

## Research Paper

# Natural Rubber: An Alternative to Nigeria's Economic Diversification

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The oil boom of the 1970s led Nigeria to neglect its strong agricultural and light manufacturing bases in favor of an unhealthy dependence on crude oil. Presently, the country is suffering from a declining as well as fluctuating income from its heavy dependence on oil exports. In Nigeria, agricultural exports have played a prominent role in economic diversification by providing the needed foreign exchange earnings for other capital development projects. This Paper examined Natural rubber as an alternative to Nigeria's economic diversification. Secondary data from the Food and Agricultural Organization (FAO) Statistics and Central Bank of Nigeria (CBN) Annual Report of various years were used. Data were analyzed using frequencies and line graphs. The study employed annual time series data covering the period from 1960 to 2013. This period is categorized into four eras (i) 1960-1970 (pre 1970) (ii) 1970-1985 (pre SAP era) (iii) 1986-1994 (SAP era) and (iv) 1995-2013 (post SAP era). The result of

the analysis showed among others that natural rubber recorded a decline in the pre SAP and post SAP eras. The decline was associated with mass migration from agriculture in the rural areas to urban areas in search of non-farm jobs. With ageing farm population and plantations, productivity was on the decline. The situation was however exacerbated by exchange rate induced high cost of farm inputs, given Nigeria's import dependence. It is recommended among others that for production of natural rubber to increase through cost reduction, the naira exchange rate policy of government would need to be re-examined and a need to review Government's price input subsidy and also mechanism should be strengthened to ensure access to these inputs.

**Keywords:** Economic diversification, Nigeria, Natural Rubber

## INTRODUCTION

The Nigerian non-oil sector is meant to be among the most robust in the world because of the extent of the abundant natural resources that cut across agriculture, solid minerals; gas and waterways for tourism that are yet to be explored, coupled with talented human capital (Adeloye, 2012). The oil boom of the 1970s led Nigeria to neglect its strong agricultural and light manufacturing bases in favor of an unhealthy dependence on crude oil. In 2002 Oil and gas exports accounted for more than 98 percent of export earnings and about 83 percent of Federal Government revenue (Adeloye, 2012). The petroleum-based economy of Nigeria with political instability, corruption and poor macro-economic management is undergoing substantial economic reform

following the restoration of democratic rule in 1999. The economy has overdependence on the capital-intensive oil sector, which provides less than 25 percent of GDP, despite providing 95 percent of foreign exchange earnings, and about 65 percent of government revenues. The largely subsistence agricultural sector has not kept up with rapid population growth, and Nigeria, once a large net exporter of food, now imports some of its food products.

In Nigeria, agricultural exports have played a prominent role in economic diversification by providing the needed foreign exchange earnings for other capital development projects. Agricultural export was the engine of growth prior to 1973, providing much of the revenue that the

government used in developing basic infrastructure system. Agricultural export also financed the import substitution industrialization programme. Olayide and Essang, (1976) observed that Nigeria's export earnings from major agricultural crops such as cocoa, natural rubber and oil palm contributed significantly to the Gross Domestic Product (GDP). In terms of contribution to GDP, agriculture was the leading sector in the 1950s and 1960s. In the pre- 1970 era, agricultural output accounted for 59 percent of GDP. Table 1 and Figure 1 show the share declined significantly from the 1970s. In 1970-85 it declined to 35.06 percent, a period which marked the watershed in Nigeria's economic history through the 1973/74 crude oil price shocks. Similarly, Ekpo and Egwaikhide (1994) observed a long-term relationship between agricultural exports and economic diversification which in turn leads to economic growth in Nigeria. At present Nigeria has lost its role as one of the world's leading exporters of agricultural commodities. In addition, the country is currently suffering from a declining as well as fluctuating income from its heavy dependence on oil exports. This study therefore aims to examine Natural rubber: an alternative to Nigeria's economic diversification with the following specific objectives:

- (a) To determine percentage distribution of Agriculture to Nigeria's GDP
- (b) To determine the contribution of natural rubber to Agricultural exports.
- (c) To determine the output and export of natural rubber
- (d) To determine International and domestic prices of natural rubber
- (e) To recommend policy issues that will position natural rubber as an alternative for economic diversification.

