

# **An Appraisal of Illegal Crude Oil Refinery Impact on Nigerian Economy\***

## **Abstract**

Illegal crude oil refining is closely linked with, and is often an off-shoot of crude oil theft, albeit on a more domestic scale. Illegal crude oil refineries have always existed in the Niger Delta creeks, and have been a thriving business for decades. They have also been used to fund the Niger Delta insurgency, and to feed the greed of many. But it has had a negative impact on Nigeria's economy. It has also caused environmental hazards. Curbing the incidence of illegal oil refining will greatly reduce domestic oil theft or oil bunkering, and pipeline vandalization, and lead to an upsurge in revenue for the Federal Government. It will reduce environmental pollution, open more investment opportunities and encourage more private investors to invest on modular oil refineries in Nigeria. This paper will suggest that the best answer to illegal oil refining would be to license modular refineries, and bring the erstwhile illegal refineries on stream, to buy the crude oil legitimately, and also pay tax, and as well become subject to regulation.

**Keywords:** *Crude Oil, illegal refinery, oil theft, economy, revenue, Niger Delta.*

## **1. Introduction**

Nigeria's economy sadly depends heavily on oil exports. Unfortunately, more attention is paid to the extraction and sale of crude oil to earn petro dollars, and no attention is paid to the local refineries. Nigeria's four refineries in Kaduna, Warri and Port Harcourt, have all stopped producing refined petroleum products, and have resorted to fuel importation.<sup>1</sup> This, and the age old menace of oil theft in the Niger Delta, called oil bunkering, have aligned and resulted in the practice of not only stealing the oil for export, but also refining the stolen oil to sell domestically, and even for export. This illegal or criminal business is pervasive in Nigeria's oil sector. To gauge the depth, the Nigerian National Petroleum Company Limited stated recently that it had destroyed about 6,800 illegal refineries between 2022 and 2024. The report said that the pillage has remained unabated in Rivers, Delta, Akwa Ibom, Abia, Bayelsa, Imo, Cross River, and Ondo states.<sup>2</sup> According to the NNPC, the illegal refineries run clandestine operations with crude and makeshift methods to the detriment of the flora and fauna. The report stated that these refineries are often tucked in remote areas, swamps, and forests. The criminals build these refineries with metal scraps, wood, and plastic. They use oil drums, containers, metal tanks, and pipes, and deploy heating processes through open fires. They pollute the nearby streams and swamps, by spilling and deposing their waste products there. This is alarming. The effects include the death and extinction of fish and wildlife, the absence and contamination of drinking water, and deaths due to the unpalatable climate. Illegal refining affects Nigeria in other ways, especially its crude oil output. The Organization of Petroleum Exporting Countries says Nigeria currently produces 1.4 million barrels per day. This is below the OPEC quota of 1.5 mbpd. Given that Nigeria's 2024 budgetary expenditure was hedged against the 1.78 mbpd production assumption, the country has witnessed gross

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<sup>1</sup> Recently with the coming on stream of the Dangote Refinery, there is some amount of local production, but part of the local consumption is still dependent on importation.

<sup>2</sup> The Punch Newspaper Editorial, 20<sup>th</sup> June 2024 <<https://punchng.com/stop-illegal-refining-save-the-economy/>> accessed on 29 September, 2024.

revenue shortfalls. The flip side of the menace is pipeline vandalism and oil theft. The Nigeria Extractive Industries Transparency Initiative stated that between 2017 and 2022, the country recorded 7,143 cases of pipeline breakages and deliberate vandalism. This led to crude theft and product losses amounting to 208.63 million barrels, valued at \$12.74 billion. Statistics show that Nigeria loses 400,000 bpd to theft, costing about \$4 million. In April 2024, the NNPC decried that it witnessed 9,000 pipeline infractions in one year, although military operations in the South-South, tagged Delta Safe, recovered four million litres of crude. Despite spending N136 billion on security, repairs, and maintenance of vandalized infrastructure in 2023, it has yielded little or no impact on the rapacious activities of criminals. The ripple effect on the environment also indirectly affects the economy, as it destroys potential agricultural resources and fertile land. The National Oil Spill Detection and Response Agency stated that 43,000 barrels of oil were spilled in 881 cases between 2019 and May 2021. The Nigerian Upstream Petroleum Regulatory Commission stated in a 2023 report that 571 oil spill incidents were witnessed, while 59.01 per cent of spills were due to sabotage. Apart from spills, illicit refining, and reckless gas flaring have led to greenhouse effect. This has triggered a rise in respiratory ailments, malnutrition, and ill health in the oil-producing states.<sup>3</sup> Nigeria must therefore re-think its strategy, to stamp out illegal refining operations in the short, medium and long term. This will go farther than to revamp the security architecture in the Niger Delta. It will also involve a re-conceptualization of its strategy, addressing the root cause of the problem, and thinking outside the box to find a lasting solution.

