The Non-Oil Sector and the Nigeria Economy a Case Study of Cocoa Export Since 1960

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Abstract

This study examines the contribution of Non-Oil export to the Nigeria economy and in particular the contribution of cocoa export as a viable facilitator to the transformation of the socio-economic activity of Nigeria for a meaningful development. It emphasizes the immense opportunities and benefits that exist in Non-Oil exports and the fact that Nigerian’s dependence on the oil export as a major contributor to the country’s GDP (gross domestic product) poses a threat to the continued sustenance of the GDP. The study also investigates the trend of cocoa beans export over some regime changes and found that inconsistent policies and inadequate attention given to the agricultural sector is not in the best interest of the country. It observes that investment in cocoa production is likely to boost the GDP and will also offer employment opportunities to the citizenry. It concludes that Nigerian’s involvement in the non-oil export is the most viable alternative to oil as a realistic economic focus and potential sustainer of Nigeria economic development.

Introduction

According to The World Factbook (2011), Nigeria is the single largest entity in West Africa and the most populous black nation in the world. It covers an area of about 923,768 square kilometers, with 910,768 sq km of land of which, 33.02% is arable. From 2011 estimate, Nigeria has 155,215,573 people with a growth rate of 1.935%. By the time the country got her political independence in 1960, agriculture was the main stay of the economy, accounting for about 70% of GDP and about 90% of foreign exchange earnings. Manufacturing, which contributed 3.9% in 1960/61, reached a peak of about 10% in 1981 and, since then, it declined progressively to lowest level of 2.57% in 2006. Crude petroleum became dominant in the Nigerian economy from 1970 and presently accounts for about 40% of GDP, over 95% of foreign exchange earnings, and over 70% of Federal Government revenue source, as well as over 90% of all new investments (Ezirim et al 2010).

In recent time (2000-2005), the GDP growth was about 5.7% and the growth in the non-oil sector contributed about 5.9% of the GDP. However, the sector dominates the supply of foreign exchange and also contributes a large chunk of government revenue. The decline in the agricultural sector performance has been dramatic since the discovery of oil. The manufacturing sector has not performed even better. A few statistics illustrate the poor performance of the non-oil sector. The share of non-oil sector decreased from about 94% in 1970 to about 52% in 2004. The decrease affected all the sectors (agriculture, industry, and services) but in different magnitude. Agriculture’s contribution to GDP declined from about 41% to about 17% over the same period. The decline in the services sector was from about 45% to about 27% during this same period. Nigeria’s non-oil sector is inefficiently servicing the domestic market as non-oil export is negligible (about 1% of the GDP in 2005).

It has also been recognized that sustainable development of the Nigerian economy rests in the diversification of the economy away from oil and gas to non-oil sector and this should be based on the country’s abundant resources and comparative advantage. An analysis of constraints to the high performance of the non-oil sectors identifies low productivity as a precursor to low private returns and which in turn lead to low investment. Weak and unreliable infrastructure, macroeconomic...
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instability, microeconomic risks from corruption and weakness of institutions and regulations to guide investment behaviour are main constraints to the high performance of the economy (World Bank, 2007).

Osuntogun et al (1997) opined that prior to the 1970s, agricultural exports were Nigeria’s main sources of foreign exchange. During this period, Nigeria was a major exporter of cocoa, cotton, palm oil, palm kernel, groundnuts and rubber, and in the 1950s and 1960s, 3% – 4% annual output growth rates for agricultural and food crops were achieved. Government revenues also depended heavily on taxes on those exports. During the period, the current account and fiscal balances depended on the agricultural sector. However, between 1970 and 1974, agricultural exports as a percentage of total exports declined from about 43% to slightly over 7%. From the mid 1970s, the average annual growth rate of agricultural exports declined by 17%. The major cause of this development was the oil price shocks of 1973 to 1974 and 1979, which resulted in large receipts of foreign exchange by Nigeria and the neglect of agriculture. Nigeria soon began to import some of those agricultural products it formerly exported and other food crops it had been self-sufficient in. For example, between 1970 and 1982, Nigeria lost over 96.6% of her agricultural exports in nominal terms (Oyejide, 1986). Domestic food production also declined substantially, causing the food import bill to attain a high of about US$4 billion in 1982. The ballooning imports were financed with oil revenues, which ensured current account positive balances in 1979 and 1980. However, beginning in 1982, the oil market plunged; reducing significantly Nigeria’s ability to finance such imports, and persistent current account deficits began to emerge. Unpaid trade bills also began to accumulate and at a point, foreign suppliers began to dishonor letters of credit originating from Nigeria.

