

An Assessment of the Impact of Nigeria National Petroleum Corporation on Nigeria Oil Sector, 1999-2017

Haruna Mohammed Isma'il and Prof. (Mrs.) Marietu Tenuche

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Abstract: Studies have revealed that Oil and Gas sector is one of the leading industries in the world that generate large amount of revenue to International Oil Companies (IOCs) and oil producing states. The more developed and impactful the performance of National Oil Company (NOC) on the oil sector, the more vibrant and impactful it will become on the citizens. With the discovery of crude oil in commercial quantities at Oloibiri, (Bayelsa state), Nigeria in 1956, the oil and gas industry became a huge potential to aid the government to achieve its political and socio-economic needs of Nigerians. The pursuit of Nigerian government on its agenda to sustain itself and adequately enhance absolute control of the petroleum sector steadily increased its pace after the adoption and passage of the United Nation Resolution on Permanent sovereignty over natural resources and the inspiration from OPEC Resolution XVI in article 90 of June 1968, which enjoin all OPEC members to be actively involved in their petroleum industry to enable them take absolute charge and control of their collective resources.

However, the NNPC was established as an ultimate government agent to secure national interest in the industry, through the pursuit of commercial, socio-economic development agenda and the objectives of the government. Despite the various reforms in the NNPC it has been unable to produce the desired result in the Nigerian oil sector when compared to some other National Oil Companies (NOCs) around the world. Based on this, the study assessed the impact of NNPC in the Nigeria oil sector (1999- 2017). The principal objective of the study is to examine the contributions of NNPC to the Nigeria oil sector, Data were collected through primary and secondary sources which were further analyzed through the use of statistical table, simple percentages and graphs.

The agency theory was used to analyze the study. The study revealed that the NNPC has not fully impacted the Upstream, Midstream and the Downstream of the Nigeria oil sector due to lack of transparency & accountability, inadequate refining capacity, unstable operating environment, lack of local skill development and research and development, The study therefore recommends that NNPC should develop and boost its local skill development efforts. and the culture of accountability and transparency should as well be developed, state of emergencies should be declared on Nigerian refineries and petrochemical industries and serious efforts should be given to research and development.

Keywords: Impact, NNPC and Nigerian oil sector.

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Introduction

The Oil sector is perceived as one of the largest and most viable industries in the world that generate a large amount of revenue to oil producing state governments, International Oil Companies and other stakeholders in the oil sector. The sector is relevant to many industries and as well to the maintenance of industrial civilization, its relevance has become of critical concern for many nations. In Nigeria, the 1956 and 1957 Oloibiri, Ogoniland and other areas of Niger Delta region commercial quantity discovery of Crude Oil, became a huge potential to aid Nigeria government in achieving socio-economic and political needs of Nigerians, (Adams, 2014).

A vibrant and developed oil sector is more beneficial to its citizen, the more impactful and developed the performance of National Oil Company (NOC) on the oil sector, the more vibrant and impactful it will become on the citizens. It will simply enhance entrepreneurship, creates opportunities to promote new areas of competitive advantages, strengthen existing ones for their home countries and as well become powerful engines for socio-economic change and development, (Jeff and Ellas, 2007).

This perception aided and triggered some resolutions, such as the passage of the United Nation (UN) resolutions on permanent sovereignty over natural resources and Organization of Petroleum Exporting Countries (OPEC) resolution XVI Article 90 of June 1968, which mandated and enjoined all their members to be fully and actively involved in petroleum sector to regulate, control and enhance their oil sector, (Adams, 2014). The resolutions led to the establishment of the first National Oil Company (NOC) in Nigeria, Nigeria National Oil Corporation (NNOC) in 1971.

Due to inabilities of NNOC to effectively transform Nigeria oil sector, the NNPC Act of 1977 was created which led to the establishment of NNPC, NNOC was repealed and replaced by NNPC to reposition and as well assigned with the general duty of implementing the government's participation policy in the petroleum sector, (Gboyega *et al.*, 2011). The NNPC Act of 1977 conferred the NNPC with adequate necessary powers that it needed to be exercised appropriately to enable it to grow into a "world-class oil and gas company driven by shared commitment and excellence" (Vision), and its mission to be an integrated oil and gas company engaged in adding value to the nation's hydrocarbon resources for the benefit of all Nigerians and other stakeholders, (nnpcgroup.com).

Many NOCs around the world are playing critical roles in their local and international market and becoming more of conduit for capital, technology and know-how development such as: Saudi Aramco of Saudi Arabia is seriously investing in education, transforming its education into the knowledge-based economy. In Brazil, Petrobras has succeeded to develop leading-edge technology for deep-water exploration and production in the world. Statoil of Norway went into partnership with Norwegian research institutes and Universities to increase human development capacity, Statoil succeeded in developing a very vibrant and flourishing oil and gas sector that is globally competitive and generating massive wealth to Norway. The Malaysia Petronas invested hugely in research, developed new technologies for global exploration and production, currently operating in more than thirty-five countries of the world. India and Chinese NOCs are not left out, they are seriously making deals in Africa, Middle-east, Central-Asia, and Latin-America, (Jeff and Ellas, 2007).

