

**Review Article**

# Hike in Pump Price: Major Doom to Nigerian Forest

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**To cite this article:**Egbewole Zaccheaus Tunde, Rotowa Odunayo James. Hike in Pump Price: Major Doom to Nigerian Forest. *Journal of Energy, Environmental & Chemical Engineering*. Vol. 3, No. 2, 2018, pp. 19-26. doi: 10.11648/j.jeece.20180302.11**Received:** May 4, 2018; **Accepted:** May 25, 2018; **Published:** June 14, 2018

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**Abstract:** Oil products are derived from crude oil and they include petrol, diesel, kerosene, natural gas, bitumen. Oil was discovered in Nigeria in 1956 at Oloibiri in the present Bayelsa State, after a century of searching. Over the years, there has been variation in the price of oil products in Nigeria. The upward adjustments of petroleum products have resulted in inflation, high cost of living, and inequitable distribution of income in Nigeria. Between 1978 and 2007, the various Nigerian regimes increased fuel prices a total number of 19 times. Most of the increase occurred in the 1990-2017 period when petroleum products prices were adjusted upwards sometimes twice in one year. The instability of oil products in Nigeria as a result of widespread smuggling and diversion of products from their approved destinations, holding of products in anticipation of an increase in prices and the refineries producing at less than half of their installed capacities, these variation which in most cases is on the increase side has led to deforestation at its peak yet, afforestation Programmes in Nigeria have a relatively short history with just 78 years. Although the different governments, beginning from the pre-independence and post-independence periods have made modest attempts.

**Keywords:** Oil Products, Deforestation, Afforestation, Forest and Petroleum

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## 1. Introduction

Deforestation has many negative environmental problems. The main consequences of deforestation process in Northern Nigeria is desertification or desert encroachment according to [1]; [2] and [3]. By the late 19th Century, Nigeria had about 65 million hectares of rich tropical primary forests, with abundant flora and fauna, this area has reduced to about 4 million hectares in the 21st Century [4]. The study conducted by Nigerian Environmental Study-Action Team (NEST) showed that Nigeria lost 5% of its forest annually throughout the 1980s. Another report by Forestry Research shows that most of the allowance for deforestation in Nigeria comes from their demand for fuel wood. 90% of the Nigerian population stated that they relied on kerosene as the main energy source for cooking but because it is expensive and often unavailable, 60% of them used fuel wood instead. The usage of fuel wood for cooking is higher in rural areas of the country where more of the population is concentrated. There are also incentives to

people living in rural areas surrounding the process of deforestation because it is a source of income to many of them. A lot of damage has been done to Nigeria's land through the processes of deforestation as a result of notably increase in crude oil, contributing to the overwhelming trend of desertification [5]. They extremely high levels of poverty in the country are very much connected to the issue of deforestation.

Deforestation all over the globe is threatening the sustainability of the environment but has had especially detrimental effects in Nigeria due to their high rates. Deforestation puts at risk the current state of the environment and has been allowed by the State Department of Forestry who have not implemented any forest management policies in efforts to curb deforestation since the 1970s. Without any conservation efforts or education, the society is not aware of how to properly treat finite natural resources. Very few steps have been made to try to lower the deforestation rates and to stop illegal logging [6]. Study by the researchers has shown that in Nigeria, deforestation rate increases as price of

petroleum products increases. While Nigeria is probably best known today for its oil deposits, the country is home to a rich diversity of forests and wildlife, including at least 899 species of birds, 274 mammals, 154 reptiles, 53 amphibians, and 4,715 species of higher plants. Nevertheless Nigeria's forests are some of the most threatened on the planet due to high population growth rates, conversion for subsistence and industrial agricultural, and logging. As of late 2012, nearly half of Nigeria is forested (defined as land with more than 10 percent tree cover), but the country's rainforests are fast declining. According to the U.N., Nigeria lost nearly 80 percent of its old-growth forests between 1990 and 2005, giving the dubious distinction of having the highest deforestation rate of natural forest on the planet during that period.

## 2. Genesis of oil Products and Production in Nigeria

Oil products are derived from crude oil and they include

petrol, diesel, kerosene, natural gas, bitumen. Oil was discovered in Nigeria in 1956 at Oloibiri in the present Bayelsa State, after a century of searching [7]. Oil products are basically used in industries for production of goods and services and they are also used domestically for personal consumption in which the greater percentage of it comes from developing countries. The oil industry is very important to the Nigerian economy. It provides among other things the greatest part of the foreign exchange earnings and total revenue needed for socio-economic and political development of Nigeria. The bulk of Nigerian crude oil is sold unrefined at relatively cheaper rate and when refined sold back to Nigeria at higher price which in-turn leads many users to bounce on forest trees as fuel-wood for energy production, the products range from petrol to heavy liquids for road tarring. Government has been the custodian of petroleum and its products in Nigeria. Though, this brought a temporary growth in the economy, the price instability of the crude oil in the world market has led to the downfall of Nigerians economy in various sectors, such as the production, manufacturing and services sectors.

