

## Case study

# Decline in Activities in Nigeria Rubber Industry: A Case For Government Intervention

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Received 8 August 2016; Accepted 22 August, 2016

This Paper examined the decline in activities in the rubber industry. Specifically the Paper highlighted activities in the area of production, processing factory and hectareage planted to natural rubber. Primary and secondary data were used. The data revealed a fluctuating pattern in production of natural rubber, the hectareage also revealed a reduction in hectareage planted to rubber from 247,000 ha in the 1970s to 103,313 ha in 2016. Number of processing

factories has equally reduced from 57 to 41. The suggested intervention among others is the need to urgently embark on systematic rehabilitation/replanting of at least 25 per cent or more of the existing plantations over the next 3 years.

**Keywords:** Decline, Rubber, Industry, Intervention

## INTRODUCTION

Despite the prominent role of the petroleum sector in the Nigerian economy, agriculture remains the mainstay of the national economy. Agriculture contributes the largest share of Gross Domestic Product, GDP. It is the largest non-oil export earner, largest employer of labour, and a critical contributor to wealth creation, and poverty alleviation, as about 70 percent of the population derives its income from agriculture and related activities (Idumajogwu 2005).

### State of the rubber industry

Natural rubber is an important agricultural and industrial raw material. It has something to do with virtually every aspect of human endeavour, especially transportation (tyres), war logistics, domestic appliances, health industries,

construction industries, machinery, equipment and dressing outfits. Its production from the rubber tree (*Hevea brasiliensis* Muell-Arg) plays a major role in the socio-economic activities of many developing countries. Some of these roles include employment, raw materials for industries and income for the people (Aigbekaen et al., 2005). By 1925, there were about 1000 hectares of natural rubber estates but exclusively owned by Europeans mostly in the south western part of Nigeria now Edo and Delta state. Gradually the planting of rubber spread across the rain forest belt of Nigeria. Up to mid-60s Nigeria was the largest producer of Natural rubber in Africa before the discovery of crude oil. In 1966 a total of about 77,000 tonnes of natural rubber was produced representing 3.2 percent of the total world output and 34.5 percent of Africa's production (Bassey, 2003). However, the introduction of Petroleum in the mid-1960s