## **2. History of illegal crude oil refineries in Nigeria**

Oil and gas geographic expedition started in 1956 in Nigeria, when crude oil was explored in marketable quantity at Oloibiri town, Bayelsa State, Niger Delta Region. Today, roughly 34.2% of oil and 32% of gas reserves in Africa are from the Niger Delta area. In Sub-Saharan Africa, Nigeria has become a major oil producer and fifth major exporter of petroleum in the Organization of Petroleum Exporting Countries (OPEC).<sup>4</sup> Nigeria depends on the sales of petroleum, which is the mainstay of its economy. As far as the income from petroleum can take care of her people, the government is not bothered about developing other sources of revenue to sustain the economy. However, this valuable petroleum is being stolen by some group of persons from the crude oil pipelines and well heads. According to reports, Nigerian government normally lose about 300,000 barrels (bbl) of crude oil each day, because of illegal bunkering, that is about 15% of 2.4 million barrels (MMbbl) of the crude oil the country produces.<sup>5</sup> When the government's losses from oil theft were calculated and turned it to money, the nation loses about \$1.7 billion every month.<sup>6</sup> Illegal bunkering of crude oil is simply, stealing crude oil as well as its derivatives through diverse mechanism without the permission of the Federal government. Crude oil is being illegally bunkered in the Niger Delta, oil spills and explosions are frequently experienced due to unlawful bunkering of crude oil. The Shell Petroleum Development Company (SPDC) said, about 70% of the crude oil

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<sup>3</sup> On the issue of legal responsibility to third parties for injury caused by environmental degradation, see Chike B. Okosa, 'Cameroon's Liability for Downstream Damage by Waters from its Lagdo Dam', (2023) 14 (1) *Nnamdi Azikiwe University Journal of International Law and Jurisprudence* [160-171]

<sup>4</sup> Jack Jackson T.C.B., Akujobi Chiedoziem T., Dan Axe Uchechukwu, and Azubuike, Blessing O. (2016). Crude Oil Exploration and Underdevelopment in Nigeria: A Resource Curse Analysis. *Technoscience Review*, 7(1-2).

<sup>5</sup> Campbell, J (2015). A Primer on Nigeria's Oil Bunkering. Council on Foreign Relations. accessed on 28 September, 2024.< <https://www.cfr.org/blog/primernigerias-oilbunkering>>.

<sup>6</sup> *ibid*

spills in the last five years was caused by sabotage on their facilities.<sup>7</sup> In recent times, the government of Nigeria has faced a significant loss of revenue because of illegal bunkering of crude oil in the Niger Delta area. Illegal bunkering of crude oil has contributed so much in environmental, social, and security challenges in the Niger Delta area. It has also had a negative impact on the economy.

### 3. Conceptual Clarifications of Bunkering

Bunkering is simply, when an authorized worker offers services on lubricants, water, or fuel, on demand to marine services. In other words, bunkering is rendering fuel supply to ships, boats, or vehicles legally. To dispel the myths that some Nigerians have, it is important to distinguish between legitimate bunkering and illegal bunkering, sometimes known as oil theft. Illegal bunkering is when a petroleum product is being siphoned illegally from either pipeline or a well head, and load it in a ship or boat to sell at a low price. There are 3 forms of illegal bunkering: 1. Theft of condensate and petroleum products intended for the neighbourhood market on a moderate and small scale. 2. Hacking crude oil directly from pipelines or well head with a hose. 3. Employing fake bills of lading to lift more crude oil than is permitted. Operationally, unauthorized removal of crude oil is known as illegal oil bunkering or oil theft, e.g. individuals or organized gangs stealing petroleum products.

### 4. The beginning of illegal bunkering and illegal refineries

Illegal oil refinery activity began with oil bunkering and vandalism in 2003, but later transformed into stealing and selling of crude oil and illicit oil refinery activities in 2012 after the militants were offered amnesty.<sup>8</sup> This stolen crude oil is refined in illegal refineries to produce diesel and other associated products. The lack of transparency and poor governance in the industry has further encouraged illegal crude oil refineries, as the Federal Government of Nigeria has lost more than 150,000 barrels of crude oil, valued at USD 6 billion per day, to crude oil theft. Consistent with the Nigeria Extractive Industry Transparency Initiative's Report, Nigeria lost USD 41.9 billion daily to oil theft between 2009 and 2018.<sup>9</sup> Similarly, in 2013, the country's daily crude oil production slumped to 2.1 million barrels per day (mtpd), contrary to the projected 2.48 million barrels per day (mtpd).<sup>10</sup> This stolen crude oil from vandalized pipelines gives room for illegal oil refining, notwithstanding the lack of quality control of products and the presence of sub-standard operations. This has also occasioned environmental hazards which impact biodiversity, landscape and forest aesthetics, and the water cycle.<sup>11</sup> As a result, the Federal Government inaugurated a Joint Task Force in 2013, but the Task Force appears to have been compromised, considering the continued crude oil theft in the sector.<sup>12</sup> Oil exploration and production activities are currently being affected by illegal crude oil refineries activities. This has impacted the country's economy, and the problem was compounded by the decrease in crude oil prices, which has affected Nigeria's

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<sup>7</sup> *ibid*

<sup>8</sup> Balogun, T.F. Mapping Impacts of Crude Oil theft and Illegal Refineries on Mangrove of Nigeria's Niger Delta with Remote Sensing Technology. *Mediterr. J. Soc. Sci.* 2015, 6, 150–153.