*Table 1. Trend and History of Fuel Price changes in Nigeria.*

Name of Head of states / President	Year	Price variation
Gen. Yakubu Gowon	1973	6k to 8.45k
Gen. Muritala Muhammed	1976	8.45k to 9k
Gen. Olusegun Obasanjo	Oct 1, 1978	9k to 15.3k
Alhaji Shehu Shagari	Apr 20, 1982	15.3k to 20k
Gen. Muhamadu Buhari (Stable price)	Dec. 1983-Aug. 1985	15.3k to 20k
Gen. Ibrahim Babangida	Mar 31, 86:	20k to 39.5k
Gen. Ibrahim Babangida	Apr 10, 1988	39.5k to 42k
Gen. Ibrahim Babangida	Jan 1, 1989	42k to 60k
Gen. Ibrahim Babangida	Mar 6, 1991	60k to 70k
Chief Ernest Shonekan (82 days in power)	Nov 8, 1993	70k to ₦5
Gen. Sani Abacha-: (Price dropped)	Nov 22, 1993	₦5 to ₦3.25k
Gen. Sani Abacha	Oct 2, 1994	₦3.25k to ₦15
Gen. Sani Abacha (Price dropped)	Oct 4, 1994	₦15 to ₦11
Gen. Abdusalam Abubakar	Dec 20, 1998	₦11 to ₦25
Gen. Abdusalam Abubakar (Price dropped)	Jan 6, 1999	₦25 to ₦20
Chief Olusegun Obasanjo	June 1, 2000	₦20 to ₦30
Chief Olusegun Obasanjo (Price drops)	June 8, 2000	₦30 to ₦22
Chief Olusegun Obasanjo	Jan 1, 2002	₦22 to ₦26
Chief Olusegun Obasanjo	June, 2003	₦26 to ₦42
Chief Olusegun Obasanjo	May 29, 2004	₦42 to ₦50
Chief Olusegun Obasanjo	Aug 25, 2004	₦50 to ₦65
Chief Olusegun Obasanjo	May 27, 2007:	₦65 to ₦75
Alhaji Umaru Musa Yar' Adua- (price drops)	June, 2007:	back to ₦65
Dr. Goodluck Ebele Jonathan (New year present)-:	Jan 1, 2012	₦141
Dr. Goodluck Ebele Jonathan (forced by Labour strike)	Jan 17, 2012	₦97
Muhamadu Buhari	2016-2017 Dec	₦97 to ₦145
Muhamadu Buhari (Price not stable)	2017 Nov-till Feb. 2018	₦145 to ₦350 and above
Muhamadu Buhari (Relatively stable price)	2018 March till Date	₦145 and above

Note: ₦ = Naira, k = kobo

Source: [8], field survey, 2018

### Causes of Price Instability of Oil Products in Nigeria

The pricing of oil products has always been controlled by the government at all level in the industry, depending on the international price of crude oil which is set by the Organisation of Petroleum Export Countries (OPEC). This means that domestic prices of oil products are based on international prices of crude oil. The government regulates the

transfer prices paid within NNPC and sets product prices at wholesale and retail levels. It was estimated that the government pays an amount of \$2.5 billion U.S. dollars as subsidies, consequently resulting into price instability of oil products.

Another cause of price instability of oil products in Nigeria are attributed to widespread smuggling and diversion of

products from their approved destinations, holding of products in anticipation of an increase in prices and the refineries producing at less than half of their installed capacities. The rapid growth of population in this country is an enough reason to cause instability in prices of oil products, because the higher the population of Nigeria with low capita income, the higher the unskilled labour and high rate of unemployment. All these are the ripple effect of price instability as a result of inflation and because of predominant position of oil products on the Nigerian economy, anything that affects it such as the instability in the prices of oil products will affect the economy as whole. Till date Nigeria government has no control price for petrol, the price ranges from 145 to 300 in November 2017 to the new year 2018 and from February 2018 till date petroleum price ranges between 145 to 180 (Table 1). Average price paid by consumers for premium motor spirit (petrol) increased by 35.7% year-on-year and 1.35% month-on-month to N148.7 in January 2017 from N146.7 in December 2016. States with the highest average price of premium motor spirit (petrol) were Borno State (N164.09), Oyo State (N161.00) & Ebonyi State (156.47). States with the lowest average price of premium motor spirit (petrol) were Kogi State (N144.67), Ekiti and Imo States (N144.64) and Abuja FCT (N144.20) [8].

The upward adjustments of petroleum products have resulted in inflation, high cost of living, and inequitable distribution of income in Nigeria. Between 1978 and 2007, the various Nigerian regimes increased fuel prices a total number of 18 times. Most of the increase occurred in the 1990-2007 period when petroleum products prices were adjusted upwards sometimes twice in one year. One major problem this has caused was the instability of the prices of goods and services in the country [9]. Whenever there is an increase in prices of oil products, it affects transportation, cost of good and other services including forest resources.

