

**THE DESTRUCTION OF ILLEGAL REFINERIES ON THE NIGER DELTA ENVIRONMENT:
AN APPRAISAL***

Abstract

The aim of this research is to discuss the practice of illegal refining of crude oil, the method of judicial destruction of illegal refineries, the pollution caused by illegal refining in the Niger Delta and to examine the impact of destruction of illegal refineries in Nigeria and people of Niger Delta. The research methodology adopted is doctrinal method by consulting text books, articles, journals and internet sources. Bunkering as used in Nigeria includes; the theft, diversion and smuggling of oil. Illegal refining of crude oil in the Niger Delta causes degradation of the environment; it destroys farms, land and forests thereby reducing arable land for farming. During illegal refining of the crude, it spills into water ways, destroying marine and aquatic life, flora, fauna, resort centres and result in the pollution of potable water. It is noted that clean up and recovery from an oil spill as result of illegal refineries is difficult and depends upon many factors, including the type of oil spilled, the temperature of the water (affecting evaporation and biodegradation) and the types of shorelines and beaches involved. This pollution arising from spills may take weeks, months or even years to clean up. On the other hand, government compounded the situation by introducing Extra-judicial destruction of illegal refineries as the punishment of an alleged offender by an authority (which includes the Joint Task Force) in the Niger Delta without recourse to legal process or supervision from a court or tribunal through a legal proceeding. It involves meting out punishment beyond the action or authority of the force and the mode is usually by setting vessels or container loaded with crude oil or illegally refined produce ablaze which creates more pollution within the Niger Delta.

Keywords: crude oil, illegal refinery, destruction, environment, pollution, economy.

1. Introduction

Oil was discovered in commercial quantities in Nigeria in 1956 in Oloibiri, which is presently located in Bayelsa State of Nigeria. Bayelsa State and all other oil producing States of Nigeria are commonly referred to as the Niger Delta regions. These includes: River State, Cross River State, Akwa Ibom State Ondo State, Delta State, Ekiti State, Edo State, Imo State and Abia State.¹ Exploration of crude oil commenced in Nigeria in 1937 when Shell D'Arcy was granted the sole concessionary rights over the whole territory of the country by Nigerian National Petroleum Corporation (NNPC)² and Shell D'Arcy drilled the first successful well.³ That same year, Shell D'Arcy changed its name to Shell-BP Petroleum Development Company of Nigeria Limited. It continued development activities in 1957 and the first shipment of crude oil from Nigeria took place in 1958.⁴ As the economy of the nation grew, demand for petroleum products was met by importation. Shortly after independence, the Shell-BP Petroleum Development Company saw an opportunity to meet the product needs of the country. It embarked on a project to build the first refinery in the country near Port Harcourt. The 38,000 barrels per day (BPSD) Shell-BP Refinery was completed and commissioned in 1965. It was a simple hydro-skimming plant. The Federal Government of Nigeria acquired 50% shareholding under a participatory agreement with Shell-BP. It was registered as the Nigerian Petroleum Refining Company (NPRC) in 1972 when the Government of Nigeria increased its shareholding to 60%, but it remained as a Joint Venture (JV) Company under private sector control and management. The premier refinery was debottlenecked in 1972 and a Naphtha Catalytic Refining Unit (CRU) added. The capacity was increased to 60,000 bpsd. The plant met all the normal petroleum product needs of the country except for bitumen which was still imported. The refinery was a fully private company and sold its products directly to the marketing companies in Nigeria under an arrangement in which they paid for stated capacities of crude supplied, lifted products, realizable from those capacities and paid the refinery a processing fee accordingly. It was a very efficient and profitable arrangement for all parties involved. The Federal Government earned tax revenue and excise duty. The Federal Government acquired the remaining 40% shares in 1978 under an outright buy out, and renamed it NNPC Refinery, Port Harcourt. It was thereafter fully Nigerianised and came under Government control. This acquisition occurred just a year after the formation of the Nigerian National

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¹ SG Ogbodo 'The Human Rights Implications of Oil Pollution in Nigeria's Niger Delta Region' cited by George Uwechu, *Law in Motion* (Enugu: Chenglo Nig. Ltd, 2012) p. 132

² NNPC archives (2018).