However, NNPC which is the Nigerian government agent in the Nigerian oil sector is characterized with crisis ranging from lack of needed Technology, Regulatory capacity,

Capital, Market and Manpower, lack of accountability and transparency, a weak culture of refining, treating and processing, environmental degradation, lack of pipeline management, pricing marketing and corruption. All these and more necessitated this study.

Conceptual clarification

Nigerian National Petroleum Corporation (NNPC)

This is the Nigeria Oil Company (NOC) through which the federal government of Nigeria regulates controls and participates in the Nigeria oil sector. It is a state (Nigeria) owned enterprise founded in 1977 to engage in exploration and production of products like Crude oil, gas, Petroleum products, Petrochemicals and others in the oil sector.

NNPC group consists of the NNPC board, Group Managing Directors' office (GMD); seven operational units that each is headed by Chief Operational Officer (COOs) of which the account and finance units are headed by Chief Financial Officers (CFOs), the various divisions are headed by Group General Managers (GGMs), while its subsidiary companies are headed by Managing Directors (MDs), (The Economist, 2007).

According to (NNPC@OTC, 2018), apart from the exploratory activities of NNPC, the corporation is as well giving mandates and operational interests in Refining Petrochemicals and Products, Marketing and Transportation. From 1978 – 1989 NNPC built Refineries in Warri, Port Harcourt, Kaduna and also took over the Shell Refinery in Port Harcourt with 60,000 barrels capacity.

Nwokeji, (2007), submitted that: NNPC is an integrated oil and gas company which is completely owned by the federation. In 1988, it was commercialized into (12) twelve strategic business units (SBUs) covering the entire Nigerian oil sector operations which include exploration, production, refining, gas development, Petrochemicals, commercial investment, distribution and engineering.

The NNPC reform is said to be ongoing to transform the corporation from its traditional oil and gas entity status into an integrated global energy outfit by diversifying into power generation and transmission. The interest in energy was developed as the result of the need to link the huge gap in Nigeria energy market. This interest also reinvigorated the NNPC into the development of Bio-fuels agenda in Nigeria through partnership with foreign investors and state governments, in order to create low carbon economy and as well link the petroleum sector to other sector like Agriculture, which will on the long run reduce the catastrophic effects of climate change caused by fossil fuel usage in Nigeria, (NNPC@OTC, 2018).

The NNPC as the Nigerian government agent in the oil sector regulates and controls the oil activities of the sector with the major aim of enhancing the Oil industry to the overall interest of Nigerians. The corporation is into series of Agreements and contracts ranging from Joint Operating Agreements (JOAs), Production Sharing Contracts (PSCs), Service Contracts (SCs) and Memorandum of Understanding (MOU). With Oil International Companies (IOCs) like Shell, Mobil, Chevron, Total, Agip and others to enhance the development of exploration and Production of Oil activities in the Upstream, Midstream and the Downstream of the Nigeria Oil sector, (Adam, 2014).

Nigeria Oil Sector

According to the World Factbook (2014), the oil sector which is in other words petroleum industry or oil industry is the sector that engages in the global processing, exploration,

extraction, refining, marketing, transporting and distribution of crude oil and petroleum products through pipelines tankers, ship and others.

Some of the most popular products of this sector include; fuel oil (Premium Motor Spirit, aviation oil and others) and Gasoline. Petroleum (oil) is one of the major raw materials used for chemical products, which include pharmaceuticals, fertilizers, solvents, pesticides, synthetics, fragrance and plastics. However, the Nigerian oil industry is categorized into Upstream, Midstream and Downstream while Midstream operations are mostly in the Downstream.

Nwokeji (2007), pointed out that at the earlier stage the Nigerian oil sector was dominated by the IOCs but the quest for Nigerian government to take absolute charge and control of the oil sector steadily began to increase immediately after the UNs resolution passage for permanent sovereignty over natural resource and OPEC's resolution XVI in Article 90 of 1968 which enjoined every member to actively participate in its oil sector's activities to enable state government control of their God giving resources to meet their socioeconomic and political needs. This development led to the establishment of the Nigeria National Oil Corporation (NNOC) in 1971 which later metamorphosed into NNPC in 1977.

Theoretical Framework

Agency theory is among the oldest theories in Economic and management literature (Daily, Waserman, 2006). Origin of Agency theory is traced to Adam Smith (1776) in his work "wealth of nations", where he pointed out that if an organization is managed by individuals who are not the real owners, there are tendencies they will not work for the benefits of the owner(s).