The objective of this paper is to examine the significance of the non-oil sector as a contributor to GDP in Nigeria and particularly the contribution of cocoa beans export as a viable alternative to oil exports for a more realistic economic focus and potential sustainer and facilitator of the transformation of the socio-economic activity of the country.

Literature review

According to Ogunkola et al (2008), in the 1960’s Nigeria’s export trade was largely dominated by non-oil products such as groundnuts, palm kernel, palm oil, cocoa, rubber, cotton, coffee, copra, beniseed and others. Other non-oil exports of significant value then were tin ore, columbite, hides, skin and cattle. Over 66% of total exports on the average were accounted for by these commodities. The same pattern continued into the early 1970s. As a matter of fact, cocoa was the dominant export product at that time contributing about 15% of total exports in 1970. However, oil’s dominance of the country’s export basket began in 1973/74 and was greatly magnified during the 1980s. The crux of the problem was that while oil export was growing, non-oil exports were declining making the dominance much more rapid and pervasive. Teal (1983), estimates that the output of export crops grew at an average annual rate of 4.7% in 1950– 1957 and 7.4% in 1960–1965, then declined by 17.3% in 1970–1975. The transformation of Nigeria from a net exporter of agricultural produce to a large-scale importer of the same commodities was particularly marked during the period 1973–1982 (Oyejide, 1986). The efforts to reverse these trends (begun in 1986) seem to be yielding very few results, as oil continues to dominate the country’s exports. Non-oil exports share of Nigeria’s total exports have remained under 5% for most years since the introduction of the structural adjustment programme SAP.

Ezirim et al (2010), observed that the economy, which was largely at a rudimentary stage of development at the first half of the last century, started experiencing some structural transformation immediately after the country’s independence in 1960. Throughout the 1950’s and 1960’s and the early part of 1970’s, agriculture was the core of economic activities in Nigeria, followed by manufacturing and mining activities at very low levels of development. The massive increase in oil revenue, accruing to the federal government of Nigeria since early 1970s, created an unprecedented, unexpected, and unplanned wealth for Nigeria. In order to make the business environment conducive for new investments, the government began investing the new found wealth in socio-economic infrastructure across the country, especially in urban areas; the services sector grew as well (Adedipe, 2004) in Ezirim (2010). The massive investments in socio-economic infrastructure led to the migration of many able-bodied young men and women from the hinter land to the urban areas and cities took part in the expanding and burgeoning oil-driven urban economy; a situation that created many social problems, such as congestion, pollution, unemployment, and criminal activities. The national currency, Naira, strengthened as foreign exchange inflows outweighed out flows, and external reserves were built up.

To Ajakaiye and Fakiyesi (2009), earnings from non-oil exports, such as finished leather products,
cocoa and its products, sesame seeds and manufactured products like cosmetics and toiletries, rose to about US$1.38 billion in 2007. By the end of 2008, this value rose to $1.8 billion, the highest in the country’s history. To Obeke (2004), gross official external reserves rose by 20% to stand at about $50.75 billion by end-December 2007, as against $42.3 billion in December 2006. In 2008, estimated growth of GDP of 6.77% was higher than that of 2007 (at 6.2%). Growth was again driven by the non-oil sector, especially the agriculture sector, which contributed 39.8% out of the 80.7% total contribution of the non-oil sector to GDP in the first half of 2008. This increased to 60% by the last quarter of 2008. This improvement in its output, especially in the first half of 2008, was attributed partly to moderate weather, especially the early rains experienced in the southern and northern states of Nigeria. Other factors that helped to boost agricultural production included several government intervention measures, like the National Agricultural Project, the National Special Programme for Food Security, zero tariffs on imported agro-chemicals, export expansion grants as well as tightening of controls on illegal imports of agricultural products. The country maintained a balance of payments surplus in 2007, fuelled by the current account surplus. The 2008 half-year report indicated that the trend continued although, judging by the performance of major drivers of the current account, the latter part of the second half of 2008 especially the last quarter was likely to show deep deficit. 

