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## Analysis of the Impacts of Oil Production in Nigeria and Revenue Management Toward Development

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### ABSTRACT

The study examines the history of oil discovery and production in Nigeria, from pre-World War I efforts in 1908 to the final discovery in 1956. It analyzes the changing nature of ownership and control of revenue generated from oil production, focusing on the resource curse and greed and grievance theories. The study reveals that the gift of oil has been detrimental to Nigeria, and the greed of the ruling elite and international oil companies (IOCs) has caused collective grievance in the oil host communities. Individual greed can also act as a motivation for rebellion. The study uses quantitative research design and secondary data collection from the World Bank's statistics news bulletin and [eia.gov](http://eia.gov) on merchandise export, GDP, GDP growth, and annual greed and grievance report between 1960 and 2010. The study also considers the scope for and barriers to IOC's influence on revenue management towards development through the Cooperate Social Responsibility (CSR) employed by IOCs. The study highlights the need for Nigeria to follow transparency measures set out by the Extractive Industry Transparency Initiative (EITI) to achieve the levels of transparency found in the United Kingdom and Norway. This would lead to more funds being channeled to the disaffected, job creation, and rapid development, disproving the conjecture that petroleum is the "devil's excrement" and potentially a blessing from God.

**Keywords:** Oil Production, Revenue Management, Development, Greed and Grievance

## 1. INTRODUCTION

In the world today, the effect of oil resources has increasingly yielded development in the economy and equally caused degradation on the regions of the oil producing countries without sparing the livelihood of the inhabitants of that environment [1].

*“I call petroleum the devil’s excrement ... It brings trouble, waste, corruption, consumption, our public services are falling apart. And debt.” (Alfonso 1975)*

The above statement by the Venezuelan Oil Minister & Founder of OPEC (Shankleman, 2006: 40) in 1975 is very pertinent and illustrative of the rather ironical nature of the discovery and production of oil and gas in Nigeria. Prospecting for oil in Nigeria began in the colonial era of 1908 by a German company called Bitumen Corporation in what is now known as Ondo State [1] however, due to onset of the first world war in 1914 of which Germany played a major role in Central Powers (which fought against the Allied Powers), Bitumen Corporation abandoned its efforts without the discovery of Oil. Oil prospecting began again in earnest in 1937 by Shell D.

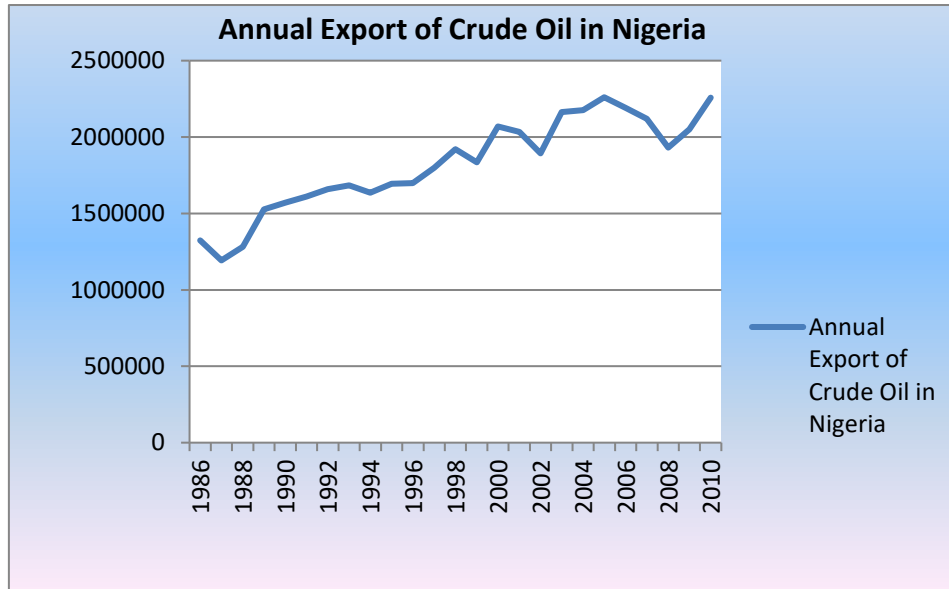
Arcy (presently, Shell Petroleum Development Company -SPDC), like its predecessor Bitumen Corporation, Shell D. Arcy’s efforts were stalled by the onset of the Second World War in 1939, however, unlike its predecessor Shell D. Arcy returned to explore for oil in Nigeria two years after the end of the Second World War in 1947. After sustained efforts lasting for about nine years, the first potential commercial quantities of oil were discovered in Oloibiri (present day Bayelsa State in the Niger Delta) in 1956. In 1958, two years prior to Nigerian independence from Britain in its struggle for nationalism, Shell D. Arcysuccessfully started its oil production of 5,100 barrels/day of crude oil in 1958. The independence of Nigeria from Britain in 1960 afforded the nation the opportunity to open its doors to other competitors, and in 1961 exploration rights were given to other international oil companies (IOC’s) such as Agip, Mobil, Elf, Tenneco and Amose as in 1961. Nigeria joined OPEC as its 11<sup>th</sup> member in 1971, and presently there are 24 IOC’s and 34 local oil companies operating in Nigeria with a host of local and foreign servicing companies [2]. The presence of these companies in Nigeria has enabled a huge rise in oil production capacity, with the government’s total revenue increasing from 1% in 1958 to about 98% and 90% in the 1990s [3].

