

Production of Exportable Agricultural Commodities in Nigeria

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Abstract— *The aim of this study is to evaluate the production of exportable agricultural commodities (cocoa, cashew and ginger) in Nigeria. Three hundred and seventy (370) exporters were interviewed for this study. Findings revealed that half of the respondents' source for their seedlings through purchase of certified seeds. Almost 33.5% of the respondents plant Brazilian cashew, 30% plant both yellow and black ginger varieties while 37% of them majorly plant Forastero cocoa varieties due to their high demand. Results showed that most of the respondents (26.2%, 36.8% and 33.5%) supplied the highest volume of agricultural commodities (cashew, ginger and cocoa) in year 2012 and earn more in the same period. Findings indicated that land (36.2%) is the major cost component that had the highest impact while transportation (34.6%) is the main cost component that steadily increases among others. Government should provide services on trade support to aid access to global markets.*

Keywords— *Production, agricultural commodities, exportable, cost.*

I. INTRODUCTION

The agricultural sector is a significant sector in the economy of Nigeria because it serves as a foremost role in quick development of the country (Ayinde et al., 2015). Agriculture provides job opportunities for above 70% of the growing population, serves as source of food, foreign exchange earnings for the growth of industries and source of raw materials (Giroh et al., 2010). Despite the prevalence and important reliance of Nigeria economy on oil sector, agriculture still remains an important source of economic resilience and mainstay (National Economic Empowerment and Development Strategy, (NEEDS), 2004; Ayinde et al., 2015). Since 1970, agriculture performance in Nigeria noticeably revealed that its contribution is above 30% of the yearly Gross Domestic Product (GDP), provides above 80% of the food required of the nation; and likewise account for more than 70% of the exports of non-oil as cited by Ayinde et al. (2015). Succeeding crude oil, agriculture is the second biggest export earner but as a result of oil boom, the percentage contribution of agriculture to GDP drastically fall (Ayinde et al., 2015). It is vital to consider that Nigeria which happens to be a foremost exporter of numerous agricultural products such as rubber, groundnuts, cocoa and palm kernel has completely misplaced her governance place in the export of these agricultural yield (Mesike et al. 2007; Ayinde et al., 2015).

Regardless of the steady development in the worth of Nigeria's agriculture exports over the period of 2016 to 2018, the nation's agriculture exports to overall exports lingered beneath 2% (www.pwc.com; Onakoya et al., 2020). The nation's total export of agricultural commodities was motivated by export of crude palm kernel oil, ginger, fermented cocoa beans, soya beans, sesame seeds (broken or not broken), prawns, cashew nuts, frozen shrimps and agro foods. Cumulatively, from export of agriculture, the nation earned ₦0.53 trillion between the period of 2016 and 2018 whereas, total agriculture imports bill of Nigeria stood at ₦2.39 trillion over the same era (www.pwc.com). Due to this, deficit of agriculture trade stood at ₦1.86 trillion. Hence, the nation is a food importer. In 2019 between January to June, agricultural exports of Nigeria rose to ₦152.3 billion based on the released National Bureau Statistics (NBS) foreign trade information which covers the first and second part in 2019. Among the exportable agricultural commodities in Nigeria, sesame seeds remain the largest earner in the

previous years, followed by fermented cocoa beans which is the second largest agricultural export whereas cashew nuts is the third leading agricultural export. Other agricultural products include Ginger and agro-food items (Nairametrics, 2019). Nigeria's biggest market for sesame seeds are China, South Korea, Belgium, Germany, Turkey and Japan; for cocoa include Malaysia, Belgium, Netherlands, Germany and Indonesia; while market for cashew nuts are Tanzania, India, Vietnam, Netherlands and Russia (Nairametrics, 2019). According to Onwusiribe et al. (2018), in Nigeria, ginger farmers are majorly dominated by smallholder farmers and are confronted by the inaccessibility of huge hectares of land for industrialized farming. Likewise, ginger price from Nigeria is unpleasant which is ascribed to its low quality from the country and as a result of this, it is not economical in the global market. The utmost challenges encountered in exportation of root and tuber in Nigeria is the low quality of production of ginger and supply. However, poor implementation of economic policy in the form of exchange rates, is also part of the challenges encountered in the international market of ginger (Onwusiribe et al., 2018). Furthermore, Cocoa Farmers Association of Nigeria (CFAN) reported in 2018 that their members encountered difficulties in the aspect of absence of funding from the government, unfavorable weather state and fake chemicals used by the farmers. Cocoa is crucial to the source of revenue of between 40 and 50 million people globally which also includes above 5 million smallholder cocoa farmers who cultivate this valued crop (Biney, 2017). According to International Institute of Tropical Agriculture (IITA), it was reported in 2017 that West Africa yields 70% of the global cocoa market which about 90% of these produce is generated from farms that are small consisting less than 5 hectares of land (www.iita.org).

