

Introduction

Nigeria, one of Africa's largest oil producers, has been grappling with the persistent challenge of crude oil theft for decades. This illicit activity not only undermines the nation's economic stability but also hampers sustainable development efforts across various sectors. Recent studies have highlighted the alarming scale of this issue, with monthly losses to the government exceeding \$1 billion, and the Nigerian National Petroleum Company Limited (NNPCL) estimated that between 2009 and 2018, the country lost approximately \$41.9 billion to oil theft. Such significant economic losses have cascading effects on poverty levels, food security, healthcare access, education, infrastructure development, and employment opportunities.

The economic repercussions of crude oil theft have exacerbated poverty levels in Nigeria. In 2023 alone, rising inflation and weak earnings pushed an additional 10 million Nigerians into poverty. The World Bank reports that 63.5% of the population lives below the lower-middle-income poverty threshold of \$3.65 per day, while a staggering 90.8% fall below the upper-middle-income poverty line of \$6.85 per day, making it the world's second-largest poor population after India. These figures underscore the dire economic situation exacerbated by revenue losses from oil theft (Worldbank.org)

Crude oil theft indirectly contributes to food insecurity in Nigeria by diverting resources away from agricultural development and food production. As of mid-2024, approximately 31.8 million Nigerians were projected to face acute hunger during the lean season, a significant increase from the 18.6 million reported at the end of 2023. The Global Hunger Index 2023 ranks Nigeria 109th out of 125 countries, indicating a serious hunger level with a score of 28.3%. The World Food Programme attributes this rise to factors including conflict, inflation, and the impact of the climate

crisis, all of which are exacerbated by the economic instability stemming from oil theft (WFP, 2024).

The financial strain caused by oil theft has led to underfunded healthcare systems, particularly affecting vulnerable populations. Malnutrition remains a critical issue, with 32% of children under five experiencing stunted growth. An estimated 2 million children suffer from severe acute malnutrition, and malnutrition is a contributing factor in 45% of all under-five deaths in Nigeria. These alarming statistics highlight the urgent need for increased healthcare funding and nutritional interventions (UNICEF, 2024)

The diversion of funds due to oil theft has also impacted the education sector. Despite Nigeria allocating 5.94% of its GDP to education in 2017, systemic issues persist. Approximately 10.5 million Nigerian children are out of school, the highest number globally. This educational deficit hampers human capital development and limits future economic growth (UNICEF, 2023).

Crude oil theft has strained Nigeria's infrastructure development, particularly in transportation. The redirection of funds to address security concerns and revenue losses has led to inadequate investment in road networks. Poor infrastructure hampers economic activities, especially in rural areas, and limits access to markets, education, and healthcare services (JEMS, 2024)

The economic instability caused by oil theft has adversely affected employment opportunities. In 2023, Nigeria's unemployment rate stood at 5.4%, with a significant proportion of the workforce engaged in informal employment. Approximately 92.3% of employed individuals were in informal work, highlighting the lack of stable and secure employment options. This precarious employment landscape contributes to economic insecurity and limits social mobility (NBS, 2023)

To effectively combat crude oil theft in Nigeria, a multifaceted approach is essential. Enhancing security measures in oil-producing regions is paramount. The Nigerian Navy's "Operation Delta Sanity," launched in January 2024, exemplifies this effort by integrating maritime domain awareness facilities with unmanned aerial vehicles to improve situational awareness and reduce crude oil theft in the Niger Delta region. Complementing these security enhancements, the Nigerian government has emphasised the need for stringent legal frameworks and the prosecution of offenders to deter oil theft effectively (Punch, 2025).

Community engagement also plays a crucial role in curbing oil theft. Involving local communities in monitoring and protecting oil infrastructure, coupled with providing economic incentives and development projects, encourages community members to participate in safeguarding oil assets, thereby reducing the allure of engaging in oil theft activities. Promoting transparency and accountability in the oil sector through the adoption of technologies like blockchain can further aid in tracking oil production and distribution. Blockchain technology offers a decentralised and secure method to monitor the oil supply chain, reducing opportunities for theft and corruption (VerivAfrica, 2024). Furthermore, investing in other sectors such as agriculture, manufacturing, and services is vital for economic diversification. Local firms are driving a new growth phase in Nigeria's oil sector, with significant investments aimed at revitalising and expanding operations, thereby contributing to economic diversification.