**Table 1.** Data obtained from eia.gov

Year	Nigeria Annual Crude Import	Nigeria Annual Crude Export	North America Crude Export
1986	18.39167	1324.265	1973.347
1987	18.43453	1192.762	2090.875
1988	20.7377	1281.788	2128.382
1989	16.41967	1525.9	2009.68

1990	16	1570	1994.49
1991	0	1610	2196.947
1992	0	1658.661	2221.735
1993	0	1684	2287.691
1994	0	1636.227	2308.171
1995	0	1695	2356.328
1996	0	1699	2682.661
1997	0	1798.5	2943.568
1998	0	1921.18	3063.724
1999	0	1834.2	2837.019
2000	0	2069.177	3065.519
2001	0	2034.1	3041.39
2002	0	1893.2	3074.647
2003	0	2163.5	3357.161
2004	0	2176.1	3481.145
2005	0	2260.33	3413.714
2006	0	2190.28	3465.9
2007	0	2120.22	3124.554
2008	0	1931.94	2893.47
2009	0	2051.18	2698.435
2010	2.333	2256.82	2747.998

As Figure 1 illustrates there has been a steady increase in oil export from Nigeria since the 1980s (with the exception of 1987, 1999, 2002 and 2008). Also reflective of this increase in export is the difference between the first year of measure (2005 = 2260.33Mbpd) and the last (2010 = 2256.82 Mbpd). Presently, revenue generated from oil and gas exports contributes over 98% of Nigeria's export earnings [4]. This steady increase in revenue gained from oil and to some extent gas, has seen Nigeria slowly abandon its other industries such as agriculture, which was the major source of revenue [5]. A mono-economy derived this way is theorised to be a symptom of the Dutch disease which will be expanded on in the last section of this paper.



**Figure 1.** Annual Export/Import of Crude in Nigeria, data obtained from eia.gov

## 2. MATERIALS AND METHODS

The study employed quantitative research design and secondary source of data collection. The data was obtained from World Bank’s statistics news bulletin and from eia.gov on merchandise export, GDP, GDP growth and annual greed and grievance report between the year of 1960 to 2010. The data obtained using both descriptive which includes (tables, simple percentages and mean) and inferential statistics which was used to test the hypotheses. The results obtained were plotted using the Microsoft office excel as shown in Figures 1-6. The graphs were all discussed and conclusion made based on the findings and objectives of the study. The regression equation used can be computed as;

$$Y_0 = B_0 + B_1X_1 + B_2 X_2 + \dots \mu$$

where

- Y<sub>0</sub> = dependent variable
- X = Independent variable
- B = coefficient
- M = Error term