³ O Akpezi *Legal issues in the Niger Delta resource dilemma*. 2nd ed. (Port Harcourt: Anpez Centre for Environment and Development Publications, 2018) p. 11

⁴ S Tamuno & JM Felix, 'Crude oil Resource: A Blessing or a Curse to Nigeria-the Case of the Niger Delta.' *J Res National Development* 4(2) (2006) p. 53

Petroleum Corporation (NNPC) in 1977. The NNPC was created as a merger of the Nigerian National Oil Corporation (NNOC) and the Ministry of Petroleum was manned mainly by professionals who were recruited from the private sector International Oil Companies (IOCs) to grow capability for Nigeria to be an active player in the fast-developing Oil Industry in Nigeria. It may be necessary to state that the geopolitics of oil influenced several decisions made in the early years of the industry in Nigeria. Nigeria joined the Organisation of Petroleum Exporting Countries (OPEC) in 1971.⁵OPEC was founded in 1960 to coordinate the petroleum policies of its members and to provide member states with technical and economic aid. As a grouping of petroleum exporting countries, it could be argued that a major objective was to wrest control of pricing of crude oil from the IOCs and increase the take by the host country Governments. To a large extent, they have succeeded. Nigeria's proven oil reserves are estimated by the United States Energy Information Administration (USEIA) as between 16 and 22 billion barrels (3.5×10^9 m³), but other sources claim there could be as much as 35.3 billion barrels (5.61×10^9 m³).⁶ Its reserves make Nigeria, the tenth most petroleum-rich nation and, by far, the most affluent in Africa. Nigeria has a total of 159 oil fields and 1481 wells in operation, according to The Ministry of Petroleum Resources. Nearly, all other country's primary reserves are conciliated in and around the Delta of the Niger River, but off-shore rigs are also prominent in the well-endowed coastal region. Nigeria's petroleum is classified mostly as 'light' and 'sweet' as the oil is largely free of Sulphur. Nigeria is the largest producer of sweet oil in OPEC. The sweet oil is similar in composition to the petroleum extracted from the North Sea.⁷ By the late 1960s and early 1970s, Nigeria had attained a production level. This oil wealth and their large population gave Nigeria a voice.

By the mid-1970s, projections by the economic surveillance unit of the NNOC indicated that at the rate the economy was growing, demand for petroleum products would outstrip production by NNOC. Thus, the NNOC commenced work on a project to build a second refinery to be sited in Warri. The Warri Refinery Project was completed in December 1977 and commissioned early in 1978. It was a 100,000 bpsd conversion plant, complete with a naphtha catalytic reforming unit (CRU) and a Fluid Catalytic Conversion unit (FCCU) for gasoline. Again, all the petroleum product needs of the country were being fully met from both existing refineries. Economic activity was growing in the northern as well as in the southern parts of the country. Products were being delivered by long haul trucks to the North as well as rail. Kano and Kaduna were experiencing rapid growth, as well as sections of the middle Belt. Projections again indicated that by the mid-1980s, demand would outstrip the production capacity of the two existing refineries. It was, therefore, decided to build a third refinery and locate same in Kaduna closer to the high demand areas in the North. The Kaduna Refinery was completed and commissioned in 1980. Like the Warri Refinery, it was a modern conversion refinery, but had two parts: a 50,000 bpsd Fuels Plant with a CRU and an FCCU; and a 50,000 bpsd Lubes Plant for production of lubricating oil blendstocks and waxes and bitumen. Waxy crude required as feedstock for the Lubes Plant was imported from Saudi Arabia and Venezuela as all Nigerian crudes were naphthenic. ⁸Again, the Kaduna Refinery was successfully commissioned by NNPC and ran at full capacity utilization.

2. Meaning of Illegal Refineries

Refineries can be characterized as illegal when the source of raw material (crude oil) are gotten through unofficial means or the mode of operations are sub- standard.⁹ Nigeria is the largest producer of petroleum in Africa and the 5th among the organization of petroleum exporting countries (OPEC). In the first quarter of the year 2013, the daily crude oil production in Nigeria fluctuated between 1.86million and 2.1million barrels per day as against the estimated 2.48million barrels per day.¹⁰ This drop was linked to the incessant crude oil theft, vandalization of pipelines and illegal refineries. Though oil bunkering started as far back as 2003 when it was done as an act of vandalism to make the oil companies pay compensation for oil spill, it later degenerated to stealing and illegal of crude oil. Oil theft and illegal refinery became escalated and full blown in 2012 after the militants were granted amnesty. In the first half of the year 2012, the Nigerian government estimated as many as 4,000,000 stolen barrels a day¹¹ costing the nation up to \$1billion per

⁵ S Atumah *Vanguard* Publications 2016

⁶KO Oloruntegbe, MA Akinsete, & MO Odutuyi, 'Fifty Years of Oil Exploration in Nigeria: Physicochemical Impacts and Implications for Environmental Accounting and Development.' *Appl Sci Res* Vol5 (2009) pp. 2131-2137

⁷*Ibid*

⁸ MC Onojake, LC Osuji & NC Oforka, 'Preliminary Hydrocarbon Analysis of Crude oils from Umutu/Bomu fields. Egypt J Pet' (2012) Vol 22 No. 2 pp. 217-224

⁹<https://www.google.com/search?q=what+is+illegal+refineries&rlz=1C1AVFC> accessed 22 December 2020.