Berle and Means (1932) popularize the theory in a thesis "The modern Corporation and private property" which large firm ownership structure was analyzed, there were able to demonstrate how agents were employed or appointed by the firm owners to control or manage the business operations. The theory has roots in different academic disciplines which its relevance is prominent and extensive. Several authors submitted that the agency problems are at variance and prevail in every set of the organization except personal or owner managed organizations.

Agency theory is adopted due to its suitability, appropriateness to analyze NNPC's performance and impacts on Nigeria Oil Sector.

The Nigerian Government established NNPC in 1977, saddled it with responsibilities of explorations, Refining, Transportation, Marketing and generally adding values to nation hydrocarbon resources for benefits of all Nigerians and other stakeholders.

The principal-Agent relationship analyzed that the oil resources deposited in the country belong to the people who are Chief Principal and on whose authority the government (principal) and its agencies are established. Secondly, the NNPC acts as the agent who is expected to manage efficiently and effectively utilize the Oil resources and proceeds for the general wellbeing of the Nigeria people and other stakeholders in the Oil sector.

One of the basic assumptions of agency theory is that human beings are opportunistic, individualistic and self-seeking and since the NNPC is run and managed by human beings (Agents). This agent mostly seeks to advance their interest ahead of the principals

(government and the people), that is why the industry is characterized with bad reputations for accountability, transparency corruption, mismanagement and diversion of public funds for individual gains. Also conflict of interest is another key assumption of agency theory, the government (principal) main aim of establishing the NNPC was to provide the enabling resource to the government in order to enhance security and well fare of the people (chief principals), which is the fundamental primary purpose of the Nigerian government, according to section 14 subsection 2B of the 1999 constitution of Federal Republic of Nigeria.

On the other hand, the Agent (Management and Staff) of the NNPC major interest is to maximize individual interest above that of the principals for the agent to achieve their interest they employ risk averse measures and information asymmetry, where classified information is kept from the public and government on the actual amount of petroleum product sold and what is remitted into the government account.

However, the government (principal) in its bid to manage, control and as well as to minimize agency cost came up with Governance mechanisms like executive ownership for instance, President Muhammadu Buhari took over the position of the Minister of Petroleum himself, ownership of structure and board structure, these manifested in the various reforms in NNPC and Nigeria Oil Sector, which the NNPC Act, Petroleum Industry Bill (PIB) are critical examples.

Research Method

Research Design

The study employed qualitative and quantitative approach, it embarked on a field survey to administer questionnaires and interview to determine the general view of the respondents. Yaro Yamani's approach was adopted to determine the population sample. The respondents are from NNPC and four of its subsidiaries and other stakeholders in the Nigerian oil sector which include: Organized Labour, International Oil Companies (IOCs) and government agencies in the oil sector, they are

NNPC (Nigerian National Petroleum Corporation)	CNL (Chevron Nigeria Limited)
PPMC (Pipeline and Product Management)	NUPENG (National Union of Petroleum and Natural Gas workers)
NGC (Nigerian Gas Company)	PENGASSAN (Petroleum and Gas Senior Staff Association of Nigeria)
NAPIMS (National Petroleum Investment Management Service)	MND (Ministry of Niger Delta)
NPDC (Nigerian Petroleum Development Company)	NDDC (Niger Delta Development Commission)
SPDC (Shell Petroleum Development Company)	DPR (Department of Petroleum Resources)
EMPNL (Exon Mobil Producing Nigeria Limited)	FMPR (Federal Ministry of Petroleum Resources)

Sources of Data

The study employed both primary and secondary sources of data collection. The primary source includes questionnaire and interview, while the secondary source includes: Textbooks, Journals, Thesis, Scholarly publications, industry reports journals and internet materials.

Technique for Data Analysis

The study employed descriptive statistics which entails simple percentage, cross tabulation, charts graphs and textual description.

Discussion of findings

The study assesses the contributions of NNPC as a NOC to the Nigerian oil sector in line with the NNPC Act of 1977 being its regulatory framework. The entire oil sector is categorized Upstream, Midstream and Downstream

