

Artisanal Oil Refining in Ekeremor L.G.A Of Bayelsa State, Nigeria: Socioeconomic Drivers and Environmental Consequences, 2002-2016

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Abstract

This study examines the phenomena of artisanal crude oil refining and oil bunkering in Ekeremor Local Government Area, Bayelsa State, Nigeria. It investigates the dynamics of these activities, their socioeconomic drivers, and their environmental impacts. The research reveals that lack of economic opportunities and entrepreneurial motivations to profit from rural energy demands are the primary factors driving widespread participation. However, the crude refining techniques have had devastating environmental consequences, including contamination of farms and fishing grounds, destruction of mangroves, increased community health risks, and air pollution. The study also explores the challenges faced by the Nigerian government in curbing these illicit activities through military interventions and policies such as the Amnesty Program. Using qualitative research methods and drawing on both primary and secondary sources, the study concludes that the lucrative nature of the trade and its deep-rooted connections to the socioeconomic realities of the Niger Delta region explain the limited effectiveness of enforcement strategies. The findings underscore the need for a comprehensive, long-term approach that combines robust enforcement to dismantle criminal networks with alternative livelihood initiatives, environmental restoration, and community economic development in Ekeremor LGA.

Background to the Study

The industrial revolution and the rise of capitalism have led to increased environmental degradation worldwide (John & Nnadozie, 2021). The Niger Delta region, including Ekeremor Local Government Area (LGA), is rich in natural resources, particularly oil and gas. Artisanal oil refining in remote parts of the Niger Delta, such as Ekeremor, has emerged as a means of providing fuel for communities without access to legal energy sources. However, these practices contribute significantly to illicit financial flows, theft of natural resources, and environmental pollution (SDN, 2019; OECD, 2018).

The impacts of artisanal refining activities have been exacerbated by the government's response to the situation. Efforts to curb these illicit activities often involve the destruction of bunkering sites and burning of artisanal refining facilities and illegally refined petroleum products. This approach frequently results in collateral damage, including the destruction of surrounding vegetation and natural habitats, thereby intensifying environmental pollution and disrupting local livelihoods. Following public outcry over the environmental and health impacts of oil bunkering and artisanal refining, the government intensified the use of security forces to crack down on artisanal refineries and destroy refined petroleum products (PIND, 2022). However, this approach has often proven counterproductive, as it further exacerbates environmental degradation, disrupts livelihoods, and increases tensions and insecurity in the area.

This study aims to address the systemic problems that underpin this informal criminal economy and to explore ways to rebuild public confidence in governance through a sincere commitment to resource management and environmental preservation. By examining the socioeconomic drivers, environmental consequences, and policy challenges associated with artisanal oil refining in Ekeremor LGA, this research contributes to the broader discourse on resource management and sustainable development in oil-producing regions.

Conceptual Framework

Oil Bunkering

Oil bunkering refers to the illegal siphoning, tapping, or theft of crude oil from pipelines, storage facilities, or tankers (Obi, 2010). In the context of the Niger Delta region, oil bunkering involves the illegal stealing, smuggling, and selling of crude oil. This practice originated from local youths demanding compensation for oil spills (Maurice, 2020) and eventually evolved into a well-organized criminal activity involving militant groups, oil company employees, and international dealers. The emergence of militant groups transformed illegal oil bunkering into a lucrative business, with stolen oil being sold locally and internationally to fund militancy (Transparency International, 2019).

Artisanal Refining

Artisanal refining, also known as bush burning or Kpofire, is a small-scale process of distilling crude petroleum to produce products like kerosene and diesel (Ikanone, 2014). This refining method is said to be similar to the process involved in distilling local gins

popularly known as Oogoro. Ukponahiusi and Famusudo (2019) observed that many of the refiners are former employees of multinational corporations, leading to contamination of the environment with petroleum byproducts and heavy metals.

Historical Context: Resource Control Agitations and Artisanal Refining Participation

The Niger Delta region, including Ekeremor LGA, has a long history of demands, protests, and sometimes violent movements by local communities and political leaders aimed at gaining more control over the natural resources in the region. The roots of this conflict can be traced back to the British colonial administration, which laid the groundwork for the exploitation of the Niger Delta's oil and natural gas resources. After Nigeria's independence in 1960, the federal government maintained centralized control over oil resources, with most revenues accruing to the federal government.

