Artisanal Crude Oil Refining and Social Dynamics: Implications for Environmental Sustainability

Clinton Areprekumor and Iti Orugbani
Department of History and Diplomacy, Niger Delta University

Abstract

Studies on environmental sustainability in the Niger Delta have drawn considerable attention to the role of artisanal crude oil refining and the adverse effects it has on the environment. However, limited scholarly attention has been paid to the social transformations resulting from this informal economic activity and how it impedes collective action toward sustainability. This study fills this gap by exploring the socio-environmental impacts of artisanal refining—how it reshapes social structures, creates new hierarchies, alters traditional power dynamics, perpetuates pollution, and undermines communal efforts toward environmental protection. Anchored within the Political Ecology framework, the study interrogates how local responses to economic marginalisation and environmental degradation shape the evolution and entrenchment of artisanal refining. The research was conducted in Peremabiri (Southern Ijaw LGA) and Okoroba (Nembe LGA) in Bayelsa State—communities long exposed to artisanal refining. Employing a qualitative historical method within the interpretivist paradigm, the study focused on the period 2001 to 2024. A purposive sampling technique guided the selection of 24 interview participants, including refiners, retailers, community leaders, women, and youths, along with four Focus Group Discussions (FGDs) of 5–10 participants each. Data were collected through oral histories and narratives in local dialects and Pidgin English, and analysed using thematic content analysis. Findings reveal that artisanal refining transforms communities by creating new economic elites and informal networks, that weaken traditional authority and impede collective environmental action. The study concludes that sustainability efforts must engage these informal structures rather than bypass them, recommending livelihood alternatives, local empowerment, and stronger regulatory capacity to balance economic survival with environmental goals.

Keywords: Crude Oil, Artisanal Refining, Social Dynamics, Environmental Degradation, Sustainability.

Introduction

The Niger Delta region is widely described as the most polluted delta in the world. Its land, water bodies, and air are subject to constant pollution, primarily from oil-industry activities carried out by multinational oil companies (MNCs), and more recently, by artisanal crude oil refiners. The scale and persistence of pollution have placed the region at the heart of Nigeria's sustainability discourse since the immediate post-independence period. Environmental degradation, interwoven with chronic poverty and developmental neglect, contributed to justify several revolts in the region including the immediate post-independence 12-Day Revolution of 1966, the emergence of the Movement for the Survival of the Ogoni People (MOSOP) in the 1990s, and the turn to violence

in the region following the Kaiama Declaration in the 21st Century (Chidiobi and Ibekwe, 2022; Bamidele and Erameh, 2023). Like many resource-rich but environmentally vulnerable regions globally, sustainability concerns in the Niger Delta stem largely from its oil wealth and the destructive ecological consequences of extraction, transportation, and processing of crude oil.

Historically, environmental advocacy in the region has targeted the activities of MNCs. Communities and civil society organisations have persistently called for environmental justice, resulting in some institutional gains, including the National Climate Change Policy (2021), the Petroleum Industry Act (2021), and judicial rulings such as the 2019 Supreme Court order compelling SPDC to clean up Ogoniland. Yet, these efforts are continually undermined not only by the ongoing negligence of oil companies but also by the rise of artisanal crude oil refining—an informal, community-based activity with far-reaching environmental consequences.

While several studies have extensively examined the ecological and socio-economic impacts of multinational oil companies (MNCs) in the Niger Delta (Eke, 2021; Ajebon, 2021; Ojo and Beaulieu, 2024; Chidiobi and Ibekwe, 2022; Bamidele and Erameh, 2023; Ibaba, 2008; Opukri and Ibaba, 2008; Eweje, 2006), scholarly attention has increasingly shifted towards providing empirical insights into the complex ecological impacts of artisanal crude oil refining, defined as the informal and illicit processing of stolen or diverted crude oil by local actors using make-shift techniques (Obenade and Amangabara, 2014; Zibima and Okoye, 2019; John and Nnadozie, 2021). Collectively, these studies underscore the paradox of artisanal refining, noting that while it offers economic survival for many in marginalised oil-producing communities, it simultaneously exacerbates pollution and undermines ecological stability. Nevertheless, limited scholarly focus has been directed at the broader social transformations generated by this informal industry, particularly how it reshapes community structures, creates new power dynamics, and impedes collective afforts toward environmental sustainability.

This study addresses this gap using the Political Ecology framework. It interrogates how power relations, economic marginalisation, and informal survival strategies have entrenched artisanal refining as both a socio-economic necessity and an ecological hazard. It specifically seeks to:

i. Examine the socio-environmental impacts of artisanal crude oil refining in selected Niger Delta communities;
ii. Explore how artisanal refining reconfigures local social structures, power relations, and authority systems; and
iii. Analyse how these changes undermine community agency and collective action for environmental sustainability.