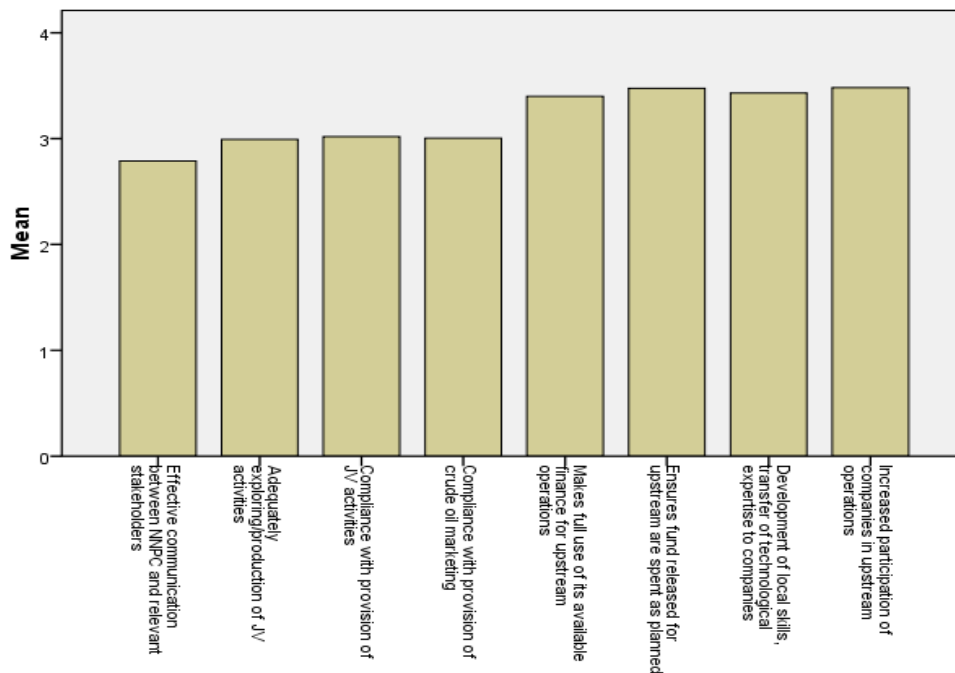
Contributions of NNPC in the Nigerian Oil Sector? (Upstream)

Table 1.1. Upstream Statistics

		Effective communication between NNPC and relevant stakeholders	Adequately exploring /production of JV activities	Compliance with the provision of JV activities	Compliance with the provision of crude oil marketing	Makes full use of its available finance for upstream operations	Ensures funds released for upstream are spent as planned	Development of local skills, transfer of technological expertise to companies	Increased participation of companies in upstream operations
N	Valid	270	271	272	268	270	273	272	269
	Missing	4	3	2	6	4	1	2	5
	Mean	2.76	2.98	3.02	2.99	3.38	3.47	3.43	3.48
	Minimum	1	1	1	1	1	1	1	1
	Maximum	5	5	5	5	5	5	5	5
Source: Fieldwork, Oct, 2018									

Table 1.1 showed the mean distribution of NNPC contribution to the upstream of Nigerian oil sector.

Bar Chart, Mean Distribution of Contribution of NNPC to the Nigeria Oil sector (Upstream).



Source: Fieldwork, Oct 2018

Mean Distribution of Contribution of NNPC to the Nigerian Oil sector (Upstream)

The charts showed the mean distribution of the contributions of NNPC in Upstream of Nigerian oil sector.

The mean for effective communication between NNPC and stakeholders in the oil sector is 2.76, adequate exploration/production of joint ventures activities is 2.98, compliance with the joint ventures activities is 3.02, while compliance with the provision of crude oil marketing is 2.99, the mean for the full use of available finances for upstream operations is 3.38, the mean for adequate spending of funds released for upstream is 3.47, also transfer of technological expertise to local companies is 3.43 and the mean for increased participation of companies in the upstream operations is 3.48.

Table 1.2 Crude Oil Production in Barrels (1999 - 2017)

