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# Organised oil crime in Nigeria

## The Delta paradox: organised criminals or community saviours?

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### Summary

Niger Delta oil crime is one of the most serious natural resource crimes globally, with the systematic theft, sale and illegal refining of up to 20% of Nigeria's oil output. Illegal bunkering and artisanal refining have increased exponentially over the past decade. This paper draws on qualitative interviews with Niger Deltan citizens, and government and community experts, to examine the impact on society. While state security forces continue to treat the crime with 'extreme prejudice' – destroying illegal camps and transportation – Niger Deltan citizens have normalised it, justifying it as an economic, energy and employment necessity despite its health and environmental toll.

### Key findings

- Industrial-scale oil crime has been taking place in the Niger Delta for at least 20 years; there is evidence that illegal bunkering and artisanal refining continue to grow across most of the Delta.
- This growth has led to huge direct losses of US\$41.9 billion over 10 years, plus significant environmental damage, with spill levels 20 times that of onshore US oil. Delta citizens have experienced significantly depleted crops and fish stocks, as well as health risks.
- While the state security apparatus continues to condemn all forms of bunkering and illegal refining, citizens rely on the employment and energy provided by the socially embedded informal energy industry.
- Federal and state responses have been largely ineffective in limiting the extent of the crime, or alleviating the social and energy poverty characteristics of Niger Delta communities, while Bayelsa State has made some progress with an innovative industry security model.
- An alternative approach is needed to harness political and economic resources in Nigeria and, internationally, to create 'cellular refining' economic alternatives, to reinvigorate anti-corruption measures and to establish an international environmental reparation fund.

## Executive summary

Nigeria Delta oil crime is one of the most significant natural resource crimes in the world: the systematic theft, sale and illegal refining of up to 20% of Nigeria's oil output. This is at a time when Nigeria's dependence on oil continues to leave it prone to oil price shocks, yet unable to meet its own refining shortfall. The widespread crimes of illegal 'bunkering' (theft from pipelines) and 'artisanal' refining (illegal, informal refining camps) has grown in scale over the past decade several-fold.

This paper draws on qualitative interviews with Niger Deltan citizens, and subsequently government and community experts, to examine the impact on civil society – economic, social and environmental – of this phenomenon. Building on existing coverage of both the Nigerian oil industry and oil crime impacts, our interviews revealed an ambivalence to oil crimes. This lies at the heart of the problem of addressing the illegal oil 'market'. Whilst state security forces continue to treat the crime with 'extreme prejudice' – destroying illegal camps and transportation – Niger Deltan citizens have 'normalised' the activity, which they justify as an economic, energy and employment necessity.

## Economic impact

Economic harm is significant, firstly because of the dependency of the economy on oil. Nigeria's lack of fiscal buffers, and economic diversification makes it vulnerable to oil crime and demand shocks alike. A key driver of oil crime remains unmet demand for refined fuels, given Nigeria's depleted refining capacity, and the criminal diversion of imported fuels. A re-invigorated modular refinery programme remains a potential solution only.

Oil crime can be accounted for both in terms of direct losses to the oil industry, but also the inflated security costs, degraded rule of law, and environmental damage. Nigeria's international reputation and investor confidence is undoubtedly dented by the history of the Delta. But conversely, the illegal oil industry is a driver of employment, energy availability and income for a region with precious few alternative economic assets.

## Social impact

The social impact of illegal oil is, again, both negative and positive. Health impacts range from the contamination of air and water, to the horrific injuries and deaths caused by artisanal refining and tapping accidents.

The employment effect is arguably net positive, given the lack of alternative livelihoods, but the attractions of the illegal sector perpetuates the lack of motivation to look elsewhere. Moreover, the sector has created its own neo-capitalist shadow economy: a social hierarchy with its own skewed returns, favouring camp owners. With this comes a criminalised society, characterised by the threat of violence.

## Environmental impact

The overall environmental degradation of the Delta is both alarming, and worryingly poorly understood. Oil spills are twenty times those in US onshore crude production. The effects on land farming, fishing and population health is significant, basic foodstuffs, for example periwinkles in Rivers state, have been heavily depleted. In other areas the consequences of mangrove depletion are catastrophic for fish production.

## State responses

State responses to the phenomenon were perceived as either ineffective or, at worst, corrupt. Reform of the oil sector and state support for modular refineries is welcome but currently slow moving. In one case, oil company security has yielded an innovative model of enforcement and community engagement, to reduce artisanal refining, albeit with a political agenda and subsequent controversy.

