

## **Impact Assessment of Export Processing Zones on Exportation of Cashew Nuts: The Way Forward for Sustainable Development in Nigeria**

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### **ABSTRACT**

*This study concentrated on assessing the impact of the export processing zones on exportation of cashew nuts in Nigeria. The export zones and cashew nuts exporters who are investors in the zones are facing a lot of challenges including poor implementation of incentives (tax holiday, free export and import licenses), poor infrastructural facilities (processing plants, water, power supply), and bad roads which resulted to waste of tones of cashew nuts. Strong attempt was made to find out the contribution of cashew nuts exports revenue to the country's GDP. Four hypotheses were formulated from research questions which were in line with the objectives of the study. Using survey design, it was found that eleven (11) out of twenty-four (24) exports processing zones are operational in Nigeria, there is very low implementation of incentives by Export Processing zones, poor infrastructural facilities scare away investors irrespective of cashew nuts export significant contributions to Nigeria Gross Domestic Product (GDP). Export Processing zones, Authority should therefore sit up to their obligations: motivating the investors, and Nigerian government should adequately repair all roads to cash nuts farms, seaports and airports.*

### **INTRODUCTION**

The term "Export" is derived from the conceptual meaning as to ship goods and services out of the port of a country to another. The seller of such goods and services is referred to as an "Exporter" who is based in the country of export whereas the overseas based buyer is the "importer" in international trade. "Export" refers to selling goods and services produced in home country to other markets (Daniel, et al 2007). An export is any good or commodity, economically transported from one country to another country in a legitimate fashion, typically for use in trade. Exporting is a major component of international trade. Cultivation, uses and economy of cashew nuts actually commenced in 1972, by cocoa Research Institute of Nigeria (CRIN). The Increased awareness in the economic benefits of the crop has led to the astronomical increase and renewed Interests in the agri-business of the crop.

Cashew was introduced into Nigeria between 15<sup>th</sup> and 16<sup>th</sup> centuries by the Portuguese explorers. The plant was then purposefully for erosion control and the aforestation schemes of the defunct Eastern Nigeria. Cashew is planted on a large scale in the Eastern Nigeria in the escarpment areas of Udi, Mbala, Oghe, Oji, Isuochi and Kingie, then in Western Nigeria in Agege in Lagos, Iwo Eruwa and upper Ogun (Hammed 2007).

Export Processing Zones (EPZs) are established to promote export and economic growth in developing countries and are characterized by the geographical area within the territory of a country where economic activities are promoted by a set of policy instruments that are not generally applicable to the rest of the country (Cling et al 2005). Firms investing in Export processing zones (EPZs) receive important subsidies and incentives from host governments in the form of income and sales tax exemptions, duty free imports and exports, free repatriation of profits, provision of enhanced infrastructure and public services, with exemption from local labour and other social protection regulations (Cling et al, 2005, Ilo, (2003), Jayanthakumaran, (2003), Jauch, (2002), Sargent and Mathew, 2001). In order to enter this billion-dollar industry, the Nigerian cashew industry must seek to transform Nigeria from a low-priced commodity producer to a reliable supplier and exporter of high quality cashew products (USAID, 2002). Major cashew growing areas in Nigeria, by geo-political zones, include:

- South – East Zone: Enugu, Abia, Imo, Anambra and Ebonyi States
- South – South Zone: Cross Rivers State
- South – West Zone: Oyo, Osun, Ondo, Ekiti, Ogun States
- North – East Zone: Taraba State

- North – Central: Kwara, Kogi, Nassarawa, Benue, Niger and FCT
- North – West Zone: Sokoto and Kebbi State.

Despite her enormous material and human resources, Nigeria has largely been an onlooker, uninterested observer of the entire Cashew process. Marketing of products begins at the time when the farmer plans his/her production to meet the needs of consumers/buyers; hence the application of marketing concept to the cashew nuts sector, consumption is continuous throughout the year, so storage is required to ensure greater supply to meet future demands. Required in agricultural business are the produce, buying, selling, transportation, processing, distribution, financing, risk taking and information gathering as well as promotion, improved seeds, farm machinery, tools and equipment. Thus Pertinent questions to ask in the exportation of cashew nuts arise as to:

1. How do cashew nuts which may be produced on thousands of small separate farms, reach the consumer?
2. How is it graded, prepared and packaged for the consumer?
3. Who provides storage space for produce that is not immediately required by the consumer and why?
4. The purchase, transportation and storage of cashew nuts costs money; where does the money come from to finance the activities?
5. How does produce reach the market in other countries?
6. How do processing plants obtain their raw materials?
7. What problems are the exporters facing and what should the government do to improve the exportation as a whole? (Abbot and Makeham, 1989). The impact of the Export Processing Zones on the exportation of cashew nuts in Nigeria necessitated this study. To empirically assess Export Processing Zones and exportation of cashew nuts, three (3) Export Processing Zones were selected from the eleven operational zones amongst the twenty-four approved Export Processing Zones in Nigeria.