## 3. RESULT AND DISCUSSION

In consideration of the figures above, one would assume that the discovery of petroleum in Nigeria would afford the nation to develop at an exponential rate, then why would someone as prominent and knowledgeable about the oil industry as Alfonso call petroleum the “devils excrement”? The Federal Government of Nigeria and the oil companies have profited

monumentally from the proceeds of crude oil in Nigeria [4] while the oil bearing host communities have received relatively none of this revenue. Rather the oil bearing host communities have suffered to a great extent from various forms of pollution and exploitation [6]. In recent years both local and international news reports as well as academic reports have been flooded with news of the conflict resulting from oil production in Nigeria [7]. This conflict is not new, it can be traced back to the early days of oil exploration in the 1950s in Nigeria but it has escalated since the 1990s, particularly in the Niger Delta which contributes most of the oil and gas [8]. Various militant groups within the Niger Delta have taken arms against the federal government of Nigeria and the IOC's operating in the area, leading to suspension of production bases and kidnapping of expatriates. The major reasons for the conflict is usually attributed to underdevelopment, environmental degradation, greed of the ruling elite, the grievance of host communities, marginalization, exploitation, political and socio-economical neglect [9].

**Table 2.** Data obtained from World Bank

<b>Year</b>	<b>Merchandise exports (current US\$)</b>	<b>GDP (current US\$)</b>	<b>Nigeria GDP growth % (Current US\$)</b>	<b>Nigeria Annual Greed and Greivance</b>	<b>GDP growth (annual %)</b>
1960	462000000	4196174380		11.01002862	
1961	485660000	4467287732	6.460964867	10.87147346	0.191795489
1962	467880000	4909399025	9.896637949	9.530290726	4.10299259
1963	520100000	5165590042	5.218378366	10.06854969	8.57861892
1964	600880000	5552931029	7.498484867	10.82095198	4.950488659
1965	748580000	5874422512	5.789581767	12.74303982	4.884976838
1966	795620000	6366792664	8.381592431	12.49640191	-4.25051419
1967	676900000	5203135937	-18.27696908	13.00946214	-15.7436282
1968	591080000	5200895982	-0.0430501	11.36496485	-1.24836025
1969	891100000	6634187316	27.55854643	13.4319391	24.19738395
1970	1239840000	12545849083	89.10905715	9.882471818	25.00724192
1971	1814610000	9181769912	-26.81428056	19.76318311	14.23753156
1972	2179980000	12274416018	33.6824614	17.76035615	3.36426203
1973	3461950000	15162871287	23.53232337	22.83175748	5.392760483
1974	9204530000	24846641318	63.86501506	37.04536916	11.16067455

1975	7834310000	27778934625	11.80156814	28.20234147	-5.22774756
1976	10566300000	36308883249	30.70653623	29.1011429	9.04235173
1977	11838700000	36035407725	-0.753191778	32.85296531	6.024117846
1978	9937690000	36527862209	1.366585019	27.20578046	-5.76415839
1979	17334100000	47259911894	29.38044834	36.67823173	6.759430935
1980	25968000000	64201788077	35.84830251	40.4474716	4.204831047
1981	17845000000	59918536009	-6.671546378	29.78210282	-13.1278805
1982	12185000000	49763409962	-16.94822124	24.48586222	-0.23469532
1983	10357000000	34950458716	-29.76675284	29.63337358	-5.29448444
1984	11856000000	28182543199	-19.36431099	42.06859515	-4.81833962
1985	12548000000	28407930899	0.799742233	44.1707636	9.704754119
1986	5155000000	20210788382	-28.85511988	25.50617968	2.513578195
1987	7365000000	23441334769	15.98426704	31.41885935	-0.70035647
1988	6875000000	22847726915	-2.532312512	30.09052071	9.899484754
1989	10000000000	23843508697	4.358340705	41.94013611	7.20031768
1990	13596000000	28472471051	19.41393111	47.75138756	8.196016108
1991	12264000000	27313352202	-4.07101599	44.90111616	4.755593842
1992	11886000000	32710369046	19.7596282	36.3371015	2.918230506
1993	9908000000	21352759382	-34.72174113	46.40149698	2.199483274
1994	9415000000	23663389441	10.82122464	39.78719965	0.1
1995	12342000000	28108826038	18.78613631	43.90791698	2.5
1996	16153000000	35299150000	25.58030689	45.76030868	4.3
1997	15207000000	36229368992	2.635244735	41.97423368	2.7
1998	9855000000	32143818182	-11.27690303	30.65908332	1.879438638
1999	13856000000	34776040200	8.188890329	39.84352422	1.100377306
2000	20975000000	45983600313	32.22782136	45.61408819	5.4
2001	18045000000	47999775243	4.384552135	37.59392603	3.1