## Recommendations

Our recommendations include:

- Increase Nigeria's financial resilience to oil industry volatility and crime by creating a stronger fiscal buffer
- develop a simplified, and part-community-owned 'cellular' refining programme which could provide accessible investment and employment opportunities in the Delta
- Explore successful models of industry security to pipeline security contracts to increase community engagement and reduce illegal activity (potentially though 'amnesty' proposals)
- Instigate a renewed investigation into allegations of corruption in State security forces
- Establish a significant environmental remediation programme, funded by national, industry and international donors, and co-ordinated by a strengthened NOSDRA.

## Introduction

The Niger Delta arguably experiences non-renewable resource crime at the biggest scale globally by volume:<sup>1</sup> up to 20% of its oil output is systematically stolen, sold and illegally refined or diverted.<sup>2,3</sup> Yet 11 years after the presidential amnesty for Delta militants,<sup>4</sup> this colossal drag on a beleaguered environment and economy gets relatively little international attention, and a predominately ineffective response from the state.

Far from the ‘dark overlords’ of many organised crime types, oil theft and illegal refining is everyday business for Niger Deltan men, women and children. They are so poorly served in terms of employment opportunities, the environment and energy that they see this industrial-scale activity as ‘natural justice’ to counterbalance years of exploitation by national and international oil companies.

In a country that needs considerable political will, resources and institutional strength to have any chance of attaining the United Nations’ (UN) Sustainable Development Goals, oil theft diverts finances, perpetuates corruption and undermines fragile democratic gains.

### An embedded ‘industrial-scale’ crime<sup>5</sup>

The societal impact of this oil crime has not been widely reported in recent years. The illegal oil economy has a devastating environmental effect on the land, air and water of Nigeria, while its impact on communities is profound and far-reaching.

### The illegal oil economy has a devastating environmental effect on the land, air and water of Nigeria

The Niger Delta is a global focal point for oil crime. An entire unregulated industry of illegal extraction, trading, refining and transportation exists, principally in three states: Delta, Rivers and Bayelsa.

The Delta oil crime situation did get significant attention in the immediate wake of the 2009 amnesty, but this has waned. That year saw the end of a second major round

of conflict with militias, and the consequent Presidential Amnesty Programme was viewed as bringing relative calm to the Delta.<sup>6</sup>

Yet oil crime has continued and increased, and remains a research focus for some dedicated non-profits. However, other West African security issues such as the Islamist threat garner more research attention internationally, and there is a current research gap regarding the impact and effects of illegal bunkering, refining and related oil crime.

### Towards a civil society perspective on social, economic and environmental impacts

In this report our intention is thus to widen the lens on oil crime; to look not only at the economic cost but also at the environmental and social impact of this escalating activity. Our interviews aimed to explore how oil theft affects the lives of Niger Delta citizens – both the perpetrators and those living with the consequences.

The aim of the study is therefore to examine the civil society perspective on the social, environmental and economic impacts of oil crime. The broader objectives of this are to:

- Re-frame the debate about the harm of oil crime from the perspectives of Niger Deltans
- Reconsider the current state, federal and international responses to the crime in light of this societal impact
- Promote and discuss solutions to the challenges of addressing the crime, which take into account the wider oil industry and the social needs of Niger Deltans
- Re-engage the international community on the plight of the Niger Delta, and encourage its engagement in finding solutions

We conducted a qualitative social, economic and environmental critical review of the impact of the illegal oil trade, focussing on illegal bunkering and artisanal refining. We also reviewed current academic and non-governmental organisation (NGO) literature. This relied heavily on the extensive work by NGO Stakeholder Democracy Network (SDN) and the quasi-governmental transparency body Nigeria Extractives Industry Transparency Initiative (NEITI) on the bunkering and artisanal refining phenomenon.

Two levels of qualitative analysis were undertaken. A small team conducted interviews in Delta, Rivers and Bayelsa states. Contacting local community leaders, ex-artisanal refiners and activists, 29 interviews were

conducted in July 2020. In phase two, in August 2020, the core team conducted nine interviews with key stakeholders from the Nigerian government, civil society and academia.