Table 1: Export Processing Zones in Nigeria

| S/N | NAMES                                       | LOCATIONS               | STATUS              | OWNERSHIP            |
|-----|---------------------------------------------|-------------------------|---------------------|----------------------|
| 1.  | Calabar Free Trade zone (CETz)              | CRS                     | Operational         | Fed. Govt.           |
| 2.  | Kano Free Trade zone (KFTz)                 | Kano State              | Operational         | Fed. Govt.           |
| 3.  | Onne Oil & Gas free zone                    | River State             | Operational         | Fed. Govt. / Private |
| 4.  | Lagos free zone                             | Lagos State             | Under cons.         | Private              |
| 5.  | Tinapa free zone & tourism Resort           | CIRS Cross Rivers State | Under cons.         | Private/Public       |
| 6.  | Olokola free zone                           | Ondo & Ogun             | Under cons.         | State / Private      |
| 7.  | Snake Island Integrated                     | Lagos                   | Operational         | State                |
| 8.  | Maigateri Border free zone                  | Jigawa State            | Operational         | State                |
| 9.  | Banki Border free zone                      | Borno State             | Declaration         | State                |
| 10. | Ladol logistics free zone                   | Lagos                   | Operational         | Private              |
| 11. | Ibom Science & Tech. Park free zone         | Akwa Ibom               | Under cons.         | Public/Private       |
| 12. | Living spring free zone                     | Osun State              | Under cons.         | State                |
| 13. | Airline Services Export Proc. Zone          | Lagos State             | Operational         | Private              |
| 14. | Lekki free zone                             | Lagos State             | Under cons.         | State/Private        |
| 15. | Egbeda free zone                            | Oyo State               | Declaration         | State                |
| 16. | OILSS logistic free zone                    | Lagos                   | Declaration         | State                |
| 17. | Brass LNG free zone                         | Bayelsa                 | Under cons.         | Public/Private       |
| 18. | Abuja Technological village                 | Abuja                   | Under cons.         | Public/Private       |
| 19. | Specialized railway industrial FTZ – Kajola | Ogun State              | Under cons.         | Public/Private       |
| 20. | Imo Guongdong FTZ                           | Imo State               | Under cons.         | Public/Private       |
| 21. | ALSCON FPZ                                  | Akwa Ibom               | Operational         | Private              |
| 22. | Ogun Guandong free Trade zone               | Ogun State              | Operational         | Private              |
| 23. | Sebore farms                                | Adamawa State           | Operational private | Private              |
| 24. | Calabar free port                           | Cross River             | Operational         | Fed. Govt.           |

Source: NEPZA, (2010), ‘Act of Regulation’ Abuja.

### Research Questions

In order to obtain data to address the specific objectives, the following questions were raised.

1. To what extent have the export zones embarked on implementing the incentives that are set out for cashew nuts exporters operating in the zones?
2. What are the effects of poor facilities confronting the export zones in cashew nuts export growth and what are the measures taken to tackle them?
3. What are the effects of bad roads to the export zones and on cashew nuts exportation in Nigeria?
4. What is the impact of cashew nuts exports revenue to the country's GDP?

### Research hypotheses

1. The export zones are not significantly committed to the implementation of incentives accrued to cashew nuts investors in Nigeria.
2. The poor facilities in the zones do not significantly affect the performance of the export zones.
3. Bad roads do not significantly affect the activities of the export zones and exportation of cashew nuts in Nigeria.
4. Cashew nuts export revenue does not have any significant contribution to the country's GDP.

### Review of Related Literature

The establishment of export zones in a sure way to encourage investment and to help improve selling of exportable products abroad, which is one of the ways of helping exporters and contributing to the growth of the economy. The investment promotion of exportation products is the main target for establishing export zones.