**Table 1.** Data on Natural rubber production from producing countries.

Y e a r	2 0 0 3	2 0 0 4	2 0 0 5	2 0 0 6	2 0 0 7	2 0 0 8	2 0 0 9	2 0 1 0	2 0 1 1	2 0 1 2
Thailand	2860093	3006720	2979722	3070520	3024207	3166910	309028	3051781	3348897	3500000
Indonesia	1792350	2065820	2270891	2637231	2755172	2751286	2440347	2734900	2990200	3040400
Malaysia	985600	1168700	1126000	1283600	1199600	1072400	857019	900000	926000	970000
Vietnam	363500	419000	481600	555400	605800	660000	71130	751700	789635	863773
India:	711650	749665	802625	852895	825345	864500	831400	862000	800000	805000
C h i n a	565045	574739	513618	537982	588380	547861	618866	690812	750852	780000
Cote d'Ivoire:	124.502	136.776	170.08	178.257	188.532	203.00	209.524	235.048	238.717	256.000
B r a z i l	93.790	98.813	103.708	105.434	111.407	120.905	126.973	133.981	164.498	177.100
Philippines	90.413	102.727	104.160	116.013	133.344	135.645	129.01	130.430	140.500	164.200
B u r m a	39.100	39.200	51.500	63.200	72.000	87.200	93.290	112.07	149.627	152.000
Sir lanka	92.010	94.700	104.350	109.140	117.550	129.240	136.000	152.99	158.198	150.600
Nigeria	142.000	142.000	158.600	142.500	143.000	110.424	145.000	143.500	143.500	143.500
Guatemala	49.823	50.000	57.000	55.000	70.000	73.000	81.000	84.730	103.435	105.600
Liberia	107.000	114.500	111.000	93.500	120.80	84.800	59.500	62.100	63.000	63.000
Cameroon	45.892	54.523	58.689	61.736	46.807	53.477	52.321	54.864	55.500	56.000
Mexico	26.986	27.254	24.756	24.145	27.709	29.112	31.794	32.097	34.243	47.639
Cambodia	32.489	26.056	20.329	21.389	17.923	31.676	37.380	39.211	43.471	43.471
Gabon	8.407	10.500	12.500	15.000	16.000	21.000	17.000	20.000	21.000	21.100
Ecuador	8.938	12.500	13.500	13.600	14.000	15.000	15.400	16.109	19.665	20.500
Ghana	9.200	9.300	10.000	10.500	11.000	16.550	19.134	20.150	20.185	20.200
Bolivia	12.000	11.670	11.500	11.800	12.000	12.806	13.695	14.326	17.489	18.000
Guinea	10.000	9.000	10.000	10.500	13.500	13.900	13.600	14.000	15.000	15.600
DR Congo	3.541	4.967	9.762	5.721	11.787	11.326	11.326	11.500	11.500	12.000
Papua New Guinea	4.100	4.600	5.400	5.500	7.200	7.900	7.500	9.000	9.500	9.500
Bangladesh	5.200	5.300	5.200	5.300	5.400	5.500	5.700	5.800	5.997	6.000
Congo Rep	1.264	1.502	1.617	1.701	1.800	1.850	1.900	1.950	2.100	2.100
Cent Afr Rep	1.055	1.253	1.349	1.419	1.076	1.229	1.340	1.405	1.450	1.450
Dominican Rep	4	6	2	1	2	1	3	1	4	1
Brunei	2	4	4	2	5	7	220	2	2	2
T o t a l	8.186.228	8.942.097	9.219.734	9.989.216	10.141.575	10.228.74	19.758.036	10.286.913	11.028.684	11.445.176

Source: FAO Statistics.

into the nation's export scene changed the composition and structure of the production and export trade. At present Nigeria has lost its role as a leading producer of natural rubber in Africa to Cote d' Ivoire (Table 1). The production of value added products in Nigeria is reported to consume 70 percent of available raw materials for tyre and 30 percent for non-tyre products. Michelin and Dunlop Plc, who are major consumers of Nigeria's natural rubber have relocated to other countries, part of their reason being the shortage of natural rubber (RRIN-FDA 2014).

### Rubber Production

The rubber production from the plantation showed a fluctuating pattern. Production increased from about 67,000 tonnes in 1960 to 75,000 tonnes in 1964 after which a decreasing and increasing production trend was observed. The lowest production during the study period (1960 to 2012) were recorded in 1980 and 1983 with output of only 45,000 tonnes. The introduction of SAP by 1985 notably brought about another steady increase in production that got to a peak in 1991 after which

production declined with annual fluctuations (Table 2). The increase in production during the SAP period could be greatly attributed to the incentive created by the improved world market prices for rubber. This resulted in tappers intensifying efforts in order to take advantage of the improved prices and therefore higher returns (Agbonkolor et al., 2005). The production has however dropped to 143,000 mt.

### Rubber Hectarage

Hectarage of rubber plantations has reduced from 247,000 ha in the 1970s to 154,000 ha in 2006 and this reduction is mainly due to withdrawal of small scale rubber farmers (RRIN 2014). It is therefore necessary to encourage increased participation of small holders in production and processing. Total area planted to rubber has decreased from 243,479 ha in the 1960's and 1970's to 154,000 ha in 2005, 102, 257 ha in 2011. The estimated cultivated area under rubber as at 2015 is 103,762 hectares (Table 3). About 42.09 per cent of total areas planted are owned by smallholders, of which 95 per cent are located in Edo and Delta States. Large scale