**Table 1: Research question**

<b>Overall research question</b>			
What is the economic, environmental and social impact of oil crime in Nigeria in the current economic environment? How has it been addressed, and how might the impact be ameliorated?			
<i>Sub-area</i>	<i>Sub-question</i>	<i>Supplementary questions</i>	<i>Sources</i>
Social impact	How is oil crime organised and what is the social cost of oil crime in terms of lives affected?	<ul style="list-style-type: none"> <li>• What is the scale of livelihoods disrupted?</li> <li>• What are the health, education and employment impacts?</li> <li>• What is the artisanal refining dynamic – a help or a hindrance?</li> </ul>	<ul style="list-style-type: none"> <li>• Descriptive accounts from Delta citizens</li> <li>• Socio-economic trends, expert views</li> </ul>
Environmental impact	What are the environmental causes and consequences of illegal bunkering and refining on the Delta environment?	<ul style="list-style-type: none"> <li>• What is the consequential impact of spills and other damage?</li> <li>• What is the outlook for spills and other damage?</li> <li>• What is the nature and cost of the clean-up operation?</li> </ul>	<ul style="list-style-type: none"> <li>• Descriptive accounts from Delta citizens</li> <li>• Oil spill analysis, expert views</li> </ul>
Economic impact	What is the cost to the Nigerian economy, and its public services, of all crime types?	<ul style="list-style-type: none"> <li>• What is the lost revenue from stolen oil?</li> <li>• How does crime vary in low oil price (current) scenarios?</li> <li>• What is the policing cost?</li> <li>• How does contract crime affect the oil supply chain?</li> </ul>	<ul style="list-style-type: none"> <li>• Economic analyses</li> <li>• Descriptive accounts from experts and industry/business</li> <li>• Descriptive accounts from Delta citizens</li> </ul>

## Limitations

This paper is not a legal review of the status of oil crimes. The research is not designed to measure the quantum of crime and is qualitative in nature only. Our focus is on organised crime and not corruption, other than where it directly affects the Delta experience. We have not completed a detailed review of the federal and state legislation and policies that surround the oil crime issue; rather, this paper reflects community and citizen viewpoints. We did not have the resources or scope to undertake a full economic impact analysis of oil crime.