## METHODOLOGY

Data used were sourced from the Food and Agricultural Organization (FAO) Statistics and Central Bank of Nigeria (CBN) Annual Report of various years. The main type of data used in this study was secondary. The study employed annual time series data covering the period from 1960 to 2013. This period is categorized into four eras (i) 1960-1970 (pre 1970) (ii) 1970-1985 (pre SAP era) (iii) 1986-1994 (SAP era) and (iv) 1995-2013 (post SAP era). Data were analyzed using frequencies and line graphs. Graphs were used to depict the trend of percentage distribution of agriculture to Nigeria's GDP, the trend of contribution of natural rubber to agricultural export, the trend showing the output and export of natural rubber and the line graph showing international and domestic prices of natural rubber.

## RESULTS AND DISCUSSION

### Percentage distribution of agriculture to Nigeria gross domestic product

Possible reasons that led to a favourable value during the Pre-1970 era were (i) Agriculture was seen as a private sector business with minimum government intervention (ii) The agricultural economy was more inward looking and self-reliant by depending on local resource while also ensuring self-sufficiency in food production and supply of raw materials to industries (Manyong *et al*, 2005) (Table 1 and Figure 1).

### Contribution of natural rubber to agricultural exports

The introduction of petroleum in the mid –1960s into the nation's export scene changed the composition and structure of the export trade. In 1960, oil contributed just 2.6% to the foreign exchange earnings. Revenue generated from oil increased from ₦4, 565.1 million in 1975 to ₦6, 621,758.1 billion 2005. On the other hand, the relative share of the agricultural sector in foreign earnings steadily declined from an average of 9.11% in the 1970-1975 periods to 1.76% between 1995 and 1997. Olomola, (1995) and Yusuf, (2000) attributed this decline in Nigeria's agricultural export earnings to the discovery of crude oil and rural-urban migration. Table 2 and Figure 2 show the contributions of natural rubber to total agricultural exports in Nigeria from 1970 to 2013. It was categorized into 4 periods: namely, the pre 1970 era, pre-SAP, SAP and post-SAP. The contribution of rubber to total agricultural export in the pre-1970 era was 9.4%, pre-SAP era was 5.8%. The value of contribution of rubber to total agricultural exports increased to 22.7% in the SAP era. A slight reduction was observed in the contribution of rubber to the total agricultural exports in the post-SAP era with 12.7%. Obviously the impact of SAP could have been responsible for the increased contribution of natural rubber to the total agricultural exports in the SAP era.

The dramatic decline in agricultural exports is worrisome. Stated agricultural development objectives of government right from the First National Development Plan, which have been re-echoed in the Structural Adjustment Programme document and the Rolling Plans include increased production and processing of export crops with a view to increasing their foreign exchange earning capacity and further diversify the country's export base and sources of foreign exchange earnings.

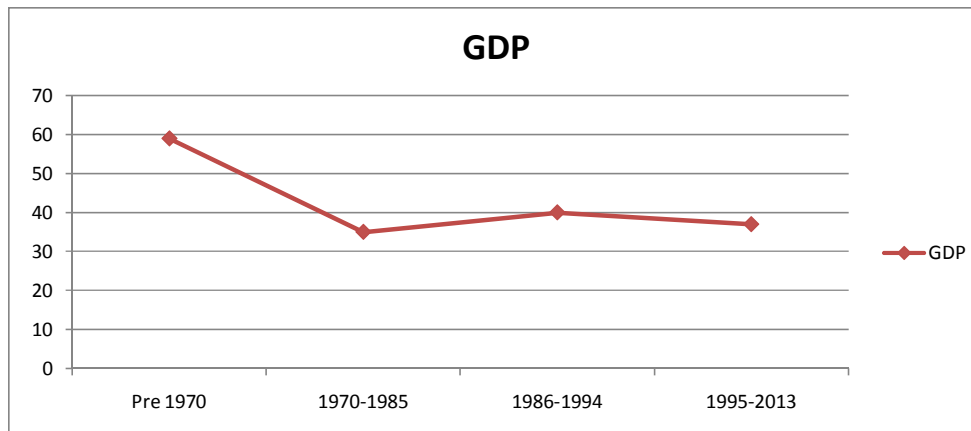
### Output and export of natural rubber

Output needs to first grow before exports can take place. Economic diversification is influenced greatly by increase in production of export crops like natural rubber. It is

**Table 1.** Percentage of distribution of agriculture to Nigeria's GDP at 1984, 1990 and 2010 constant basic prices.

Year	Contribution by percentage
Pre 1970 era	59.0
1970-1985 (Pre-SAP)	35.06
1986-1994 (SAP)	39.74
1995-2013 (Post SAP)	36.70

Source: CBN Annual Report of various years.