<sup>9</sup> Adio, W. \$42bn Oil Theft Puts Nigeria at Risk. *Dly. Indep. News Pap.* 2019, 11, 1.

<sup>10</sup> Oludimu, S.; Alola, A.A. Does Crude Oil Output Aid Economy Boom or Curse in Nigeria? An Inference from "Dutch Disease". *Manag. Environ. Qual.* 2022, 33, 185–201. Available online: <<https://doi.org/10.1108/MEQ-03-2021-0049>> (accessed on 29 September 2024).

<sup>11</sup> Ogbodo, S.G.; Aigbokhaevbo, V.O. Oil Crimes: The Nigerian Dimension. *J. Priv. Comp. Law* 2014, 6–7, 329–348.

<sup>12</sup> Uguru, U. Sustainable Development in the United Kingdom and Canada: Critical Lessons for Nigerian Environmental Policy Makers. *Ebonyi State Univ. Law J.* 2015, 6, 50.

economy.<sup>13</sup> Nigeria had a population of over 200 million people and a Gross Domestic Product of USD 397 billion in 2019.<sup>14</sup> Nigeria is the leading economy in Africa, but illicit crude oil refineries activities and corruption have affected the country's economic policies, thereby occasioning low revenue for the government.

### **5. The Problem of Crude Oil Theft**

There are (4) four refineries in the Nigeria, located in Port Harcourt, Kaduna and Warri, which are exclusively managed by the Nigerian National Petroleum Corporation Limited with a combined working capacity of 445,000 bpd (approximately 30% of the installed capacity). Over 300,000 bbl barrels are officially allocated to local refineries to promote local content in the industry. The annual growth rate in fossil fuel commodities consumption in Nigeria is 12.4%. The average daily Premium Motor Spirit (PMS) local consumption is 30 million litres nationwide, with Lagos at 8 million litres daily.<sup>15</sup> The concept of national oil wealth has been developed in a quest for fairness in sharing natural resource revenues. Petroleum resources are perceived as a common patrimony of all Nigerians for equitable national development. The distribution of natural resource rights, with such rights not to be imperiled by exploitation and over-use of such natural resources, is considered fundamental.<sup>16</sup> Furthermore, the overall economic significance of the oil sector cannot be overstated. It is the largest sector of the Nigerian economy, with over 70% of the Federal Government's revenues emanating from the sector. Moreover, this has occasioned a shift from agriculture to petroleum, due to the massive cash flow from crude oil exports by the Nigerian National Petroleum Corporation.<sup>17</sup> This structural change renders the loss of income from the oil sector even more significant. The Nigerian oil industry has been in intense public glare due to the persistent smuggling of petroleum products despite insatiable national demands. However, the demand has also driven the development of illegal oil refineries. Legitimate refineries suffer recurrent shutdowns due to faulty equipment and low turnaround maintenance culture in the industry. But the biggest drawback is corruption. Billions of naira is voted every year for turnaround maintenance, but nothing is ever turned around, because politicians and NNPC officials divert the monies so budgeted for personal use. The comatose refineries not only encourage importation of petroleum products which place undue pressure on foreign exchange, it also results in loss of income which threatens the ability to maintain existing refineries.<sup>18</sup> Such low production capacities, and an increase in domestic demands for fuel utilization, are coupled with distribution issues. Petroleum products are transported by road due to pipeline network

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<sup>13</sup> Ogbuigwe, R. Refining in Nigeria: History, Challenges and Prospects. *Appl. Petrochem. Res.* 2018, 8, 181–192

<sup>14</sup> Abubakar, I.; Dalglish, S.L.; Angell, B.; Sanuade, O.; Abimbola, S.; Adamu, A.L.; Adetifa, I.M.; Colbourn, T.; Ogunlesi, A.O.; Onwujekwe, O.; et al. The Lancet Nigeria Commission: Investing in Health and the Future of the Nation. *Lancet* 2022, 399, 1155–1200.

<sup>15</sup> Oke, Y. Right-Based Approach to Energy Resources Governance in Nigeria. In *Nigerian Energy Resources Law and Practice Oil and Gas Law Practice, Cases and Theories*; Princeton & Associates Publishing Co. Ltd, 9: Lagos, Nigeria, 2019; p. 444.