## Sources

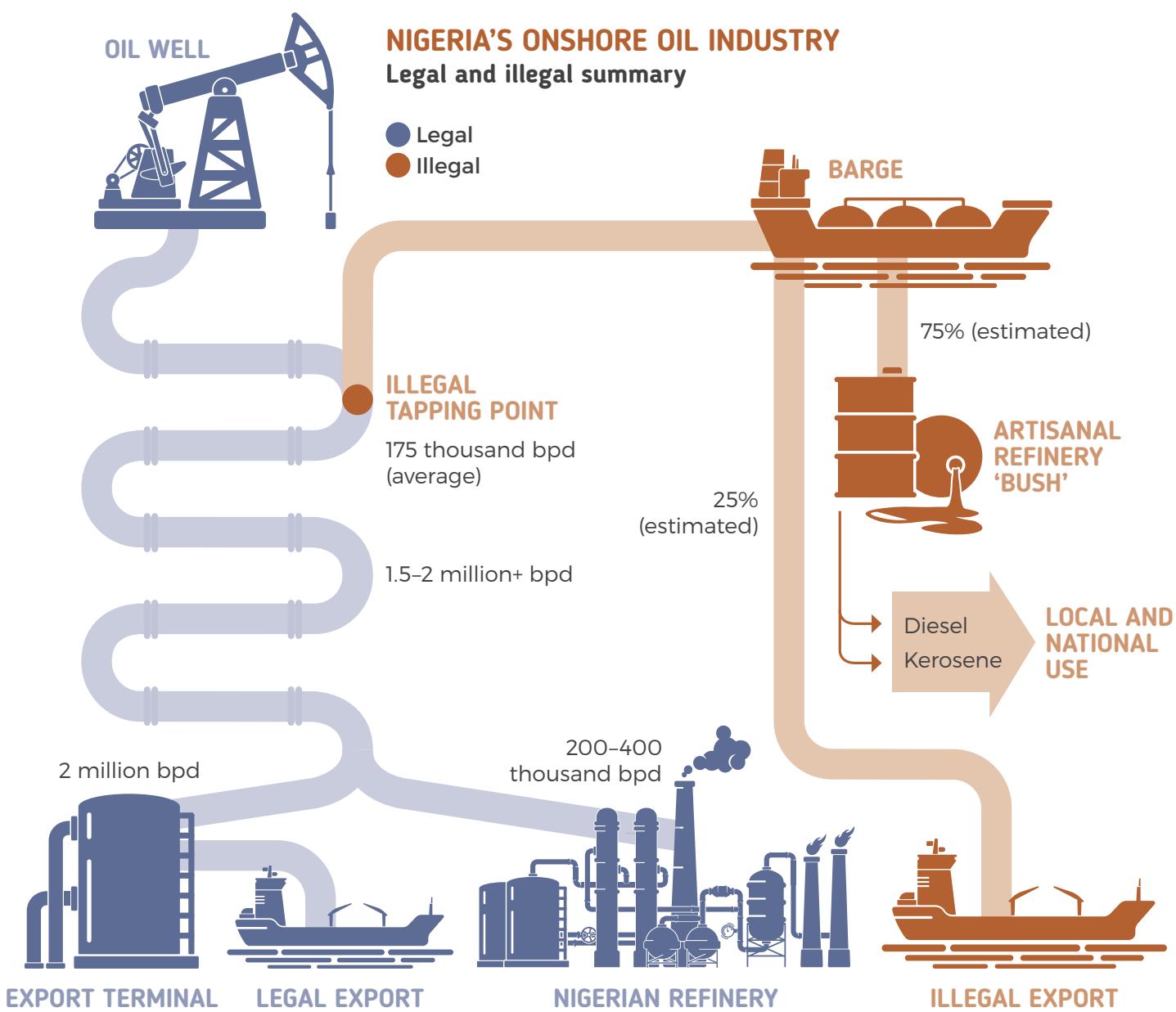
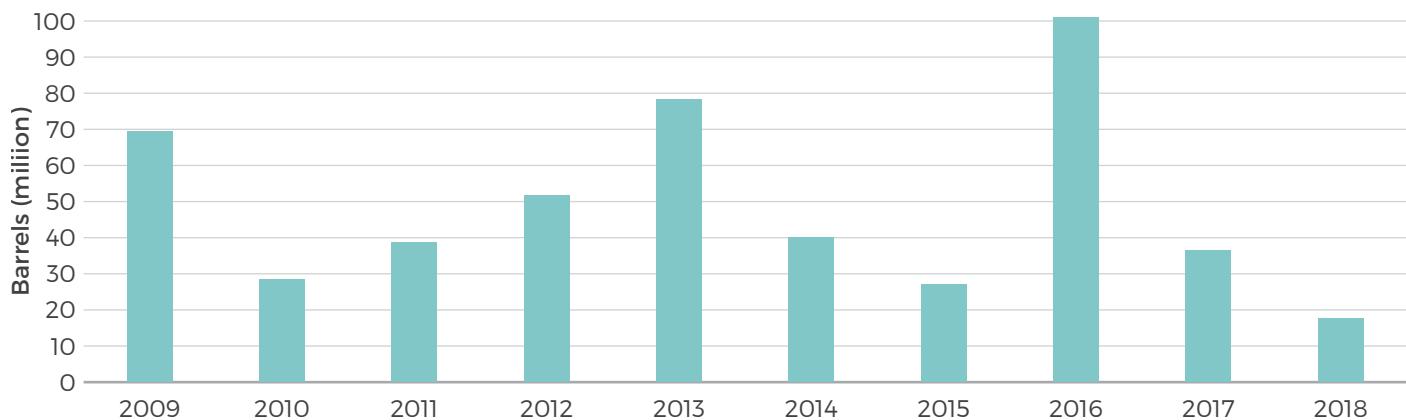
All quotes in italics are from our own interviews. Other quotes and references are as marked.

## Oil crime history and modality in Nigeria

A study by NEITI in November 2019 reviewed oil crime over 10 years. It put the value of oil theft at US\$41.9 billion (not including the environmental costs). Reporting from NEITI audits from 2009–2018, the figures show a dramatically changing picture of oil crime, as oil prices, security efforts and opportunism shift, averaging 49 million barrels per year.<sup>7</sup>

The colossal scale of this activity makes it one of the biggest illegally traded resources globally. Oil crime contributes significantly to Nigeria's getting the highest criminality score of any African country in the recently released ENACT Africa Organised Crime Index.<sup>8</sup>

**Figure 1: Total losses from crude oil theft and sabotage (barrels)<sup>9</sup>**



## Recognition and coverage wavers

Oil crime drew considerable international coverage particularly following the Delta conflict amnesty in 2009, when the scale of illegal activity was more visible to researchers and journalists. A slew of major reports in the 2010s exposed both the extent of the crime and the perpetrators, and called for international intervention by NGOs and governments.