Theoretical Framework

This study is anchored in the Political Ecology approach, a critical theoretical lens that examines the complex interplay between political, economic, and environmental factors in shaping human-environment relationships. Originating from the Marxist tradition, political ecology critiques the apolitical framing of environmental issues by highlighting how power relations, structural inequalities, and historical processes influence both environmental degradation and responses to it (Desvallées, de Sartre and Kull, 2022; Sultana, 2021; Kenney-Lazar, et al., 2023). It thus moves beyond simplistic explanations that attribute environmental problems solely to population pressures or local practices and instead interrogates the broader political economy within which these issues are embedded (Sultana, 2021).

Political ecology is particularly relevant for understanding the phenomenon of artisanal oil refining in the Niger Delta, a region historically marked by resource extraction, marginalisation, and environmental injustice. The approach enables an exploration of how the political and economic marginalisation of local communities, coupled with unequal access to oil wealth, have fostered informal and often illegal livelihood strategies such as artisanal refining. These activities, though environmentally damaging, are also embedded in broader struggles over survival, autonomy, and resistance to exploitative structures (Putri, 2023).

Furthermore, political ecology elucidates the changing social dynamics that emerge as communities reorganise around the opportunities and constraints created by artisanal refining. Traditional authority structures may be weakened, new power brokers may emerge (e.g., camp owners or local security collaborators), and community norms around environmental stewardship may be eroded in favour of short-term economic gains. The approach also considers how state responses through militarisation and criminalisation of artisanal refining reproduce environmental harm and exacerbate local grievances, rather than addressing the root causes of informal refining practices.

By adopting a political ecology framework, this study views environmental sustainability not merely as a technical or behavioural issue, but as deeply intertwined with social justice, power relations, and historical processes of exclusion. It enables a critical assessment of how artisanal refining simultaneously serves as a coping mechanism for marginalised populations and a driver of ecological degradation, and how the resulting social transformations complicate collective action towards environmental sustainability. Ultimately, political ecology provides the conceptual tools to understand how conflicts over natural resources, competing environmental values, and unequal socio-political structures shape both the practice of artisanal refining and its implications for sustainable environmental governance.

Methodology

This study is situated within the interpretivist research paradigm, which assumes that social reality is subjectively constructed through lived experiences (Berger and Luckmann, 2016). Accordingly, it emphasises the socially constructed nature of human interactions and institutions, particularly how collective experiences—such as those derived from artisanal oil refining—shape responses to broader societal issues like environmental degradation. The study adopts a qualitative historical method, focusing on the period from 2001 to 2024. This timeframe was chosen to trace patterns and shifts in the practices and responses of artisanal refiners to environmental issues within the Niger Delta, particularly in Bayelsa State. Given the transdisciplinary character of the inquiry—spanning sociology, political ecology, and environmental justice—an eclectic analytical framework was employed. The study was conducted in Peremabiri (Southern Ijaw LGA) and Okoroba (Nembe LGA) in Bayelsa State. These communities were selected due to their longstanding exposure to, and engagement with, artisanal refining activities.

The population consists of local refiners, retailers of refined products, community leaders, youths, and women. A purposive sampling technique was employed to select participants based on their knowledge of, and experience with, the phenomenon under study. A total of 24 in-depth interviews were conducted: 8 with active artisanal refiners, 4 with retailers of refined products, 4 with community leaders, and 8 with women and youths who are affected by or have knowledge of the refining practices. Additionally, four FGDs were held—two in each community—comprising 5–10 participants per session, grouped by age and gender to facilitate open discussion. The data collection process relied heavily on narratives and oral histories, capturing personal and communal accounts of how artisanal refining evolved, its perceived benefits and consequences, and the community's environmental consciousness and actions. Interviews and FGDs were conducted in the local dialects and Pidgin English, and later translated and transcribed. Data analysis followed a thematic content analysis approach, allowing patterns and key themes to emerge inductively from the narratives.

Findings and Discussion

Understanding Artisanal Refining: Origin, Expansion, and Operation

Artisanal crude oil refining skills utilizes local gin making techniques in distilling crude oil into Kerosene, diesel, and petrol. Like basic 'Fractional distilling', artisanal crude oil refining requires direct and constant heating of crude oil with metal tanks, also known as drums, with open fire underneath (Alagoa, 2012). These barrels are connected to outfits for gas, petrol, diesel, and kerosene. The gas is released into the atmosphere, as local refiners rarely utilise the gas, while the petrol, kerosene, and diesel taken in vessels and hollow pits are lined with tarpaulins (Alagoa, 2012). The heating procedure causes environmental pollution, as filtrate from the crude oil is thrown indiscriminately into the lakes, rivers, and land within the communities where refining camps are located. The waste and by-products of the refining process contain high concentrations

of mercury, cadmium, and lead, which are highly toxic to humans, animals, and plants. How did this practice gain a foothold in Nigeria's Niger Delta? Providing insight on this, Alagoa Morris, an environmental rights advocate and expert in Yenagoa, Bayelsa State, asserts that:

> The first school links the practice to Biafran ingenuity during the Nigerian/Biafran civil war of 1967 – 1970. This group argues that the Biafran soldiers heavily relied on locally refined fuel and other petroleum products to sustain their war efforts. The second school of thought opines that artisanal crude oil refining skills developed as a fall out of local knowledge on distilling and fermenting local gin, otherwise known as 'Ogogoro' or 'Kai Kai' (A. Morris 2022, personal communication, 10 May).