2002	17975000000	59116847821	23.16067632	30.40588371	1.548922781
2003	24031000000	67656023324	14.44457176	35.51937997	10.3
2004	38631000000	87845420492	29.84124129	43.97611143	10.6
2005	50467000000	1.12249E+11	27.77969372	44.96002252	5.4
2006	58726000000	1.46867E+11	30.84111759	39.98574637	6.2
2007	66605950000	1.65921E+11	12.97329428	40.14320288	6.449828107
2008	84118000278	2.07118E+11	24.82933375	40.61358067	6
2009	55000000000	1.68567E+11	-18.61290802	32.62792829	7
2010	82000000000	1.93669E+11	14.89108542	42.34033887	7.85

The resource curse hypothesis posits that the gift of natural resources may be disadvantageous to countries that are less developed [10]. If Figure 2 is considered from the 1980s, there was a sudden drop in greed and grievance in Nigeria in 1981 (29.78) and a further drop in 1982 (24.46), however this is the lowest the index ever gets, 1983 onwards witnesses a fluctuating increase in greed and grievance, with a peak in 1990 (47.75). The difference between 1980 (40.45) / 1981 (29.78) and 2009 (32.63) / 2010 (42.34) is reflective of the fluctuating but increasing greed and grievance pattern in Nigeria. From figures above it can be suggested that the gift of natural resource in Nigeria led to greed, which led to grievance in the disaffected and later degenerated to greed.