<sup>16</sup> Olujobi, O.J.; Yebisi, T.E.; Patrick, O.P.; Ariremake, A.I. The Legal Framework for Combating Gas Flaring in Nigeria's Oil and Gas Industry: Can It Promote Sustainable Energy Security? *Sustainability* 2022, 14, 7626. Available online: <<https://doi.org/10.3390/su14137626>> (accessed on 29 September 2024).

<sup>17</sup> Olujobi, O.J.; Oyewunmi, O.A.; Oyewunmi, A.E. Oil Spillage in Nigeria's Upstream Petroleum Sector: Beyond the Legal Frameworks. *Int. J. Energy Econ. Policy* 2018, 8, 220–226.

<sup>18</sup> Olujobi, O.J.; Ufua, D.E.; Okorie, U.E.; Ogbari, M.E. Carbon Emission, Solid Waste Management, and Electricity Generation: A Legal and Empirical Perspective for Renewable Energy in Nigeria. 2022. Available online: <<https://link.springer.com/article/10.1007%2Fs10784-021-09558-z#citeas>> (accessed on 29 September 2024).

vandalization. This has critically undermined efficiency in the supply chain in the industry. There is also a problem with allotment. Independent suppliers are unable to obtain products due to a lack of access to credit facilities. The problem of crude oil theft and illegal refineries has been further compounded by the activities of ethnic militias from the Niger Delta Areas, who are purportedly fighting injustice occasioned to their people owing to ecological dilapidation and contamination from oil exploration operations in the areas. However, these militias have fused with the local vandals and oil bunkerers, actively promoting the theft activities explained above. To combat the above problems, the Federal Government set up the Niger Delta Amnesty Program to rehabilitate and reintegrate the militants responsible for crude oil theft. The Niger Delta Development Commission and the Ministry of the Niger Delta have also acted to appease and overhaul the oil extraction regions by attempting to regulate the environmental degradation caused by oil exploration activities. A Presidential Panel on Amnesty and Disarmament of Insurgents in the oil extraction regions was inaugurated on 5 May 2009, to grant unconditional forgiveness to all individuals who participated in the belligerent actions in the oil extraction areas. Reintegration and reformation of ex-belligerents, vocational training, scholarships and huge infrastructure development. Other solutions have also been proposed for example it has been suggested that the licensing of modular refineries in oil-producing areas where illegal refineries thrive will combat this menace. Modular refineries are basic refineries requiring considerably smaller amount of startup capital than the traditional full-scale refinery features. It allows incremental structural improvements without requiring constant shutdowns to ensure proper maintenance to guard against theft. Thus, modular refineries may offer a simple, efficient, easy, and fast way to increase refining capacity. The conventional refinery is an intricate operation by which crude oil is transformed into several petroleum products which are capital intensive. However, this is not sufficient to tackle the problems; a clear legal strategy is needed to underpin investment in new refining strategy, to ensure that ongoing damage caused by crude oil theft is addressed.

## **6. Main Causes of Illegal Bunkering of Crude Oil in Nigeria**

### **a. Bad Governance and Corruption**

The unlawful nature of the Nigerian oil business has become well known. The Niger Delta oil theft is believed to be made possible with the collusion of the authorities and the military. Stealing of crude oil is not possible without the cover of the authorities. Nigerian illegal bunkering and refining of oil has risen to the level of organized crime. Politicians, government officials, regulators, and even law enforcement agencies all have their fingers in the illicit trade.

### **b. Poverty and Unemployment**

The people who live in the Niger Delta region have complained over the years of total neglect by the operating oil companies and the government, as amidst the abundant resources on their land, they have been suffering from abject poverty and want. These circumstances have sparked populist unrest and provided openings for intentional crime. The Niger Delta people were mainly into agricultural activities, such as cultivation of crops, rearing of Animals, and fishing. But, since the discovery of oil in their land, the available farmlands for cultivation of crops, the natural forest for the hunting of wild animals, and the rivers for fishing have been destroyed by numerous oil spills, gas flaring, and forest fires leading to habitat damage, and desolate areas. In a quest to survive, siphoning or destruction of crude oil pipeline has emerged as a sustainable method, and sometimes the only viable alternative of subsistence.

### **c. Marginalization and Neglect**

**Charles Azubuike Obodozie & Chi. Johnny Okongwu / An Appraisal of Illegal Crude Oil Refinery Impact on Nigerian Economy**

The Niger Delta people have alleged that the cities of Lagos and Abuja have been transformed from rural settlements to mega cities with the revenues from the Niger Delta, and yet the region where this enormous wealth is coming from, fundamental social facilities are absent. The Niger Delta's rural communities, where oil exploration takes place, are inhabited by the poorest people on earth, with no sustainable source of income due to the extensive destruction of their farmlands and rivers.