### 3. Deforestation and Desertification in Nigeria

Evaluation and Coordination Unit of the Federal Department of Forestry indicated that Nigeria still loses an annual average of 350,000 hectares of forest cover [10]. In which larger percentage of deforested areas goes for fuel and energy production as a result of rise in price of petroleum products. These are also linked to social, economic and institutional. Other consequences of this activity include reduced crop production or yield due to erosion of fertile topsoil. Rainfall and other weather patterns have become distorted and unpredictable. There have been delays in onset of rains and premature cessation of rains. Populations of wildlife or animal species have also become depleted due to the destruction of their habitats. [4], Studies have shown that some villages in the north of the country have become buried by the advancing sand dunes [11], [4], Field report, 2018)

Indeed, the Women Environmental Programme [8] reported the effects of desertification on the Nigeria Nation as the most pressing environmental problem facing the Northern part of

the country. They further recognized the fact that no fewer than 40 million people within the northern part of the country are faced with the threats of hunger and extreme weather conditions due to desert encroachment on arable lands and grazing lands. It was also observed that the Sahara desert is moving southwards at a rate of 0.6 kilometers per annum with the rate of 0.6 kilometers per annum. [1], have put the rate of deforestation been at 350,000 hectares per annum.

Catalyst of Hike in Petroleum Price in Nigeria can be attributed to the instability in the prices of oil products due to cost of refining, storing, transporting distributing and inefficiencies in the process. [9], asserted that Nigeria has four refineries, one of which is at Kaduna, Warri and two at Port-Harcourt with a total nominal refining capacity of 445,000 barrels per day. He further noted that although the refineries find it very difficult to reach it capacities due to frequent breakdown and operating problems such as vandalisation, which has been reduced and that more products are being pumped throughout the pipelines. [12], argued that in theory, Nigerian refineries capacity is sufficient to meet its domestic consumption requirement. In practice, however, the country has experienced frequent shortage of refined products since it refineries have poor configuration and operation inefficiency. It has been estimated that smuggling amounts to over 320,000 barrels per day largely to Benin Republic, Niger, Chad, and Cameroon [8]. Nigeria has become a large importer of light petroleum products, importing thousands of tons of refined products. [13], asserted that people say Nigeria is dominated by oil and they are right because Nigeria seems to be exporting nothing but oil.

### 4. Deforestation and Afforestation Trend in Nigeria

Deforestation is a process where vegetation is cut down without any simultaneous replanting for economic or social reasons. Deforestation has negative implications on the environment in terms of soil erosion, loss of biodiversity ecosystems, loss of wildlife and increased desertification among many other reasons [14]. Deforestation also has impacts on social aspects of the country, specifically regarding biodiversity and economic issues, agriculture, conflict and most importantly, quality of life. According to data taken over 2000 to 2005 Nigeria, located in the western region of Africa, has the largest deforestation rates in the world, having lost 55.7% of their primary forests. The annual rate of deforestation in Nigeria is 3.5%, approximately 350,000-400,000 hectares per year [15]. The Food and Agriculture Organization of the United Nations lists the requirements of sustainable forest management as: extent of forest resources, biological diversity, forest health and vitality, productive functions of forest resources, protective functions of forest resources, socio-economic functions and a legal, policy and institutional framework [16]. Many aspects of the outline are currently not being met and will continue to have detrimental effects if not quickly addressed. As of 2005,

Nigeria has the highest rate of deforestation in the world according to the Food and Agriculture Organization of the United Nations [17]. Between 2000 and 2005 the country lost 55.7% of its primary forests, and the rate of forest change increased by 31.2% to 3.12% per annum. Forest has been cleared for logging, timber export, subsistence agriculture and notably the collection of wood for fuel which is as a result of usual increase in pump price of kerosene which remains problematic in western Africa.

Among the human activities that have striking effect on the earth's environment is deforestation, which is compensated by corresponding afforestation and reforestation efforts. With nearly 50% of the earth's land surface transformed by direct human action, with significant consequences on biodiversity, soil and climate [4], there is urgent need to plant and grow more trees because of the numerous contributions which play significant roles in climate change, food production, medicine as well as employment and income generation. [18]. Afforestation is expedient to direct forest management to the direction that will step down the current rate of deforestation in the country. [19], has observed that continuous trend forest exploitation will result in diminishing the remaining tropical forest by the end of the 21st century and of a truth this fact has come to stay. The value of forest estate in Nigeria rests largely on the building up forest status through afforestation and reforestation on continuous basis. Generally, forest ecosystem has been constantly to strike ecological balance by trying to cope with the way in which human beings use natural resources, clear forestlands, harvest trees and contaminate the air, land and water. Thus, afforestation and reforestation form a background to the important development taking place in the forestry landscape in the country, particularly land use practices including forest and land allocation, exploitation and environmental conservation. Sustainable afforestation and tree planting programme are imperative in Imo State like many other States in Nigeria. [8].

