* Significance at 10%, \*\* Significance at 5% and \*\*\* Significance at 1%; Source: Field Survey, 2023.

In the 3FGLS regression, vulnerability to poverty was found to be higher with an increase in age; the coefficient of age was positively significant at 1 per cent, and the result implied that an increase in age would increase the vulnerability of cashew marketers to poverty. Gender was positively significant at 1 per cent, indicating that vulnerability to poverty spikes as the male head increases in the study area. On-season of cashew nut marketing ( $P = 0.001$ ), household size ( $P = 0.001$ ), primary occupation ( $P = 0.001$ ), medium scale of production ( $P = 0.001$ ), low scale of production ( $P = 0.001$ ) and access to required quantity ( $P = 0.001$ ) were negatively significant. The table showed that an increase in on-season cashew nut marketing would decrease vulnerability to poverty by - 12.97 per cent. This indicated that the vulnerability to poverty of the respondents decreases as the on-season of cashew nut marketing increases. Still, this tendency increases at a decreasing rate of on-season cashew nut marketing. The table also showed that an increase in household size would decrease vulnerability to poverty by 1.81 per cent. This implied that vulnerability to poverty increases as the household size of the respondents decreases. The number of members working was significant at 1 per cent, indicating that vulnerability to poverty spikes as numbers of members working decreases in the study area. Also, the medium and low scale of marketing increases vulnerability to poverty as they drop in the study area. This implied that a fall in the medium and low marketing scale would increase vulnerability to poverty in the study area.

3.4.2. F. Autocorrelation test for Three - Stage Feasible Generalized Least Squares (3FGLS)

In a regression analysis, autocorrelation of the regression residuals can occur if the model is incorrectly specified. The graph below shows that there is no autocorrelation between the variables defined. The test was further subjected to the Durbin-Watson test using R. Since the test statistic near 2 (DW = 2.0492) and the p-value (< 0.7623) is significant, we conclude that there is no autocorrelation among the residuals.