Export zones and Export promotion in Nigeria embrace all influences exerted by the market to inform and persuade the customer to purchase the company's products. In this regard, awareness, persuasion, trial, acceptance and preference are obvious intentions of promotion. Promotion can generally play a strategic influential role in purchase decision processes. The stages include, knowledge – awareness, persuasion, purchase decision action, and confirmation. This is illustration in the table below.

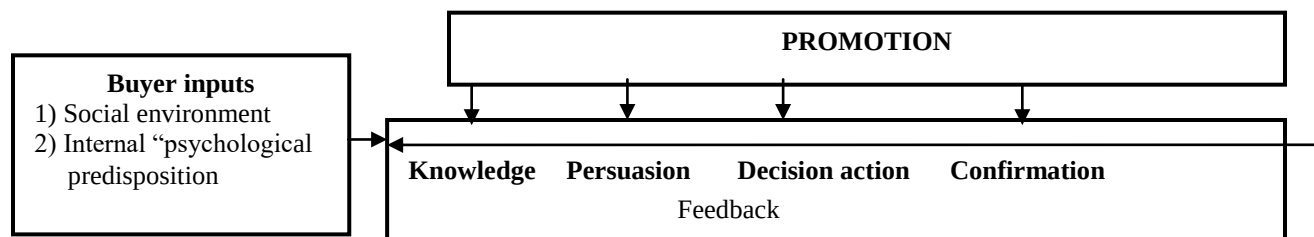


Figure 1: Role of Promotion in Purchase Decision Processes

**Source:** Everett, M. R and J.F Floyd Shoemaker, Communication of Innovation,

P. 101 in Achison C.B (2002:277), Strategic Marketing Management. Enugu, Precision Publishers.

A country specializes on the production and marketing of those goods and services she has relative/comparative advantage. It was on the basis of this law and the prevailing (or just recently) economic circumstances that the Nigerian government and her citizens found that their route to rapid economic growth development lies on the development of her export base (of cashew nuts especially) Export promotion support at federal government level consists of three key elements; first, general support includes a diverse number of publications on market profiles, market strategy plans, market or sector – specific export policies and opportunities, computerized data banks; second, the export consultant in all phases of export marketing. Thirdly, the provision of export designed sub-programmes-government initiated and industry initiated e.g. participation in international trade fairs, individual visits to overseas markets, establishment of export consortia, assistance in setting up overseas sales office, etc.

### Infrastructural Facilities in Nigeria Export Zones

Adedeji (2008) observes that a poor state of infrastructural facilities is facing export zones in Nigeria. The poor infrastructural facilities which affect the export zones in Nigeria includes: epileptic erratic power supply, bad processing plants, bad water, poor telecommunication system etc. as well as delays caused by documentation and customs procedures at ports. (sea and airports) have seriously affected lead time and costs in the cashew industries.

Processing plants suitable for processing cashew nuts are difficult for manufacturing exporters to acquire in this country. They use Italian technology which is too costly and this pose a problem to cashew nuts industry as they at times end up in wasting a lot of products as a result of using local engineers. Telecommunication system is always bad. No exclusive arrangement has been made for water even the one made is not efficient though little water is needed in the cashew industry. The export zones would be a success when the nation improves in the area of quality infrastructures. Nigerian's transportation system is not adequate and bad road network is a big threat to cashew nuts production and exportation in Nigeria.

### **Processing of Cashew Nuts and Exportation**

**Primary Processing:** It involves roasting of nuts through traditional methods. The first cashew nuts processing factory started its operation in Enugu, in the early 70s. This type of processed cashew is consumed and marketed locally.

**Secondary Processing:** It entails a higher level of transformation which targets export markets. The first processing factory for export is "Premier cashew processing industry" at Oghe in Ezeagu Local Government Area of Enugu State. Since the liberalization of the commodity market in 1986, many companies have ventured into cashew nut partnerships with Indians and use Italian (Oltremare) or Indian technology. These technology systems entail nut cleaning, calibration and storage by grading washing and humidification, roasting, centrifugation and cooling. They also involve shelling and kernel shell separation, kernel drying, peeling grading, sorting and packaging for the market, (Jaeger 2008).