#### **4.1. Afforestation Projects Effort in Northern Nigeria in the last 9 Decades**

According to [19], the periods of Federal afforestation activities in Northern Nigeria can broadly be classify into three (3) viz:

##### **a) The First Phase (4 Decades: 1930 – 1970 Period)**

No documented report of afforestation projects in Northern Nigeria can be found until in 1937 when an Anglo-French Commission investigated reports in response to major concerns about the possible southward shift of the Sahara desert into Nigeria in the 1930s. In efforts to tackle this, Border emirates were directed to embark on tree planting to stop the encroachment [20]. Thousands of seedlings were raised and distributed at nominal prices. It the 1940s also, a small action programme in the form of a tree planting campaign was launched. The bad situation of the affected areas further prompted the establishment of shelterbelts in the northern fringes in the 1960s [20].

##### **b) The Second Phase (3 Decades: 1970 – 2000 Period)**

The catastrophic drought of 1972/73 made the Federal

Government realize the impacts and need for afforestation and thus, jolted the government into a more focused approach and action. Since then, the Government of Nigeria has regarded challenge of land degradation and desertification as inimical to national sustainable development that must be addressed. In 1974, the World Bank on behalf of the International Bank for Reconstruction and development entered into talks with the Federal Military Government of Nigeria for the First Forestry Project (US\$31 million, Ln. 1679-UNI, March 1979). This reports the Bank's first involvement in Forestry and environment sector. Its major objective was the establishment of 22,600 ha of Gmelina plantations in Ogun and Ondo States. When the loan closed in mid-1986, (a year behind the original closing date) the project had achieved about 70 percent of the appraised planting targets in Ogun and Ondo States. Subsequent reports show it was be considered quite successful [21-22].

In 1987, the Forestry II project was established based on the successes of the Forestry I project. Like the previous project, it was also World Bank funded and targeted towards Afforestation programme, including shelterbelts establishment and farm forestry components. In response to rapid deforestation and desert encroachment back then, the programme was principally focused towards the seven Northern states. This later became the eleven frontline states due to later states creation. Forestry II lasted for 9 years and was rounded off in 1996. From available records, the programme was perhaps, the most successful afforestation project in Northern Nigeria [22]; [11]; [21] since the termination of the Forestry II programme, various efforts have been continued in the frontline states aimed at checkmating the scourge of desertification. For example, the Nigerian Government also formulated the Nigerian Forest Action Programme (NFAP) in 1997 through articulated planning and involvement of all stakeholders in the forestry sector

##### **c) The Third Phase (2 Decades: 2000 – Date)**

In the last two decade, there has been drastic increase in the price per litre of petroleum products. For example, before the handing over of Nigeria affairs to democratic government in 1999, a litre of petrol goes for N20 but today, its N145 the sane is the trend of other petroleum products like kerosene and diesel, over the last two decades however the rate of deforestation in Nigerian has become so destructive and deadly even to all animals including Man. Shortly after assuming office in 1999, the former President, Chief Olusegun Obasanjo initiated the development and approval of the blueprint on national forestry programmes which ran from the years 2000-2003, with an approved budget of N11.25 billion (then \$112.5 million) to execute the programme [11]. Later on, Obasanjo still concerned about the rapid rate of desertification and the attendant loss of biodiversity and human travails as well as suffering in the decertified areas directed the Federal Ministry of Environment in the year 2000 to establish a green belt stretching from Kebbi State in the North-West to Borno State in the North-East. The Ministry has already prepared a national action plan to combat desertification in line with the UNCCD. Some nurseries were also established to raise

seedlings towards the take-off of the green belt project in 2008. Late President Yar'adua was quoted as saying that climate was a major contributing factor to desert encroachment due to global warming, and urged Nigerians to plant trees in order to cool the earth the trend continues till date. Presently, at the National level, a Great Green Wall for the Sahara and Sahel Initiative in Nigeria is also on course. The Great Green Wall project is a recent regional attempt in Africa to focus on addressing desertification in a more coherent manner. The initiative was originally conceived as a thematic project, focusing on creation of a wall of trees of some 15km wide and 7,775 km long from Dakar to Djibouti, through 11 northern African countries, and eleven frontline Nigerian states [20]