Muhammad and Atte (2006), are of the opinion that the Nigeria’s rich human and material resource endowments give it the potential to become Africa’s largest economy and a major player in the global economy. Compared with other African and Asian countries, economic development in Nigeria has been disappointing, with GDP of about 45 billion, 32.953 billion and 55.5 billion dollars in 2001, 2002 and 2003 respectively and per capita income of about $300 a year, Nigeria has become one of the poorest countries in the world. In view of the importance of agricultural growth to economic growth, Adebayo (1999) in Muhammad and Atte (2006) observed that rising agricultural productivity has been most important concomitant of successful industrialization. A retrospective look into the Nigerian economy and its development reveals that agriculture was both the mainstay of the Nigerian economy and the chief foreign exchange earner (Chigbu 2000)). In the 1960s, agriculture accounted for well over 80 percent of the export earnings and employment; about 65 percent of the GDP and about 50 percent of the government revenue (FRN 2000)). This contribution to the Nigerian economic growth has however declined over the years. The contribution of agriculture according to the Central Bank of Nigeria (CBN) to the GDP was about 50% in 1970 and 34% in 2003 (CBN 2003). Although agriculture no longer serves as the leading contributor to Nigeria’s gross national product and leading foreign exchange earner due to phenomenal growth in the petroleum sector of the economy as (Ingawa 1979) observed, agriculture is still the dominant economic activity in terms of employment and linkages with the rest of the economy (NNPC 2004). While accounting for one-third of the GDP, it remains the leading employment sector of the vast majority of the Nigerian population as it employs two-thirds of the labour force (Chigbu 2000).

**Importance of Non-oil sector**

The impact of the global financial crisis of September 2008 especially, as noted by Ekpiwhre (2008) in Adebile (2010), had its unforgettable effect on Nigeria oil prices. He observed that oil prices fell below $50 a barrel from its peak of $147 a barrel in July 2008. Nigeria depends precariously on oil revenues no wonder the government became jittery when the oil prices fell below the $58 per barrel set for the 2008 budget. Pressures from the expectation that oil prices could slide further down forced the federal government to reduce the 2009 budget benchmark to $45 per barrel (Business Day, November 24, 2008) in Bimbola (2010). More than 85 per cent of the monthly allocations to federal, state and local governments are derived from oil revenues as the falling oil prices could reduce the amount of monthly allocation in the years ahead. To Oyesola (2010), the biting effect of the global economic meltdown on the Nigerian economy and its implications on employment has been very devastating. From the banking sector to the manufacturing, oil and gas, and the informal sectors, none is insulated from this problem. Most companies trying to find a way out, or around the logjam, have tried outright retrenchment, downsizing, rightsizing, outsourcing and so on. To Ajakaiye and Fakiyesi (2009) the Nigerian economy, prior to the financial crisis which started in the US in August 2007 performed below projection, with an estimated GDP growth of 6.2%. This figure, below the set target of 10%, was still higher than the 6.0% recorded in 2006. This growth was driven primarily by the non-oil sector, which grew by 9.6% (CBN, 2008), largely attributable to the agriculture sector, which grew by 7.4%, led by crop production, livestock and fishing. Other drivers of growth in non-oil GDP included wholesale and retail trade, building and construction and services, which recorded growth rates of 15.3%, 13.0% and 9.8%, respectively. Industrial output fell by 3.5%, attributable mainly to the 5.9% drop in crude oil production occasioned by the Niger Delta crisis. By year-end 2007, the
crude oil production shut-in stood at 0.9 million barrels a day. Official confirmation from the Nigerian National Petroleum Company (NNPC (2004)) showed that the country lost N16.9 billion to petroleum pipeline vandalism. The downstream sector of the petroleum industry remained comatose and the country relied on imported refined petroleum products for domestic and industrial operations. By end-September 2007, the Manufacturers Association of Nigeria (MAN) reported a drop in manufacturing capacity utilisation from 44.06% in 2006 to 43.5% owing to the difficult operating environment. The industrial sector made a negative contribution of 0.78 percentage points. The agriculture sector, on the other hand, contributed almost half of the GDP growth rate of 6.2%.