Although these perspectives explain the possible origins of the practice of artisanal refining, they do not sufficiently explain its expansion into a region-wide informal economic activity that persists to this day, with serious environmental consequences. The expansion and widespread entrenchment of artisanal refining in Nigeria's Niger Delta is closely linked to the emergence and proliferation of armed insurgency. This study identifies 1997 as a critical year, that marking the shift from relatively peaceful protests for resource control and, to some extent, environmental justice, to full-blown armed agitation. Militant groups, such as the Movement for the Emancipation of the Niger Delta (MEND), relied on locally refined fuel for transportation logistics and as a funding source to sustain their operations. Since then, artisanal refining camps have proliferated in rural communities, particularly in Bayelsa State. To illustrate this point, Zibima (2015) notes that between 2000 and 2010, the Nigerian military destroyed more than 2,000 artisanal refining camps across the nine states of the Niger Delta.

Essentially, artisanal crude oil refining is connected to broader issues of insurgency, crude oil theft, and exportation, illegally, to international black markets. It intersects with aspects of social and economic issues of oil extraction and exportation. The illicit nature of the practice arises from Watts' idea of 'oil complex', which explains the formation of distinct forces around oil (and oil politics) in developing countries. The crux of this 'oil complex' is the state's strategic control of crude oil as a national asset, which is protected through explicit petroleum and gas regulations, and security personnel (Watts, 2005). It also includes a process whereby the oil multinational corporations' function through joint venture agreement with a state-owned oil company. Thus, oil bearing communities are alienated from the revenue distribution process (Watts, 2005).

The alienation of indigenous people and local artisans from petroleum products refining is made possible by extant laws governing the petroleum industry in Nigerian. The Petroleum Act of 1969, along with the Petroleum (Drilling and Production) Regulations of the same year, stipulates that 'the entire ownership and control of all petroleum in, under or upon any land to which [Section 1 of the Petroleum Act] applies shall be vested in the state.' Sub-section 2 of the 1969 Petroleum Act extends this provision to all lands within Nigeria, including inland water, territorial waters,

and the continental shelf. More so, Section 3 and 4 of the 1969 Petroleum Act clearly states that no refinery shall be operated in Nigeria without being granted license by the Minister of Petroleum. Hence, artisanal or modular refineries cannot operate legally without a license. Section 4 prohibits the importation, sale, storage, and distribution of petroleum products of more than 500 liters without authorization from the Minister. Similarly, section 6 empowers the Minister to regulate the pricing of petroleum products, leading to the creation of the Petroleum Product Pricing Regulatory Agency (PPPRA), solely responsible for regulating the distribution and the pricing of petroleum products in Nigeria (Omorogbe, 2001). These legal provisions imply that artisanal refining contravenes the laws of the land and is, essentially, a criminal venture.

Artisanal refiners rely on suppliers of crude oil to be able to engage in production. As a function of the nature of the practice, their crude oil sources are usually linked to well-organised oil theft syndicates. In line with Zibima's (2015) perspective, this study found that these syndicates operate in a highly coordinated manner, with well-established connections to government officials and militants. While artisanal refining groups are comparatively less organised, the structured activities of these syndicates give them a strategic edge in transporting crude oil, particularly through the Atlantic Ocean. Despite the fact that both crude oil theft networks share a common interest in product supply, they differ in their modes of operation. In this regard, this supply chain depicts a scenario in which these syndicates provide stolen crude oil to both local artisanal refiners and international markets. Consequently, the surge in artisanal refineries has shifted the process of obtaining crude oil from pipelines to heavily dependence on oil theft syndicates for supplies. Nonetheless, as A. Morris (2024, personal communication, 10 May) observed, 'this arrangement allows local refiners to maximize profit'.