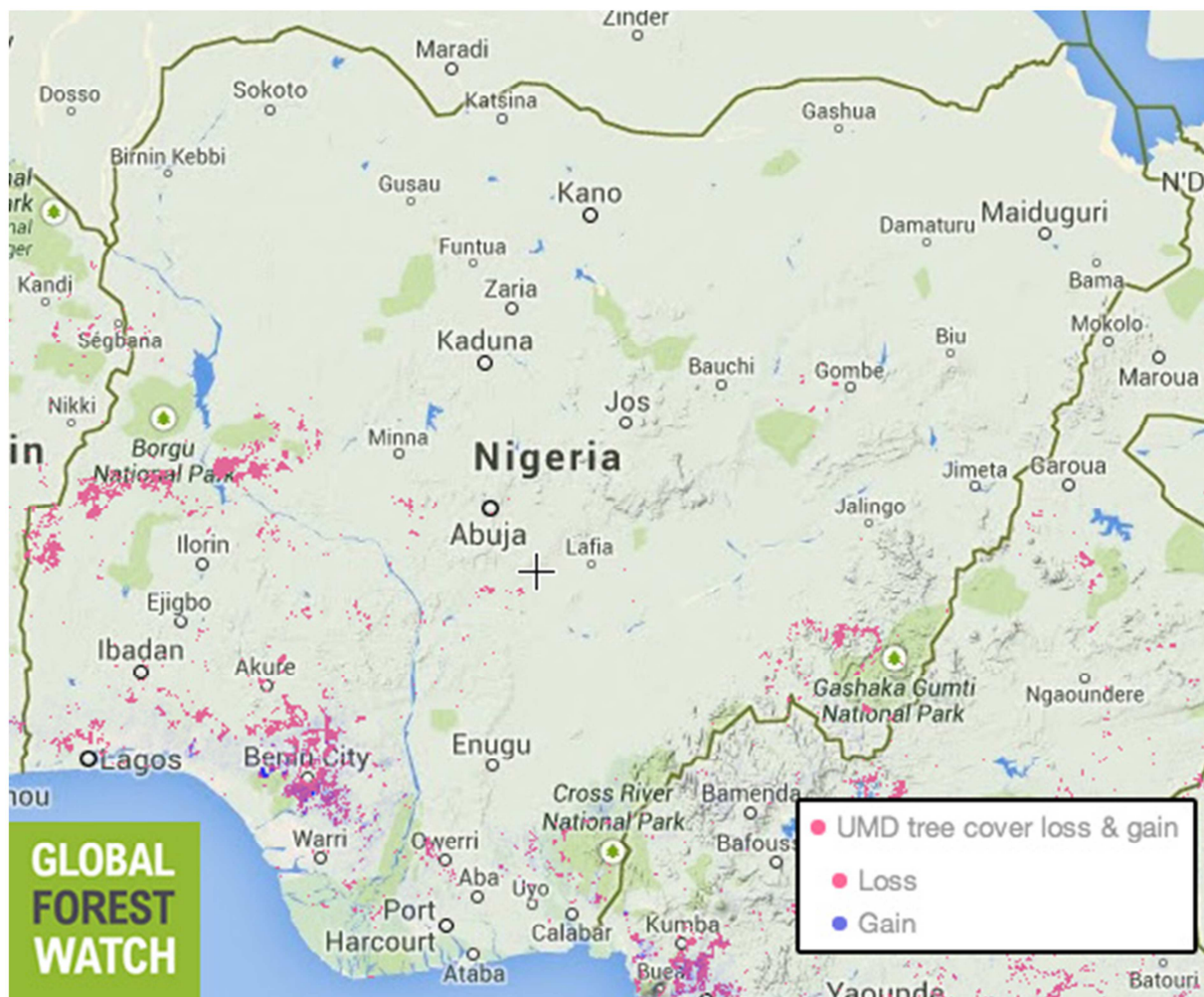
#### 4.2. Forest Gain and Loss in Nigeria Between the Year 2001 and 2012

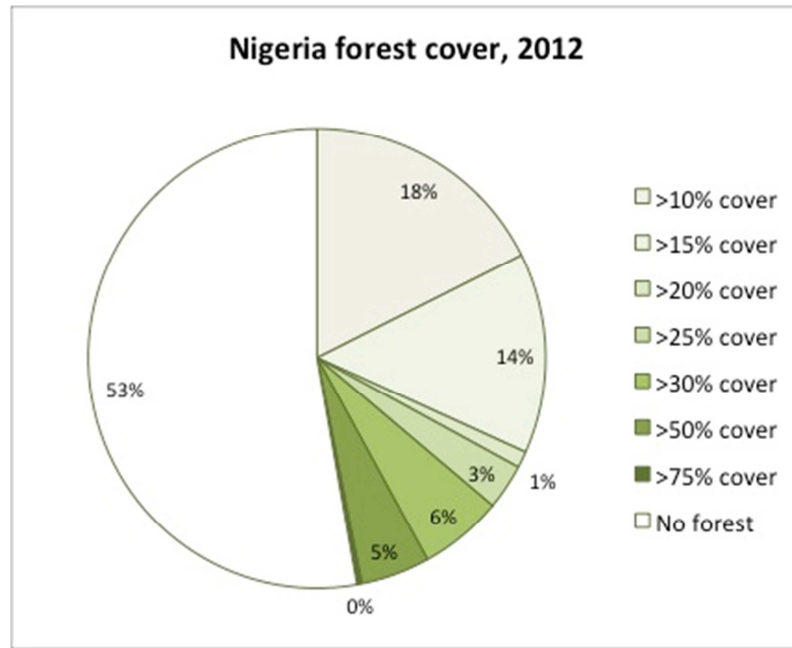
Most of Nigeria's rainforests are located in the Niger Delta region. The country's dense forests are concentrated in Bayelsa state, Cross River state, Edo, Ekiti, Ondo, Osun, Rivers, and Taraba states. These states account for nearly 95% of Nigeria's land area that has more than 50% vegetation cover. With the alarming rate of deforestation due to fuel hike, the 18 and 14% cover has gradually been cleared meaning that the cleared no forest land today is 85%. Truly the nation is on a hot seat. Recent data from Matt Hansen and Global Forest

Watch suggest that deforestation is rising in Nigeria (Table 2)

Nigeria, along with one-half of the world's countries has portions or all of their land in dry land environments. These lands and their sub-humid margins represent one-third of the earth's surface and are the home to nearly 40% of the world's population [19]. Africa, including Nigeria is particularly vulnerable to desertification [23], It is here where land and environmental degradation is occurring at alarming rates, often leading to desertification, and threatening the livelihood of more than 1 billion people. Dry lands are diverse in terms of their climate, soils, flora, fauna, land use, and people.