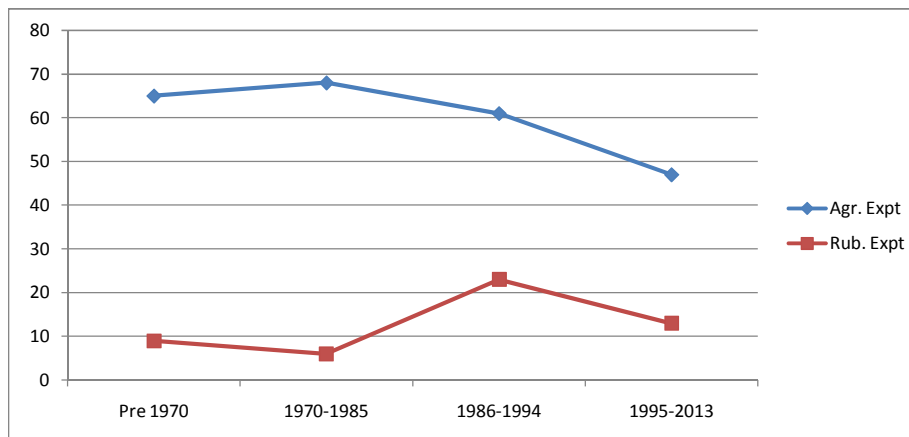


**Figure 1.** Line graph showing contribution of Agriculture to GDP.

**Table 2.** Contribution of natural rubber to agricultural exports

Year	Agric. exports (% of non-oil exports)	Contribution of natural rubber to Agric. Exports
Pre-1970 era	65.0	9.4
1970-1985 (Pre-SAP)	67.8	5.8
1986-1994 (SAP)	61.4	22.7
1995-2013 (Post SAP)	47.4	12.7

Source: CBN Statistical bulletin, 2005, 2010 and 2015.

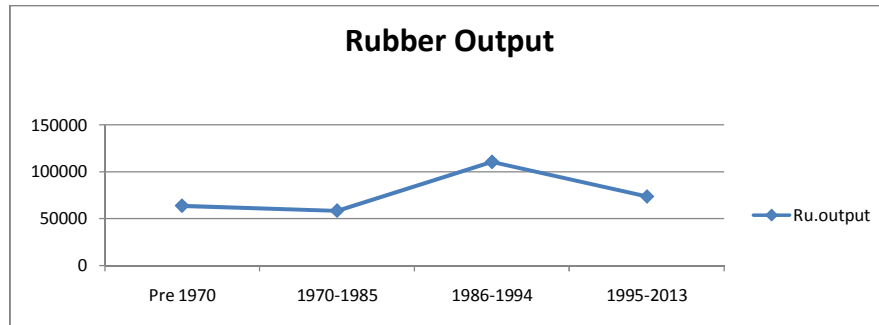


**Figure 2.** Line graph showing the contribution of natural rubber to agricultural export.

**Table 3.** Output of natural rubber in Nigeria

Year	Output of natural rubber (mt)
1961-1969 (Pre-advent of crude oil)	63,780.00
1970-1985 (Pre-SAP)	58,528.06
1986-1994 (SAP)	110,422.22
1995-2013 (Post-SAP)	73,531.57

Source: CBN Annual report of various years.