<i>Year/month</i>	<i>January</i>	<i>February</i>	<i>March</i>	<i>April</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>August</i>	<i>September</i>	<i>October</i>	<i>November</i>	<i>December</i>	<i>Total</i>
1999	66,833,899	54,769,728	68,183,900	66,232,189	68,106,730	62,338,601	63,731,974	64,562,419	64,525,931	64,371,327	63,155,101	66,865,721	773,677,520
2000	68,806,088	65,194,983	70,173,990	65,259,368	64,935,257	65,090,845	69,511,310	73,574,375	66,667,212	71,595,167	72,145,644	75,593,399	828,547,638
2001	75,357,274	68,894,274	74,752,675	72,934,730	72,297,504	68,333,658	70,468,689	73,750,870	72,329,172	73,995,816	70,779,990	71,278,931	865,173,583
2002	67,478,748	55,214,025	60,778,550	58,888,031	59,362,697	57,085,986	56,084,437	65,315,227	64,839,433	62,582,417	65,576,846	67,480,783	740,687,180
2003	73,505,292	67,360,682	68,911,052	65,537,307	69,176,036	66,245,835	69,119,539	71,513,748	68,722,694	74,639,318	73,344,267	76,075,159	844,150,929
2004	77,878,402	72,932,473	79,004,685	75,047,933	76,010,305	74,851,145	77,678,945	78,246,683	74,809,921	76,276,646	74,028,879	73,390,469	910,156,486
2005	75,540,957	68,673,572	77,139,546	73,936,531	77,878,044	75,423,440	77,794,986	77,691,546	77,510,783	79,088,685	77,141,915	80,840,614	918,660,619
2006	80,142,250	69,066,704	69,633,805	69,553,636	70,816,217	72,255,218	74,144,673	74,469,345	71,998,966	73,822,688	70,132,586	73,160,418	869,196,506
2007	71,906,265	64,750,156	66,216,317	64,669,404	60,649,421	62,433,727	67,338,234	68,125,776	69,216,517	71,990,272	67,369,351	68,335,268	803,000,708
2008	67,122,292	60,380,977	64,000,319	58,904,988	63,566,972	60,542,721	66,088,254	65,255,620	65,157,891	70,207,660	64,197,050	63,321,188	768,745,932
2009	63,052,811	57,525,048	63,607,293	55,810,242	66,789,298	64,956,068	61,803,445	67,236,056	66,204,265	69,605,025	70,635,425	73,122,964	780,347,940
2010	72,293,218	66,783,558	75,565,354	72,418,124	70,145,455	71,923,986	77,072,678	77,702,274	77,807,777	81,196,554	73,000,691	80,133,737	896,043,406
2011	76,999,393	70,233,443	70,925,125	70,494,143	75,663,674	72,626,837	72,940,002	73,487,493	71,562,039	71,177,259	69,730,586	70,405,238	866,245,232
2012	70,712,973	68,383,605	72,404,540	71,281,660	74,434,795	71,297,181	75,662,719	74,650,098	73,557,502	67,775,468	61,166,906	71,449,206	852,776,653
2013	75,303,447	62,358,212	68,559,165	66,816,918	64,014,595	60,563,907	68,067,376	71,123,086	66,519,862	69,083,768	62,647,642	65,430,118	800,488,096
2014	71,050,121	64,503,935	66,478,409	66,475,018	69,246,619	65,057,548	63,823,549	68,096,960	62,685,497	68,317,214	63,598,311	69,208,408	798,541,589
2015	67,629,390	61,682,706	64,041,004	60,392,676	63,495,192	59,192,443	67,042,847	65,385,968	65,934,836	69,082,446	65,141,190	64,437,894	773,458,592
2016	66,708,292	59,576,755	60,868,437	59,795,089	52,630,035	53,492,169	52,256,682	48,935,750	49,757,243	55,296,219	58,277,175	49,145,160	666,739,006
2017	56,954,098	50,901,246	49,567,855	53,794,121	57,956,662	58,603,065	62,463,625	61,823,669	57,920,099	60,340,900	58,754,326	60,663,787	689,743,453

Source: NNPC 2008 & 2017 Annual Statistic Bulletin

The table above showed the distribution of crude oil production in barrels with in the years under study (1999 - 2017). It showed that 2010 has a total production of (896,043,406) and since then the yearly production has being on the decline to 2017 (689,743,453).

Nigeria has a proven record of Oil and Gas production. In 2017, the Nigerian crude oil reserve stood at 37.453billion barrels and 199 trillion (SCF) of gas and the average crude oil production of 812,967,424.632 barrels and total of 15,446,381,068 barrels from 1999-2017.

The highest crude oil production between the years was in 2005 and 2004 (918,660,619 & 910,156,486) barrels respective while the lowest was in 2016 and 2017 (666,739,006 & 689,743,453) barrels respectively, (NNPC 2008 and 2017).

Despite the proven records of all oil and gas production, some larger percentage of the respondent disagreed that the NNPC is not producing enough to take care of Nigerians socio-economic need. On this basis, the Nigerian government charged and inspired NNPC to aspire to boost its production capacity to 4.5 million barrels per day and grow its reserves to 40 billion barrels at 2010.

However, at 2010, NNPC failed to meet the set target but only achieved 896,043,406 million barrels, this is so pathetic and unfortunate that the 2010 production is still the highest than every other subsequent yearly production till 2017.

The finding suggests that unstable operating environment in the Niger Delta, bad governance, lack of strict compliance with J V activities due to corruption, mismanagement & misappropriations of finances for upstream operations, lack of local skills development, lack of transfer technological expertise to local companies and the lack of increased local companies participation in the upstream operations where the factors responsible for the ineffectiveness of the NNPC in its exploration and production operations of the upstream sector.