The challenges Nigeria as are to transform increased agricultural production into upsurge exports. Despite determinations to develop the export of agricultural commodities via sequences of interventions, the expected outcomes were barely accomplished with the capacity of production still extreme beneath anticipation when associated to the volume in the early 1970s before oil boom (Biney, 2017). Meanwhile, agriculture sector is the leading supplier to the GDP of Nigeria, unraveling the prospects of agricultural exports is vital. Despite the lessen in agricultural exports, it contributes considerably to job opportunities in Nigeria. Therefore, the general objective of this study is to evaluate the production of exportable agricultural commodities (Cocoa, Cashew and Ginger) among exporters in Nigeria.

II. METHODOLOGY

The study was carried out in Nigeria which is positioned in the West Africa. The country shares boundaries with Chad and Cameroon to the East, Niger to the North and Benin towards the West. The nation lies between the longitudes 3°E and 15°E and latitudes 4°N and 14°N . The country has a tropical climate which consists of comparatively high temperatures all over the year with yearly mean temperature fluctuating from 31°C in the south to 35°C in the North. Furthermore, it consists of land area of around $923,769\text{km}^2$ whereas the coastline is 853km (Onwusiribe et al., 2018). Agriculture is the major source of foreign exchange in Nigeria. Currently, the major exportable agricultural commodities in Nigeria include sesame seeds, fermented cocoa beans, cashew nuts, ginger and other agro-food items. This study is a cross-sectional data and exporters of cocoa, cashew and ginger in Nigeria were the respondents. From the list of exporters of cocoa, cashew and ginger farmers, three hundred and seventy (370) certified exporters of agricultural commodities (cocoa, cashew and ginger) were simple randomly selected for this survey. A well-structured questionnaire was planned and administered to exporters of agricultural commodities through google form link for easy filling. Data used for this study was obtained through the means. The questionnaire was divided into three sections; demographic, production of agricultural commodities and cost of production. Descriptive statistics was used for data analysis.

III. RESULTS

3.1 Demographic factors

The descriptive statistics of demographic factors of respondents in the study area is shown in Table 1. Findings revealed that the mean age respondents are 34.6 years. Result showed that maximum and minimum value of sex is 2 and 1 respectively. Furthermore, household size result indicated that the maximum value is 15 people while the minimum value is 1 people. Based on the educational level of respondents, findings showed that maximum value is 4 which imply that they have tertiary education while the minimum value is 3 which denote secondary education. Findings revealed that majority of the respondents do not have access to credit facilities.

TABLE 1
DESCRIPTIVE STATISTICS OF DEMOGRAPHIC FACTORS OF RESPONDENTS (n=370)

Variables	N	Minimum	Maximum	Mean	Std. deviation
Age (years)	370	26	58	34.6	.912
Sex	370	1	2	1.36	.480
Household size	370	1	15	4.81	3.284
Educational level	370	3	4	3.95	.210
Members of exporters association group	370	1	2	1.51	.501
Access to credit facilities	370	1	2	1.81	.390
Form of training	370	1	2	1.53	.500
Experience of exportation	370	1	20	5.84	4.379

Source: Field data survey and SPSS computation, 2021

3.2 Production of agricultural commodities (Cashew, Ginger and Cocoa)

Table 2 presents the descriptive statistics of production of agricultural commodities. Results revealed that above half (56%) of the respondents' export cashew, 87.5% of them export ginger and 50% of them export cocoa respectively. In terms of agricultural farm land used for cultivation of agricultural commodities, 55.7% of the respondents leased their land, whereas 22.7% specified that the land they used was offered to them by the community. Half of the respondents' source for their seedlings through purchase of certified seeds. Based on the percentage of farmland used for production, 26.5% of the respondents use between 40-60% for cashew production, 24.6% of them use between 21-40% for ginger production while 30.2% of them use between 61-80% for cocoa production. Most (35%) of the respondents plant Brazilian cashew, 30% plant both yellow and black ginger varieties while 37% of them majorly plant Forastero for cocoa varieties. However, half of the respondents (51.9%) indicated that they plant such varieties of agricultural commodities due to its high demand. Furthermore, findings revealed that 26.2%, 36.8% and 33.5% respondents supplied the highest volume of agricultural commodities (cashew, ginger and cocoa) in year 2012. The average selling price per tonnes for cashew is ₦807,298.5782, for ginger is ₦582,517.2414 and for cocoa is ₦959,012.8755 respectively. In terms of factors that affect production output, 48.1% of the respondents specified that market uncertainties are the major factor.