A study conducted from 1901 to 2005 gathered that there was a temperature increase in Nigeria of 1.1°C, while the global mean temperature increase was only 0.74°C. The amount of rainfall in the country decreased by 81mm. It was noticed that both of these trends simultaneously had sharp changes in the 1970s. From 1990 to 2010 Nigeria nearly halved their amount of forest cover, moving from 17,234 to 9041 hectares. The combination of extremely high deforestation rates, increased temperatures and decreasing rainfall are all contributing to the desertification of the country. The carbon emissions from deforestation is also said to account for 87% of the total carbon emissions of the country [24].





Source: [25],

Figure 1. Global Forest Watch map showing forest loss and gain in Nigeria between 2001-2012.

Situation of forest gain and forest loss between the year 2001 and 2012

Nigeria's wide biodiversity of 899 species of birds, 274 mammals, 154 reptiles, 53 amphibians and 4,715 species of higher plants will also be strongly affected by the negative impacts of deforestation. The numbers of the rare Cross River gorilla have decreased to around 300 individuals because of poaching by locals and mass habitat destruction. [26] Although much of the motivation of deforestation stems from economic reasons it has also led to a lot of economic problems in an already unstable country. Along with economic issues,

deforestation has made it so that the land is incapable of as much agricultural production which is part of many people's survival. Issues such as these and the subject of the environment itself has contributed to many conflicts in the country and even executions of environmental activists, [26]. Nigeria is home to 1417 known species of fauna and at least 4715 species of vascular plants according to figures from the World Conservation Monitoring Centre. Although national parks and reserves have increased in the country only 3.6% of Nigeria is protected under IUCN categories.

Table 2. Forest loss and gain of Nigeria according to individual state.

	Total Forest Area		Dense Forest Area		Forest Gain		Forest Loss		Total Land Area (ha)
	>10% tree cover (ha)	% total land cover	>50% tree cover (ha)	% total land cover	2001-2012 (ha)	% total forest cover	2001-2012 (ha)	% total forest cover	
Abia	460163	97.4%	10235	2.2%	1068	0.2%	9750	2.1%	472226
Adamawa	1477236	43.4%	18219	0.5%	137	0.0%	19310	1.3%	3401093
Akwalbom	656993	98.4%	17538	2.6%	743	0.1%	11124	1.7%	667419
Anambra	410958	90.7%	6156	1.4%	55	0.0%	2505	0.6%	453138
Bauchi	940313	19.2%	28	0.0%	10	0.0%	18134	1.9%	4903058
Bayelsa	931701	98.6%	598018	63.3%	911	0.1%	6238	0.7%	944940
Benue	2179773	69.9%	6812	0.2%	25	0.0%	7101	0.3%	3118602
Borno	204711	3.1%	0	0.0%	0	0.0%	1509	0.7%	6607588
Cross River	2042140	97.5%	888051	42.4%	4969	0.2%	26351	1.3%	2094534
Delta	1575968	96.9%	554278	34.1%	7291	0.5%	24983	1.6%	1625818
Ebonyi	435527	70.4%	1830	0.3%	132	0.0%	1914	0.4%	618646
Edo	1923060	98.3%	467270	23.9%	30405	1.6%	89575	4.7%	1956740
Ekiti	517058	98.9%	227894	43.6%	176	0.0%	7148	1.4%	523026
Enugu	703056	91.3%	3423	0.4%	19	0.0%	2661	0.4%	770092
FCT	584691	79.7%	178	0.0%	14	0.0%	14366	2.5%	733613
Gombe	132318	7.4%	0	0.0%	9	0.0%	11995	9.1%	1798939
Imo	517689	97.6%	15840	3.0%	937	0.2%	15347	3.0%	530389
Jigawa	5795	0.2%	0	0.0%	0	0.0%	50	0.9%	2396817
Kaduna	1637020	37.0%	243	0.0%	11	0.0%	11005	0.7%	4419400
Kano	70194	3.5%	0	0.0%	0	0.0%	75	0.1%	1982358
Katsina	10426	0.4%	2	0.0%	0	0.0%	204	2.0%	2364473
Kebbi	300962	8.5%	20	0.0%	1	0.0%	10399	3.5%	3531054