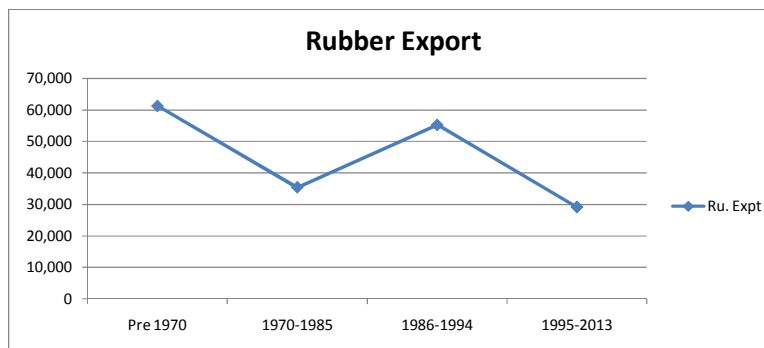


**Figure 3.** Line graph showing rubber output.

**Table 4.** Export quantity of natural rubber.

Year	Export quantity of natural rubber
Pre 1970	61,311.00
1970-1985 (Pre-SAP)	35,439.81
1986-1994 (SAP)	55,286.78
1995-2013 (Post-SAP)	29,150.05

Source: CBN Annual Report of various years.



**Figure 4.** Line graph showing rubber export.

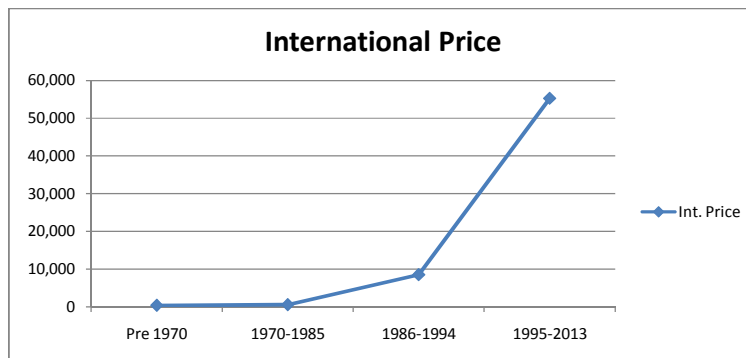
sometimes argued that lower export growth could be attributed to government’s emphasis on local processing of some of these produce. However, besides this, Garba, (2000) shows that the implementation deviation was persistent and volatile, in addition to being consequential. Table 3 shows the output of natural rubber in the pre-1970, pre-SAP, SAP and post SAP eras. There was a reduction in output of rubber from 63,780 mt (pre 1970) to

58,286 mt(pre SAP). A possible reason for the reduction of rubber production from the Pre-1970 era to the Pre-SAP era was the increasing migration of able-bodied youths from the rural to urban areas. (Manyong *et al*, 2005). A comparison of( Tables 3-4 and Figures 3-4) show a fluctuating trend in both output and export of natural rubber .An observation shows that there was a drop in output and export of natural rubber from the SAP

**Table 5.** International price for natural rubber.

Year	International price (N/T)
Pre 1970	305.50
1970 -1985 (Pre-SAP)	477.06
1986-1994 (SAP)	8,440.33
1995-2013 (Post-SAP)	55,275.55

Source: CBN Annual Report of various years.

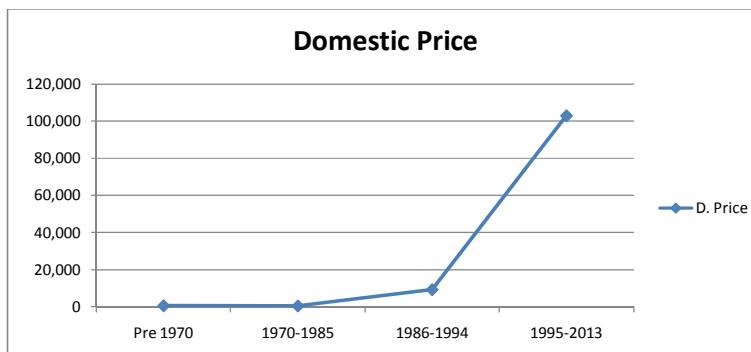


**Figure 5.** Line graph showing international price of natural rubber.

**Table 6.** Domestic price of natural rubber.

Year	Domestic price (N'000/T)
Pre 1970	597.60
1970-1985 (Pre-SAP)	463.06
1986-1994 (SAP)	9,267.33
1995-2013 (Post-SAP)	103,093.32

Source: CBN Annual Report of various years.