TABLE 2
DESCRIPTIVE STATISTICS OF PRODUCTION OF AGRICULTURAL COMMODITIES (CASHEW, GINGER AND COCOA)

Variables	Frequency	Percentage (%)
Agricultural commodities exported		
Cashew		
High	31	8.4
Low	176	47.6
Not at all	163	44.1
Ginger		
High	234	63.2
Low	90	24.3
Not at all	46	12.4
Cocoa		
High	68	18.4
Low	117	31.6
Not at all	185	50.0
Process of acquiring agricultural farm land used for cultivation		
Inherited	38	10.3
Leased	206	55.7
Purchased	84	22.7
Offered by community	42	11.4

Source of seedlings		
Farmer saved	108	29.2
Government and NGO offered seeds	25	6.8
Purchased certified seeds	185	50.0
Others (through someone)	52	14.1
Percentage of farmland used for production of agricultural commodities		
Cashew (%)		
1-20	81	21.9
21-40	54	14.6
41-60	98	26.5
Not active in this value chain	137	37.0
Ginger (%)		
1-20	89	24.1
21-40	91	24.6
41-60	34	9.2
61-80	36	9.7
81-100	40	10.8
Not active in this value chain	80	21.6
Cocoa (%)		
1-20	82	22.2
21-40	0	0.0
41-60	0	0.0
61-80	112	30.2
81-100	17	4.6
Not active in this value chain	159	43.0
Varieties of agricultural commodities planted or harvested		
Cashew		
Brazilian cashew	124	33.5
Indian cashew	62	16.8
Chinese cashew	33	8.9
Not active in this value chain	137	37.0
Both Brazilian and Indian cashew	14	3.8
Ginger		
Yellow ginger (UG 1)	103	27.8
Black ginger (UG 11)	76	20.5
Not active in this value chain	80	21.6
Both (Yellow and Black ginger)	111	30.0
Cocoa		
Forastero Amazonian	137	37.0
Criollos	30	8.1
Trinitario	44	11.9
Not active in this value chain	159	43.0
Reason for planting such varieties		
Economical	85	23.0
High demand	192	51.9
Taste preference	38	10.3
Others (Profitable)	55	14.9

Year which you supplied the highest volume of agricultural commodities						
Year	Cashew		Ginger		Cocoa	
	Freq.	%	Freq.	%	Freq.	%
2010	0	0.0	0	0.0	0	0.0
2011	0	0.0	0	0.0	0	0.0
2012	97	26.2	136	36.8	124	33.5
2013	0	0.0	0	0.0	0	0.0
2014	0	0.0	0	0.0	30	8.1
2015	0	0.0	0	0.0	0	0.0
2016	0	0.0	0	0.0	8	1.2
2017	63	17.0	0	0.0	0	0.0
2018	59	15.9	21	5.7	9	2.4
2019	0	0.0	38	10.3	0	0.0
2020	14	3.8	95	25.7	40	10.8
Average selling price (₦) per tonnes						
	Cashew		Ginger		Cocoa	
	Freq.	%	Freq.	%	Freq.	%
100,000-500,000	70	18.9	58	15.7	37	10.0
500,001-1,000,000	135	36.5	231	62.4	142	38.4
1,000,001-1,500,000	28	7.6	1	0.3	32	8.7
Mean	807,298.5782		582,517.2414		959,012.8755	
Years you had highest income earning from the trade of agricultural commodities						
Year	Cashew		Ginger		Cocoa	
	Freq.	%	Freq.	%	Freq.	%
2010	0	0.0	0	0.0	0	0.0
2011	0	0.0	0	0.0	0	0.0
2012	136	36.8	126	34.1	124	33.5
2013	0	0.0	0	0.0	0	0.0
2014	0	0.0	0	0.0	2	0.5
2015	0	0.0	0	0.0	0	0.0
2016	0	0.0	0	0.0	0	0.0
2017	23	6.2	0	0.0	0	0.0
2018	0	0.0	21	5.7	0	0.0
2019	21	5.7	36	9.7	0	0.0
2020	53	14.3	107	28.9	85	23.0
Factors that affect production output	Freq.					%
Variety	14					3.8
Weather	102					27.6
Pest and disease	17					4.6
Market uncertainties	178					48.1
Input prices	59					15.9