	Total Forest Area		Dense Forest Area		Forest Gain		Forest Loss		Total Land Area (ha)
	>10% tree cover (ha)	% total land cover	>50% tree cover (ha)	% total land cover	2001-2012 (ha)	% total forest cover	2001-2012 (ha)	% total forest cover	
Kogi	2734500	95.2%	29661	1.0%	220	0.0%	35965	1.3%	2873052
Kwara	3288716	93.1%	7955	0.2%	47	0.0%	178456	5.4%	3534147
Lagos	232828	75.6%	10721	3.5%	365	0.2%	7951	3.4%	308003
Nassarawa	1745020	66.6%	246	0.0%	31	0.0%	34410	2.0%	2621138
Niger	3782277	54.3%	815	0.0%	68	0.0%	215459	5.7%	6966616
Ogun	1565404	97.6%	83533	5.2%	4258	0.3%	43730	2.8%	1603939
Ondo	1431897	98.9%	489272	33.8%	4617	0.3%	32970	2.3%	1447729
Osun	902362	98.4%	408523	44.5%	205	0.0%	9573	1.1%	917464
Oyo	2618392	95.7%	31459	1.2%	234	0.0%	59652	2.3%	2734793
Plateau	730219	26.5%	721	0.0%	36	0.0%	3244	0.4%	2755650
Rivers	806103	96.6%	153995	18.4%	1509	0.2%	10215	1.3%	834731
Sokoto	22104	0.7%	1	0.0%	0	0.0%	174	0.8%	3162145
Taraba	4513905	75.5%	681877	11.4%	1812	0.0%	77599	1.7%	5975340
Water body	164781	32.8%	1	0.0%	0	0.0%	492	0.3%	502871
Yobe	28732	0.6%	15	0.0%	0	0.0%	864	3.0%	4553076
Zamfara	265375	7.7%	12	0.0%	0	0.0%	2064	0.8%	3448834
Nigeria	42550368	47.2%	4714839	5.2%	60318	0.1%	1004559	2.4%	90153488

Source: [10]

## 5. Strategy of the Way Forward

There is an urgent need to rescue the Nigeria situation. The government revenues are so dependent on oil, which has been managed quite protectively. But it's still extremely undesirable that internally generated revenue are such a small part of Nigeria revenue because essentially, it means that all the revenues of the government is just coming down from heaven. It's like a gift and it is easy to waste a gift. The point can therefore be driven home that Nigeria is poor because of oil and due to price differential, smuggling has become so attractive and profitable. This act of smuggling oil products from Nigeria to her neighbouring countries is one of the factors which made price instability of oil products to be prevalent in Nigeria. [23] shared their view that the dominance of petroleum in Nigerian economy has led to instability in the economy, which as a result makes price instability of oil products to be more prevalent in Nigeria than other countries not minding that Nigeria is a producer. Due to the heavy reliance or dependence on the petroleum products, the government should strive to make the products available at all time. More of other resources should be tapped so as to diversify the economy. The distribution channel of the flow of the petroleum products should be well monitored to avoid disruption of distribution or scarcity of petroleum product and interns create rest for the Nigerian forest.

Any solution to the problem of deforestation in Nigeria must be an approach that incorporates and aggressively targets all aspects that are related to the problem. In agreement with [27] wood plantation development of different fast growing tree species, should be reviewed and sustain by the Federal, State and Local Governments and other stakeholders, government should protect these plantations by restricting importation of timber products. Teaching should include areas of energy alternatives, improved technology, forestry management, economic production, agriculture and security of the locals that are dependent on the land. Energy

alternatives include hydro power, solar energy and wind energy and above all aggressive afforestation practices. Improving the technology of cook stoves will be especially effective for Nigeria which currently has many households that require fuel wood for their cooking methods. In 2005 a group of countries, called the Coalition for Rainforest Nations, [12] developed a program to reduce the rates of deforestation that contribute to CO<sub>2</sub> emissions. The program was designed for all developing countries with a rainforest. The developing countries receive money upon successful completion of lowering their country's emissions. A similar concept has been designed by REDD, Reducing Emissions from Deforestation in and Forest Degradation in Developing Countries. In REDD the countries are able to receive much more money in the form of carbon credits which can be spent on more environmentally safe practices.

## 6. Conclusion

Afforestation Programmes in Nigeria have a relatively short history with just 78 years. Although the different governments, beginning from the pre-independence and post-independence periods have made modest attempts, it can be seen that these were mainly spurred in response to stark environmental disasters and remedial actions were taken. However, if these programmes had been deliberately planned from the early beginning and efficiently sustained, many of the environmental problems currently facing the country may have been effectively mitigated.

## Acknowledgements

Special thanks to the Management of Nasarawa State University Keffi for enabling a good working environment. Also, to the Staff and Students of the Department of Forestry, Wildlife and Ecotourism for their cooperation toward the success of the research work.