Artisanal Refining and Changing Livelihood Practices

As earlier noted, a central argument of Marxian theory is that the economy and changes within it enables broader socio-political transformations. How true is this for Artisanal refining? Studies on the Niger Delta are almost unanimous in arguing that fishing, trading in farm produce, and farming are the dominant traditional livelihood sources in the region. People in the region rely on both water and land resources for subsistence. A handful of rural dwellers also engage in technical and professional services such as teaching, brick-laying, carpentry, canoe making, and other crafts. While those employed into the civil service are majorly in the junior staff units, thus, placed on a low-income level. These traditional livelihood practices are not conducted on an industrial scale but are mostly targeted at sustenance, using unsophisticated tools like dugouts, nets, hooks, and spears for fishing, or hoes, machetes, and other crude implements for farming and crafts to eke out a living from the environment. The environment is, thus, inalienable from the survival of the people of the Niger Delta. Lakes, rivers, and the coastline form an important part of the fishing areas used by local fishermen. To fish in the ocean, one requires sophisticated engine-powered boats; thus, there is a marked reduction in the number of rural dwellers who can conveniently fish in the ocean.

Therefore, they rely on the canals, rivers, estuaries, and lakes for fishing. There is a natural connection between these traditional livelihoods and the environment, as the environmental conditions can either enhance or constrain these means of survival. In cases where the environment constrains the people's means of survival, communities become largely compelled to pursue alternative strategies to sustain their livelihoods.

For the region, the activities of the oil industry, both at the formal level by MNCs and the informal level by artisanal refiners, have impacted the environment and necessitated shifts to alternative livelihood sources. Pollution from oil industry activities has impacted the quality of water bodies and land, rendering them almost incapable of sustaining the livelihoods of indigenous people. Agbonifo (2022) and Ukhurebor et al. (2023) observe that when livelihood prospects diminish, there is always a tendency for livelihood mobility, with rural dwellers shifting towards more lucrative alternatives. The fallout has been the large-scale shift away from traditional livelihood sources in the region. Fishing, farming, and associated crafts like boat making, are no longer considered lucrative. As a result, indigenous settlers now increasingly resort to alternatives activities that are mostly illicit, including involving in illegal oil bunkering, the use of noxious chemicals for fishing, and indiscriminate logging and deforestation, among others. This trend marks a significant shift away from traditional economic activities to practices that further degrade the natural environment.

Furthermore, this study reveals that participation in artisanal refining is largely motivated by 'entrepreneurial' and 'survival' imperatives. The material and financial benefits of engaging in artisanal crude oil refining serve as strong motivators. During interviews, both artisanal refiners and owners of refining camps narrated how they either intend to start their own camps or establish new 'branches'. They also revealed strategies to restart operations in the event of the destruction of their camps by either the Joint Task Force of the Nigerian Military or the civilian Petroleum Task Force. Thus, entrepreneurial and survival imperatives serve as major catalysts driving the proliferation of artisanal refineries in the region. As one of the participants noted:

> I dey gather money to open my own camp. said one of the refiners. Me and my friend open this camp for 2016. We dey build another one for another bush, so that if army scatter this one, we go use the other one dey cook. one of the camp owners hinted. I been dey work for one camp across the creek before I open my own. A day we dey cook up to 75 drums of diesel, 30 drums of kerosene and 20 drums of petrol.
>
> *I am saving money to open my own camp, said one of the refiners. My friend and I opened this camp in 2016. We're building another one in a different bush location, so that if the army destroys this one, we can use the other one to continue refining.* (Camp Owner 2022, personal communication, 15 May).

Furthermore, another key factor stimulating participation in artisanal crude oil refining is the thriving market for refined petroleum products, driven mostly by the persistent rural energy supply deficit. More importantly, artisanal crude oil refining has evolved as an informal economic practice that addresses tangible and growing demands for refined petroleum products, particularly in rural and hard-to-reach communities where formal supply channels are either inefficient or non-existent. This evolution is best understood in the context of Nigeria's broader energy landscape. As of early 2025, following the removal of fuel subsidies, daily petrol consumption (PMS) was estimated at approximately 50 million litres, with less than 50% of this demand met by local refineries (Odeyinka, 2025), forcing the country to rely heavily on imports. Formal refineries collectively require about 770,500 barrels of crude oil per day, which constitutes around 37% of the nation's daily crude production (Nigerian Upstream Petroleum Regulatory Commission, 2025), yet their operational efficiency remains constrained. The resulting supply gap is further exacerbated by the smuggling of an estimated 15.6 million litres of petrol daily (Odeyinka, 2025; Budgit, 2023), which distorts official consumption data and diverts products away from domestic markets.

In this context, artisanal refining, though unregulated and quantitatively undocumented, plays a significant role in supplementing the shortfall, particularly by meeting rural energy needs. Its adaptability, proximity to crude sources, and responsiveness to local demand have enabled it to thrive where state mechanisms have faltered. For instance, the average retail price of kerosene stood at approximately ₦1,026 per litre (around 0.6 USD) as of April 2025 (Statista, 2025), rendering it unaffordable to many households. Artisanal refiners have capitalised on this situation by providing cheaper, albeit lower-quality, alternatives to communities that would otherwise be excluded from the formal energy distribution system. The demand for domestic energy supply is manifest in the region-wide trend across the Niger Delta, where artisanal refined kerosene is sold in plastic bottles. Kerosene from artisanal refineries is distinguished by its colour, since it is less clear than industrially refined kerosene due to differences in distillation levels and the rigor of the refining process (Bebeteidoh, 2022).