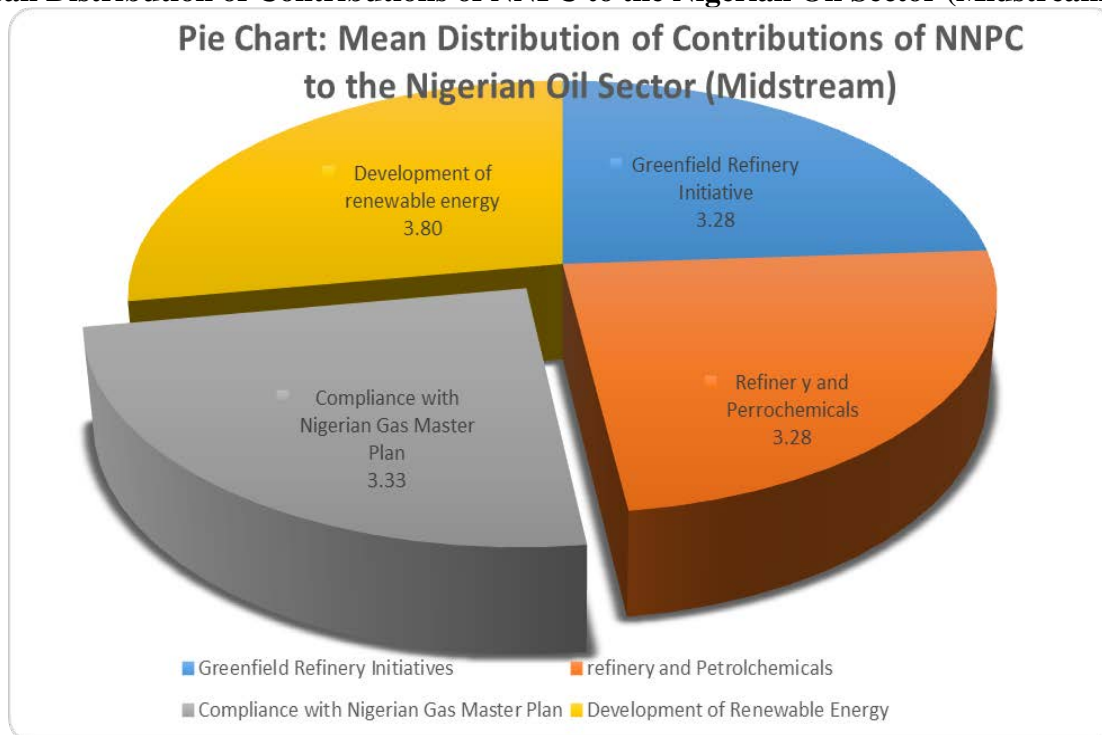
Table 1.3 Statistics

		Greenfield refinery initiatives	Refineries and petrol chemicals	compliance with Nigerian Gas master plan	Development of renewable energy
N	Valid	272	274	273	274
	Missing	2	0	1	0
Mean		3.28	3.28	3.33	3.80
Minimum		1	1	1	1
Maximum		5	5	5	5

Contributions of NNPC in the Nigerian Oil Sector (Midstream)

Source: Fieldwork, Oct 2018

Table 1.3 showed the mean distribution of NNPC Contributions to the Midstream sector through Greenfield Refinery Initiatives, Refineries and Petrochemicals, Compliance with Nigerian Gas Master Plan and Development of renewable energy.

Mean Distribution of Contributions of NNPC to the Nigerian Oil Sector (Midstream)

Source: Fieldwork, Oct 2018

Similarly, from the above pie and bar charts, the mean distribution is as follows: the mean for Greenfield Refinery initiative is 3.28, Refineries and petrochemicals is also 3.28, compliance with Nigerian gas master plan is 3.33 and development of renewable energy is 3.80. However, from the responses analyzed above, it is obvious that the NNPC needs to step up its activities or operations in the midstream sector.

The respondents' response on the NNPC Contributions in the midstream of the Nigerian Oil sector is spread over four categories.

Firstly, the respondents perceived that the Greenfield refinery initiatives is yet to be transformed into reality, but just an ongoing initiative to develop renewable energy that will safeguard and preserve the Nigerian environment from carbon emission, global warming and its catastrophic disasters, the finding suggests that the initiative will lead to strong backward economic linkages, for instance, the bye product from the cassava that will be used for bio-fuel will boost production of animal feeds. The initiative can lead to job and economic empowerment to rural dwellers and as well as help in strengthening our local industries. Secondly, Refineries and petrochemicals, in terms of impact, the respondents were of the view that NNPC has not succeeded in impacting Refineries and petrochemicals industries in the Nigerian petroleum sector. Out of the installed capacity of 445,000 bpd, NNPC hardly produces 30%. Nigerian depends largely on imported fuels and petrochemicals that attract billions of dollars that could be used to develop other critical infrastructures. The interviewees suggested that refineries and petrochemicals will be more impactful if the following can be developed and sustained: Robust research and development, Transparency, Establishment of refineries and lasting peace in the Niger Delta.