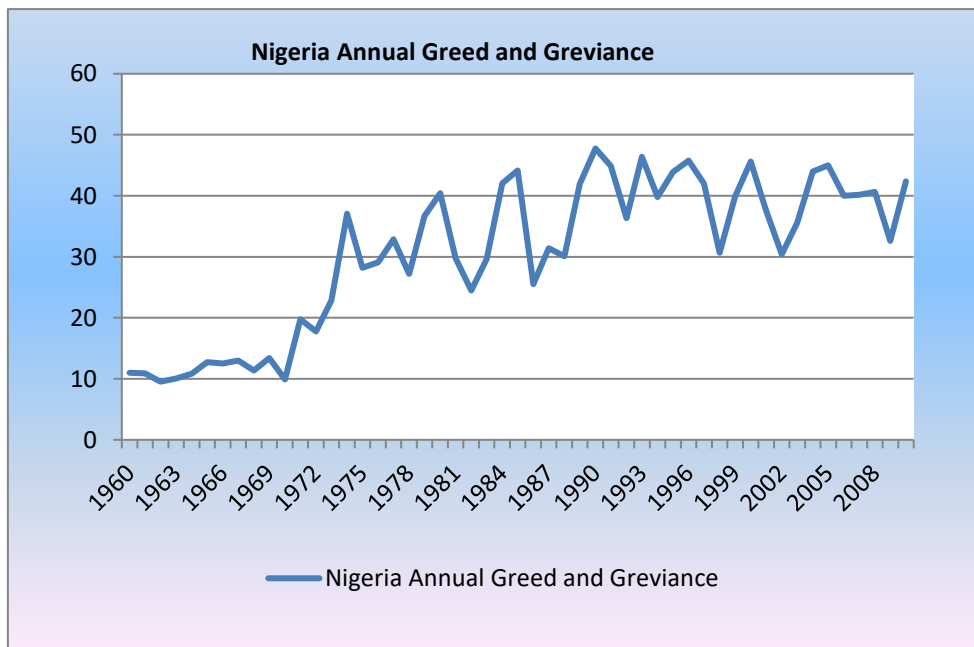
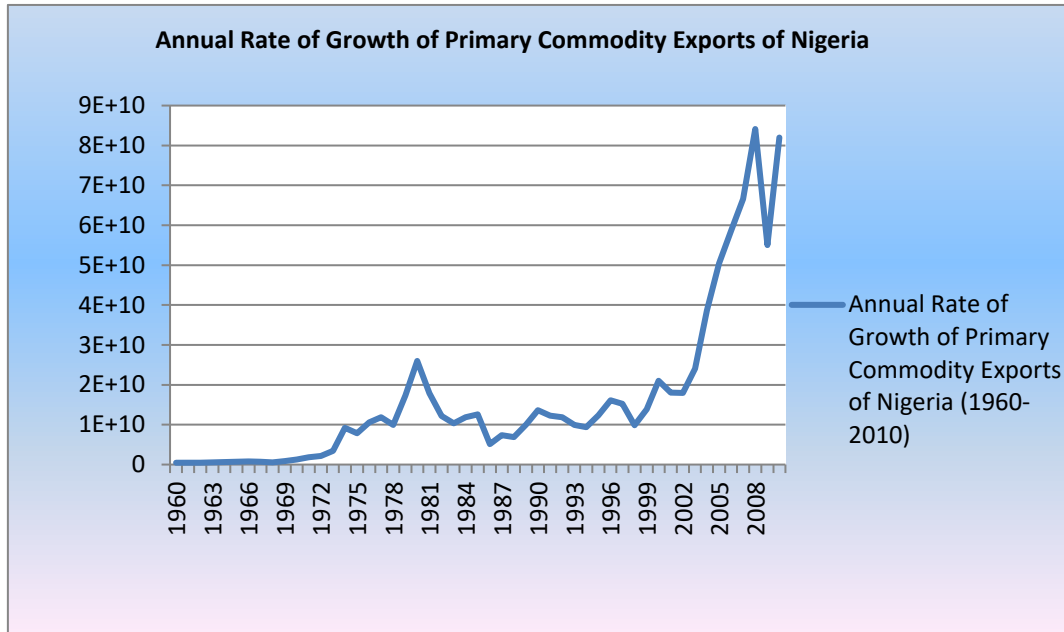


Figure 2. Annual Greed and Grievance, data obtained from Word Bank eia.gov



**Figure 3.** Annual Rate of Growth of Primary Commodity Exports of Nigeria, data obtained from Word Bank eia.gov

Figure 3 which illustrates the annual growth rate of primary commodity (crude oil) exports in Nigeriashows a similar and amplified trend, with an increase from \$25.97 billion in 1980 to \$82 billion in 2010. It is also worth noting the comparison between the high and low greed and grievance figures in 1980 (40.45) and 1981 (29.78) are followed by high and low high annual growth rate oil export in 1980 (\$25.97 billion) and 1981 (\$17.85 billion), the same pattern is witnesses in 2009 and 2010 (Annual growth rate of oil export – 2009 = \$55 billion, 2010 = \$82 billion. Greed and Grievance – 2009 = 32.63, 2010 = 42.34).

The present paper presents the case that the resource curse hypothesis in Nigeria as evidenced by the greed and grievance graph is brought on by the failure of the Nigerian federal, state and local institutions as well as the international oil companies to acknowledge and mitigate grievance in Nigeria before it developed into greed. The greed and grievance theory is an econometric model offered by [11], to explain how grievances might lead to action but later motivated by greed.

The collective action theory best compliments this view, it states that group interest, in the present case, grievances caused by the negative impact of oil and gas exploration and exploitation in Nigeria, can only be undertaken by collective action, but individuals in the collective must receive incentives, thus greed is an essential factor in the establishment of rebellion [12].

The greed and grievance theory however has more explanatory power in addressing the present conflict in Nigeria. Collier and Hoeffler’s [11] analysis shows that primary exports augment the risk of conflict, causing rebellion to seem feasible. The militants in the Niger Delta are aware of the revenue generated by Nigeria’s crude oil, this awareness and the fact that the host communities are not only underdeveloped but environmentally degraded leading to loss of livelihoods and in some cases loss of lives [13] has been a predominant motivating factor in



protesting against the greed of the ruling elite and oil companies but has also provided an incentive for the rebels.