**Figure 6.** Line graph showing domestic price of natural rubber.

era to the post SAP era. There is need to increase production of natural rubber that will encourage the exportation of same so as to enhance Nigeria's foreign earnings.

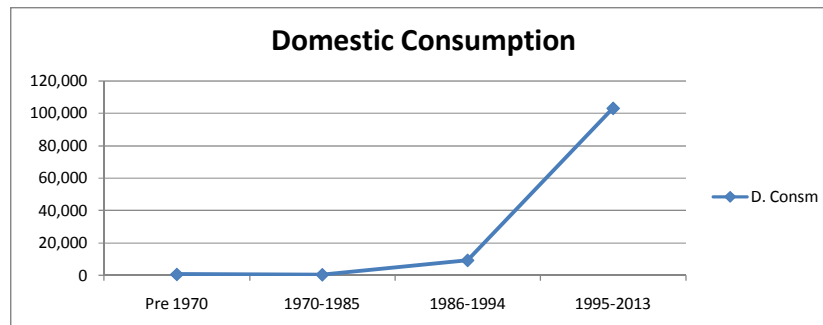
**International and domestic prices of natural rubber**

A close observation of the trend in Table 5 shows a remarkable increase in world price in the post SAP era. The world market price is a reflection of sudden market disruption that may affect export, supply, domestic demand and supply. As can be observed in (Tables 5- 7 and Figures 5-7), the increase in naira value of world

**Table 7.** Domestic consumption of natural rubber.

Year	Domestic consumption (mt)
Pre 1970	2,469.00
1970-1985 (Pre-SAP)	24,775.75
1986-1994 (SAP)	55,135.44
1995-2013 (Post-SAP)	44,381.52

Source: CBN Annual Report of various years.

**Figure 7.** Line graph showing domestic consumption.

market prices similarly translated to increases in producer prices of rubber. Overtime, there is an increasing trend in the producer's price of natural rubber as observed in Table 6. The trend could be a reflection of various policies of government prevailing during that period e.g. Structural Adjustment Programme, Operation Feed the Nation, The Green Revolution and the recent Presidential Initiatives on rubber. There is no doubt that the tremendous boost in producer prices was due to naira devaluation

### **Recommendation of policy issues that will position natural rubber as an alternative for economic diversification**

First, natural rubber recorded a decline in the pre SAP and post SAP eras. The decline was associated with mass migration from agriculture in the rural areas to urban areas in search of non-farm jobs. With ageing farm population and plantations, productivity was on the decline. The situation was however exacerbated by exchange rate induced high cost of farm inputs, given Nigeria's import dependence. Therefore, to boost production through cost reduction, the naira exchange rate policy of government would need to be re-examined. Since the period covered in this paper, naira exchange rate has further depreciated to as much as N360 to the dollar. If not arrested this would further aggravate the problem of production cost in agriculture. It is not enough to expect that depreciation would boost export price.

Second, the bulk of agricultural export crop producers are smallholder farmers. Studies have found that a large

percentage of them are among the poor (FOS, 1999). What this suggests is that majority of them may not be able to afford exchange rate-induced farm input prices. It is in this respect that government's input price subsidy would go some way to reduce production cost faced by these farmers. In this respect, it is not sufficient to re-introduce input price subsidy, mechanism should be strengthened to ensure access to such inputs by small farmers. The mechanism at present encourages much leakage to non-intended beneficiaries.

Third, rubber production technology is dynamic. Much of the technologies employed in the days of rubber export output growth are no longer efficient today. Adoption and management of modern technologies, including rubber clonal varieties, depends on adequate knowledge about them. Smallholder farmers, who are largely illiterates, would need much enlightenment to see the economic benefits of modern technologies. It is in this regard that provision of extension services would need to be revived and reinvigorated, both in terms of quantity and quality. Fund is the bottom line, and with World Bank support this could be revived, if the political will is there on the part of government.

Finally, agriculture has suffered from mass migration. There is need for a general policy package to induce the youth back to agriculture. An ageing population is becoming less adaptive to modern agricultural technologies and incentives. A young population would, therefore, be very vital for resuscitating agricultural production, including for rubber exports. Policy package which makes agriculture more profitable and attractive, and less laborious would attract the youth back to agriculture.

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