**Table 2.** Rubber Production in Nigeria.

Y	e	a	r	Quantity (mt)
1	9	6	0	6 7 , 0 0 0
1	9	6	1	5 8 , 0 0 0
1	9	6	2	6 2 , 0 0 0
1	9	6	3	6 6 , 0 0 0
1	9	6	4	7 5 , 0 0 0
1	9	6	5	7 1 , 0 0 0
1	9	6	6	7 7 , 0 0 0
1	9	6	7	5 2 , 0 0 0
1	9	6	8	5 5 , 8 0 0
1	9	6	9	6 0 , 8 0 0
1	9	7	0	6 5 , 3 0 0
1	9	7	1	6 1 , 8 0 0
1	9	7	2	5 7 , 1 0 0
1	9	7	3	6 6 , 3 0 0
1	9	7	4	7 8 , 0 0 0
1	9	7	5	6 7 , 8 0 0
1	9	7	6	5 2 , 5 0 0
1	9	7	7	5 9 , 3 0 0
1	9	7	8	5 7 , 5 0 0
1	8	7	9	5 6 , 0 0 0
1	9	8	0	4 5 , 0 0 0
1	9	8	1	6 0 , 0 0 0
1	9	8	2	5 0 , 0 0 0
1	9	8	3	4 5 , 0 0 0
1	9	8	4	5 8 , 8 0 0
1	9	8	5	6 0 , 0 0 0
1	9	8	6	6 0 , 0 0 0
1	9	8	7	5 5 , 0 0 0
1	9	8	8	8 1 , 0 0 0
1	9	8	9	1 3 2 , 0 0 0
1	9	9	0	1 4 7 , 0 0 0
1	9	9	1	1 5 5 , 0 0 0
1	9	9	2	1 2 9 , 0 0 0
1	9	9	3	1 3 0 , 0 0 0
1	9	9	4	1 0 5 , 0 0 0
1	9	9	5	1 2 5 , 0 0 0
1	9	9	6	1 3 0 , 0 0 0
1	9	9	7	1 2 0 , 0 0 0
1	9	9	8	1 2 0 , 0 0 0
1	9	9	9	1 0 7 , 0 0 0
2	0	0	0	1 0 7 , 0 0 0
2	0	0	1	1 0 8 , 0 0 0
2	0	0	2	1 1 2 , 0 0 0
2	0	0	3	1 4 2 , 0 0 0
2	0	0	4	1 4 2 , 0 0 0
2	0	0	5	1 5 0 , 0 0 0
2	0	0	6	1 4 2 , 0 0 0
2	0	0	7	1 4 3 , 0 0 0
2	0	0	8	1 1 0 , 0 0 0
2	0	0	9	1 4 5 , 0 0 0
2	0	1	0	1 4 3 , 0 0 0
2	0	1	1	1 4 3 , 0 0 0
2	0	1	2	1 4 3 , 0 0 0

Source: FAO Statistics.

producers (or estates) are fairly spread out over the rubber belt and presently account for more than 60 per cent of rubber grown in Nigeria. Most of the existing rubber trees are now over 40 years old and already over-

exploited beyond their expectant economic life of 25 years and require to be replanted. The implication of this is that applying a discounting function of 30 years from time of planting, Nigeria appears to have zero plantations. Another clear disturbing trend in the rubber growing areas of Edo states is the advent of community development association (CDAs) who regards the presence of plantation crops such as rubber and oil palm in the community as lack of development and must be sold to developer for housing and for other purposes. This has reduced greatly the current land under rubber and that will be available for rehabilitation, replanting and new planting.

### Rubber Processing

The overall reduction in hectarage and hence production led to shortage of raw materials for processing factories and closure of a lot of them (Table 4). Processors are also an important group of stake holders in the rubber industry. They maintain relationship with collectors and farmers groups where the primary produce of the rubber farm emanate. Primary production include latex. Prices for raw material sources are determined based on estimated dry rubber content (DRC) of the material as well as dirt content. Over 80 percent of Nigeria's rubber processors located in Delta and Edo produce mainly crepe and crumb rubber for export. Most of the factories are however in different levels of disrepair and abandonment. The bane of primary processing factories is their dependence on the small holdings for their raw material supply, which is shrinking on account of old age and progressive destruction of the trees (RRIN-FDA 2014). As at 2014, the processing of wet coagulates into ribbed smoked sheet and blocked rubber was done by about 57 no. rubber processing factories with total installed capacity of 105.5 mt/h, capable of processing 600,000 mt per annum at full capacity. The total raw material in the country is estimated to be 143,000 mt/annum indicating a lot of idle capacity. As at today there are 41 no. rubber processing factories (a decline from 57 factories to 41) with only 27 of these factories are operational or functional.