Understanding the conflict in Nigeria, in Niger Delta in particular is important in addressing the underdevelopment in Nigeria and the uses of government revenue from oil and gas production in causing or preventing this underdevelopment. It is clear that underdevelopment is a huge source of the conflict. The Government of Nigeria has been accused of exploiting the rule of law to undermine the rights of the oil bearing communities [14], the local government cannot regulate the international oil companies operating in their communities hence there has been continuous breach of responsibility on the part of the oil companies. The government has also been accused of misappropriation of funds gained from oil production [15]. However there has been some effort by the government to address the negative effects of oil production and the conflict that has arisen thereof, for instance in the certain parts of the Niger Delta there has been construction of modern health centres, schools and transport subsidy. Nonetheless, Nigeria still faces a huge developmental challenge of providing constant electricity to its citizens even though it is the largest producer of Oil in Africa [16].

### **3. 1. Influence of Multinational Oil/Gas companies on Revenue Management**

The IOC's in Nigeria influence revenue management towards development in Nigeria through its use of corporate social responsibility. Corporate social responsibility (CSR) was first introduced by Bowen in 1953, and early CSR models were developed in the 1960s, it is generally viewed as philanthropic and voluntary responses by business, initiated to relieve social ills or profit a disadvantaged group [17]. In Nigeria, in reaction to the escalating conflict in the Niger Delta resulting primarily from underdevelopment and the degradation of the environment through various forms of pollution, the IOC's have paid out huge sums of money towards the development of their host communities and as compensation for environmental degradation, loss of livelihood and land/water spaces. But as [11] explain, that rebellion can be motivated by greed is reflective of the huge rents paid to the ruling class, it stands as an incentive available to be gained in the event of successful rebellion. In Nigeria, this is evident in the seven different coup d'états that have taken place, from the first in 1966 to the last in 1990 [18] with a former military head of state Babangida who ruled from 1983-1990 believed to be one of the richest men in the country [19].

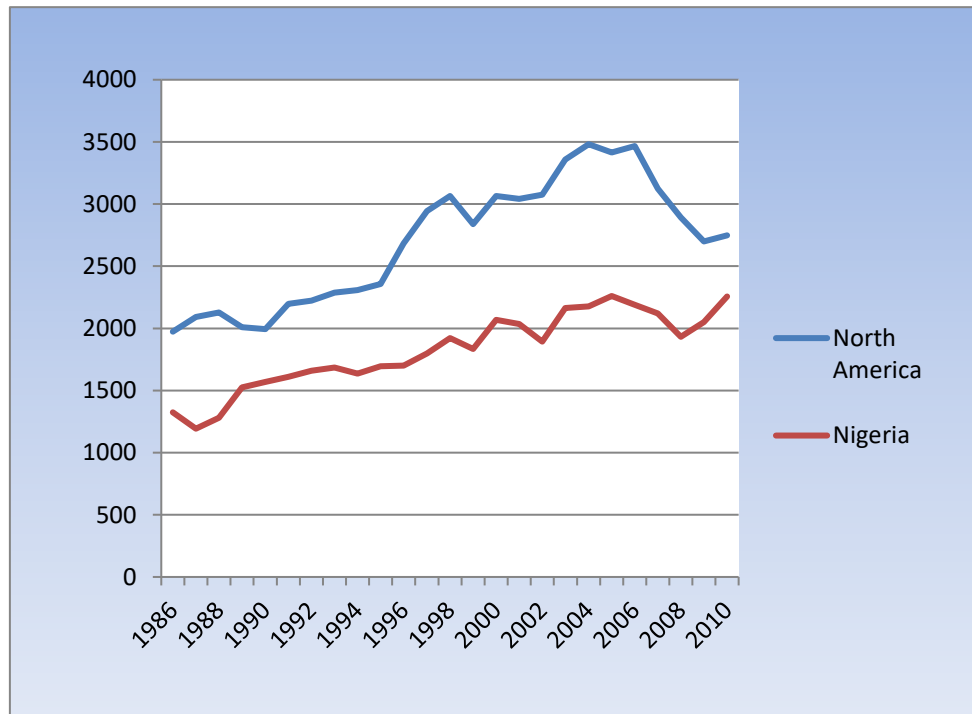
IOC's like Shell for instance through CSR take the initiative to directly develop local host communities and invest in the education of the indigenes of their host communities around the world, although the big IOC's in Nigeria like Shell, Elf, Chevron and Agip have scholarship funds, they are inadequate and the greed of some individuals who are conversant with the application process make multiple fraudulent applications to appropriate the money, denying other indigenes a chance to benefit from the scheme. Corruption as such spreads through to the government, making it difficult for the international companies to influence revenue management. Such influence has been successful in other parts of the world, for instance through production sharing agreements (PSAs) and Joint Operating Agreements (JOAs) which specifies the roles of the governments and IOC's in developmental and other ventures.