### **Problems Associated with Cashew Nuts Production for Exportation in Nigeria.**

One phenomenon is that Nigeria is blessed with abundant natural resources but are still facing problem of mismanagement manufacturing exporters who produce and manufacture these cashew nuts encounter some problems both in the production, processing and in the exportation of cashew nut products (Ezeagu, 2002, Oduwale, and 2001). For the production, processing, and marketing of Cashew and shea, Alabi and Adams (2013) highlighted the following problems:

1. **Diseases and pests:** They are very big problem to manufacturing exporters because they lower production and harvest. It affects cashew most fire outbreak also lowers production which comes up every dry season and coincide with the harvesting season of cashew. This fire outbreak is common in the Guinea savannah ecological zones where cashew production takes place.
2. **Climatic conditions:** The better weather during the plaiting and flowering season, the better, the harvest. When there is a short rainfall and a high sunshine, it lowers the quality of cashew. No crop produces well under a scorching sun.
3. **Land acquisition:** Manufacturing exporters complained to be lacking land where they can practice mass cultivation. Due to land acquisition problem large-scale production and harvest is difficult for them.
4. **Deforestation:** In the cashew producing areas, in particular in the Eastern and Western part of the country, man quest for economic development in terms of construction of roads, houses, schools and other facilities have created serious destruction of economic trees.
5. **High cost of inputs:** Inputs, such as seedlings, pesticides, etc are expensive and most often not accessible to most of the manufacturing exporters. The country lacks these inputs and this situation creates a big problem in the production of cash crops.
6. **Inadequate transportation and handling methods:** Poor harvest handling, inadequate packaging, storage, drying procedure, inadequate transportation are problems and contributes to the low production of cashew nuts. Large quantities of cashew nuts are wasted due to these problems.
7. **Old Trees:** Before deregulation of the economy, the cashew trees were neglected. As a result, no serious efforts were made to replace ageing trees. In old plantations, these trees have outlived their productive years and productivity is low, (Hans 2013).
8. **Low yield varieties:** Most of the existing cashew tree varieties have 'low yields, resulting in low productivity. Research and the introduction on a significant scale of high yielding varieties are low.
9. **Unstable prices:** Prices of both local and international markets impact significantly on production and productivity, good market prices are a strong incentive for farmers, but when prices are low, and even more when they remain depressed for two years and beyond, farmers are frustrated and sometimes destroy the trees.

10. **Lack of awareness on the economic importance of cashew:** Cashew farmers do not realize the value of the nuts and tend to sell the apple, primarily to meet urgent cash needs. The result is that the apples are harvested with immature nuts. This practice contributes to about 40% post-harvest losses of cashew nuts. Consumers of cashew apples throw away most of these unfit for export. This is a serious problem in Nigeria.
11. **High cost of inputs:** Inputs, such as seedlings, chemicals, pesticides etc are expensive and most often not accessible to most of the small holders.
12. **Post-Harvest losses:** Large quantities of cashew nuts are lost due to inadequate transportation, poor post-harvest handling, inadequate packing, storage, drying procedure etc.

## METHODOLOGY

The survey method of research design was adopted. The probability stratified sampling was used due to the large population study area. Data for this study were generated from primary sources with the use of oral interview and questionnaire distribution to both staff and management of export zones in different geographical areas and then exporters of cashew nuts who are investors in the zones. Secondary data was gathered from textbooks, internet, and CBN bulletins. Areas covered by this study are Export Processing zones and cashew nuts investors in three geopolitical areas in Nigeria namely snake Island Integrated (Olam Nig. Plc), Calabar Free Trade Zone (Matnad Industry), Maigatari Border free zone (KD Foods).

The population included the management and staff of the three (3) Export Processing zones and three (3) cashew nuts industries which gave a fair representation of the country. The sample size of 185 was drawn using stratified sampling method.

Table 2: Population Distribution

| Export Zones                            | Population | Cashew nuts industries | Population | Total |
|-----------------------------------------|------------|------------------------|------------|-------|
| South – West Snake Island Integrated    | 449        | Olam Nig. Plc.         | 166        | 615   |
| South – South Calabar Free Trade Zone   | 619        | Matnad industry        | 113        | 732   |
| North – West Maigatari Border Free Zone | 472        | KD Foods               | 131        | 603   |
| Total                                   | 1540       | +                      | 410        | 1950  |

**Source: Field Survey 2014**

### Presentation and Analysis of Data

A total of 185 copies of questionnaire were issued to the export processing zones and cashew nuts industries using proportionality formula. One hundred and forty-seven (147) management and staff of export zones and thirty-eight (38) cashew nuts investors were issued the questionnaire respectively. Thus, one hundred and thirty-two (132) management and staff of the export processing zones and thirty-seven (37) management and staff of cashew nuts investors completed and returned their questionnaire. Data were analyzed using likert 4-point scale for mean values, and percentile method. Simple regressions and ANOVA were applied to test the hypotheses using Microsoft Excel.