### A slew of major reports in the 2010s exposed the extent of the crime and the perpetrators

The US Institute for Peace's landmark 'blood oil' report, with then secretary of state Hillary Clinton's support, claimed that illegal oil activity had ballooned from US\$8.8 billion in 2005 to US\$33.8 billion in 2008.<sup>10</sup>

In 2013 a Chatham House report said Nigerian crude oil was being stolen on an industrial scale. It claimed the beneficiaries were politicians, military officers, militants, oil industry personnel, oil traders and communities.<sup>11</sup>

Overall, however, oil crime has received less attention in recent years. According to one diplomat, international focus has moved to Islamism in the north of Nigeria:

*We knew the [Niger] Delta problem was vast, but attention was almost exclusively switched to the issues in the North. Former senior British diplomat, Abuja*

One aspect of this shift in focus has been the normalisation of unrest in the Delta. Some have argued the 2009 Delta amnesty legitimised the view that 'violence pays off' – that organised violence and crime played a part in the political settlement.<sup>12</sup> In turn, this

led to a situation where the state was so implicated in the post-amnesty oil theft that it had entered a *pax criminalis* characterised by weak institutions and corrupt governance. Routine violence maintains the détente.<sup>13</sup>

Given this background of unrest, it is no surprise that the most significant donor-backed programme addressing this issue is primarily focused on anti-corruption reform. This is the Facility for Oil and Gas Sector Transparency and Reform (FOSTER) programme by the Foreign, Commonwealth and Development Office (FCDO).

The programme partners with groups in the oil and gas sector to strengthen management of the sector and create reform momentum.<sup>14</sup> FOSTER 1 ran to 2016 with a 'thinking and working politically' theory of change. It was judged a success overall, but two of its five initiatives were counted as failures, and it is not without its critics.<sup>15, 16</sup>

## Criminal modes of attack

Oil crime takes many forms in Nigeria. Opportunities to extract wealth extend along the entire oil supply chain, from well to export terminal to vessel. In this section we outline the principal modes of oil crime that dominate the criminal oil economy: illegal bunkering (pipeline theft), artisanal refining, export terminal and piracy, and imported fuel diversion.

### Illegal bunkering

Originally a term used for supplying fuel to ships (steamships stored their coal in bunkers), illegal bunkering refers to the widespread theft of oil from oil pipelines. The oil is often stolen from high-pressure lines by skilled criminals who weld a tap into the pipeline and siphon oil to a nearby vessel or container. This tapping is done 'hot' (at high pressure) or 'cold' (at low pressure). Oil company employees are allegedly bribed to lower pressures at pre-arranged moments to allow tapping.<sup>17</sup>

**Table 2: Estimates of crude oil losses<sup>18, 19, 20, 21</sup>**

Source	High est (bpd)*	Low est (bpd)	Comments
Global Financial Integrity	400 000	100 000	From African media reporting
Stakeholder Democracy Network	175 000		Various, including field survey estimates
Nigerian Finance Ministry	400 000		Unclear derivation
US Institute of Peace (2009)	300 000	30 000	Various estimates, ICG, Intl Centre Reconciliation

\*barrels per day

It is estimated that, of the oil stolen through bunkering, 75% stays in the Niger Delta for illegal refining and subsequent consumption.<sup>22, 23</sup> (In 2012, the amount ‘retained’ for the illegal refining market was only 25%, partly because of the extraordinarily high price of oil, which incentivised direct sales of stolen products.)

The 25% of oil that is removed from the Niger Delta is often moved by barge to be exported illegally, from where it enters the legitimate crude supply chain. This element of crime is not well understood, given the hidden nature of the oil’s destination.<sup>24</sup>

### Illegal or artisanal refining

Artisanal refining, while illegal, has grown three- to fivefold over the decade, to a total of 1 300 camps in Rivers and Bayelsa states alone.<sup>25, 26</sup>

Artisanal refineries use a form of fractional distillation to extract fuels (mostly kerosene and diesel) from crude. They use heat, often provided by an open fire built underneath a large conjoined drum filled with crude. The environmental and safety weaknesses of this system are legion (discussed later).