In cases where IOC's deal directly with their host communities to alleviate their grievance they have no option but to deal with the local elite (Kings, chiefs and elders). These elite have been repeatedly found to be guilty of greed, appropriating the money for themselves which leads to further unrest and grievance among the other locals, this is also a contributing factor to

the conflict in the Niger Delta. Considering the facts mentioned above, if the IOC's in Nigeria really aim to make a sustained difference in development through their CSR initiatives beyond their rapport with the government and other elite, they should invest directly in the community by engaging in projects such as the purchase land to build free hospitals, modern schools, good roads and technical colleges, as well as replacing polluted sources of drinking water. Efforts such as these would not only treat and educate the indigenes of their host communities but provide employment opportunities and contribution toward ending the conflict.

#### 4. CONCLUSION AND RECOMMENDATION

Nigeria can learn from developed oil and gas producing countries by seeking help and working with international environmental and welfare organisation with transnational experience, bodies such as the United Nations (UN), International Non-Governmental Organisations (INGOs) such as Oxfam and CARE International. These bodies have an extensive experience of working with a number of countries and can contribute much to the management of oil and gas revenue in developing Nigeria. Oil production is not peculiar to Nigeria; other countries have managed to successfully navigate through managing the revenue derived from oil and gas in national development [20]. The IOC's have also been complacent in the underdevelopment in Nigeria, they have been accused of economic opportunism [14]. Nigeria should place better accountability on those IOC's as is done in countries like the UK and Holland.



**Figure 4.** Comparative Crude Oil Export Between North America and Nigeria data obtained from eia.gov

Nigeria can learn by better understanding and employing economic and other theories such the greed and grievance theory in the management of their oil and gas revenues. A basic understanding of [11] model would inform of the dangers of primary commodity exports, lack of male secondary education per capita income, and to a lesser extent low wages and ethnic dominance. All these factors feature prominently in the conflict region of Nigeria (Niger Delta). Knowledge and understanding however is insufficient; contingency planning must be put in place, examples used by developed countries include: scenario planning, preparedness planning and all-hazards emergency planning [21]. The handling of the recent oil disaster in the Gulf of Mexico is a good example of the importance of appropriate legal infrastructure and accountability.

A prominent lesson Nigeria ought to learn from a developed nation like the North America is the danger and economic stalemate brought on by the Dutch disease. North America produces a significant amount of oil, as Figure 4 illustrates, North America has always produced more oil than Nigeria, yet it boasts a number of other industries such as wholesale electronic markets, rubber production, freight, motor parts, artificial synthetic fibres, etc [22]. Nigeria must better understand the disadvantages of a monopoly and encourage the development of other sectors.



Figure 5. Nigeria GDP Growth % (Current US \$), data obtained from World Bank

As Figure 5 illustrates, the economic health of Nigeria has not shown any significant improvement over the years. There is a significant difference in GDP growth between 1980 (35.85) and 2010 (14.89). This downward trend is indicative of the ill-health of Nigeria's economy.

Like the developed oil producing nations, Nigeria has to rectify its Petroleum Act of 1969 which vests the ownership of petroleum rights in the federal government with no mention of local governments of the oil producing communities [23].