**d. Presumed Benefits of Illegal Bunkering Activities**

According to a study conducted in 2008, in the Niger Delta, the petroleum products (Kerosene, petrol, and diesel) gotten from illegal bunkering of crude oil, have become thriving a moneymaking trade. These products are bought from the refining sites in jerry-cans, and sold on retail to the local people in small bottles. The refined kerosene from the illegal crude oil refineries cost only 50 naira per small bottle, while the kerosene in the same small bottle from legal refineries are sold 200 naira, in the same time period. Moreover, and the kerosene from the illegal refineries last longer when compared with the kerosene from the legal refineries.<sup>19</sup> As far as the local people are concerned, illegal bunkering of crude oil has provided jobs for a lot of persons in the Niger Delta communities, including; women, men, youths, and even children, and it has reduced poverty, and lessened the miseries of the public. The people make a profit of up to \$93,600 (₦70,668,000) per annum. Also, when you consider the cost of setting up an illegal refinery, it costs only about \$4,700. The cumulative loss in government revenue on installation sites, damages of oil pipelines, and crude oil theft runs into billions of dollars.

**7. The Niger Delta's Illegal Oil Bunkering Operational Mechanisms**

Legitimate refineries are situated in industrial areas that have been properly planned for the protection of both the environment and workers. While most illegal oil refineries are found in the creeks, forests, or villages. These criminals burst or puncture the oil pipelines that transport crude oil from one location to another, tap it at the rupture or puncture site, and then move the crude oil to tanks or containers where they refine same. The crude oil is loaded into a metal pot. A burner or fire is then lit underneath the metal pot, heating the crude oil and causing it to turn into vapour, in order to condense the vapour into petroleum products like gasoline, diesel, and kerosene, it is then cooled. The liquid collected is gathered and put into containers to be sold. Diesel, which is sold to dealers, owners of gas stations, or middlemen utilizing big oceangoing vessels, is the main product from these clandestine refineries.

**8. Consequences of Illicit Bunkering on the Economy of Nigeria**

Because Nigeria's economy is based on oil, price decreases on the global market or economic sabotage, such as vandalism or bunkering, always have a detrimental effect. The former Nigeria Finance Minister Dr. Ngozi Iweala, claimed around 400,000 bbl of oil per day were unlawfully bunkered and stolen under the former administration of Goodluck Jonathan.<sup>20</sup> Nevertheless, one joint venture operator, SPDC, places the loss between 150,000 and 180,000 bbl per day. If one were to depend solely on government statistics, this would suggest that

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<sup>19</sup> Bodo T. (2019). Deep Issues behind the Crisis in the Niger Delta Region: The Case of Oil Exploration in Ogoniland, Rivers State, Nigeria. *Asian Journal of Geographical Research*, 2(1), 1-12.

<sup>20</sup> N. A. Ozogu1\*, O. H. Olabimtan, N. C. Chukwurah3 , M. K. Ukpong4 , D. S. Danie: Effects and Causes of Illegal Crude Oil Bunkering in Nigeria: Case Study Niger Delta: *American Journal of IR 4.0 and Beyond (AJIRB)* 4 Volume 2 Issue 1, Year 2023 ISSN: 2837-4738 (Online) DOI: <<https://doi.org/10.54536/ajirb.v2i1.1450>> <<https://journals.e-palli.com/home/index.php/ajirb>> (accessed on 29 September 2024).

Nigeria and her operating partners recently lost an estimated \$40 million (about N6 billion) every day at a fixed price of \$100 per barrel of crude oil. This equates to an expected annual amount of N2.184 trillion.

### **9 Alternatives to Illegitimate Bunkering in Niger Delta Area**

The problem of illegal bunkering within this territory may be solved if the causes of the issues are carefully investigated. The potential remedies include:

a. Providing Youth with Employment Opportunities:

Most young people in the Niger Delta, even recent graduates, are unemployed. The Nigerian government should develop programs that can engage the youths of the Niger Delta in large numbers and without bias. The government can generate more revenue from the industry in the event that the youths are engaged.

b. Construction of More Refinery Infrastructures

The federal government of Nigeria should construct new refineries in the area. It has proven to be counter-productive to lay crude oil pipelines that run from Warri to Kaduna, it can be sabotaged at any point and it is impossible to secure over such a vast distance. If local refineries could be made capable of processing the crude oil where it is found, the possibility of stealing the crude oil will reduce to the barest minimum.

c. Keeping Surveillance

Nigeria's government ought to be fully responsible for keeping surveillance wherever crude oil pipelines are. Through meticulous surveillance and follow-up of all oil exploration operations, illegal oil bunkering may be reduced.

d. Arrest and prosecution of the Illegal Bunkering Sponsors

One of the major reasons dealing with illegal bunkering is challenging is that high-ranking security officers, top politicians, senior government officers, and staff of oil companies are involved in this atrocity. If all these people can be arrested and prosecuted by Nigeria's federal government, the issue of illegal bunkering can be solved. The federal government should prosecute anybody caught in illegal bunkering, irrespective of his position. They should face the full wrath of the law. Many of the culprits are still in business because nothing ever happens to them.