Lastly, addressing the challenge of crude oil theft in Nigeria requires a comprehensive strategy that combines security enhancements, legal reforms, community involvement, technological advancements, and economic diversification. By implementing these measures, Nigeria can curb oil theft and pave the way for a more secure and prosperous future.

Conceptual framework

Crude oil theft in Nigeria presents a critical challenge to economic security and sustainable development, requiring urgent legislative action to mitigate its effects. This section defines key concepts relevant to the study and integrates theoretical perspectives that explain the phenomenon.

Crude oil is a naturally occurring fossil fuel composed of hydrocarbons and other organic materials. It is the primary source of energy and a major revenue generator for oil-producing nations (Adebayo, 2021). Nigeria, as Africa's largest oil producer, relies heavily on crude oil exports, which account for over 80% of its foreign exchange earnings (Okonkwo, 2022). The country's economic stability is therefore closely tied to the effective management and protection of its crude oil resources.

Crude oil theft refers to the illegal appropriation of petroleum resources through unauthorized pipeline tapping, bunkering, or diversion of crude meant for export or local refining. This illicit activity is driven by organised crime networks, corrupt officials, and weak law enforcement mechanisms (Ezirim, 2020). The Nigerian National Petroleum Company Limited (NNPCL) estimates that Nigeria loses approximately 400,000 barrels of crude oil daily to theft, amounting to billions of dollars in lost revenue (The Guardian Nigeria, 2024). This widespread theft fuels insecurity, weakens economic stability, and damages the environment.

Economic security is a critical aspect of national security, referring to the protection of a nation's economic assets, infrastructure, and financial stability from threats such as illicit financial flows, organized crime, and resource mismanagement (Ibrahim & Aliyu, 2021). In Nigeria, crude oil theft undermines economic security by reducing government revenue, discouraging foreign investments, and exacerbating unemployment and poverty. The resource curse theory suggests that

resource-rich nations often suffer from economic instability due to poor governance and corruption, a situation evident in Nigeria's oil sector (Eke, 2019).

Empirical Review

Extensive research has been conducted on the implications of crude oil theft in Nigeria, particularly focusing on its economic, security, and legislative aspects.

Ezirim (2018) analysed the economic implications of crude oil theft in Nigeria, emphasising that the country loses billions of dollars annually due to illegal oil activities. The study found that weak institutional frameworks and corruption within security agencies exacerbate the problem. The author recommended stringent enforcement of existing laws and improved surveillance mechanisms to combat theft.

Ibrahim and Aliyu (2021) explored the link between crude oil theft and economic security, arguing that revenue losses from illegal bunkering weaken government capacity to fund public services and infrastructure. Their study utilised economic data from the Nigerian Extractive Industries Transparency Initiative (NEITI) and concluded that crude oil theft significantly contributes to budget deficits and national debt accumulation.

Okafor and Uchenna (2020) assessed the effectiveness of legislative measures in addressing crude oil theft. Their research found that despite the existence of laws such as the Petroleum Industry Act (2021), enforcement remains inadequate due to political interference and a lack of technological resources. The study proposed reforms, including stricter penalties and international cooperation to track illicit crude oil exports.

Adebayo (2021) examined the relationship between crude oil theft and foreign investment in Nigeria's oil sector. The study revealed that persistent theft and pipeline vandalism discourage investors due to security risks and financial uncertainties.

While these studies provide valuable insights, they predominantly focus on the economic losses, legislative shortcomings, and security challenges associated with crude oil theft. However, there is a noticeable gap in the literature concerning the integration of technological innovations and community engagement strategies in combating this menace. Specifically, the potential of emerging technologies like blockchain to enhance transparency in the oil sector and the role of empowering local communities in safeguarding oil infrastructure have not been thoroughly explored.

Methodology

Qualitative research design employing thematic analysis of relevant literature was utilised as a suitable methodology for this study. The approach allows for an in-depth exploration of the socio-economic, political, and environmental factors underpinning crude oil theft in Nigeria. By systematically reviewing and analysing existing academic studies, policy reports, and government publications, thematic analysis helped identify recurring patterns, key themes, and gaps in the current understanding of oil theft dynamics in Nigeria.