The centralization of oil revenue distribution has been a source of frustration for the people of Ekeremor and other Niger Delta communities, as they have seen little benefit from the oil wealth generated in their lands. Instead, they have endured environmental degradation, poverty, and underdevelopment. The 1969 Petroleum Act further entrenched federal control over oil, leaving little power and revenue to the oil-producing states. The people of the Niger Delta have argued that they bear the burden of oil extraction, including environmental destruction and health hazards, while receiving a disproportionately small share of the financial benefits.

Frustration over the lack of resource control and poor living conditions led to the emergence of militant groups such as the Movement for the Emancipation of the Niger Delta (MEND), the Niger Delta People's Volunteer Force (NDPVF), and Niger Delta Avengers. These groups attacked oil infrastructure, kidnapped oil workers, and demanded resource control, higher oil revenues for the region, and an end to environmental degradation (Obi, 2010). The use of violence by these groups brought global attention to the plight of the Niger Delta but also led to increased militarization of the region by the Nigerian government.

In 2009, the Nigerian government under the Yar'Adua administration introduced the amnesty program for militants, offering them rehabilitation and stipends in exchange for disarming. While this reduced some of the violence, it did not fully address the underlying issues driving artisanal refining, and many participants returned to illegal activities.

Socioeconomic Drivers of Artisanal Refining in Ekeremor LGA

In Ekeremor Local Government Area, survival necessities and entrepreneurial motivations are the main drivers of artisanal refining. Strong incentives are provided by the tangible and monetary rewards of participating in these unofficial crude oil activities. Interviews with refiners, camp employees, and owners revealed that many saw artisanal refining and bunkering as business opportunities. Workers often aspire to establish their own camps or "branches," viewing this as a means of achieving financial independence.

The determination of those involved in artisanal refining is evident in their backup plans to quickly resume operations elsewhere even if authorities close their current encampment. As one refiner stated, "I am saving money to open my own camp" (Arefa, personal communication, May 13, 2024). A camp owner disclosed, "My friend and I opened this camp in 2016. We are erecting another one in a separate bush in order to continue working even in the event that the army closes down this one" (Ekeremor-owei, personal communication, May 14, 2024).

The strong demand for artisanally refined petroleum products, such as petrol, kerosene, and diesel, is driving the growth of these unofficial businesses. Deficits in the formal energy supply chain for rural areas are the reason behind this booming sector. These artisanal businesses are satisfying genuine customer needs that are not being met by legal marketplaces. A refiner emphasized the profitability of the business, stating, "There's plenty of money in this business. We have a large number of interested customers. They charge between 20,000 and 30,000 naira for a drum of diesel. Ladies from neighboring villages travel to purchase... everyone wins" (Zion, personal communication, May 13, 2024).

The high profits, unfulfilled need for petroleum products, and dearth of viable economic alternatives are fundamental reasons behind the continued use of artisanal refining and bunkering despite the legal concerns. Other crucial supporting factors include skill mobility (workers moving between camps), poverty, and environmental degradation weakening traditional livelihoods. The consistent revenue stream from satisfying actual market demands serves as a sustaining incentive, outweighing the legal obstacles and challenges of this dangerous profession.

Environmental and Health Impacts of Artisanal Refining

The artisanal refining process in Ekeremor LGA involves crude and hazardous techniques that pose significant environmental and health risks. The process typically involves the following steps:

1. Preparation of a local drum (pot) that has been cut in half and buried.
2. Injection of crude oil, obtained through oil theft or pipeline vandalism, into the pot through a pipeline.
3. Lighting a fire and closely monitoring the process to contain the fire and oversee the conversion of crude oil into various petroleum products.

The conversion process, which takes 9-11 hours depending on the volume of crude and pot size, produces fuel (petrol), kerosene, and diesel in succession. The operator must closely monitor the process to determine when the fuel turns to kerosene and then to diesel. The yields vary based on the pot's size, the crude oil used, and the operator's skill, but typically produce 4-5 drums of fuel, 24-25 drums of kerosene, and 30-40 drums of diesel (Ekeremor-owei, personal communication, May 14, 2024).