## Over time militant groups have become involved in refining crude oil to finance and fuel their operations

According to Social Action, artisanal oil refining is driven by a combination of factors. The loss of livelihoods as a result of environmental pollution emanating from oil exploration and export is a key driver: the history of environmental damage to the Delta by oil companies predates the emergence of artisanal oil refining.

The 1995 execution of Ken Saro-Wiwa (the Nigerian writer and environmental activist) and his Ogoni comrades contributed to a sense of community harm from the damage to the environment. It also played a role in the ‘Niger Delta conflict’ (the armed insurrection that emerged to resist military repression).

Over time militant groups have become involved in refining crude oil to finance and fuel their operations. In addition, strong and increasing demand has

emerged for the products of artisanal oil refining owing to acute fuel shortages in Nigeria, not just in the Niger Delta.

Finally, alleged corruption in transnational oil companies, government and security agencies is used to justify the oil crime.<sup>27</sup>

### Export terminal crime and trade mis-invoicing

Opinions differ as to the scale of theft from Nigeria’s 21 export terminals. Lack of accurate metering means this is a difficult modality to monitor.<sup>28</sup> Turning to official export figures, there appears to be a consistent trend of underreporting exports from terminals, to avoid tariffs and taxes.<sup>29</sup> This is considered an illicit financial flow (IFF) and is covered in detail in a recent IFF study for the Organisation for Economic Co-operation and Development (OECD).<sup>30</sup>

### Piracy and maritime crime

Piracy has risen dramatically offshore. Although more properly referred to as theft than piracy, Nigeria recorded its worse year of attacks in 2019 (30 incidents). The crimes committed are a mixture of kidnapping and oil theft. This has been well covered in reports elsewhere, and occurs both within and outside the Niger Delta region,<sup>31</sup> at an average of 65 miles offshore.<sup>32</sup>

### Imported fuel crime

Not only does Nigeria lack refining capacity, but the refined fuel it buys and imports is also often stolen and sold into neighbouring territories. Nigeria consumes about 24 billion litres of refined fuel per year (petrol, diesel, kerosene and aviation fuel), of which it imports 80%.<sup>33</sup>

In 2012 the Nigerian National Petroleum Company (NNPC) declared that up to 30% of Nigeria’s refined fuel is often smuggled by tanker to neighbouring countries,<sup>34</sup> but this is likely to be a high estimate. NEITI reported that 1.17 billion litres (about 735 000 barrels) were stolen in 2017, albeit a ‘high’ year,<sup>35</sup> which is still a concerning 5% of much-needed refined fuels.

Given the civil society emphasis of this report, and our research locus (Niger Delta citizens), the focus is on the more significant – by volume and therefore impact – crimes of illegal bunkering and artisanal refining.

## The paradox: a crime or a necessity?

The criminality of both bunkering and artisanal refining is already established in law. The former is more clearly a criminal offence, under Section 4(1) of the Petroleum Act.<sup>36</sup> An older act prohibits unauthorised refining. The Hydrocarbon Oil Refineries Act 1965 states that 'no Refinery shall be operated or constructed in Nigeria without a license granted by the minister'.<sup>37</sup>

Perpetrators of these crimes also tend to meet the UN Convention Against Transnational Organized Crime's conventional definition of organised crime groups. These are 'structured groups of three or more persons' that 'exist over a period of time ... with the aim of committing a serious crime ... to obtain financial or other benefits'.<sup>38</sup>

However, in our interviews with citizens there was an ambivalent attitude to illegal bunkering and refining. Over 30% of those interviewed did not view it as criminal activity, and many declared it was a necessary activity for economic survival.

*Because Agip is not [paying] us I don't see it as a crime.* Bayelsa businesswoman

*I know it as a crime, but we know that government does not have time for us, so it was this opportunity we got to survive from the government ... So I didn't even take it as a crime.*  
Bayelsa former artisanal refiner

*[To] the government, it is a crime, but for the people ... it is a necessary informal activity for survival because even the government that is criminalizing them does not feed them.* Delta activist

This ambivalence to oil crimes lies at the heart of the problem of addressing the illegal oil market. While state security forces continue to treat the crime with 'extreme prejudice' – destroying illegal camps and transportation – Niger Delta citizens have normalised the activity, justifying it as an economic, energy and employment necessity.