Despite the entrepreneurial and survival motives for participation, other factors, such as access to capital, the nature of the immediate environment, demand, and viability of the venture are also critical to the sustenance of artisanal outfits. Despite legal constraints, artisanal refining is unceasing due to the high gross profit margin associated with it. As one refiner notes:

> Money plenty for this business. People plenty wey won buy from us. women dey come from nearby villages to buy from us, every person dey benefit. This business, money dey always enter our hand, because boat and canoe dey wey we dey take supply people for inside the creek them. The truth be sey, people need fuel and kerosene and diesel. The work no easy, but e get watin easy for this life? We dey happy sey money dey always enter our hand.

> *There's a lot of money in this business. Many people want to buy from us. Women come from nearby villages to buy from us—everyone benefits. In this business, we're always getting money, because we have boats and canoes that we use to supply people inside the creeks. The truth is, people need fuel, kerosene, and diesel. The work is not easy, but what in life is easy? We're happy because money keeps coming into our hands.* (P. Ebebi 2022, personal communication, 1 May).

Again, it is important to state that daily sales of locally refined products are determined by the availability of crude oil. What is required to make a good output is about fifty (50) barrels of crude oil. An average price of crude oil bought from crude oil thieves is estimated at #5,819.24 per drum, while the price of refined products is sold between #30,000–#36,000. Also, price variation largely depends on the channels of distribution. According to S. Godwill (2022, personal communication, 24 May), 'the risk wey dey for this business plenty, if JTF catch us for road, we dey either settle them or them arrest us (*There are many risks in this business. If the Joint Task Force (JTF) catches us on the road, we either bribe them or they arrest us*).' The size of the refining camps also determines the quantity of production. Payment of workers is done on a daily basis. Workers are paid about #2,000–2,500 per barrel of refined product. However, daily payment of workers is also determined by the size of the camp owners and location of the camps. Depending on the size of the camp, start-up capital ranges from #600,000–#2,000,000. It is pertinent to note that production capacity and facilities used in the camps are determined by the ambitions and desires of the camp owners.

Another factor that contributes to the proliferation of artisanal refining activities across rural communities in Bayelsa State is skill mobility. Here, daily workers, saving up to start their own refining outfits, quickly set up their own camp, having gotten much experience as well as startup capital. Widespread poverty is yet another catalyst for the spread of artisanal refining outfits. Poverty and the desire for alternative means of survival provide massive labour force for refining camps. To illustrate this point, an average refining camp employs about 4–20 workers per day. As previously noted, environmental pollution contributes to the decline of traditional means of survival, which is largely dependent on the natural environment. This can best explain why rural dwellers leave this diminishing traditional means of livelihood for more lucrative ventures such as artisanal crude oil refining. It is important to note that artisanal crude oil refining has evolved from merely meeting the transport logistics of combatants to addressing the growing energy demands of a thriving rural market. This is why artisanal crude oil refining is a vital part of the rural economy across communities in the Niger Delta. The practice marks a shift from traditional livelihood activities, provides employment for labour, and is considered a major source of finance.

Power Dynamics, Social Relations, and Networks in the Artisanal Refining Industry

Findings from this study reveal that in many instances, traditional leaders have been co-opted into the artisanal refining economy. One camp operator interviewed noted that 'financial benefits or bribes are given to community leaders in exchange for their tacit approval or active support of refining operations. Without the support and cooperation of community leaders, it would be unthinkable to illicitly refine crude oil in communities. It is trite to note that this co-optation can undermine their traditional authority and lead to a loss of legitimacy, as they are perceived to prioritize personal gain over communal well-being. In addition, traditional leaders also play a mediation role in managing intergroup conflicts that arise between 'camps' in the artisanal refining industry. They manage disputes and maintain a semblance of order within communities. It is instructive to understand that artisanal refining, being illicit and unsanctioned by the Nigerian law, is devoid of formal mechanisms of conflict resolution. As such, community leaders often leverage their influence to balance competing interests and mitigate violence.

Beyond the transformation of existing traditional institutions and structures, artisanal refining results in the rise of new economic elites from within the refining communities, further complicating traditional power dynamics. It has birthed fragmented and contested authority structures within community leadership. One of the interview participants noted that:

> In cases where traditional leaders successfully integrate into the refining economy and maintain control over operations, their authority may be reinforced. Where they are not effectively integrated, it is not uncommon to witness intra-communal strife in climes where communal leadership are averse to artisanal refining (E. Noble 2022, personal communication, 26 May).