The environmental and health impacts of this process are severe:

Air Pollution: The burning of crude oil releases toxic gases and particulate matter into the atmosphere, contributing to air pollution and respiratory health issues in nearby communities.

Soil and Water Contamination: Spills and improper disposal of waste products lead to soil and water contamination, affecting agricultural land and aquatic ecosystems.

Deforestation: The clearing of land for artisanal refining camps and the use of wood for fuel contribute to deforestation and loss of biodiversity.

Health Risks to Operators: Refiners are exposed to toxic fumes and are at risk of burns and explosions. As one refiner noted, "The operator should always make an effort to maintain his health by eating fruits and drinking milk on a regular basis to lessen the negative effects of breathed gases on his health" (Arefa, personal communication, May 13, 2024).

Contamination of Food and Water Sources: The pollution from artisanal refining activities can contaminate local food and water sources, posing long-term health risks to communities in the area.

Implications for National Development

Despite its illegal nature and environmental consequences, artisanal refining in Ekeremor LGA and the broader Niger Delta region has several implications for national development:

Artisanal refining provides both direct and indirect employment opportunities in a region with high unemployment rates. Directly, it employs thousands of people as operators of makeshift refineries, crude oil transporters, and sellers of refined products. Indirectly, it generates jobs in support services like transportation, security, and retail. The income generated from these activities often circulates within the local economy, supporting other sectors such as agriculture, retail, and construction.

Although rudimentary, artisanal refining requires a basic level of technical knowledge about crude oil processing. Many participants in this sector develop technical skills that could potentially be harnessed for legal and formal economic activities. With proper training and resources, those involved in artisanal refining could transition to work in formal refineries or other parts of Nigeria's oil and gas industry.

The income generated from the sale of locally refined petroleum products circulates in local markets, helping to improve living standards, enable access to basic necessities, and support small-scale businesses and traders. This informal economic ecosystem often develops in regions neglected by formal industrial investments (Naanen & Tolani, 2014).

Security Implication

In the Niger Delta, much of the unrest stems from the region's perceived marginalization in the distribution of oil wealth. By allowing locals to participate in oil refining, artisanal refining creates a mechanism for sharing the benefits of the region's resources. This reduces feelings of disenfranchisement and can lower the risk of violent uprisings, thereby contributing to national security and stability. Many former militants or those at risk of joining militant groups turn to artisanal refining as a more stable means of earning a living.

Conclusion and Recommendations

Artisanal oil refining in Ekeremor LGA represents both a survival strategy and a major challenge for oil-rich regions. While it provides crucial employment opportunities and economic relief for many communities, it comes with significant environmental, health, and social consequences. The persistence of these activities despite government crackdowns highlights the complex socioeconomic factors driving participation in the informal oil economy.

To address the challenges posed by artisanal refining while harnessing its potential benefits, the following recommendations are proposed:

1. **Develop Alternative Livelihoods:** Implement comprehensive programs to create alternative, legal employment opportunities in the region, focusing on skills development and entrepreneurship support.
2. **Improve Energy Access:** Invest in formal energy infrastructure to reduce the demand for illegally refined petroleum products in rural areas.
3. **Environmental Restoration:** Initiate large-scale environmental cleanup and restoration projects to address the damage caused by artisanal refining and oil spills.
4. **Community Engagement:** Involve local communities in decision-making processes regarding resource management and development initiatives.
5. **Reform Revenue Sharing:** Review and reform the revenue-sharing formula to ensure oil-producing communities receive a fair share of the benefits from oil extraction.
6. **Strengthen Law Enforcement:** Improve the capacity and integrity of law enforcement agencies to effectively combat large-scale oil theft and criminal networks.
7. **Explore Formalization:** Investigate the potential for formalizing and regulating small-scale refining activities to bring them into the legal economy while ensuring environmental and safety standards.

By adopting a multifaceted approach that addresses the root causes of artisanal refining while mitigating its negative impacts, Nigeria can work towards a more sustainable and equitable development model in the Niger Delta region. This approach would not only improve the lives of local communities but also contribute to national security and economic growth.

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