### **10. Problems under the Existing Legal and Regulatory Framework**

#### **Problems for Refineries and Investors**

Under the current law, a request for a refiner's permit may be made by anyone in the stipulated form regarding the locations to site the refinery with a comprehensive report of the proposed project. The request must be supported by an Environmental Impact Assessment Report with evidence of payment of non-refundable fees as stated under the Petroleum Refining (Amendment) Regulations 1974. If the Board is satisfied with the refinery's proposed site in terms of suitability and provision of equipment, the Board shall issue a refiner license to the applicant. Otherwise, it shall refuse the application for a license and notify the applicant in writing of the reasons for the refusal, as stated in Sections 1 and 2 Petroleum Refining Regulations No: 45, 1974. Licensees are expected to commence the refinery's construction in conformity with the terms of the license, the Hydrocarbon Act, and other extant regulations and guidelines. Existing regulations prohibit establishing refineries, and the transportation of petroleum products without a license. The license issued shall remain in force unless revoked, and upon expiration, the refiner is at liberty to apply for renewal under Sections 3 and 4 of the Hydrocarbon Act. On the other hand, there is also

existing regulation supporting financing and investment in the petroleum industry. The government has introduced various reform programs to encourage private refineries to promote investment in the sector and to support long-term economic growth in the industry through the privatization of the existing crude oil refineries. This can be achieved through the issuance of licenses to private financiers for the formation of private refineries, gas recapture and distilling factories, and natural gas and autonomous power plant schemes.

### **11. The Petroleum Industry Act 2021**

The Petroleum Industry Act 2021 is aimed at separating the government's functions in the petroleum industry into policy, regulatory and commercial activities, as there is currently no distinct division of regulatory functions leading to conflicts of interest in the sector. The Act aims to diminish the governing and business-related roles of the Minister of Petroleum in the sector. The Act established an Upstream Petroleum Regulatory Commission as the controlling organization for the upstream oil sector. The Downstream Petroleum Regulatory Agency is to regulate the mid and downstream oil sector. The Act was made to unbundle or restructure NNPC to different legal entities. It foists a responsibility on the Federal Government to encourage indigenous firms' usage in the industry and authorizes the Petroleum Inspectorate to annul a license, or permit, if the Oil and Gas Industry Content Development Act 2010 is not adhered to. The Act aims to establish a well-organized governing organization with vibrant and distinct roles by creating profit-making oriented petroleum entities.<sup>21</sup> It creates the Nigerian Petroleum Regulatory Commission as an independent corporate body to replace the Petroleum (DPR) Department. The Act separated the regulator from the regulated. It should, subject to minor modifications and if adequately implemented, have much more robust accountability and governance provisions than all the extant laws in the sector. However, licensees under the Act are prohibited from the transfer of their licenses, rights or duties devoid of the prior written assent of the regulatory authority. Registration of a license is conclusive evidence that the rights described therein are vested on the licensee. Section 186 of the Petroleum Industry Act 2021 provides that a crude oil refining permit shall be considered to be approved dependent on the circumstances that the holders shall perform their licensed operations carefully and consistently in conformity with any legal regime that is applicable and stipulated well-being and precaution-connected guidelines, ethics and operational practice declared in the Act.

### **12. Advantages and Disadvantages of Modular and Conventional Refineries**

#### **1. Modular Refineries**

They are flexible to meet the refined petroleum products demands of Nigerians. They require fewer configuration options (usually topping or hydro skimming plant). It requires minimum space/land for setting it up or establishing it. More staff may be required for adequate distillation capacity to meet refined product demands. It requires relatively lower capital to set up. A small loan with short payback period would always serve the purpose. Production is frequently restricted to middle distillates, naphtha, and lights. It is quick and easy to install. It has a low production capacity. Therefore, it is suitable for meeting local demands, not for exports. The modular refinery has more control over the environment and work procedure during installation. It has lower profit margins on refined products or production due to low inputs of crude oil.

#### **2. Conventional Refineries**

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<sup>21</sup> Adejonwo-Osho, O. Petroleum Industry Bill, Nigeria: Missed Opportunity for Good Governance, Transparency and Sustainable Development? UNILAG J. Public Law 2016, 3, 56.