¹⁰ F Balogun, 'Mapping Impacts of Crude oil Theft and Illegal refineries on Mangrove of the Niger Delta of Nigeria with Remote Sensing Technology 2015' <https://www.researchgate.net/publication/276548376> accessed 14 December 2020.

¹¹*ibid*

month in lost revenue. It has been observed that illegal refineries and oil siphoning has become a big business with the stolen oil quickly making its way to the black market. Some of the oil is delivered to small scale rudimentary refineries in the creeks and mangroves where it is boiled to produce low grade diesel fuel.¹² According to Anderson,¹³ Sabotage is performed primarily through what is known as ‘bunkering’ whereby the saboteur attempts to tap the pipeline. Oil spills occur at every stage of bunkering process. In the process of extraction, sometimes, the pipeline is destroyed or damaged. Damaged lines go unnoticed for days and repair of the damaged pipes take even longer. It has been noted that the activities of the saboteur are more than Nigeria losing money from lost production, costly repairs and clean-up and facility downtime. It is a sad story of consistent pollution of farmlands and rivers by people who are not bothered by the effects of their actions on the environment.

The Joint Task Force (the Niger Delta focused security unit) set up by the government reported that in the first quarter of the year 2013, it destroyed 3,778 illegal refineries and seized eight vessels, 120 barges, 878 boats, 178 fuel pumps, 5238 surface tanks, 606 pumping machines and 626 outbound engines allegedly belonging to oil thieves.¹⁴ In spite of these efforts, the crude oil theft has not abated but has resulted in both economic loss and environmental detriment. Illegal oil refineries in Nigeria thrive on illegal oil bunkering, stolen crude oil and vandalism of oil pipelines and other installations. Without a doubt, these illegal oil operations are reprehensible and should not be condoned for a number of reasons. Firstly, it is improper for citizens of this country to destroy oil installation in their bid to steal crude oil as feedstock for illegal refineries. Secondly, it is lawless to set up any kind of refinery without going through the licensing process with the relevant government agency (Department of Petroleum Resources, DPR). Thirdly, it is most in appropriate for anybody, Nigerians or foreigners belonging to the state with impunity. Finally, and perhaps the most worrisome is what illegal oil refiners do with the residue (black oil) from crude oil distillation process.¹⁵ There are serious environmental and health issues involved regardless of whether they dump the residue into the river or simply incinerate it.¹⁶ Imports into Nigeria of gasoline and diesel are of worse quality than fuels produced from illegal refineries.¹⁷ The stakeholder democracy network drew a comparison between ‘official’ products legally imported into the country and unofficial products made in illegal or simple refineries using crude stolen from pipelines. The group took 91 samples of diesel, gasoline and kerosene in 2019 from fuel stations in Rivers, Bayelsa State and Lagos. The stakeholder democracy networks Calvin Laing noted that there were ‘concerning results’ from these products. Samples of unofficial diesel were reported to have Sulphur levels of 1523 parts per million while official sample contained 2044 parts per million of Sulphur. One official sample from an Oando station in Port Harcourt saw Sulphur concentration of 3020 parts per million. Levels were lower for gasoline at 401 parts per million from unofficial sources and 429 part per million for official sources. In the European Union, the Sulphur unit for diesel and gasoline is 10 parts per million. In Nigeria, standards are set at 3000 parts per million for diesel and 1000 parts per million for gasoline with no limit on kerosene. New standards were set out in 2017 but have not been implemented.¹⁸ Fuel quality is hard to enforce in Nigeria and rumors of bunding are rife. Alexander Sewll said ‘that ‘Nigeria exports high quality’ low Sulphur crude and imports low quality high Sulphur fuel, which is likely to be a major contributor to air pollution in Niger Delta and more widely in Nigeria’. Unofficial diesel is preferred locally he said, despite being more viscous as it oil seen as longer lasting. Gasoline ‘tends to be of better quality than official supplies which supports consumer preference. Artisanal (illegal) producers boast they can produce very good quality fuel and that is backed up by results.’ Illegal refiners are less competitive when it comes to kerosene though, from the foregoing it shows that importation of gasoline is not best option for the country however, illegal refineries are not encouraged.