## HYPOTHESES TESTING

### Hypothesis 1 (HO<sub>1</sub>)

The export zones are not significantly committed to the implementation of incentives accruable to cashew nuts investors.

Table 3: ANOVA computation table of export zones implementation of incentives using Microsoft Excel

|                             |       |     |         |          |  |  |
|-----------------------------|-------|-----|---------|----------|--|--|
| <b>Anova: Single Factor</b> |       |     |         |          |  |  |
| SUMMARY                     |       |     |         |          |  |  |
| Groups                      | Count | Sum | Average | Variance |  |  |
| Snake 1.1                   | 4     | 55  | 13.7    | 66.91667 |  |  |
| Calabar FTZ                 | 4     | 64  | 16      | 317.3333 |  |  |

|                     |      |    |       |         |         |        |
|---------------------|------|----|-------|---------|---------|--------|
| Maigatari BTZ       | 4    | 50 | 12.5  | 76.3333 |         |        |
| ANOVA               |      |    |       |         |         |        |
| Source of Variation | SS   | Df | Ms    | F       | P-value | F-crit |
| Between Groups      | 50   | 2  | 25    | 0.16    | 0.90454 | 4.26   |
| Within Groups       | 1382 | 9  | 153.6 |         |         |        |
| Total               | 1432 | 11 |       |         |         |        |

**Source:** Result of ANOVA using Microsoft Excel

Degree of freedom in the numerator =  $K - 1 = 3 - 1 = 2$

Degree of freedom in the denominator =  $n - K = 12 - 3 = 9$

Critical value for the F statistics = 4.26

Level of significance = 5%

Decision rule = if the calculated F is greater than the F critical, reject the null hypothesis.

**Interpretation:** In ANOVA table 3b above, the treatment statistic reveals the overall average responses of the three groups and their investor with the mean values of Snake Island Integrated 13.7, Calabar Free Trade Zone 16, Maigatari Border Trade Zone 12.5 which are highly above average.

#### **Decision**

From the table above,  $F_{\text{calculated}} 0.16 < F_{\text{critical}} 4.26$ . the null hypothesis not rejected and is concluded that the export zones were not significantly committed to the implementation of the incentives accrued to the investors.

#### **Null Hypothesis II (HO<sub>2</sub>)**

Poor facilities in the zones do not significantly affected the performances of the export zones.

Table 4a: The condensed outcome of agreement on whether poor infrastructural facilities affected the performances of the export zones.

| Export Zones               | SA | A  | D  | SD |
|----------------------------|----|----|----|----|
| Snake Island Integrated    | 14 | 27 | 8  | 6  |
| Calabar Free Trade Zone    | 18 | 28 | 16 | 2  |
| Maigatari Border Free Zone | 42 | 6  | 2  | 0  |

**Source:** Field Survey 2014

Level of significance 0.05

Test Statistics is the F distribution

SS = Sum of Squares

DF = Degree of Freedom

MS = Mean Sum

Table 4b: ANOVA table on the effect of poor infrastructural facilities using Microsoft Excel

|                             |       |     |         |          |          |        |
|-----------------------------|-------|-----|---------|----------|----------|--------|
| <b>Anova:</b> Single Factor |       |     |         |          |          |        |
| SUMMARY                     |       |     |         |          |          |        |
| Groups                      | Count | Sum | Average | Variance |          |        |
| Snake 1.1                   | 4     | 55  | 13.75   | 89.58    |          |        |
| Calabar FTZ                 | 4     | 64  | 16      | 114.7    |          |        |
| Maigatari BTZ               | 3     | 50  | 16.66   | 485.3    |          |        |
| ANOVA                       |       |     |         |          |          |        |
| Source of Variation         | SS    | Df  | Ms      | F        | P-value  | F-crit |
| Between Groups              | 1568  | 2   | 519     | 10.8     | 0.824278 | 4.26   |
| Within Groups               | 433   | 9   | 48      |          |          |        |
| Total                       | 2001  | 11  |         |          |          |        |

Source: Field Survey 2014

Result of ANOVA using Microsoft Excel

Degree of freedom in the numerator =  $K-1 = 3-1 = 2$ Degree of freedom in the denominator =  $n-K = 11-2 = 9$ 

Critical value for the F statistics = 4.26

Level of significance = 0.05

Decision rule = if the calculated F is greater than the F critical, reject the null hypothesis.