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## References

- [1] Women Environmental Programme WEP (2011). Report of the world Desertification Day as Marked. WEP Conference Hall, Abuja on the 17<sup>th</sup> June, 2011.
- [2] Jigawa State Afforestation Programme- JIGAP. (2015). Second Forestry Project. Unpublished Project Brief by the JIGAP Head Office Mallam Madori. Jigawa State.
- [3] Federal Ministry of Environment- FME (2013). Assessment of Desertification in Borno, Yobe and Jigawa States. MIREC Solutions International Ltd, Abuja.
- [4] Oloyede, I. O. (2008). Afforestation and Reforestation: The Unilorin Experiment. Presentation at the High Level Technical Workshop on Afforestation and Climate Change in Africa. Organised by the Centre for Human Security of the Olusegun Obasanjo Presidential Library (OOPL) & Nigeria Tree Planters from December 15 –17, 2008.
- [5] Asdrasko, K. 1990. Climate Change and Global Forests: Current Knowledge of Political Effects, Adaptation and Mitigation Options. FAO, Rome.
- [6] Omofonmwan, S. I., and G. I. Osa-Edoh (2008). "The Challenges of Environmental Problems in Nigeria." *Journal of Human Ecology* 23.1: 53-57.
- [7] Dharam, P. G. (1991): *The Political Economy of Oil Gas in Africa. The case of Nigeria, Lagos, Nigeria: Taylor and Francis Publishers.*
- [8] National Bureau of Statistics (NBS) (2017): Premium Motor Spirit (Petrol) Price Watch 2017 <https://www.proshareng.com/admin/upload/reports/PremiumMotor017.pdf>.
- [9] Peter E. A (2011): The Impact of Oil Price on The Nigerian Economy. JORIND (9) 1June, 2011. ISSN 1596-8303 [www.transcampus.org/journals](http://www.transcampus.org/journals). [www.ajol.info/journals/jorind](http://www.ajol.info/journals/jorind).
- [10] Hassan, B. (2012). The Presidential Initiative on Afforestation: Prospects and Challenges. Being a Presentation at the Stakeholder Forum/ Eco-Fair at the State Secretariat Conference Hall, Katsina.
- [11] Medugu N. I.; Majid, M. R.; Johar, F. and Choji, I. D. (2009). The Role of Afforestation Programme in Combating Desertification in Nigeria. *International Journal of Climate Change Strategies and Management*. Vol. 2 No. 1, 2010, pp. 35-47.
- [12] Mbendi, M. L. (2000): *Law and Petroleum Industry in Nigeria Lagos, Nigeria: African Books Publishers.*
- [13] Runl, O. (2010) Africa centre for leadership strategy and development. Publication of Africa new work on August, 2010.
- [14] Odjugo, P. A (2010)"General Overview of Climate Change Impacts in Nigeria." *Journal of Human Ecology* 29.1: 47-55. EBSCO.
- [15] FDA (2008): National Centre for Genetic Resource and Biotechnology Ibadan, Federal Department of Agriculture Abuja 2008. State of plant genetic resource for food and agriculture in Nigeria.
- [16] Food and Agriculture Organisation (FAO, 2010): Sustainable forest management <http://www.fao.org/forestry/sfm/24447/en/>.
- [17] FAO (2003). Experience of Implementation National Forestry Programmes in Nigeria, Sustainable Management Programme in African ACP Countries: EC-FAO Partnership Programme (2000-2003), Food and Agricultural Organization, Quebec, available at [www.fao.org/docrep/fao/005/ac918e/ac918e00.pdf](http://www.fao.org/docrep/fao/005/ac918e/ac918e00.pdf).
- [18] Kalu C., Edet, D. I. and Chukwuenye, C. E. (2014). Assessment of Afforestation and Reforestation Efforts by Forestry Department, Ministry of Environment, Imo State. *Journal of Research in Forestry, Wildlife and Environmental* Volume 6, No. 2 September, 2014. ISBN: 2141 – 1778. Ltd, Abuja.
- [19] Kamal M. I and Sulaiman I M (2016) A Review of Afforestation Efforts in Nigeria. *International Journal of Advanced Research in Engineering and Applied Sciences*.
- [20] Federal Government of Nigeria (2012). National Strategic Action Plan for the Implementation of the Great Green Wall for the Sahara and the Sahel Initiative. Federal Ministry of Environment, Abuja, Nigeria.
- [21] World Bank (1998): *The World Fact Book* A publication of World Bank.
- [22] Jigawa State Afforestation Programme- JIGAP. (1998). Interim Project Completion Report of the Activities of JIGAP Second Forestry Project. MallamMadori, Jigawa State.
- [23] Angelsen, A. and Kaimowitz, D. 2001. Agricultural technologies and tropical deforestation. CABI Publishing, Wallingford, United Kingdom.
- [24] Rhett Butler (2014): Environmental issue in Nigeria <http://www.pgrfa.org/gpa/nga/Nigeria2>.
- [25] Capistrano, A. D. 1994. Tropical forest depletion and the changing macro economy 1967-85. In: *The Causes of Tropical of Tropical Deforestation. The economic and statistical analysis of factors giving rise to the loss of the tropical forest*, eds. Brown, K. and Pearce, D. pp 65-85. UCL Press.
- [26] Penny, R (2009). *Desertification and Deforestation in Nigeria. Land Use, Land Cover and Earth Sciences Vol V. Cape Town South Africa.*
- [27] Egbewole Zaccheaus Tunde, and Rotowa Odunayo James (2017). Effects of Declining Paper Industry on Nigeria Economy and the Way Forward. *American Journal of Agriculture and Forestry*. Vol. 5, No. 6, 2017, pp. 181-187. doi: 10.11648/j.ajaf.20170506.11.