Hence, the operation of artisanal refining outfits is also tied to the level of social order in these communities. Social order is used as a tool of inclusion or exclusion in daily traditional means of survival in these communities. The formation and maintenance of power relations influence participation in the economic and social modes of production. Power relations, as used in this study, aligns with Macias and Nelson's (2011) understanding of it as the control of the mediums to access capital, and how this translates into the management of the modes of production for survival in a particular social structure. The process of creating means of survival in rural communities of Bayelsa State is largely dependent on individual competences. Any form of shared mobilisation of resources for livelihood sustenance is often done at the household level, which negates any strict regulation of production activity. Thus, such lines of communication between households and individuals are based on using existing opportunities, instruments of survival, and resources. Therefore, this characteristic of rural forms of production inspires participation in artisanal crude oil refining operations, as well as the proliferation of artisanal refineries across rural communities in the Niger Delta.

The economic benefits derived from artisanal refining in the Niger Delta have precipitated significant changes in the region's social hierarchy. Historically, the socioeconomic structure in

Niger Delta communities was largely predicated on agrarian and fishing activities, with wealth and status intricately linked to land ownership and traditional roles within the community. However, the proliferation of artisanal refining has introduced a new dimension of economic stratification. Although illegal, artisanal refining has enabled individuals involved in its value chain—including operators, middlemen, and distributors—to accumulate substantial economic capital, leading to the emergence of a distinct social class within affected communities. This class is characterised by its access to wealth, control over informal energy markets, and the ability to influence local decision-making, often through patronage networks or direct economic support to community members. Unlike traditional social classes in these communities—such as elders, subsistence fishers, and farmers—whose status historically stemmed from age, lineage, or communal roles, this new class derives its legitimacy primarily from economic power and control over resources. Their growing influence has, in many cases, shifted local power dynamics, challenging the authority of customary institutions and altering the socio-economic hierarchies that previously defined community life. This class ascension is particularly pronounced among individuals who previously occupied lower economic statuses, offering them a pathway to upward social mobility that traditional economic activities did not provide.

The role of skill mobility in providing capital, labour, intelligence, and a ready market for informal ventures such as artisanal crude oil refining is very important. Informal lines of communication, actually enhance the functionality of artisanal crude oil refineries. As Zibima (2015, p. 80) aptly notes, '…when such economic activities take place within home turfs, environmental familiarity or locality becomes the defining factor for building, networking, and utilizing local and extra-local linkages.' To this end, informal economic ventures are widely known enhancing social capital by creating networks that intertwine work and everyday life. Artisanal refiners are mainly recruited from among kins and friends in the rural communities where they thrive. These social relations are pivotal to the availability of labour, intelligence gathering, operational risk management, among other things. One interviewee expressed the view that:

> I dey run this business with some of my brothers and friends. Na me dey supervise the cooking while some of my men they supply our customers diesel. Na my mother dey in charge of the kerosene, na she dey sell am for village.
>
> *I run this business with some of my brothers and friends. I'm the one who supervises the refining, while some of my men handle the supply of diesel to our customers. My mother is in charge of the kerosene—she sells it in the village*. (Camp Owner, Peremabiri 2022, personal communication, 23 May).

In recounting the mode of profit sharing, the above camp owner noted that it is a 'kill and divide arrangement. Everybody dey get something inside this business, the remaining one we dey put am for akawo. (*It's a kill and divide arrangement. Everyone gets a share in this business, and the rest is saved in a monthly group contribution in the form of thrift*). (Camp Owner, Okoroba 2022,

personal communication, 19 May). From this response it can be inferred that there is a tacit redistribution of gains and income among members of the rural community, lineage, and kins in the same community. Hence, artisanal crude oil refining becomes an alternative, yet worthwhile venture. These refining outfits serve as a profitable source of income for rural dwellers, who work in such refining camps. Unemployment and waning production outputs from the traditional means of survival were repeated themes in the responses of interview participants. One of the community leaders noted that 'the money these boys make is used here in our community to help friends and relatives. I am happy the youths are not idle because if they do not have anything to do, they will start stealing and doing sea piracy …the diesel and fuel these boys produce is used to power our generators' (Community Leader, 2022, personal communication, 20 May). The failure of the government to provide public services and workable support systems serves as a basis for the mass mobilization of labour in the rural communities for artisanal refining outfits.

Implications for Collective Sustainability Action

Thus far, this study has demonstrated that artisanal refining is not merely an economic activity, but a transformative social force that reshapes local institutions, social relations, and environmental behaviours. It thrives on informal networks and bypasses formal state structures, resulting in profound changes to traditional leadership authority, livelihood practices, and local governance mechanisms. Importantly, these transformations have significant implications for collective action toward environmental sustainability, particularly in terms of community-based natural resource management, traditional environmental stewardship, and participatory governance. Prior to the widespread emergence of artisanal refining, many communities—especially those dependent on fishing and farming—practiced rudimentary but effective forms of environmental sustainability. These included seasonal fishing restrictions, communal mangrove protection, and taboos against waste dumping in sacred creeks and rivers. Leadership structures, often rooted in council-of-elders systems, played an important role in enforcing such norms, and communal labour (e.g., "ayakiri" in some Ijaw areas) was occasionally mobilised to clean waterways or maintain fishing grounds.