Conventional refineries require many configuration choices (topping, coking, cracking, and hydro skimming. Conventional refineries require a substantial initial capital outlay for the establishment or a long payout for loans or facilities. Conventional refineries also require small staff for adequate distillation capacity. Conventional refineries are suitable for one location for different market supplies. Conventional refineries productions are of a higher value than refined petroleum products. Conventional refineries require significant space or land for establishment. Conventional refineries are of higher production capacity. Conventional refineries require large storage for a wider variety of product yields that need to be kept independently. Conventional refineries necessitate excessive economies of scale for innovative profits on oil commodities. Conventional refineries require momentous turn-around time for construction. Inconsequential influence over the ecosystem during construction and installations of the refineries

### **13. The need for reform**

As the above review demonstrates, severe laws do not exist to combat the menace caused by incessant crude oil theft and pipeline vandalization by militants, and low maintenance of the existing crude oil refineries has impeded the country's economic growth. There is a proliferation of regulatory measures, without the necessary coherence and enforcement mechanisms to deter the crime. The absence of a specific and comprehensive provision on illegal oil refineries in the Petroleum Industry Act (PIA), criminalizing crude oil theft with stricter penalties for pipeline vandalization in Nigeria, is a fundamental flaw. Sections 183, 202, and 204 of the Act only provide for the detailed permits to be acquired to work in the industry for instance crude oil processing, wholesale storage, haulage conduit, haulage system processes, extensive fuel supply, fossil fuel merchandise allotment and set-up of resources for the manufacturing of petrochemicals. However, no rigorous and comprehensive sanctions exist for non-compliance with law; the penalties should be reviewed in conformity with the current global economic reality, considering the adverse effects of the menace on Nigeria's economy. As vandalism of crude oil pipelines and sabotage of oil infrastructure are hurdles to developing Nigeria's oil industry, the government must reform the industry's various legal regimes and facilitate strict implementation of the Petroleum Industry Act 2021 and remedy the various lacunas identified in the Act. Furthermore, as discussed above, there is significant potential for the use of modular and smaller-scale refineries, coupled with such robust regulation, to address some of the challenges in the sector. By ensuring local communities' full participation in modular refineries, resource and environmental management through negotiations and dialogue on agreed terms, there is the potential for collaboration in resource governance among investors, locals and regulatory authorities. Interaction between regulator communities and oil firms will promote peace, economic development and good stakeholder relationships in the sector. Community participation in decision-making will help to generate sustainable resource governance and reduce restiveness and violence in the oil-producing areas. Since illegal refining activities in the oil-bearing areas are a threat to Nigeria's economy and ecosystem, there is a need for total deregulation of the downstream petroleum sector to encourage private investor participation in the refineries, for the refurbishing of the existing refineries or building more modular refineries with sound petroleum product distribution networks in the country. Stringent sanctions such as freezing oil thieves' assets and bank accounts, placing them on a blacklist and denying them travelling visas with other stringent measures may combat oil theft and illegal oil refineries in Nigeria. A well-designed supply-chain due-diligence initiative such as scrutinizing crude oil supplies before purchase will combat crude oil theft and sanitize global crude oil markets. Additionally, there is a need

## **Charles Azubuike Obodozie & Chi. Johnny Okongwu / An Appraisal of Illegal Crude Oil Refinery Impact on Nigerian Economy**

for maritime security reform and sound security intelligence gathering and analysis.<sup>22</sup> The institution of legal actions against buyers and sellers of stolen crude oil via national criminal laws and civil suits, a conviction for crude oil thieves and seizure of their assets is another strategy for combating crude oil theft and illegal oil refineries.<sup>23</sup> There is a need for unalloyed supports for the Extractive Industries Transparency Initiative Act 2007 by all stakeholders in the industry to promote transparency, accountability, proper disclosure and reporting of all transactions in the sector.<sup>24</sup> The adoption of a modular refinery model is the best option for Nigeria to combat the proliferation of illegal refineries and their deleterious effects, representing a cost effective supply option for investors.<sup>25</sup> It can be established with a relatively low capital cost, flexible, with short payback duration for bank-sponsored facilities, making it distinctly attractive for investors. It will ensure the availability of refined petroleum products and deliver value beyond the traditional oil production business model and build local capacities in the sector as the quality of human life, survival, and country's economy is under colossal danger from the various pollution activities and loss of revenues occasioned by the deleterious effects of illegal oil refineries operations in Nigeria.

### **14. Conclusion**

Illegal bunkering is a significant issue in Nigeria. It is capable of incapacitating the economy of Nigeria overtime, as the country is solely dependent on the revenues from petroleum for its daily expenditures. Petroleum production with exploitation over the years has caused so many environmental, socio-economic and political problems in the region. Moreover, several people have died as a result of illegal crude oil bunkering. The oil producing companies, and government are also losing revenue. Corruption and structural inefficiencies within the regulatory processes are damaging both in economic terms and environmental terms.<sup>26</sup> As such, Nigeria should learn from Saudi Aramco and Norway's Equinor. The two companies deploy leak-detection sensors, acoustic sensors, fibre optic sensing, satellite surveillance, pressure drop analysis, and corrosive monitoring to combat oil leakages. The government should implement measurable performance targets for the military in the region. It should embark on a deep reconnoitre of the security situation to decide whether there is a need to get onboard more boots, encourage local security collaborators, or combine both to stop the menace. Reports of alleged conspiracy and collaboration of criminals with corrupt members of the security agencies should be curtailed by constantly changing the boots on the ground.