It is important to rectify this law because the IOC's are immune from any intervention from the local governments. Nigeria can also learn from other developed countries afflicted with the Dutch disease like Alaska and Norway who have systematically channelled the revenue gained from oil production in reducing national debt and stabilizing their economy. Nigeria should better engage the International Monetary Fund (IMF) and the World Bank in benefit sharing projects[24], a good example of this is in Asia where the Asian Development Bank (ADB) channels funds toward development rather than to greedy governments.

Nigeria should seek assistance from international bodies to apply pressure on the IOC's and the government in their management of revenue. For instance, Transparency International advocates the exposition of all payments made by IOC's to the government of their host nations, a huge benefit of this is that it would lead to accountability and concerned bodies would be provided with evidence to persecute government officials if they sense any form of corruption. The United Kingdom and Norway are two oil/gas producing developed countries that advocate the Extractive Industry Transparency Initiative (EITI), established in 2002 at Johannesburg. Nigeria joined the EITI in 2003 and launched the Nigerian Extractive Industries Initiative (NEITI) a year later in 2004.

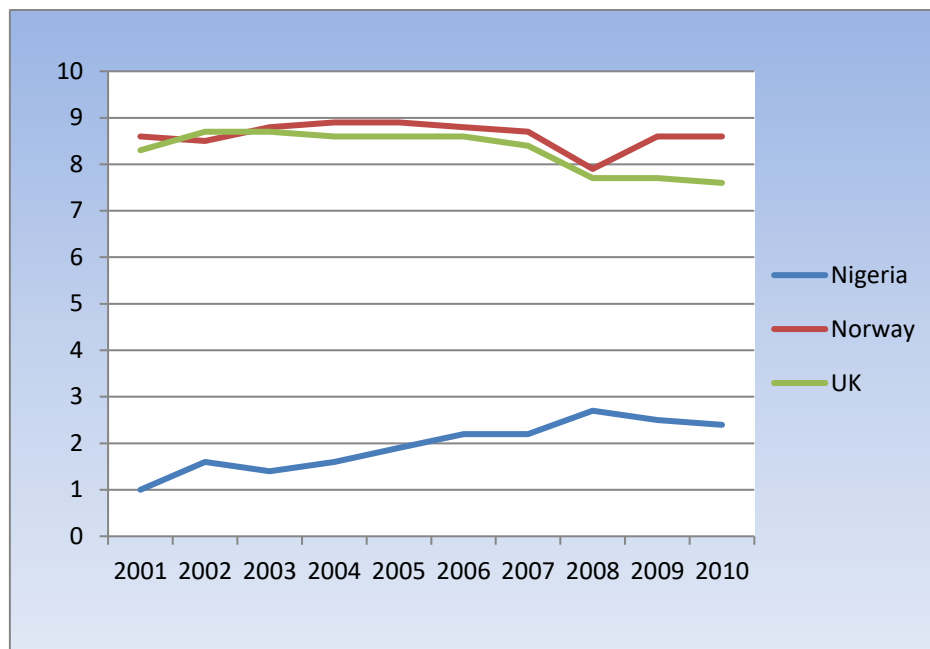


Figure 6. Data obtained from [www.transparency.org](http://www.transparency.org)

The Transparency International Corruption Index (CPI) illustrates the degree of corruption as estimated by academics and other professionals, the scores range from 0 [highly corrupt] to 10 [highly clean] [25]. As Figure 6 illustrates, in comparison to the UK and Norway, Nigeria scores very low on the CPI, indicating the level of corruption in the country, and prior to 2004 Nigeria consistently had one of the worst scores globally. Having upon joining the EITI in 2003, as Figure 6 illustrates, there has been a steady increase in Nigeria's CPI score. Nigeria needs to continue with this trend to someday attain similar scores as the UK and Norway. Transparency at this level will ensure that the host communities are not sidelined by greedy

individuals in the ruling elite. Complete transparency in the management of resources gained from oil and gas production in Nigeria will mean that more funds are channeled to the disaffected, job opportunities are created and development will occur at a rapid pace. If this happens then it would disprove the conjecture that petroleum is the “devil’s excrement” but perhaps a blessing from God.

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