Illegal refineries in Nigeria is facilitated by the pragmatic co-operation between security forces, motion organizations the local population, and oil company employees who use a variety of methods to steal oil from multinational oil corporations that are stationed within the country.¹⁹ Due to the lack of federal

¹² J Baird, ‘Oils Shame in Africa’ *Newsweek* (2010) p. 27

¹³ Anderson, ‘Niger River Basin Avision for Sustainable Development’ *The World Bank* 2005 pp 1-131

¹⁴ T Attah, ‘Oil theft and Arti sanal (illegal) refining in Nigeria-scale, impacts and the need for a multi-dimensional Response’ shell sub-saharan Africa December 6, 2012

¹⁵ *ibid*

¹⁶ C Nwaozuzu, destroying illegal refineries in Niger Delta Region and the idea of modular refineries www.energymixreport.com accessed 13 December 2020

¹⁷ New study from stakeholder democracy network (communities nor criminals)

¹⁸ E Reed, Nigeria’s illegal refiners take quality 2020 edge www.energyvoice.com/oilandgas/Africa/241148 accessed 13 December 2020

¹⁹ G Ibenebgu, ‘Top 10 List of Oil and Gas Companies in Nigeria’ <http://www.legit ng-nigeria new 2018> accessed 14 December 2020.

oversight and a large network of corruption, illegal refining is primarily cellular rather than hierarchical and requires frequent collaboration between a variety of random players depending on the level of theft being committed.²⁰ Each group maintain a specific role and the key players use methods such as hot-tapping and cold-tapping to perform oil bunkering and steal thousands of barrels of oil per day from established oil pipelines with which they run the illegal refineries. Local refining has grown swiftly over the past forty years providing communities with employment opportunities and filling the supply gap of refined fuel in Nigeria. The industry fills an economic vacuum where local communities suffer the impacts of oil extraction but see none of the economic benefits. The failure of the Nigerian state to provide basic public services and security in the Niger Delta has resulted in a significant breakdown of the social contract. In the face of extraordinary corruption by political elites' communities view illegal refining as what they can do to survive in the absence of mainstream livelihoods. The scale of the local refining business explains why campaigns to end it risk being met with stiff resistance or an unpredictable backlash.²¹ In the absence of alternative credible livelihoods, local refining will continue to thrive and provide a solution to the acute energy shortages, unemployment and poverty in the Niger Delta and by extension in Nigeria. This show that poor governmental welfare, poverty and corruption are the key to illegal refineries.

3. The Practice of Extra Judicial Destruction

For every illegal conduct there is a legal means of bringing the perpetrator to justice. Doing otherwise will be termed as extrajudicial punishment. Extrajudicial punishment or destruction is punishment for an alleged crime or offence carried out by an authority without recourse to legal process or supervision from a court or tribunal through a legal proceeding; such actions are carried out by state actors. It involves meeting out punishment beyond the action or authority of the force. The menace of artisanal petroleum refineries in Nigeria continues despite the extensive campaign of the Nigerian military who have burned illegal refineries and refining sites and storage facilities for illegally acquired crude oil. There are enactments and other regulations (made pursuant to some of the enactments) which based on government policy to regulate and control oil bunkering, oil spills, and prevention of illegal refining of oil.²² As a result of the escalating menace of illegal oil refining in Nigeria, successful governments have attempted various methods both judicial and extrajudicial to curb the problem of illegal oil refining in the country. The government has sought to address escalating oil theft through the establishment of a task force on national strategic infrastructure intended to monitor and respond to oil theft. They have further established a special security outfit and militarization of the Niger Delta region, increased enforcement measures. This outfit is saddled with the responsibility of registering vessels in Nigerian waters, closing markets for illegal oil, a hotline for reporting oil theft, introduction of the Nigerian extractive industries, transparency initiative, enforcement and public education efforts against artisanal refining and granting of amnesty to Niger Delta Militants.²³ The Nigerian government during the Obasanjo's administration made attempts to close the Ivory Coast refining of crude oil stolen from Nigeria, by putting in place a contract for supply of oil to the state owned refinery. Illegal oil refining or bunkering flourished during the military administration in Nigeria up until 1999 when the civilian government took over administration of the country. Worried about the rising incidents of illegal bunkering in Nigeria, Obasanjo administration particularly in the second tenure that began in 2003 took drastic measures to address the menace of illegal bunkering. A number of the ships involved in the illegal trade in the crude oil in Nigeria were seized and the perpetrators were arrested. The Nigerian government increased its military presence in the Niger Delta in 2003; which led to the deployment of a Joint Task Force (JTF) in 2008.²⁴ The joint task force comprises the army, navy and paramilitary agencies. The force has since its establishment launched offensive operations on the oil thieves and has paraded several suspects of oil thieves and operators of illegal refineries in the Niger Delta leading to the destruction or recovery of several barges, canoes, speed and large wooden boats.²⁵ During the President Yar' Adua administration,²⁶ the attacks on oil installations, kidnapping of oil workers by the militants and illegal oil bunkering was further escalated. In a bid to curb oil theft and other vices in the Niger Delta former late President Yar Adua, initiated the Amnesty programme to the Niger Delta militants. Upon his death, President Goodluck Jonathan, responded to the menace by authorizing the Nigeria