Effort of Government in Promoting Non-oil Sector
The period 1970–85 witnessed more direct government intervention in agriculture in the face of the noticeable decline in agriculture performance. A variety of policies were introduced. Macroeconomic policies became expansionary, including direct government involvement in agricultural production; incentives were introduced, including low tariffs on agricultural inputs. The period witnessed the establishment of many new agricultural institutions and programmes. Notable were the Nigerian Agricultural and Co-operative Bank (NACB) in 1973 and the Agricultural Credit Guarantee Scheme Fund (ACGSF) in 1978, established to provide agricultural finance. During this period, World Bank-assisted ADP’s were introduced in a number of states. The programmes were designed to provide an integrated approach to agricultural and rural development. River Basin Development Authorities were also established to provide all-year-round water through irrigation to farmers. More research institutes were established during this period. In anticipation of the increased agricultural output arising from these projects and Operation Feed the Nation (OFN), there was a reorganization of marketing boards, which gave rise to the grain boards.

In 1986, SAP was introduced and this lead to the liberalization of Nigerian agricultural exports, including the scrapping of the commodity boards and deregulation of the entire economy. During the period 1986–99, which combines the SAP and post-SAP era, market-oriented and not so market-oriented agricultural development policies and programmes were introduced. River Basin Authorities were restructured from 21 to 11; the Directorate of Food Roads and Rural Infrastructure (DFRRRI) was established, as well as the National Agricultural Insurance Corporation and Peoples’ Bank. Farm input supply policy was actively pursued during this period. Trade liberalization was an important aspect of SAP. Abolition of import and export licensing and exchange control measures took place. With these reforms, export earners became entitled to 100 per cent of their foreign exchange earnings provided these were kept in a domiciliary account. Thus, agricultural producers had an incentive to boost their exports. The Export Incentive and Miscellaneous Provisions Decree of 1986 was enacted, through which the CBN could provide refinancing and discounting facilities to commercial and merchant banks to encourage them to provide credit and risk-bearing facilities in support of exports. This subsequently led to the establishment of the Nigerian Export Credit Guarantee and Insurance Corporation in 1988, which was subsequently renamed the Nigerian Export–Import Bank (NEXIM). The institution actually commenced operations in 1991. Perhaps the most visible and pervasive policy under SAP is the naira exchange rate devaluation.

An assessment of the effect of the trade policy reforms suggests that these have indeed been beneficial to agricultural exports. While devaluation boosted exports, liberalization of export and pricing mechanisms brought about convergence of domestic prices with world export values. For example, the ratio of producer prices to export prices for cocoa and palm kernel converged significantly and sometimes went above 100 per cent, indicating that exporters were paying farmers prices that were above world market prices. This practice was common among Asians who wanted to beat foreign exchange repatriation regulations in Nigeria until 1994. From 1995 to 1999, prices began to diverge noticeably, to the extent that the implicit tax was above 50 per cent (that is –0.56 to –0.80), particularly for rubber, cotton, groundnut and palm kernel. Some may attribute the latter trend to the reversal in effective implementation of the SAP from 1994 (Adubi and Okunmadewa, 1999).

Methodology and Data
The method adopted in this paper is a descriptive one. It examines the trend of cocoa bean production and export from Nigeria between 1961 and 2009. The data used were obtained from Food and Agriculture Organization (FAO) of the United Nations Statistics Division covering forty nine (49) years. From the above, it is clear that the contribution of agriculture to the economy cannot be over emphasized. The agriculture sector serves as input to industries and provides employment opportunities. Able-bodied men have since left the sector for the industrialized urban cities. After petroleum, cocoa is the country’s most important export
Typical Cocoa Production in Nigeria
To Joseph (2010), Ondo State is the highest cocoa producing State in Nigeria and Iloro-Idanre is the hub of cocoa production. Iloro-Idanre is a typical West African cocoa-growing community situated within the tropical rainforests, far away from the hustle and bustle of an urban city life. In Iloro-Idanre, the cultivation of cocoa starts with the preparation of the nursery sites usually prepared locally with bamboo posts and palm fronds used as the framework to provide adjustable shade (Figure 3). Young cocoa plants are established in the field in-between plantain shoots and under old plantations or under other tree crops such as citrus (Figure 4). In Iloro-Idanre community, pruning of cocoa farms starts at the outset of the rainy season around March. Farms are weeded two to three times in a cocoa season starting from April. An average farm size per farmer is about 2 hectares, or 5 acres, and yield varies from a range of 600kg to 1000kg of dried cocoa beans per hectare. The main harvest period in Iloro-Idanre is from October to December which is a very crucial stage in cocoa production. Only ripe pods are ideal for harvesting for sustainability and good quality cocoa beans after drying. Ripe pods are harvested and heaped on the farm (Figure 5). They are broken, fermented and dried on rectangular concrete slabs (Figure 6). According to Corporate Nigeria (2011), fourteen of Nigeria’s 36 states grow cocoa: Abia, Adamawa, Akwa Ibom, Cross River, Delta, Edo, Ekiti, Kogi, Kwara, Ogun, Ondo, Osun, Oyo and Taraba. The key agricultural export destinations are the UK, the US, Canada, France and Germany. There are three broad types of cocoa - Forastero and Criollo, as well as Trinitario, a hybrid of the two. Within these types there are several varieties. The Forastero variety, Amelonado is most widely grown in West Africa and Brazil.