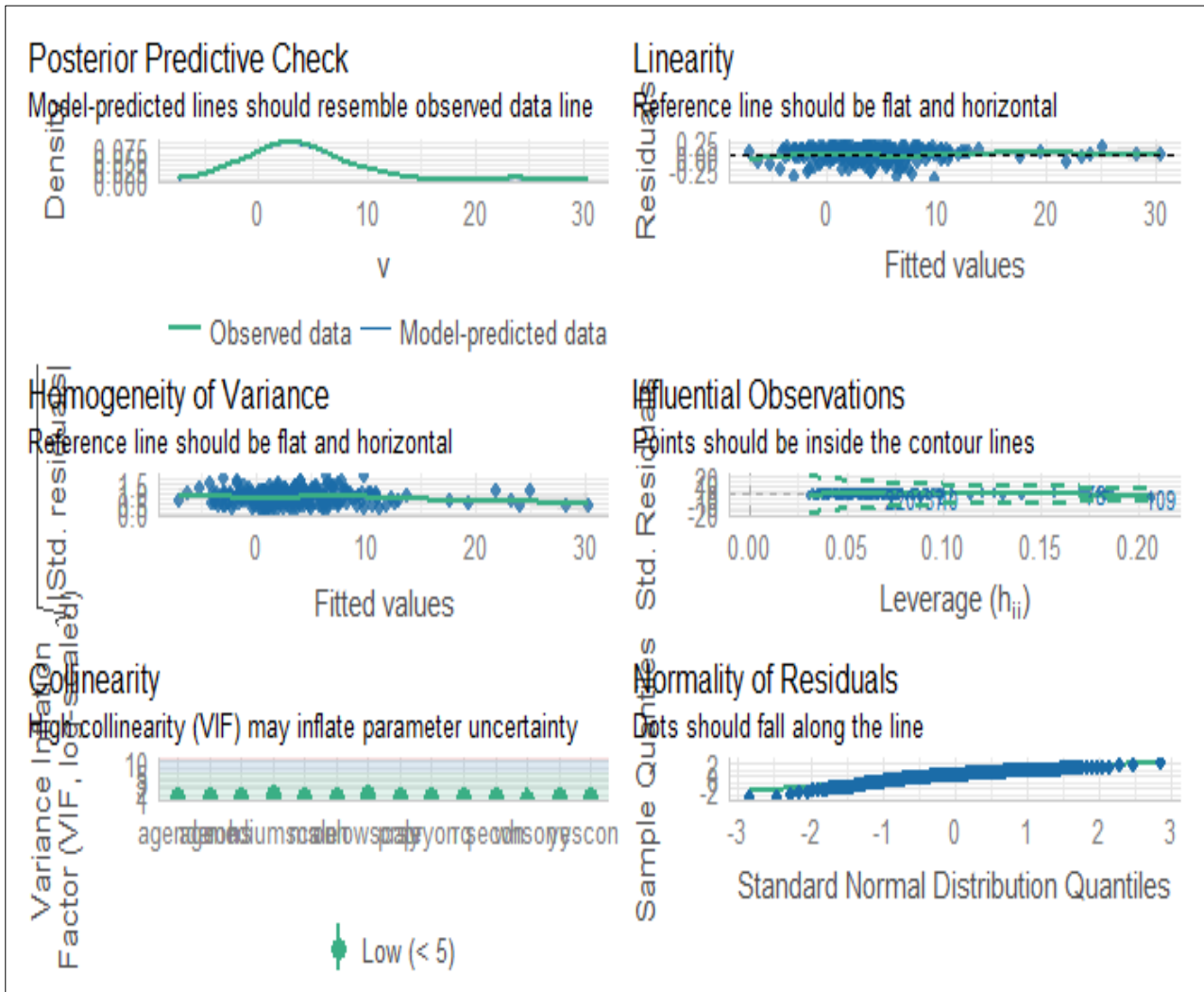


Figure 2 Autocorrelation test

Durbin-Watson test

DW = 2.0492, p-value = 0.7623

Alternative hypothesis: true autocorrelation is greater than 0

3.4.3. G. Heteroskedasticity test for Three - Stage Feasible Generalized Least Squares (3FGLS)

Heteroskedasticity is seen when looking at a plot of the residuals; a fan or cone shape demonstrates this. It is a concern in statistics because ordinary least squares (OLS) regressions presume that the residuals come from a population with constant variance. The population used in the regression has unequal variance if the residuals scatter unevenly.

In order to do a regression and examine the residuals, a heteroskedasticity test is required. Plotting a residuals graph is one of the most popular methods for determining whether heteroskedasticity has occurred. In the visual domain, it is present when the residual plot resembles a fan or cone. Heteroskedasticity-adjusted regressions also exhibit a pattern



in which the residuals' variance rises as the fitted values do. Figure 3 shows that as the residuals are clumped in areas, we can say that heteroskedasticity is evident in this data set.

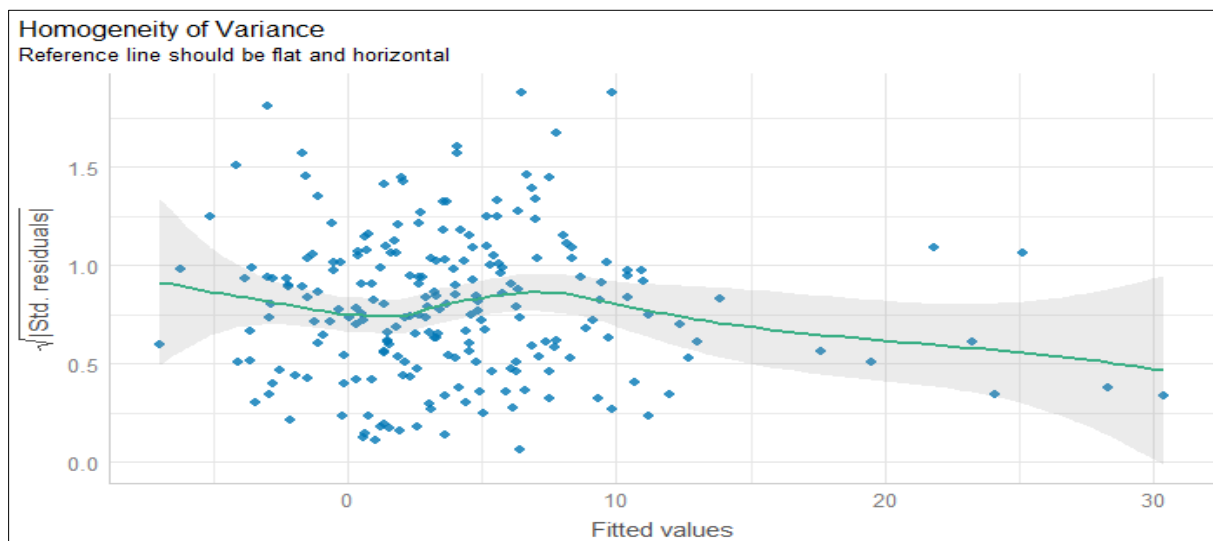


Figure 3 Heteroskedasticity test

#### 4. Conclusion

The study concluded that most cashew farmers were poor, while the intensity and severity of poverty increased more during the off-season compared to the on-season. The study also reveals that age, gender, marital status, years of experience, primary occupation, secondary occupation, household size, large-scale marketer, medium-scale marketer, small-scale marketer lack, years spent in school, instability of price, number of children, numbering household that are working and the level of availability of cashew nut were factors pre-disposing the respondents to poverty in the study area. Therefore, this study suggests that different policies may be needed for poverty reduction because focusing anti-poverty efforts on current poverty status (which could be as a result of exposure to a shock at that time) may not have any significant impact on the probability of being poor in the future but forward-looking anti-poverty interventions that aim to prevent rather than alleviate poverty could be embarked upon. There is a need for a broader focus on anti-poverty interventions in Nigeria, as those who are poor are not necessarily the most vulnerable and vice versa. The policy implications of the above findings are notable: a focus on vulnerability underscores the centrality of social protection policy mechanisms as potent poverty reduction tools.

#### Compliance with ethical standards

##### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

##### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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