However, the rise of artisanal refining has disrupted these practices in several ways. First, the shift from subsistence livelihoods to oil refining, an ecologically harmful activity, has led to the abandonment of long-standing conservation practices. Rivers and mangrove ecosystems, once seen as communal assets to be protected, are now frequently contaminated by refining by-products, while deforestation for firewood used in crude processing has accelerated ecological degradation. Second, the economic incentives associated with artisanal refining have weakened traditional leadership institutions, as authority has shifted to individuals who control refining operations and distribution networks. Moreover, authority is gradually shifting from elders to those who control refining camps and those who wield the apparatus of violent conflicts, leading to erosion of customary environmental governance systems. This is because informal refining networks often

operate covertly or with implicit community support, making it difficult to mobilise collective action against environmental degradation without appearing to threaten local livelihoods. This aligns with the findings of Raimi and Boroh (2018), which showed that local communities within the Niger Delta are gradually losing the values associated with their various traditional power structures as more warlords gain influence and ascend to positions of chiefs and kings. In the context of this study, this helps to show how the evolving power dynamics may continue to provide tacit, if not open, support for the proliferation of artisanal refining activities, given the associated material and political incentives (Ephraim-Emmanuel, Okokon and Ordinioha, 2022).

Therefore, this scenario not only undermines existing traditional political structures but also threatens the communal character of these communities. It further makes sustaining collective environmental action difficult by displacing years of environmental practices, eroding leadership structures that once enforced them, and promoting parallel informal power centres that are not necessarily accountable to communal environmental values. Any effort to re-establish collective sustainability initiatives must begin by recognising and engaging these informal actors, rather than bypassing them. Future environmental initiatives must be co-produced with local stakeholders, integrating economic alternatives and re-legitimising traditional ecological knowledge in ways that resonate with present realities.

Conclusion

Artisanal refining in Nigeria's Niger Delta, though an offshoot of survival and entrepreneurial drive, now poses a significant threat to the survival and sustainability of the region. Its destructive potential transcends the immediate environmental impacts and is also reflected in the socio-political impacts and transformations it has engendered within society. The practice, though environmentally destructive, is expanding in scale as it enjoys increasing local support and undermines the capacity of environmental protection apparatuses of the state. With growing support for the practice, collective action towards enhancing environmental sustainability emphasises the role of corporate actors and multinationals while ignoring the place of the informal artisanal refining sector. This poses a significant risk to sustainability, requiring steps to address the associated challenges.

Recommendations

This study, therefore, proposes that relevant state and non-state actors saddled with ensuring environmental sustainability in the Niger Delta take the following steps:

i. Collaborate with community leaders and informal networks to ensure their involvement and support for sustainability initiatives.

ii. Offer training and resources for eco-friendly economic activities, such as sustainable agriculture, renewable energy, and eco-tourism.
iii. Develop financial incentives and market access to make sustainable practices economically viable for local communities.
iv. Enhance the capacity of state institutions to effectively regulate and support sustainable environmental practices.
v. Implement educational programmes to increase awareness about the long-term benefits of environmental sustainability among community members.

References

Agbonifo, P.E. (2022) 'Socio-economic implications of poor environmental management: a framework on the Niger Delta questions', *Environment, Development and Sustainability*, 24 (2), pp. 2453–2470.

Ajebon, H.C. (2021) *Oil, conflict and everyday security in post-amnesty Niger Delta, Nigeria*. Doctoral dissertation. Durham University.

Alagoa, M. (2012) 'Field report 316: a peep into the bush refineries'. Report submitted to the Environmental Rights Action, Yenagoa, 20 June.

Bamidele, S. and Erameh, N.I. (2023) 'Environmental degradation and sustainable peace dialogue in the Niger Delta region of Nigeria', *Resources Policy*, 80, p. 103274.

Bebeteidoh, O.L. (2022) *A holistic study of the sustained impact of non-standard refined diesel fuel on the Niger Delta region of Nigeria*. Doctoral dissertation. Newcastle University.

Berger, P. and Luckmann, T. (2016) 'The social construction of reality', in *Social theory re-wired*, pp. 110–122. Routledge.

Budgit (2023) *Subsidy removal and Nigeria's daily petroleum consumption*. Available at: https://budgit.org/subsidy-removal-and-nigerias-daily-petroleum-consumption/ (Accessed: 17 May 2024).

Chidiobi, O.C. and Ibekwe, J.C. (2022) 'Oil exploitation, environmental issues and resource curse in a post-colonial Niger Delta region of Nigeria: the unending search for peace, 1960–2009', *Advances in Social Sciences Research Journal*, 9 (11), pp. 373–394.