Theoretical Framework

The study is anchored on the resource curse theory developed by Auty in 1993. The theory suggests that countries blessed with natural resources, especially oil, often face slower economic growth, poor governance, and increased conflict compared to those with fewer resources. A prime example

of this is Nigeria, where the paradox of vast oil wealth exists alongside widespread poverty, underdevelopment, and political instability (Balogun & Adesanya, 2022; Ibaba, 2019). The country's rentier state structure, heavily reliant on oil revenues, breeds corruption and inefficiency, while sidelining the need for economic diversification and inclusive growth (Al-Suwaidan, 2020). Moreover, the Dutch disease—a situation where dependence on resources hampers other sectors like agriculture and manufacturing—has further weakened Nigeria's economy and contributed to rising unemployment (Harvie, 2019). The Niger Delta region is particularly hard hit, facing environmental damage from oil spills, violent conflicts over resource control, and the displacement of communities (Duruji & Dibia, 2017).

To tackle crude oil theft and promote economic security and sustainable development, addressing the resource curse calls for institutional reforms that boost transparency and accountability in resource management, while also encouraging economic diversification. Experts argue that oil theft flourishes due to deep-rooted corruption and weak governance that fail to distribute oil revenues fairly or invest in local development (Balogun & Adesanya, 2022). To break this cycle, Nigeria needs to transition from a rentier economy to one that prioritizes productive sectors like industrial agriculture and manufacturing. Strengthening the role of civil society in holding the government accountable and implementing strong environmental policies are crucial strategies for alleviating the negative impacts of the resource curse and ensuring sustainable development.

Discussion

To address the multifaceted challenges posed by crude oil theft, a comprehensive approach that incorporates technological advancements and community involvement is imperative. The adoption of blockchain technology can provide a decentralised and secure method to monitor the oil supply

chain, reducing opportunities for theft and corruption. By ensuring real-time tracking of oil production and distribution, blockchain can enhance transparency and accountability within the sector.

Moreover, involving local communities in monitoring and protecting oil infrastructure can be effective. Providing economic incentives and development projects encourages community members to participate in safeguarding oil assets, reducing the allure of engaging in oil theft activities. Community engagement not only fosters a sense of ownership but also leverages local knowledge and networks to deter illegal activities.

Equally, existing literature has extensively covered the economic and legislative aspects of crude oil theft, and integrating technological innovations and community engagement strategies offers a more holistic approach to curbing this menace. By implementing these measures, Nigeria can enhance its economic security and promote sustainable development.

Strategies for Promoting Economic Security and Sustainable Development

To effectively combat crude oil theft and promote economic security and sustainable development in Nigeria, a multifaceted approach is essential. Firstly, enhancing technological surveillance through the deployment of AI-powered drones and satellite imaging can provide real-time monitoring of oil pipelines, enabling swift detection and response to unauthorized activities. Integrating AI algorithms can also analyze historical data to predict potential theft hotspots, allowing for proactive measures. Secondly, fostering community engagement by involving local populations in monitoring efforts and providing economic incentives can deter participation in oil theft activities. The implementation of the Petroleum Industry Act (PIA), which allocates a

percentage of oil revenues to host community development trusts, further empowers communities and promotes a sense of ownership over local resources.

Additionally, strengthening legal frameworks and enforcement mechanisms is crucial. Establishing specialized courts to expedite oil theft cases and imposing stringent penalties can serve as effective deterrents. International collaboration is also vital, as oil theft often involves cross-border networks. Partnering with global entities can aid in tracking and intercepting stolen oil shipments, disrupting the illicit trade. By implementing these strategies, Nigeria can address the complex challenges of crude oil theft, ensure economic stability and foster sustainable development.

Factors Contributing to Persistent Oil Theft

Crude oil theft in Nigeria is driven by a range of complex and interrelated factors, each contributing to the persistence of this illicit activity.