Thirdly, the respondent perceived that NNPC is not fully in compliance with the Nigeria Gas master plan. The success and achievement would have been more than the submission of

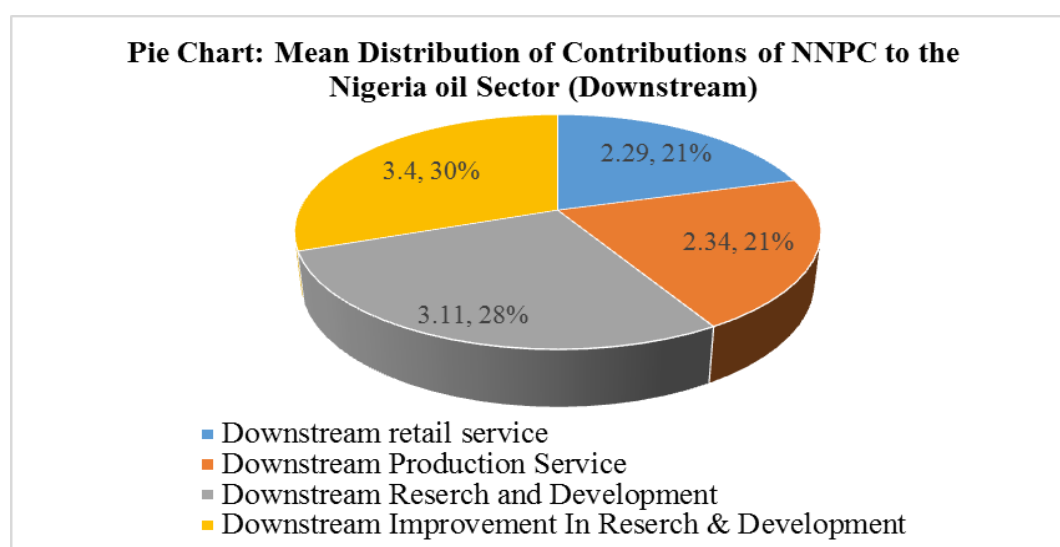
some literature, that over the years (NPDC) increased gas production to over 8.3billion SCF per day, far above the average of 7.155 SCF/D production in recent past, that even domestic gas supply increased from 700-1220 million SCF and some notable projects were completed like; Utorogu NAG-2 plant 150 million scf/d capacity, Oredo EPF2 gas plant with 100million SCF/D capacity, Odidi with 40 million scf/d capacity added with NDPC as the largest gas supplier to local market at 550million Scf/d (nnpc@ote2018). This is a clear indication that there is some level of compliance but full compliance of NNPC with Nigeria Gas Master Plan is needed. Lastly, on renewable energy, the respondent perceived that the NNPC is not developing Renewable but just the Greenfield refinery initiative which is an ongoing project since 2005.

Contributions of NNPC to the Nigerian Oil Sector (Downstream)

Table 1.4 Statistics					
		Downstream Retail services	Downstream production services	Downstream research and development	Downstream improvement in research and development
N	Valid	262	263	269	265
	Missing	12	11	5	9
Mean		2.29	2.34	3.11	3.40
Minimum		1	1	1	1
Maximum		5	5	12	5
Source: Fieldwork, Oct, 2018					

Similarly, table 1,4 displayed the mean distribution of NNPC contributions to the downstream of the Nigerian oil sector through Downstream retail service, Downstream Production service, Downstream research and development and Downstream improvement in research and development

(Pie Chart) Mean Distribution of Contributions of NNPC to the Nigerian Oil Sector (Downstream).



Source: Fieldwork, Oct 2018

The chart above shows the mean distribution of the contributions of NNPC to the downstream of the Nigerian oil sector. The mean for downstream Retail services is 2.29, a downstream production service is 2.34, downstream research and development is 3.11 and downstream improvement in research and development is 3.40. Despite some degree of success in the downstream Retail services as speculated by (www.nnpcgroup.com), in his study, this study found out that there is need for total improvement and development of NNPC activities in the downstream sector of the Nigerian petroleum industry.

The respondent's perception of the Contribution of NNPC in the downstream sector is spread over four categories; Firstly, Downstream Retail Service. The respondent perceived that NNPC has strong retail operations with a nation-wide network of retail outlets, structured for efficient delivery of petroleum allied products to the public in a competitive affordable manner that must be sustained and developed upon.

Secondly, on downstream production services, the respondent perceived that the NNPC impacted the downstream production credibly that must be sustained and developed upon based on the scorecard NNPC has been applauded for being able to sustain product supply and availability across the length & breadth of Nigeria through a dynamic approach that must be sustained.

Thirdly, Downstream Research and development; NNPC has been perceived not to have significantly contributed to research and development in the downstream sector. Some of the literature assessed submitted that for Nigeria to achieve its 70% target on the development of local skills as stipulated by the Nigerian Content Development and Monitoring Board (NCDMB), NNPC must be made to develop Research and development in the Oil sector. The study identified factors responsible for lack of local skills development in the petroleum sector which include lack of infrastructural development in remote and urban area of oil producing communities, political instability, lack of good investment climate, transparency and lack of research and development.