Source: Field data survey and SPSS computation, 2021

3.3 Cost of Production of agricultural commodities

Table 3 presents the descriptive statistics of cost of production of agricultural commodities in the study area. In terms of years which the respondents had the highest cost of production and exportation, most (40.8%, 39.8% and 34.0%) of the respondents stated that they had the highest cost of production and exportation in cashew, ginger and cocoa in the year 2012 respectively. Similarly, few (17.9%, 22.9% and 17.8%) of the respondents also specified that they had the highest cost of production and exportation in year 2020 in cashew, ginger and cocoa respectively. Furthermore, result showed that most

(42.2%, 46.0% and 31.9%) of the respondents had lowest cost of production and exportation in year 2014 in the three (cashew, ginger and cocoa) agricultural commodities. Based on the cost components, findings revealed that farming inputs (25.7%) and equipment (25.7) were the cost components that had the highest fluctuation. Moreover, land (36.2%) is the major cost component that has the highest impact followed by labour (25.4%). In addition result indicated that transportation (34.6%) is the major cost component that steadily increases among others whereas farming inputs (49.7%) steadily decrease.

TABLE 3
DESCRIPTIVE STATISTICS OF COST OF PRODUCTION OF AGRICULTURAL COMMODITIES (CASHEW, GINGER AND COCOA)

Years you had the highest cost of production and exportation						
Years	Cashew		Ginger		Cocoa	
	Freq.	%	Freq.	%	Freq.	%
2010	0	0.0	0	0.0	0	0.0
2011	0	0.0	0	0.0	0	0.0
2012	151	40.8	148	39.8	126	34.0
2013	0	0.0	0	0.0	0	0.0
2014	0	0.0	0	0.0	12	3.2
2015	0	0.0	0	0.0	0	0.0
2016	0	0.0	0	0.0	0	0.0
2017	12	3.2	0	0.0	0	0.0
2018	0	0.0	14	3.8	7	1.9
2019	4	1.1	43	11.6	0	0.0
2020	66	17.9	85	22.9	66	17.8
Years you had the lowest cost of production and exportation						
Year	Cashew		Ginger		Cocoa	
	Freq.	%	Freq.	%	Freq.	%
2010	23	6.2	51	13.7	46	12.4
2011	0	0.0	17	4.6	34	9.2
2012	0	0.0	0	0.0	0	0.0
2013	0	0.0	0	0.0	0	0.0
2014	156	42.2	171	46.0	118	31.9
2015	0	0.0	0	0.0	0	0.0
2016	42	11.4	12	3.2	0	0.0
2017	0	0.0	0	0.0	0	0.0
2018	0	0.0	39	10.5	7	1.9
2019	9	2.4	0	0.0	0	0.0
2020	3	0.8	0	0.0	6	1.6
Cost components	Highest fluctuation Freq.(%)		Highest impact Freq.(%)	Steadily increasing Freq.(%)	Steadily decreasing Freq.(%)	
Land	0(0.0)		134(36.2)	0(0.0)	50(13.5)	
Labour	45(12.2)		94(25.4)	78(21.1)	23(6.2)	
Farming inputs	95(25.7)		89(24.1)	82(22.2)	184(49.7)	
Equipment	95(25.7)		22(5.9)	42(11.4)	64(17.3)	
Transportation	93(25.1)		31(8.4)	128(34.6)	17(4.6)	
Agency services	0(0.0)		0(0.0)	17(4.6)	0(0.0)	
Trade facilitation services	42(11.4)		0(0.0)	23(6.2)	32(8.6)	