Economic Inequality: In Nigeria, legislation plays a vital role in tackling economic inequality and oil theft, but its impact often falls short. The legal framework, which includes the Petroleum Act, the Petroleum Profits Tax Act, and the Petroleum Industry Act (PIA) of 2021, is designed to regulate the oil sector and promote a fair distribution of resources (Sunny-Hart, 2024). The PIA has provisions aimed at developing host communities, which could help address the underdevelopment seen in oil-producing areas (PIA, 2021; Sunny-Hart, 2024). Despite these efforts, economic inequality remains a pressing issue, with the immense wealth generated from oil standing in stark contrast to the widespread poverty experienced in these communities. This disparity often breeds resentment and drives some individuals to resort to oil theft as a means of survival (Ikelegbe, 2013). The absence of real benefits from oil wealth, coupled with systemic

corruption, only deepens these grievances, underscoring the urgent need for better enforcement and implementation of the laws already in place to tackle these challenges (Ikelegbe, 2013; Alaye, 2024).

Corruption: Widespread corruption within the oil sector and law enforcement agencies has played a significant role in sustaining crude oil theft. In Nigeria, the role of legislation in tackling corruption in the oil sector is incredibly important. Laws like the Petroleum Industry Act (PIA) of 2021 are designed to boost transparency and governance within the industry (Sunny-Hart, 2024; Jemide, Ezeamama, Kolawole & Nesiana, 2025). The PIA sets up a new regulatory framework, which includes the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) and the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA), to manage the sector more effectively. However, while the PIA emphasizes transparency and good governance, it does not explicitly lay out provisions aimed directly at corruption, such as accountability and anti-corruption measures (Brookings, 2022). The effectiveness of these laws in fighting corruption is hampered by deeper systemic issues. Even with a legal framework in place, corruption continues to thrive due to weak enforcement and various institutional challenges (Verivafrika, 2023). Instances of collusion among government officials, security personnel, and oil thieves highlight the urgent need for stronger anti-corruption strategies and more robust law enforcement. The ongoing lack of real improvements in governance and public trust emphasizes the critical need for better implementation and enforcement of existing laws to truly combat corruption (Brookings, 2022).

Lack of Transparency: Nigeria's opaque oil industry lacks transparency, particularly in oil block allocation and revenue distribution, creating a fertile ground for exploitation. Legislation like the Petroleum Industry Act (PIA) of 2021 and the Nigeria Extractive Industries Transparency

Initiative (NEITI) Act of 2007 with the PIA bringing tools like the Host Communities Development Trust Fund (HCDTF) to help ensure fair revenue sharing, while NEITI requires the release of reliable data on oil production and how revenue is allocated, aiming to enhance oversight within the sector. Even with these measures in place, the actual impact of these laws on transparency issues is still quite limited, largely due to weak enforcement, regulatory capture, and ongoing corruption (Foster, 2024; Brookings, 2022). The persistent lack of real progress in transparency and accountability continues to drive a wedge between local communities and the authorities, fostering distrust. This situation underscores the urgent need for more robust enforcement strategies and better collaboration between government bodies and civil society to effectively tackle crude oil theft.

Security Challenges: Despite the presence of military and naval forces tasked with protecting oil infrastructure, crude oil theft continues to thrive, highlighting significant security gaps. Recent cases of oil theft and security challenges in Nigeria have been quite alarming. In 2023, the Nigerian National Petroleum Corporation (NNPC) reported a disturbing surge in crude oil theft, documenting 170 occurrences across various regions between September 23 and 29. This spike is indicative of a broader challenge that undermines the nation's economic stability. The NNPC declared in January 2024 that the Federal Government had destroyed 10,166 illegal oil refineries since 2021. Security forces also destroyed another 82 and 7 such refineries in February and April 2024, respectively. A suspected Cameroon-bound vessel loaded with oil was intercepted by the NNPC through a private security company, Tantitta Security Services. An explosion occurred at an illegal oil refining site in Rivers state, resulting in multiple casualties. The sophistication and scale of oil theft operations suggest that existing security measures are either ineffective or compromised. Criminal networks have adapted by using advanced techniques to bypass

surveillance and siphon crude oil undetected (ENACT Africa, 2020). Legislation plays a crucial role in addressing these challenges by providing a legal framework for the protection of oil infrastructure and the prosecution of offenders, with laws like the Petroleum Industry Act (PIA) of 2021 aiming to enhance security measures and accountability. However, the effectiveness of these laws is limited by systemic issues such as gaps in enforcement, corruption, and the sophistication of criminal networks (Enact Africa, 2020). Despite some successes, such as the destruction of illegal refineries, the ongoing prevalence of oil theft suggests that existing security strategies need to be reevaluated and strengthened through more effective collaboration between government agencies, security forces, and private security companies.¹