²⁰ I Ralby, 'Downstream oil Theft: Global Modalities Trends and Remedies (PDF) Atlantic council' 2017

²¹ Stakeholder democracy 'communities no criminals' illegal oil refining in Niger Delta/SDN <https://www.stakeholderdemocracy.org/sdn-report-communities-not-criminals-illegal-oil-refining-in-the-nigerdelta/> accessed 15 December 2020.

²² M Igboke, 'Oil Bunkering within the Nigerian Maritime Sector. The urgent need for Reform of Government Policies and Laws' Presented at the Annual Conference of the Nigerian Maritime Law Association in Lagos 2004

²³ B Odalonu, 'The Upsurge of oil Theft and Illegal Bunkering in the Niger Delta region of Nigeria: is there a way out?' *Mediterranean Journal of Social Sciences* 2015 <https://www.researchgate.net/publication/277898157-the-upsurge-of-oiltheft-and-illegal-bunkering-in-the-nigerdelta-region-of-nigeria-is-there-a-way-out> accessed 15 December 2020 p. 569

²⁴ M Tomas, 'Militancy in the Niger Delta University of Pits Burgh' 2010 <https://www.google> accessed 22 December, 2020

²⁵ D Ogodo, 'Oil Bunkering in the Niger Delta Nigeria's oil and gas' 2012 www.nigerianoilgas.com/oilbunkering-in-the-nigerdelta accessed 15 December 2020

²⁶ (2007-2009),

Security and Civil Defence Corps (NSCDC) to carry arms and assigned greater roles including protection of pipelines across the country. He further reached out to some counterparts in countries where the government felt some of Nigeria's crude were being refined in and where laundered funds were made as a result of illegal refining or bunkering.²⁷ Finally, the federal government has also engaged the services of some ex-militants leaders in the Niger Delta to patrol the country's just coastline and protect her strategic oil installations but all these measures are yet to yield a remarkable positive results and the fear that the problem of illegal oil refining and oil theft will span for a long time due to the sophistication of the methods used in the trade and the caliber of persons supporting the illicit affair.²⁸

4. Method of Extra Judicial Destruction of Illegal Refineries

In recent times, fighting the menace of oil theft has constituted a focus for security forces and this has led to the apprehending of hundreds of suspects taken into custody. Similarly, equipment worth several millions of dollars have either been confiscated or destroyed, and millions of metric tons of stolen crude and illegally refined products are routinely destroyed in all the places monitored by social action and this has been reported elsewhere.²⁹ In one of the main operations of the joint task force in 2015 in Oteghale in Warri-South West Local Government Area, seventy dugout crude oil reservoirs of the artisanal refiners each the size of a basketball pitch were discovered and destroyed by the troops. The pool was set ablaze with fire destroying surrounding vegetation.³⁰ Despite the best intentions of the military, they are ill-equipped to handle crude oil indeed the way that the soldiers have destroyed artisanal refining camps have exacerbated pollution and impacted adversely on local livelihoods. The default method of the JTF is the setting ablaze of vessels or containers of crude oil. The resultant conflagration destroys the equipment of oil thieves. However, burning also destroys the large swathes of land and natural habitats.³¹ While the soldiers make advances against the illegal refineries, the environmental costs of setting vessels or container loaded with crude oil or illegally refined produce ablaze are massive.³² In one operation in Delta State the Nigerian Navy Ship (NNS) Delta, under the command of commodore Musa Gemu destroyed stolen crude oil running into thousands of metric tons in the Warri-South West Local Government Area. At the end of the operation the number of illegal refineries was more than 260 units and the amount of crude oil refined products destroyed was approximately 5000 metric tons and encompassed many of the communities in the council area such as Oteghale, Otegbene Agbara Community, Bennett Island and Jones Creek. The environmental impact of thousands of metric tons of crude destroyed in these communities was of no concern to the soldiers.³³

The Nigeria Security and Civil Defense Corp (NSCDC) has reported several raids on artisanal refining sites. It destroyed over 250 illegal refineries and secured the conviction of 40 perpetrators out of the 118 arrests made in the year 2015 in the Delta region.³⁴ The NSCDC and the National Oil Spill Detection and Response Agency (NOSDRA) have also agreed to work together to checkmate the activities of pipeline vandals, oil thieves and illegal artisanal refineries in Niger Delta region. The two agencies agreed to collaborate on what to do with the crude oil and petroleum products recovered from oil thieves rather than the regular practice of destroying them and polluting the environment in the process.³⁵ However, NOSDRA is underfunded and ill-equipped to address issues of oil pollution in the Niger Delta. The agency has been faulted over and over again for not responding to spills and for depending on the air companies for logistics and other necessary support for joint investigation visits (JIVs) and post cleanup inspection (PCI). It is yet to be seen what the agency can do to curb the pollution of the environment wrought by the military and NSCDC during raids on artisanal refining sites.³⁶ It is obvious that the problems of illegal refineries are not likely to come to an end immediately as there are factors which ensure its sustenance.