Desvallées, L., de Sartre, X.A. and Kull, C.A. (2022) 'Epistemic communities in political ecology: critical deconstruction or radical advocacy?', *Journal of Political Ecology*, 29, pp. 309–340.

Eke, N. (2021) *Gender and the political economy of oil in the Niger Delta: a feminist critique*. Doctoral dissertation. Syracuse University.

Ephraim-Emmanuel, B.C., Okokon, E. and Ordinioha, B. (2022) 'Risk perceptions of environmental and health problems associated with artisanal crude oil refining in Bayelsa State, Nigeria', *Asian Journal of Environment & Ecology*, 18(2), pp. 42-50. doi: 10.9734/ajee/2022/v18i230313.

Eweje, G. (2006) 'Environmental costs and responsibilities resulting from oil exploitation in developing countries: the case of the Niger Delta of Nigeria', *Journal of Business Ethics*, 69 (1), pp. 27–56.

Ibaba, S.I. (2008) 'The SPDC and sustainable development in the Niger Delta', *International Journal of Development Issues*, 7 (1), pp. 41–55.

John, E.O. and Nnadozie, J. (2021) 'Artisanal crude refining in Niger Delta and its impact on the cultural and religious beliefs of the people', *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, 4 (1 (May)), pp. 112–124.

Kenney-Lazar, M. et al. (2023) 'Relational environmental governance: a critical framework for praxis with the material world', *Journal of Political Ecology*, 30 (1), pp. 677–698.

Macias, T. and Nelson, E. (2011) 'A social capital basis for environmental concern', *Rural Sociology*, 76, pp. 562–581.

Nigerian Upstream Petroleum Regulatory Commission (NUPRC) (2025) *NUPRC unveils domestic crude oil refining requirements and crude oil production forecasts for first half 2025*. Available at: https://www.nuprc.gov.ng/wp-content/uploads/2025/01/press-release_1h-2025-refinery-requirement-and-production-forecast.pdf (Accessed: 14 May 2024).

Obenade, M. and Amangabara, G.T. (2014) 'Perspective: the environmental implications of oil theft and artisanal refining in the Niger Delta region', *Asian Review of Environmental and Earth Sciences*, 1 (2), pp. 25–29.

Odeyinka, O. (2025) 'Local refineries contribute less than 50 percent of Nigeria's daily petrol consumption – NMDPRA', *Nairametrics*, 21 February. Available at: https://nairametrics.com/2025/02/21/local-refineries-contribute-less-than-50-percent-of-nigerias-daily-petrol-consumption-nmdpra/#google_vignette (Accessed: 14 May 2024).

Ojo, T. and Beaulieu, M.S. (2024) 'Oloibiri: lessons from the lifecycle of a single-industry town in Nigeria', *The Journal of Rural and Community Development*, 19 (3), pp. 120–148.

Omorogbe, Y. (2001) *Oil and gas law in Nigeria*. Lagos, Nigeria: Malthouse Press Limited.

Opukri, C.O. and Ibaba, I.S. (2008) 'Oil induced environmental degradation and internal population displacement in Nigeria's Niger Delta', *Journal of Sustainable Development in Africa*, 10 (1), pp. 173–193.

Putri, R.S. (2023) *Renegotiating access to oil: local resistance and the power dynamics in Musi Banyuasin, South Sumatra Indonesia*. Master's thesis. NTNU.

Raimi, L. and Boroh, E. S. (2018) 'Incentivising violent behaviours in the Niger Delta region: the commodification hypothesis', *Development Studies Roundtable: A Journal of Development, UNIPORT,* 6 (2), pp. 53-61.

Statista (2025) *Weekly kerosene prices in Nigeria 2025*. Available at: https://www.statista.com/statistics/1305347/weekly-prices-of-kerosene-in-nigeria/ (Accessed: 15 May 2024).

Sultana, F. (2021) 'Political ecology II: conjunctures, crises, and critical publics', *Progress in Human Geography*, 45 (6), pp. 1721–1730.

Ukhurebor, K.E. et al. (2023) 'Petroleum spills and the communicative response from petroleum agencies and companies: impact assessment from the Niger Delta region of Nigeria', *The Extractive Industries and Society*, 15, p. 101331.

Watts, M.J. (2005) 'Righteous oil: human rights, the oil complex and corporate social responsibility', *Annual Review of Environmental Resources*, 30, pp. 19–35.

Zibima, T. (2015) *From 'victims' to 'perpetrators': oil-producing rural communities, artisanal crude oil refining and environmental pollution in the Niger Delta*. PhD Thesis. Nagoya University.

Zibima, T. and Okoye, A. (2019) 'Non-state actors and the human security dilemma in Nigeria's Niger-Delta region', *University of Nigeria Journal of Political Economy*, 9 (1), pp.45-65.