**Interpretation:** In ANOVA table 4b above, the treatment statistics reveals the overall average responses of the three groups and their investors with the mean values of Snake Island Integrated 13.75, Calabar Free Trade Zone 16, Maigatari Border Trade Zone 16.66 which are highly above average.

**Decision**

From the table above, F calculated  $10.8 > F$  critical 4.26. the null hypothesis was therefore rejected and is concluded that poor facilities in the zones significantly affected their performances.

**Null Hypothesis III (H<sub>03</sub>)**

Bad road network do not significantly affected the activities of the export zones.

Table 5a: The condensed outcome of the effect of bad road on the performances of the zones from table 4.9 and 4.21.

|                            |    |    |    |    |
|----------------------------|----|----|----|----|
| Export Zones               | SA | A  | D  | SD |
| Snake Island Integrated    | 30 | 20 | 5  | 0  |
| Calabar Free Trade Zone    | 40 | 20 | 4  | 0  |
| Maigatari Border Free Zone | 23 | 14 | 13 | 0  |

Source: Field Survey

Level of Significance 0.05

Test Statistics is the F distribution

SS = Sum of Squares

DF = Degree of Freedom

Ms = Mean Sum

Table 5b: ANOVA table on the effect of bad roads to the rural areas

|                             |       |     |         |          |          |        |
|-----------------------------|-------|-----|---------|----------|----------|--------|
| <b>Anova:</b> Single Factor |       |     |         |          |          |        |
| SUMMARY                     |       |     |         |          |          |        |
| Groups                      | Count | Sum | Average | Variance |          |        |
| Snake 1.1                   | 3     | 55  | 18.3    | 158.3    |          |        |
| Calabar FTZ                 | 3     | 64  | 21.3    | 325.3    |          |        |
| Maigatari BTZ               | 3     | 50  | 16.66   | 20.2     |          |        |
| ANOVA                       |       |     |         |          |          |        |
| Source of Variation         | SS    | Df  | Ms      | F        | P-value  | F-crit |
| Between Groups              | 1092  | 2   | 546     | 5.63     | 0.942041 | 5.14   |
| Within Groups               | 580   | 6   | 97      |          |          |        |
| Total                       | 1672  | 8   |         |          |          |        |

Source: Result of ANOVA using Microsoft Excel



Degree of freedom in the numerator =  $K-1 = 3-1 = 2$   
Degree of freedom in the denominator =  $n-K = 9.3 = 6$   
Critical value for the F statistics = 5.14  
Level of significance = 0.05

Decision rule = if the calculated F is greater than the F critical, reject the null hypothesis.

Interpretation: IN ANOVA table 5b above, the treatment statistics reveals the overall average responses of the three groups and their investors with the mean values of Snake Island Integrated 18.3, Calanbar Free Trade Zone 21.3, Maigatari Boarder Trade Zone 16.66 which are highly above average.

#### Decision

From the table above, F calculated  $5.63 > F$  critical 5.14. The null hypothesis was therefore rejected and is concluded that transportation problems significantly affected the activities of the export zones and cashew nuts exportation.

#### Hypothesis IV (HO<sub>4</sub>)

Cashew nuts exports revenue does not have significant contribution to the country's GDP.

Simple Regression Equation

$$Y = a + bx$$

Where Y = dependent variable (GDP)

X = independent variable (Cashew nuts revenue)

a= Constant indicating the point of interception with Y axis

b = Parameter (the slope or gradient) that defines the specific relationship between y and x.