Summary

Summary of findings on the contributions of NNPC to the Nigeria oil sector

The focus is on the entire Nigeria oil sector (Upstream, Midstream and Downstream). Upstream sector, this study revealed that NNPC failed to make significant contributions that could increase production capacity of petroleum products and its derivatives, this clearly manifested in the NNPC's inability to meet its target of 4.5 million per day productions, 40 billion barrels reserve in 2010 as also stipulated by NCDMB. The production capacity has been on the decline from 2010 to 2017.

In the midstream sector: Refinery and Petrochemicals, the Greenfield Refinery initiative, Nigeria Gas master plan and Renewable energy were all assessed and the study revealed that the Greenfield refinery initiative is still an ongoing project which its impact is yet to felt. While on refinery and petrochemicals the NNPC has failed to contribute meaningfully due to its inability to refine more than 30% of its installed capacity of 445,000 bpd. These have made Nigeria depend mostly on imported fuels and petrochemicals that attracted billions of dollars annually as subsidy that could be used to develop critical infrastructures in Nigeria. On NNPC compliance with the Nigeria Gas Master Plan, the study revealed that NNPC compliance level is low despite the enormous progress made as reported by literature. The finding is a sharp contrast to the submission that over the years the gas production has been on the consistent rise, producing over 8.3 billion scf per day and with 199 trillion scf in

reserve. However, the study to some points agreed that there is some level of compliance of NNPC with Nigeria Gas master plan even though is not of greater level. While on renewable energy, the most pronounced and notable is the Greenfield refinery initiative which is still an ongoing initiative.

The NNPC contributions on the downstream sector are categorized into three (4), they are Downstream retail service, Downstream production service, Downstream research and Development and lastly, improvement in research and development. On Retail and Production services, the study reveals that NNPC has strong a retail operation and retail outlets that are structured for efficient delivery to the public in a competitive manner that must be sustained. But on Downstream research and development the study revealed that the NNPC has failed to contribute meaningfully and successfully due to its inability to satisfy the set target of 70% on the development of local skills in 2010 stipulated by NCDMB.

Conclusion

The study assessed the impacts of NNPC on the three streams of Nigerian oil sector, (Upstream, Midstream and Downstream). Despite the numerous effort put in place by NNPC in its upstream operations to boost its exploration and production capacity to 4.5 million barrels per day as well as to grow its reserve to 40 billion barrels at 2010, however, at 2010 NNPC failed to meet the set target by Nigerian content Act, the production capacity kept dropping even as at 2017 the situation was worse than 2010 in term of production.

On Midstream impacts, the following four indicators were assessed Greenfield refinery initiative, Refineries and petrochemicals, Nigerian Gas master plan and Renewable energy.

The Greenfield refinery initiative impact could not be evaluated due to the fact that it is still an ongoing initiative targeted to create jobs, wealth and to preserve the Nigerian environment from global warming and its catastrophic consequences. While on refineries and petrochemicals, NNPC was perceived to have failed due to lack of refining capacity and the resultant effect is the billions of dollars being paid annually as subsidy for petroleum products imported which would have been used for the development of key critical socio-economic infrastructures. However, on Nigeria Gas master plan, the NNPC has done credibly well in its compliance with the Gas master plan that has led to increasing in Gas production to over 8.3 billion scf per day above the average in recent past. Lastly, on renewable energy, no success is achieved yet but still an ongoing initiative (Greenfield Refinery Initiative).

One the downstream, the indicators assessed were downstream retail service, downstream production service and downstream research and development.

NNPC is commended for its strong retail operations with a network of retail outlets across the country, the outlets were structured for efficient delivery of petroleum products in a highly competitive manner, which must be further developed and sustained. Also, on production services NNPC is applauded for being able to sustain product supply and availability despite hitches during festival periods across the country, recommendations were also made.

Lastly, from the findings, NNPC has failed to impact research and Development in the downstream sector, this played out in its inability to achieve the 70% target on local skills development as stipulated by Nigerian Content Development and Monitoring Board, (NCDMB).

Recommendation

The NNPC has failed to impact the Upstream, Midstream and Downstream adequately in the Nigerian Oil sector. However, the study recommends the following:

1. On crude oil production (Upstream), a peaceful and stable operating environment in the Niger Delta should be sustained.
2. Local skills development should be strengthened.
3. Mismanagement, Misappropriation and Corruption on finances from upstream operation should be curbed.
4. There is urgent need for state of emergency to be declared in the Nigerian refineries and petrochemical industries for optimum production capacity that would enhance job creation and stronger economic linkages. Also, Efforts should be intensified by NNPC to ensure Greenfield refinery initiative is translated into reality.
5. Technological innovations should be employed to further strengthen the nationwide network of retail outlets structured for efficient delivery of petroleum products.
6. Finally, NNPC should be task frontally to take research and development more seriously to make a landmark impact in the Nigeria Oil industry.

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