### **15. Recommendations**

This following policy recommendations are suggested:

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<sup>22</sup> Olujobi, O.J.; Yebisi, T.E. Combating the Crimes of Money Laundering and Terrorism Financing in Nigeria: A Legal Approach for Combating the Menace, *Journal of Money Laundering Control*. 2022. Available online: <https://www.emerald.com/insight/content/doi/10.1108/JMLC-12-2021-0143/full/html?skipTracking=true> (accessed on 29 September 2024).

<sup>23</sup> Nigerian Extractive Industries Transparency Initiative (NEITI) Report 2018. Available online: <https://eiti.org/sites/default/files/attachments/neiti-oga-2018-report.pdf> (accessed on 29 September 2024).

<sup>24</sup> Petroleum Revenue Special Task Force (Chaired by Nuhu Ribadu), Final Report, Nigerian Ministry of Petroleum Resources. 2012. Available online: [https://www.premiumtimesng.com/docs\\_download/Report\\_of\\_the\\_Ribadu\\_led\\_Petroleum%20Revenue%20Special%20Task%20Force%202012.pdf](https://www.premiumtimesng.com/docs_download/Report_of_the_Ribadu_led_Petroleum%20Revenue%20Special%20Task%20Force%202012.pdf) (accessed on 29 September 2024).

<sup>25</sup> Olujobi, O.J. Recouping Proceeds of Corruption: Are There Any Need to Reverse Extant Trends by Enacting Civil Forfeiture Legal Regime in Nigeria? *J. Money Laund. Control* 2021, in press.

<sup>26</sup> Ufua, D.E.; Olujobi, O.J.; Ogbari, M.E.; Dada, J.A.; Edafe, O.D. Operations of Small and Medium Enterprises and the Legal System in Nigeria. *Humanit. Soc. Sci. Commun.* 2020, 7, 94. Available online: <https://doi.org/10.1057/s41599-020-00583-y> (accessed on 29 September 2024).

Full deregulation of the downstream sector is needed to combat malpractices, and investment in modular refineries by the government and foreign investors are key to promoting economic development in Nigeria. Since illegal refining activities in the oil-bearing areas are challenging and represent a threat to Nigeria's economy and ecosystem, there is an urgent need for robust legal reform to guaranteed energy security and sustainability. There is a need to improve local refinery capacities through private participation to enhance local production and markets for refined petroleum products and to encourage domestic gas and renewable energy utilization, being an environmentally preferable source of energy. A well-organized legal and regulatory regime for national refineries to employ present and future generations in Nigeria is *sine qua non*. There is a need for mainstreaming Nigeria's energy policies into the global quest for low-carbon transition by promoting economic diversification to focus less on the petroleum sector.

Criminalizing crude oil theft and pipeline vandalization with strong penalties will serve as pre-emptive action to others in the sector, increase revenues for the government, and reduce environmental pollution. There is a need to properly collate data on stolen crude oil in Nigeria for efficient intervention and tracking of stolen crude oil. To reduce crime and regional oil theft, the government should launch a comprehensive, aggressive campaign. In partnership with the necessary institutions dealing with oil and gas and oil spills, the government and the oil companies should put into place comprehensive security measures, such as 24-hour monitoring devices entrusted to community security officials. Provide a system for the comprehensive inclusion of oil-producing communities in security plans.

The inhabitants of oil-bearing communities should be included in the region's effective governance, equitable sharing of oil income, and political prioritizing of regional communities. Oil tycoons should employ technology to safeguard the performance of their pipelines, and they should also create ROWs for their pipelines so that security personnel can quickly see any breaches. The government at the federal level should let the legal system work against individuals who support these unlawful activities while sheltering behind the protection of the state. The licensing of modular refineries in oil-producing areas where illegal refineries thrive will combat this menace. Modular refineries are basic refineries requiring considerably or a smaller amount of start-up capital than the traditional full-scale refinery features. It allows incremental structural improvements without requiring constant shutdowns to ensure proper maintenance to guard against theft. Thus, modular refineries may offer a simple, efficient, easy, and fast way to increase refining capacity. The conventional refinery is an intricate operation by which crude oil is transformed into several petroleum products which are capital intensive. However, this is not sufficient to tackle the problems; a clear legal strategy is needed to underpin investment in new refining strategy, to ensure that ongoing damage caused by crude oil theft is addressed. Section 197 (1), (2) and (3) of the Petroleum Industry Act 2021 should be taken advantage of to approve applications upon payment of prescribed fees, grant and issue a qualified person a wholesale petroleum liquid supply license, with the right to sell and deliver petroleum liquids to bulk customers in Nigeria, or for export. This will enable individuals to buy, refine and sell petroleum products, as well as pay tax, without injuring government revenue.