Cocoa Bean Export from Nigeria Between 1961 and 2009
Taking a cursory look at the trend of export from Nigeria since 1961, we observe from Table 1a that the value of export of cocoa beans dropped between 1970 and 1983 to an average of 221,145,600 dollars. This was actually the period when oil became the major contributor to the national GDP. The larger part of the period was also ruled by the military. The short civilian regime of 1979 to 1983 brought a drastic drop in the export value of cocoa beans to an average of 161,744,000 dollars. Between the period 1984 and 1999 however, the export value rose tremendously to an average of 259,608,560 dollars showing a more aggressive drive towards a resolution to give agricultural products political attention. By the second appearance of the civilian rule of 1999 to date, the government seems to have determined to make non oil sector indeed agriculture and in particular cocoa beans a major contributor to the Nigerian economy as the value rose to an average of 400,917,000 dollars. Although the export value of cocoa beans has been volatile much more in the periods 1970 – 1979 and 1984 – 1999, export values were more consistent during the civilian era. The maximum values of cocoa beans export from Nigeria increased over the periods covered from 309,781,000 dollars in pre-1970 to 503,666,000 dollars in 2000 – 2009 expect for the period 1980 – 1983 which could be attributable to the sample size. The same can be said of Ghana that had a maximum of between 602,842,000 dollars to 768,481,000 dollars the drop in 1970 – 1979 notwithstanding.

Skewness and kurtosis are measures of normality of distributions. Skewness is expected to be zero while kurtosis is expected to be 3 for a normal distribution. Values for these measures from Tables 1a and 1b do not meet these conditions. This is in line with the nature of data involved. Cocoa beans export values as time series data are not expected to exhibit normality characteristics because values are serially correlated.

From figure 1, the trend of cocoa beans export is obviously predictable; export values followed a downward trend between the years 1961 and 1985. It significantly made an upward trend from 1986 through 2009. Although exports are much more volatile within this period, it is an indication that the factors affecting exportation of the product are dynamic and if annexed could be beneficial to the country. Figure 2 shows the graph of the first difference of log (export value), it shows that Nigerian cocoa export value was volatile between 1961 and 1972 and between 1987 and 2003.

Discussion and Recommendation
Adeniyi (2011), the 1982 estimate of the world’s largest producers of cocoa puts Cote d’Ivoire as the world’s largest producer with 25 per cent of the world production, closely trailed by Brazil (22%), Ghana (10%), Nigeria (8%) and Cameroon (about 7%), though Nigeria was only second to Cote d’Ivoire at independence but was displaced by more serious nations that knew the economic value of the crop and importance of a diversified economy. At present, International Cocoa Organisations’s (ICO’s) data show that Nigeria produces a paltry 5% of the world production, while Cote d’Ivoire, Ghana, Indonesia, Brazil and Cameroon produce 38%, 21%, 13%, 4% and 5% respectively.

The potential of Nigeria to become one of the world leading cocoa producers is evident in the descriptive analysis given in Table 1a. In fact,
Nigeria can surpass Ghana when factors that serve as impediments to Nigeria’s cocoa production are solved. In the table, the two countries suffered reduction in exports between 1980 and 1983 as they recorded only 161,744,000 dollars and 232,179,250 dollars respectively. Nigeria was able to bounce back even higher than it had in previous regimes with 259,608,560 dollars in the period 1984-1999 as against 231,086,330 dollars in the pre-1970 and 221,145,600 dollars in the period 1970-1979. This surge is attributable to the effort of government to boosting agricultural products especially the SAP policy an attempt to arrest embarrassments occasioned by the fall in petroleum prices. The maximum values of cocoa beans export from Nigeria over previous periods could be set as benchmarks for future production and exports if the conditions working in favour of the production and export are sustained. Cocoa export like crude oil exports are volatile but control measures as it is done by OPEC for crude oil exports can be put in place to stabilize cocoa beans export values.