### Intervention by Government in the area of rubber production

There is therefore need to urgently embark on systematic rehabilitation/replanting of at least 25 per cent or more of the existing plantations over the next 3 years. Thailand started a replanting programme in 1991 and has become a leading producer and exporter country, replacing Malaysia. Today, Thailand's rubber has become the world's largest used rubber. The success of the rubber industry in Thailand is based on strong Research and

Z O N E S	S T A T E S	SMALLHOLDINGS	E S T A T E S	S H E C T A R A G E	STATUS OF THE ESTATES
South- South	Bayelsa	50*	No estates		
	Rivers	500*	Delta Rubber Okomoko	3,798*	Partly moribund
	Akwa-Ibom	2,620	AKRUBEL Use Ikot Amama	326	Still producing
			Sebraco Uyo	150	Still producing
			ONREL Uyo	1065	Still producing
			Akpan Farms Uyo	200	Still producing
	Cross Rivers	700*	Pamol- Calabar	4,000	Still producing
			Pamol- Biase	6,000	Still producing
			Pamol- Yakurr	2,000	Still producing
			Pamol Estate, Calabar	3,575	Still producing
			Crel, Estate, Akamkpa	1,943	Moribund
			Crel, Estate, Uyanga	1,767	Moribund
			Crel, Estate, Uwet	1,864	Moribund
			Crel, Estate, Netim	1,508	Due for replanting
			Crel, Estate, Ikot Okpara	518	Largely moribund
			CRADC, Estate, Biakpan	1,605	Moribund
			CRADC, Estate, Nko	1,193	Moribund
			CRADC, Estate, Agoi Abami	303	Moribund
			ONREL, Estate, Oban	1,065	Still manageable
	Edo	10,000*	RENL Osse River Udo	4750	Still producing
			Okomu PLC Okomu	6,026	Still producing
			Urhonigbe Rubber Estate	2,373	Still producing
			Iyayi Plantation Udo/Egba	1,412	Still producing
			Hitcher Est. Uvbe	30	Still producing
			Odia Rubber Egba	348	Still producing
			Odia Rubber Ugomoson	100	Still producing
			Pamol Sokpomba	2000	Still producing
			RRIN Iyanomo, Akwete, Igbotako and Manchock	68	Still producing
	Delta	15,000*	Pamol Oghara	1,940	Still producing
			Cuga Nig. Ltd. Ebgudu Aka	555	Still producing
			Chief J.I Izah	70	Still producing
			Atochi Estate Atochi	1,169	Still producing
			Jethemas Estate Sapele	500	Largely moribund
			Oghene Estate Waterside	1,036*	Largely moribund
			Hitcher Estate Oghara	30	Still producing
			Utagba- Uno Rubber Est. Nig. Ltd	5,000	Still producing
			Dafinone Group.	1000	Still producing
			Pudol Estate Sapele	245	Still producing
			Matins Nwose	20	Still producing

South East	Abia	300*	Abia Rubber	1000	Information is not complete
	Imo	500*	Imo Rubber	1000	Information is not complete
South West	Ogun	4,500*	RENL Araromi Estate	5,500	In production
	Ondo	500*			
North Central	Kaduna (Southern Kaduna)	20	-	No estates	
	Taraba(Kurumi Zone)	20	-	No estates	
Sub-total		34,660*		68,652	
Grand Total				103,313	

\*The figures for smallholders' plantations are estimated. Source: Computed by Esekhadé T.U. 2016