Organized Crime: What once began as opportunistic small-scale theft has evolved into a highly organized and sophisticated criminal enterprise. Criminal networks employ advanced technology, insider knowledge, and coordinated logistics to execute large-scale theft operations (Watts, 2016). These networks extend beyond Nigeria, with stolen crude oil being funnelled into international black markets. The involvement of transnational criminal organizations has made combating oil theft increasingly difficult, requiring not only national but also international cooperation to dismantle these syndicates. In spite of the provision of the PIA, there exists a noticeable gap when it comes to specific laws addressing transnational organized crime and international black markets, which underscores the urgent need for more robust legal measures. The effectiveness of these laws is often hampered by systemic issues like corruption and weak enforcement, which allow organized crime networks to thrive.

Consequences of Oil Theft on Economic Security and Sustainable Development

Oil theft in Nigeria has severe implications for economic security and sustainable development, leading to substantial revenue losses, reduced investment in critical sectors, and overall economic instability. The illicit siphoning of crude oil disrupts national financial stability, hinders infrastructure development, and fuels economic inequality.

Revenue Loss and Budget Constraints: Nigeria's oil sector is facing significant challenges due to crude oil theft, resulting in substantial revenue losses. A recent report by Veriv Africa highlights the severity of the issue. Between 2009 and 2018, Nigeria lost approximately \$41.9 billion to oil theft. In 2022, the country's oil production fell short of its 1.8 million barrels per day quota from the Organisation of Petroleum Exporting Countries (OPEC) for the tenth consecutive month. The Nigerian National Petroleum Corporation (NNPC) reported 131 crude oil theft incidents in just one week in 2023, including 24 illegal connections, 43 illegal refineries, and 19 pipeline vandalism. The Trans-Niger Pipeline, which produces 180,000 barrels of crude per day, was shut down for a year due to oil theft, resulting in a loss of about 65,700,000 barrels of oil, valued at approximately \$5.45 billion or N2.3 trillion.

The government has taken steps to address the issue, including signing the Nigeria Upstream Petroleum Measurement Regulations, 2023, to improve metering and measurement of petroleum production. Additionally, indigenous companies have been awarded pipeline surveillance contracts to prevent oil theft. The effects of oil theft are far-reaching, with significant economic, environmental, and social impacts. The Nigerian government must implement laws promoting equitable distribution of oil income, tighten anti-corruption measures, and enforce transparency in the oil sector's operations to address the root causes of oil theft.

Investment Deterrence and Economic Instability: Frequent oil theft incidents discourage foreign and domestic investments in Nigeria's oil and gas sector. Investors are reluctant to commit capital in an industry plagued by insecurity, pipeline vandalism, and illegal refining activities (Adebayo & Iwilade, 2018). The instability in the sector reduces foreign exchange earnings, weakens the national currency, and heightens economic volatility. Furthermore, the high cost of repairing damaged pipelines and securing oil installations diverts resources that could otherwise be used for economic development. In many instances, oil companies are forced to shut down operations due to persistent theft, leading to job losses and declining production output (Watts, 2016).

Environmental Degradation and Economic Costs: Crude oil theft often involves crude methods of siphoning oil, such as vandalising pipelines and setting up illegal refineries, which result in devastating oil spills. These spills contaminate water bodies, destroy farmland, and severely affect fishing communities that depend on the environment for their livelihood (UNEP, 2011). The economic cost of environmental remediation is substantial, with the government and oil companies spending millions of dollars on cleanup efforts. Additionally, the degradation of agricultural and marine resources reduces food production and increases economic hardship in affected communities. The long-term economic impact of environmental destruction further weakens the nation's economic security by diminishing the productive capacity of local economies.