By The Central Intelligence Agency (CIA) World Factbook (2011), Ghana covers an area of 238,533 sq km while Nigeria covers a total area of 923,768 sq km (3.87 times the size of Ghana). By 2005 estimates, Nigeria has a total land area of 910,768 sq km, with 33.02% being arable land while Ghana has land area of 227,533 sq km, with only 17.54% being arable. With the vast arable land in Nigeria, she has not been able to meet Ghana’s export value records as it continues to rake in billions of foreign exchange earnings year in year out. It has also attracted foreign direct investments, especially with the recent opening of $5m cocoa processing factory by Cargill, an American food company in the country. Nigeria should study the approach of Ghana and other cocoa producing countries for enhanced efficiency in cocoa beans production and export.

The Nigerian economy is one of the least competitive globally and even in Africa because of inappropriate policies and an unfavourable business environment. On several of the ‘doing business indicators’, Nigeria performs poorly when compared with most other economies including low-income economies in Africa. The World Economic Forum (WEF) 2006 report ranks Nigeria 88 out of 117 countries on its global competitiveness indicators (GCI). Despite the large domestic market, only a small proportion of producers have been able to develop into sizeable businesses are able to compete internationally, as shown by the long-term decline in non-oil exports. Total factor productivity (TFP) growth has been low and appears to have fallen consistently between 1970 and 2000 (World Bank, 2006).

Increases in productivity per capita have been negligible. In agriculture, yields have been falling and, in manufacturing, there is considerable unused capacity (World Bank, 2006). It is instructive that, over the decades, countries such as Indonesia had both increases in capital per worker as well as increases in TFP, while Nigeria had declines in TFP and negligible increases in capital per worker.

Empirical evidence shows that agricultural exports can be as lucrative and profitable as any other sector of the Nigerian economy with respect to returns on investment. The discrimination against agriculture should stop, and investment should be channeled to agriculture because it has high potential for employment, food security and exports. The reform agenda of government should be systematic and sustained. In the short run, the strategy of the government should be to improve the competitiveness of Nigerian agriculture in domestic and regional markets (World Bank, 2006). As agricultural growth will continue to be led by smallholder farmers, policy-makers should take bold action to: (i) improve research and development investment in agricultural research; (ii) improve markets, infrastructure and institutions; (iii) improve irrigation capacity; (iv) strengthen the agricultural input supply systems. These actions will go a long way to improving agricultural growth and exports and cocoa beans in particular. A longer term strategy would be to restore the competitiveness of traditional exports and promote newer, high-value crops. For this to succeed, improvement in the investment climate will be crucial so that large-scale investment can be made. Attention given to cocoa production will open opportunities for investment in allied industries which will invariably bring employment to the people. The panic usually envisaged during oil price fluctuations will fizzle out if adequate attention is given to our comparative advantage in agriculture. There is also the need for a guiding and monitoring system, which would minimize the negative impacts of trade policies at the grassroots level. Such policies and programmes could be in the form of developing disease resistant and early maturing varieties of cocoa, educating and sensitizing the Farmers’ Associations and developing rural infrastructures (roads, water supplies, health centres, schools, etc.). These will improve the living standards of the rural people that produce these crops.

References

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Appendix

Table 1a: Net Production Value (constant 2004-2006 1000 I$)

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<thead>
<tr>
<th>Nigeria</th>
<th>DESCRIPITIVE STATISTICS</th>
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<tr>
<td>Mean</td>
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<td>Standard Deviation</td>
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<td>Count</td>
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Source: FAO Statistics Division 2011, Authors Calculations. Units in 1000 I$)

Table 1b: Net Production Value (constant 2004-2006 1000 I$)

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<th>Ghana</th>
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<tr>
<td>Minimum</td>
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<td>Maximum</td>
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Source: FAO Statistics Division 2011, Authors Calculations. Units in 1000 I$)

Figure 1: Cocoa export values by Nigeria and Ghana between 1961 and 2009
Figure 2: Graph of first difference of logarithm of Nigeria Export Value 1961 and 2009

Figure 3: A typical cocoa nursery in Iloro-Idanre community

Figure 4: Young cocoa established under citrus at Iloro-Idanre

Figure 5: Heap of cocoa pods after harvest
Figure 6: Drying of cocoa beans on concrete slabs in Iloro-Idanre