**Table 4.** Status of Natural Rubber processing factories in Nigeria.

<b>S t a t e</b>	<b>No of factories</b>	<b>Functional factories</b>
Anambra	1	1
Imo	1	1
Delta	13	10
Edo	12	7
Cross Rivers	6	3
Rivers	1	1
Ondo	1	1
Abia	1	1
Ogun	3	3
Akwa – Ibom	1	1
<b>TOTAL</b>	<b>41</b>	<b>27</b>

**Source:** Computed by I.O. Momodu et al. 2015.

Development and consistent policy. However, with favourable market price of natural rubber, which is predicted to so remain for a long time due to indispensable nature of natural rubber following industrialization, there is renewed interest in rubber cultivation. This drive is boosted by global weather challenges which require expansion of 'green cover' for the earth, and economic trees should be the focus for dual advantage of economic returns and management of the effects of climate change. India and China, which are rubber producing countries as Nigeria, are already

extending rubber cultivation to non-traditional areas. In Nigeria, the Rubber Research Institute of Nigeria (RRIN) is already carrying out trials on cultivation of natural rubber in Southern Kaduna, Taraba and Adamawa States, which are in the non-traditional zone for rubber cultivation. Considering the economic and food potentials of rubber tree based agriculture, it is necessary to address the declining participation of small holders in the natural rubber production and processing by increasing the hectareage under smallholding in the South-South, South East and

South West zones which will serve as additional source of raw materials for the Nigerian rubber industry. Also, uncontrolled felling of trees as in the case of rubber should be checked and farmers encouraged through appropriate pricing mechanisms, to replant the cleared and rehabilitate old plantation.

**Intervention in the processing factory**

This will involve the determination of the current status of existing rubber processing factories in

the country and their immediate requirements so that efforts can be directed towards meeting them. Major areas of need envisaged are reactivation of old plants, installation of new plants, sourcing of raw materials and credit support. Possible areas of support are Agricultural Credit Guarantee Scheme Fund, Commercial Agricultural Scheme, and Nigeria Incentive-based Risk sharing for agricultural lending, Micro-small and medium credit scheme. All of these are of Central Bank of Nigeria. The ultimate is to achieve a higher level of utilization of the local raw materials in order to create more value added products and provide employment opportunities.

### Conclusion

This Paper highlights the decline in activities in the rubber industry and proffering intervention in revamping the industry. Addressing the challenge confronting the industry could be the key driver for a new investment regime in rubber plantation development which must support local utilization of raw materials in rubber products.

### ACKNOWLEDGEMENTS

The authors are immensely grateful to the Rubber Research Institute of Nigeria and the Federal Department of Agriculture for materials used in preparing this Paper. The authors also acknowledges the assistance of Dr. Isaac Momodu and his research team for making available to the authors the Table showing the status of the rubber processing factories in the country.

### AUTHORS' DECLARATION

We declare that this study is an original research by our research team and we agree to publish it in the journal.

### REFERENCES

- Agbonkpolor BN, Orewa SI, Abolagba EO (2008). The Trend and Growth rate of Rubber Production in Nigeria. *Journal of Agricultural Research and Policies*, volume 3, No. 4.
- Aigbekaen EO, Omokhafa KO, Imarhiagbe EO (2005). Economic Impact Assessment of Improved Rubber clones. *Journal of Agriculture, Forestry and Fisheries, Faculty of Agriculture, University of Benin*.
- Bassey EO (2003). "Cash crop for National Growth: Increasing Natural Rubber Production, Processing and Marketing" Paper presented at the Second NESG Agricultural Summit Pg. 63-69.
- Idumajogwu RO (2005). An Overview of Agro-Industry and Agricultural Production in Nigeria .An invited paper to Sub-regional workshop on the implications of Economic Partnership Agreements for Agro-based Industrialization. Regency Hotel, Ghana, 19-22 October.
- RRIN-FDA (2014). Rubber Research Institute of Nigeria and Federal Department of Agriculture Draft report on the Action Plan for the Rubber Value Chain.
- RRIN (2013). Rubber Research Institute of Nigeria: A Proposal on revamping of the Rubber Industry in Nigeria.