²⁷ S Nwanosike, *Illegal oil Bunkering Matters Arising* (2012) www.thetide.com accessed 15 December 2020

²⁸ K Uwotu, *Does Nigerian Govt. have the Political will to Combat oil Theft?* 2013 <https://www.aan.network.org> accessed 15 December 2020

²⁹B Ogundele, (2015) *curbing illegal refineries the nation* 17th April 2015

³⁰S Oyadongha, (2015) *JTF adopts new strategy on oil theft vanguard newspapers* 3rd March 2015 <https://www.vanguardng.com/2015/03/jtf-adopt-new-strategy-on-oil-theft> accessed 15 December 2020

³¹W Odunsi (2016) *navy arrests key pipeline vandals in Niger Delta* *dailypost* 1st June 2016 <http://dailypost.ng/2016/06/01/navy-arrests-key-pipeline-vandals-in-nigerdelta> accessed 15 December 2020.

³²E Yafugborhi (2016) *oil thieves break more pipelines as navy lauds officers.* *Vanguard newspapers*, 2nd Jan 2016 <http://www.vanguardng.com/2016/01/oil-thieves-break-more-pipelines-as-navy-lauds-officers/> accessed 15 December 2020.

³³ G Ikanone & F Dumnamene, *Policy options for addressing artisanal crude oil refineries and pollution in Nigeria* 2016 www.saction.org-policyoptions-2016 p.4

³⁴A Haruna, *250 illegal refineries uncovered, destroyed in the Niger Delta* 17th July 2016 <http://www.premiumtimesng.com/news/top-new/207057-250-illegal-refineriesuncovered-destroyed-nigerdelta-html> accessed 15 December 2020

³⁵ Obas Esiedesa (2016) *the JIF NOSDRA, NSCDC partners to combat oil pipeline vandalism.* *The authority* 15th April 2016 <http://www.authorityng.com/2016/04/NOSDRA,NSCDC-partnerstocomabt-oil-pipelines-vandalism> accessed 15 December 2020.

³⁶ *Ibid*

5. Effect of Illegal Refineries on Niger Delta Environments

It is noted that severe damage is done to the environment as a result of artisanal refining of crude oil. The refining process leads to a significant quantity of wastage being dumped in rivers and streams or on land two drums of crude oil translate into one drum of product once refined. It has been discussed that a reasonable quantity of the oil burns away some seeps into the ground during the process of refining. The resulting oil spills from broken pipes and wastes from tens of thousands of makeshift refineries combine to produce enormous environmental pollution on land and in the creeks. Apart from the high risk of self-harm from artisanal refining a large number of accidents, fires and explosions occur.³⁷ It has been reported that petroleum refining contributes to solid liquid and gaseous waste in the environment.³⁸ Some of these wastes could contain toxic compound or components such as Polynuclear Aromatic Hydrocarbons (PAHS), which have been reported to be the real contaminants of oil and most abundant of the main hydrocarbons found in the crude oil.³⁹ Once introduced in the environment (PAHS) could be stable for as short as 48 hours (e.g. naphthalene) or as long as 400 days e.g. (fluoranthene) in soils.⁴⁰ They thus, resist degradation and remain persistent in sediments and when in organisms could accumulate in adipose tissues and further transferred up the trophic chain or web.⁴¹ Evidence of acute exposure to oil spill in the Niger Delta demonstrates the potential adverse health effects associated with petroleum contaminated environment. Some host communities in the Niger Delta like the Ogonis have suffered from significant environmental degradation and health impacts including increase in respiration diseases and cancer cases.⁴² The health of several Ogoni communities has been severely compromised as a result of surface and ground water contamination associated with petroleum exploration and production operations. However, there appears to be little information on potential human health risks of exposure to oil pollution in the oil producing communities in the Niger Delta Region over the past five decades. There is high probability for a wide range of toxic responses in many host communities of the Niger Delta including behavioural abnormalities, respiratory diseases, suppressed growth, induced or inhibited enzyme, adverse physiological responses, blood disorders, negative reproductive outcomes, reduced immunity to disease and parasites and cancers of the various organs.⁴³