Illicit Financial Flows and Economic Crime: The profits from crude oil theft are often funnelled into organized crime networks, further destabilizing the economy. Stolen crude oil is smuggled across borders and sold on the black market, with proceeds financing illegal arms trade, drug trafficking, and other illicit activities (Akinola, 2015). The involvement of transnational criminal networks complicates efforts to combat oil theft and leads to financial leakages that undermine the

formal economy. Moreover, corruption within the oil sector facilitates money laundering, tax evasion, and other forms of economic crime, further eroding national economic stability. In 2023, the Nigerian Navy intercepted a vessel carrying 1.1 million litres of stolen crude oil, valued at approximately N430 million (around \$1 million USD), off the coast of Rivers State. The vessel was allegedly linked to a transnational organized crime network involved in oil theft and smuggling. This incident highlights the ongoing issue of crude oil theft in Nigeria and its connection to organized crime networks. The stolen oil is often smuggled across borders and sold on the black market, with proceeds financing illicit activities.

Conclusion

Crude oil theft in Nigeria represents a critical threat to the nation's economic security, with far-reaching consequences that extend beyond financial losses to affect social, environmental, and political stability. The illicit activity not only drains vital government revenue but also undermines development in sectors such as education, healthcare, and infrastructure, perpetuating a cycle of poverty and inequality. The impacts of oil theft are compounded by the environmental degradation it causes and the personal insecurity faced by communities caught in the crossfire of criminal enterprises. Addressing this crisis requires a multifaceted approach, combining stringent legal frameworks, anti-corruption measures, technological advancements in monitoring, international cooperation, and efforts to address socio-economic disparities. By enacting these recommendations, Nigeria can begin to reclaim its resources, restore public trust, and create a foundation for sustainable economic development and stability. Legislative action must be taken without delay to prevent further erosion of the nation's economic and social fabric.

Recommendations

The following Strategies are recommended for providing sustainable development and promoting economic security.

1. Strengthening Legal Frameworks: The Nigerian National Assembly leadership should initiate a review and reform of the Pipeline Vandalism and Oil Theft Suppression Bill (2022) to provide stricter penalties for pipeline vandalism and oil theft. This includes introducing harsher penalties, such as extended prison sentences, fines, and asset seizures, for perpetrators of oil theft. Additionally, legal procedures should be streamlined to expedite prosecution, reduce delays, and close existing loopholes that allow criminals to escape justice. Collaboration with the Ministry of Justice and law enforcement agencies is essential to improve regulatory oversight and strengthen investigative capabilities.

2. Enhancing Transparency and Combating Corruption: To combat corruption, the NASS leadership can revisit the Nigerian National Petroleum Corporation (NNPC) Act, 2007, to enhance oversight of the oil sector by implementing regular audits, performance reviews, and transparency measures for key institutions such as the Nigerian National Petroleum Corporation (NNPC). It is vital to establish stronger whistleblower protections and enforce anti-corruption laws to ensure that individuals involved in illicit oil activities, regardless of their rank or influence, are held accountable. Additionally, an increased emphasis on transparency in resource allocation and management will help reduce corruption and foster public trust in the oil sector.

3. Investing in Technology and Security: Investing in advanced technologies such as pipeline monitoring systems, satellite tracking, drones, and enhanced security infrastructure is essential to prevent oil theft. The Nigerian Government should prioritize resources for these technologies to

detect and stop theft before it occurs. Furthermore, security forces should be provided with modern training in anti-corruption, ethics, and human rights to better protect oil infrastructure and combat theft. Accountability measures must be implemented to ensure that personnel entrusted with safeguarding resources are not complicit in illegal activities.

4. Strengthening International Cooperation: Given the transnational nature of crude oil theft, the Federal Government and the NASS leadership can engage their counterparts in other countries to focus on strengthening international cooperation through intelligence-sharing agreements and joint operations with foreign governments and international law enforcement agencies. This collaboration can help track and recover stolen oil, prevent its illegal export, and disrupt criminal networks. Strengthening diplomatic partnerships and enhancing cooperation in prosecuting oil theft syndicates operating internationally will reduce the global scope of oil theft and its impact on Nigeria's economy.

5. Addressing Socio-Economic Root Causes: To tackle the root causes of crude oil theft, the NASS leadership can encourage the executive to focus on addressing the socio-economic issues driving individuals in oil-rich regions to engage in illicit activities. This includes promoting educational programs, job creation, vocational training, and sustainable development projects to provide alternative economic opportunities. Investments in healthcare, education, and infrastructure can improve living standards and reduce dependence on oil theft. Encouraging corporate social responsibility initiatives from oil companies can further empower local communities and ensure shared benefits from oil extraction, reducing the appeal of illegal practices.