Source: Field data survey and SPSS computation, 2021

IV. DISCUSSION

Based on the results of the study, males dominated exporters of agricultural commodities in Nigeria. Also, majority of the respondents have secondary and tertiary education. This denotes that they were educated. The average experience of exportation is 6 years. This implies that respondents have being into this venture for some time and are well experienced. Findings revealed that 56% of the respondents' export cashew, 87.5% of them exports ginger while 50% of them export cocoa respectively. Most (55.7%) of the respondents leased the agricultural farm land used for cultivation of agricultural commodities. This shows that respondents have a longer period to use the land. Furthermore, results indicated that most of the respondents' source for their seedlings via purchase of certified seeds. This is because they want to obtain suitable yield after cultivation. In respect to the percentage of farmland used for production, 26.5% of the respondents use between 40-60% for cashew production, 24.6% of them use between 21-40% for ginger production while 30.2% of them use between 61-80% for cocoa production. In terms of varieties, Brazilian (33.5%) cashew; yellow and black ginger (30%) and Forastero (37%) cocoa was the most common and cultivated among the respondents. These varieties were cultivated because they are highly productive and resistant to diseases. Likewise, National Cashew Association of Nigeria (NCAN) in 2016 during their interview with Punch specified that there are incomes generating prospects in Brazilian/Indian cashew nuts. Furthermore, above half (51.9%) of the respondents indicated that the reason for planting such varieties is because of its high demand. Additionally, results show that most of the respondents (26.2%, 36.8% and 33.5%) supplied the highest volume of agricultural commodities (cashew, ginger and cocoa) in year 2012 and also earn more in the same year. This indicates the period of removal of all import duty on agricultural equipment by the federal government and likewise introduction of Growth Enhancement Support (GES) scheme during the same year. This implies that the removal of import duty and introduction of the scheme is probably beneficial to the farmers based on their export volume and earnings for that year. According to Ejiogu (2017), access to fertilizer, improved seeds and other agricultural farm inputs through GES scheme contributed to the farmers' productivity. Similarly, Tiri et al. (2014) and Nwalieji et al. (2015) opined that the contribution of GES scheme to farmers' agricultural productivity cannot be contested in Nigeria. The average selling price (₦) per tonnes of cashew, ginger and cocoa are ₦807,298.5782, ₦582,517.2414 and ₦959,012.8755 respectively. In terms of years which the respondents had the highest cost of production and exportation, most (40.8%, 39.8% and 34.0%) of the respondents specified that they had the highest cost of production and exportation in cashew, ginger and cocoa in the year 2012 respectively whereas 42.2%, 46.0% and 31.9% indicated that they had lowest cost of production and exportation in the three (cashew, ginger and cocoa) agricultural commodities in year 2014. Moreover, respondents indicated that farming inputs (25.7%) and equipment (25.7) were the cost components that had the highest fluctuation. Land (36.2%) is the major cost component that had the highest impact followed by labour (25.4%). In addition, result specified that transportation (34.6%) is the main cost component that steadily increases among others while farming inputs (49.7%) steadily decrease.

V. CONCLUSION AND RECOMMENDATION

In conclusion, agricultural farm land used for cultivation of agricultural commodities is leased while seedlings planted are source from purchase of certified seeds. Moreover, Brazilian Cashew; yellow and black Ginger and Forastero Cocoa were varieties planted due to their high demand. Result showed that the highest volume of agricultural commodities (cashew, ginger and cocoa) was produced and supplied in year 2012; and likewise earnings were more in the same year. Land is the major cost components with the highest impact while farming inputs and equipment had the highest fluctuation.

Based on the conclusion, it is recommended that more land should be allocated to the exporters of agricultural commodities so that they can expand their level of production. Similarly, they seedlings of good quality should be made available and at a reduced price. Government can provide services on trade support to aid access to global markets, thus decreasing costs of transaction and providing knowledge of trade. In addition, intensive effort should focus on creative channels of agricultural commodities in the economy of Nigeria in order to boost sustainable economic development via increased export of agricultural products.

REFERENCES

- [1] Ayinde, O. E., Ilori, T. E., Babatunde, R. O. & Ayinde, K. 2015. Impact of government agricultural policies on the major staple food prices in Nigeria (1966 – 2011). International Conference of Agricultural Economists, 28pp.
- [2] Biney, K. A. 2017. Cocoa production Trends in South-West, Nigeria, 1950-2010. PhD thesis.
- [3] Giroh, D. Y.; Waizah, Y. and Umar, H. Y. 2010. Technical Efficiency and Cost of Production among Gum Arabic Farmers in Jigawa State, Nigeria. *Report and Opinion* 2010:2(1) 52- 57.

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- [4] Gujarati, D. N. & Porter, D. C. 2009. "Basic Econometrics", 5th edition, New York: McGraw- Hill International.
- [5] Mesike, C. S.; Okunmadewa, F. Y & Agbonkolor, B. N. 2007. Determinants of Rubber Exports in Nigeria: An Error Correction Modelling Approach. *Bowen Journal of Agriculture* 4(1) 47 – 53.
- [6] Nairametrics, 2019. Nigeria's top 10 agricultural exports hit ₦152 billion in half-year. <https://nairametrics.com/2019/09/25/nigerias-top-10-agricultural-exports-hit-n152-billion-in-half-year-2019/>.
- [7] National Economic Empowerment and Development Strategy, 2004.
- [8] Onakoya, A. B. & Alayande, H. A. 2020. Macroeconomic variables, the oil and the Agricultural sectors in Nigeria. *Asian Social Science*, 16(1).
- [9] Onwusiribe, C.N., Mbanasor, J.A. & Agwu, N.M. 2018. Competitiveness of Nigeria Ginger exports: 1961-2016. *Nigerian Agricultural Journal*, 49(1), pp.15-22.
- [10] <https://www.iita.org/cropsnew/cocoa>.
- [11] www.pwc.com.