6. Effect of Illegal Refineries on Niger Delta Economy

Nigerian economy is oil driven. The dislocation of it either through price reduction in international market, or sabotage through vandalism or bunkering has negative impact on Nigeria and Niger Delta in particular. So far, oil theft and illegal bunkering has a far-reaching impact on Nigeria economy. For example, the former Minister of Finance in Goodluck Jonathan's administration, Dr. Ngozi - Iweala put the figure of oil theft and illegal bunkering at 400,000 barrels per day, while one joint venture operators (Shell Petroleum) estimates the loss to be between 150,000 and 180,000 barrels per day. However, relying on official government figures, it means that Nigeria and her operating partners have been losing a cumulative estimate of \$40m (about N6 billion) per day at a flat price of \$100 per barrel of crude oil. This translates to an estimated N2.184 trillion per annum.⁴⁴ In another perspective, Mutiu Sunmonu, Chairmen, African region, Shell Petroleum Development Company (SPDC), posited that: 'Barges take stolen oil to tankers waiting offshore for exports. There is a massive illegal refining business based on stolen crude oil. All these have reduced the amount of oil SPDC is producing, created environmental and social problems from oil spills and reduced government revenue that could be used to develop infrastructure and services.'⁴⁵ It is found that between 2006 and 2011 alone 16,476,011 barrels of crude oil have been lost. The staggering loss translated may involve as much as \$15 billion (about 2.4 trillion) in revenue per year.⁴⁶ In recent time vandalism, illegal bunkering and oil theft activities leads to loss of revenues to the Nigerian Government and the oil firms that own the assets from which oil is stolen, pipeline vandalism, river and land pollution, environmental degradation, increased criminality and insecurity in the Niger Delta region. The impact of these illegal activities includes:

³⁷ U. E. Ite, 'Multinationals and Corporate Social Responsibility in Developing Countries: a Case Study of Nigeria' Corporate Social Responsibility and Environmental Management (2003) Vol. 11 pp. 1-11

³⁸ D. H. Ogbuagu C. G. Okoli, C.L. Gilbert and S. Madu 'Determination of the Contamination of Ground Water Source in Okrika main land with Polynuclear Aromatic Hydrocarbons (PAHS) *British Journal of Environment & Climate*

³⁹ MKZ. EL-Deeb and HI Emara 'Polycyclic aromatic hydrocarbons and aromatic plasticizer materials in the sea water of Alexandria Coastal are.' *Egyptian Journal of Aquat Rex* Vol. 31 2005 p. 15-24

⁴⁰ D.A. Martens and J.T. Frankenberg 'Enhanced Degradation of Polycyclic Aromatic Hydrocarbons in Soil treated with an advanced Oxidative Process Fenton's reagent' *Journal of Soil Contamination*, Vol. 4 p. 175-190 1995

⁴¹ J.C. Decker, *Potential-Health Hazard of Toxic Residues in sludge in sludge-health risk of land application* Ann Arbon sci. publ. inc pp. 85 85-102 1981

⁴² I. Blankson, 'Public Relations in Sub-Saharan African Global Public relations: Spanning Border Panning e.g. Cultures' London: Rout Leader 2009.'

⁴³ J. Nriagu, 'Oil Industry and the Health of Communities in the Niger Delta of Nigeria encyclopedia of Environmental Health ' Burlington: Elsevier, 2011

⁴⁴ U Igwe, Oil Theft, What Nigeria Must do. *Punch News Paper* Wednesday, July 10 (2013) p. 26

⁴⁵ M Sunmonu 'Heavily Armed and well-organized Groups attacked oil and gas Facilities in the Delta, shut down Operations of the Company, kidnapped Staff and Sabotage Pipelines'

International Journal of Advanced Academic Research | Arts, Humanities & Education Vol. 2, 8th August 2016) p.8

⁴⁶ U Igwe. Loc. Cit.