Table 6: values of Cashew Nuts Exports Revenue and the GDP Figures from 1990 – 2005

| Year | (X) Cashew Nuts Exports Revenue<br>(₦ million) | (Y) GDP (₦ billion) |
|------|------------------------------------------------|---------------------|
| 1990 | 4.0                                            | 10.3                |
| 1991 | 4.5                                            | 11.7                |
| 1992 | 5.2                                            | 11.0                |
| 1993 | 6.9                                            | 12.5                |
| 1994 | 6.8                                            | 12.6                |
| 1995 | 7.4                                            | 12.7                |
| 1996 | 8.5                                            | 13.6                |
| 1997 | 9.3                                            | 13.9                |
| 1998 | 9.5                                            | 14.3                |
| 1999 | 10.4                                           | 15.6                |
| 2000 | 11.0                                           | 15.5                |
| 2001 | 18.2                                           | 16.5                |
| 2002 | 13.1                                           | 16.1                |
| 2003 | 15.6                                           | 18.2                |
| 2004 | 16.5                                           | 19.1                |
| 2005 | 12.6                                           | 20.4                |
| 2006 | 12.6                                           | 20.6                |
| 2007 | 13.4                                           | 21.1                |
| 2008 | 12.7                                           | 21.4                |
| 2009 | 13.2                                           | 21.6                |
| 2010 | 15.6                                           | 19.7                |

Source: CBN Statistical Bulletin (2011) Vol. 17, Dec.

The cashew nuts exports revenue and GDP figures shown in the table above showed a general increase, though there is a fall in 2002 and continued to rise in 2003. However, this signifies that the contribution of cashew nuts exports



revenue to the GDP shows that the higher the volumes of cashew nuts exports, the more it contributes to the country's GDP.

Table 6b: Simple Linear Regression

|          | Column 1     | Column 2 |
|----------|--------------|----------|
| Column 1 | 1.00         |          |
| Column 2 | 0.9297724495 | 1.00     |

**Source:** Result of correlation using Microsoft Excel

**Interpretation:** From the table, the correlated result 0.93 indicates positive. There is a direct relationship between cashew nuts exports revenue and the GDP index. The value 0.93 is very close to 1.00, so we conclude that the relationship is very strong. That is to say that 5% increase in cashew nuts revenue will likely lead to 5% increase in GDP.

$$r^2 = 0.93$$

t-test for the coefficient of correlation

$$t = r \frac{\sqrt{n-2}}{1-r^2} \quad \text{With } n-2 \text{ degrees of freedom}$$

Using the 05 level of significance, the decision rule states that if the computed "t" falls in the area between + 2.145 and – 2.145, the null hypothesis is not rejected (2.145 – critical value).

$$t = r \frac{\sqrt{n-2}}{1-r^2}$$

$$0.93 \frac{\sqrt{16-2}}{1-0.8649} = \frac{3.4782}{0.1351} = 25.75$$

### Decision

From the foregoing, it is seen that computed "t" 25.75 fall outside the region  $\pm 2.145$ , therefore the null hypothesis is rejected and it could be said that cashew nuts exports revenue contributed significantly to the country's GDP.

## CONCLUSION AND RECOMMENDATIONS

The conclusion which emanated from the findings on the implementation of incentives by the export processing zones revealed that the implementation is at a low level. This show that Export Processing Zones are not significantly committed to the implementation of incentives set out for the cashew nuts investors. Since the incentives are good motivating factors, the export zones should make sure that they carry out their obligations and duly partner with the investors for growth of Cashew export business in the zones.

It was concluded that poor infrastructural facilities significantly affected the performances of the export zones and cashew nuts exportation business. Poor infrastructural scares away investors; therefore, Nigerian government should build and improve the capacity of the Export Processing Zones making sure that every necessary infrastructure are provided in the export zones. Furthermore, bad roads, significantly affected the activities of the export zones and cashew nuts exportation. Bad road is a challenge to the activities of the export zones, therefore roads in Nigeria should be repaired linking the investors, cashew farms, seaports, and airports.

The test conducted to find out the contribution of cashew nuts export revenue to the country's GDP indicates positives result with  $r = 0.93$ . therefore, cashew nuts export revenue had a significant contribution to the country's GDP. Nigerian government should go ahead to map out more lands for cultivation of cashew nuts and to finance them regularly. It is further recommended that, for strategic cashew production development in Nigeria, there should be: -

- Immediate and periodic national cashew survey;
- Ecological protection by the government;
- Establishment of cashew seed garden centres that are accessible and affordable to farmers.
- Constant awareness creation on the economic potentials and health benefits of cashew product consumption.
- Youth encouragement (campaign) in cashew based agriculture and

- Constitution/establishment of cashew development commission and cashew trust fund for the growth of this aspect of agri-business.

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