Socio-Economic Losses to the Nigerian State: These illegal activities have posed a big threat to Nigeria's economy. Its socio-economic impacts include environmental degradation, loss of economic activities for the communities, loss of revenues to the government resulting in inadequate funding for development initiatives, increased criminality in Niger Delta region, lack of security due to illegal activities and infiltration of international collaborator and bad image for the country. As a result of vandalism, maintenance of oil terminals and declaration of force majeure, the militants nearly destroyed the oil industry and, by extension, the national economy which depends heavily on oil revenue.⁴⁷ Oil thefts, illegal bunkering and pipeline vandalism have resulted in increasing loss of the nation's revenue which could have accrued from the sale of crude oil on international market. It was reported that Nigeria was at the risk of N1.458 billion (\$7.29 million) daily revenue loss on its crude exports as Shell declared force majeure on 162,000 barrels per day, Bonny light crude export (force majeure is a legal declaration which a party uses to state that it may not be able to meet its contractual obligations in a deal. In February, 2016 the NNPC was reported to have incurred N24.23 billion operational deficits, while in March 2016, the report indicated that it has declared N18.89 billion loss. The financial losses by NNPC were reported to be due to a major slump in export sales due largely to shut-in of about 300,000 barrels of crude oil at Forcados Terminal following force majeure declared by Shell in February 15, 2016. The report noted that production shut-in occasionally by vandalism at Forcados Export line has continued to drag NNPC's performance.⁴⁸ It was perhaps in view of these colossal financial losses suffered by Nigerian state as a result of pipeline vandalism and oil theft that President Muhammadu Buhari called on international community to designate oil theft as an international crime similar to the trade in blood diamonds.⁴⁹ On the whole, Nigeria was reported to have lost N12.566 billion in one month, that is, March 2016, due to petroleum products theft and vandalization of the facilities of the NNPC. According to Organization of Petroleum Exporting Countries, OPEC, source, Nigeria's oil production has dropped to 1.637 million bpd in April and further slide to 1.1 million bpd in May 2016.⁵⁰ The government is failing to meet some of its obligation and domestic debt is rising rapidly. It is noted that the negative impacts of vandalism and crude oil theft include the destruction of aquatic and farmlands, economic sabotage which explains the shortfall of Nigeria's budget and divestments by some International Oil Companies, IOCs, with attendant job losses thereby compounds the unemployment situation in Nigeria and economic recession ravaging the country today.

7. Conclusion and Recommendations

Oil pollution is caused by petroleum activities which resulted environmental degradation.⁵¹ It includes; accidental spills, oil tanker accidents, pipeline leakage, routine cleanups or discharge of oil, dumping of waste oil and activities of saboteurs. When crude oil petroleum spill into tidal waters, mobile organisms are able to swim away from the polluted environment, but substrate of sedentary organisms are smeared. Oil spillage is a fallout of oil drilling in the Niger delta region, with an estimated total of over 7000 oil spill incidents reported over a 50-year period. The Niger Delta's vast production, and subsequent spilling, of crude oil has resulted in pollution of the region.⁵² To further complicate the situation is the activities of illegal refineries which impacted biodiversity, aesthetic scenery of the forest, regeneration of plant species and destruction of wildlife habitat, disruption of water cycle and loss of medicinal plant species. Nigeria's Navy Chief said that 181 illegal refineries were destroyed last year, 748 suspects were arrested, and crude oil and diesel worth 420 billion naira (\$1.3 billion) was confiscated. The military shut down around 50 bush refineries in the first few weeks of 2017.⁵³ In the cause of these destructions so much effect is cause to the environment of the Niger Delta. This research hereby recommended the following. Government should further encourage the already licensed private investors to spring into action in earnest this will create a complete deregulation of the downstream sector of the oil industry in the country. Each modular refinery should be located where there are enough spaces for expansion in the nearest future since there is possibility of upgrading of production capacity of modular refinery with ease at cheap cost. The establishment of modular refineries within the range of 5,000bpsd to 30,000bpsd capacities by private investors should vigorously be encouraged by the federal government and be given environment that is conducive to thrive. These will deliver Nigeria from exporting healthy petroleum and importing unhealthy petroleum with high degree of Sulphur which is dangerous to the health. Special machinery should be put in place to ensure the prevention of oil bunkering, illegal or artisan refineries and pipeline vanderlisation across the Niger Delta.

⁴⁷ Tamuno, 2011 and Njoku, 2015) Vol. 3 No. 2 2017 www.iiardpub.org IIARD – International Institute of Academic Research and Development *IIARD International Journal of Economics and Business Management* p.55

⁴⁸ (Daily Sun News, 2016)

⁴⁹ S Salau, Concerns mount over continued attack on oil facilities, *The Guardian*, Wednesday, June 1, 2016, p28. [Retrieved November 15, 2016]

⁵⁰ *Ibid.*

⁵¹ J.N. Nwanko & D.O. Inechukwu, 'Problem of Environmental Pollution and Controlling the Nigerian Petroleum Industry, the Petroleum Industry and the Nig. Environment,' 1983 Lagos 102 of 103

⁵² <http://large.stanford.edu/courses/2017/ph240/nwagbo1/#:~:text=%5B2%5D%20Oil%20spillage%20is%20a,in%20pollution%20of%20the%20region>. Accessed 28 November 2020.

⁵³ <https://www.reuters.com/article/us-nigeria-oil-idUSKBN17F1BZ> accessed 28 November 2020.