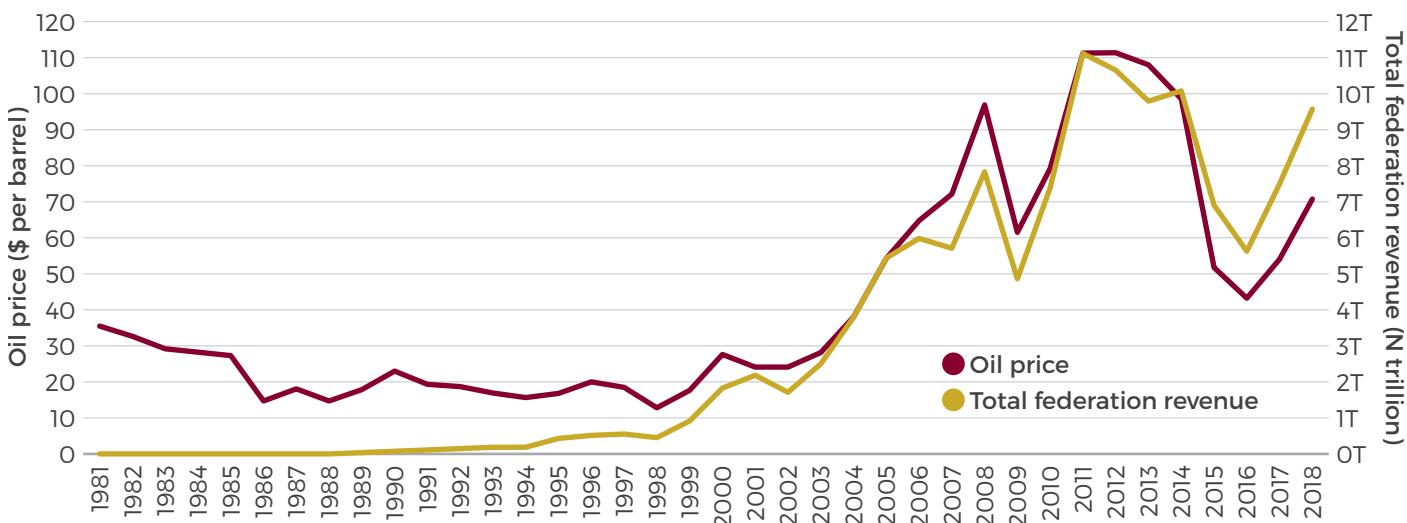
## Economic impact of oil crime

### Petro-dependency in an uncertain world

Nigeria remains over-dependent on its oil industry. It is Africa's top oil exporter, and the oil industry represents between 45% and 65% of all government revenues.<sup>39</sup> While the degree of dependency has decreased in recent years the sector is still responsible for 80% and more of foreign earnings and exports.<sup>40</sup>

So, the 'resource curse' persists. A total of 40% of Nigerians still live in poverty (less than US\$1 a day), with rapid population growth exceeding economic growth. According to estimates, Nigeria, already the most populous country in Africa, will reach a population of 400 million by 2050.<sup>41</sup>

**Figure 2: Total Nigerian Federation revenue and oil price 1981–2018**



Note: Nigeria's revenues are so closely correlated to the oil price largely because the state retains very little economic buffer in the form of sovereign wealth

Source: NEITI

## Nigeria's chequered oil history

Before the civil war (1967–1970) the Nigerian economy was largely agrarian, with main incomes switching rapidly to oil in the 1970s after Shell's discovery of crude in 1958. Nigeria joined OPEC in 1971 and created the NNPC in 1977.<sup>42</sup>

Nigerian government revenues went from 100% non-oil derived to about 80% oil derived in the space of 10 years (1965–75). This dependency creates economic distortion, i.e. 'the Dutch Disease'. Hereby the booming sector (in this case oil) draws resources away from the lagging sector (agriculture) and distorts prices as foreign exchange floods in. Non-oil exports become less competitive as a result of the exchange rate hike.<sup>43</sup>

A Nigerian subsidy programme for refined fuel sought to address one aspect of this affordability issue but has finally been wound down.<sup>44</sup>

Nationalisation followed early development, with the NNPC taking a controlling stake in all the major foreign oil production companies, dominated by Shell Nigeria, then joint ventures with Chevron, ExxonMobil, Agip, Total and Texaco. In addition, there are around 20 national or independent oil and gas companies.

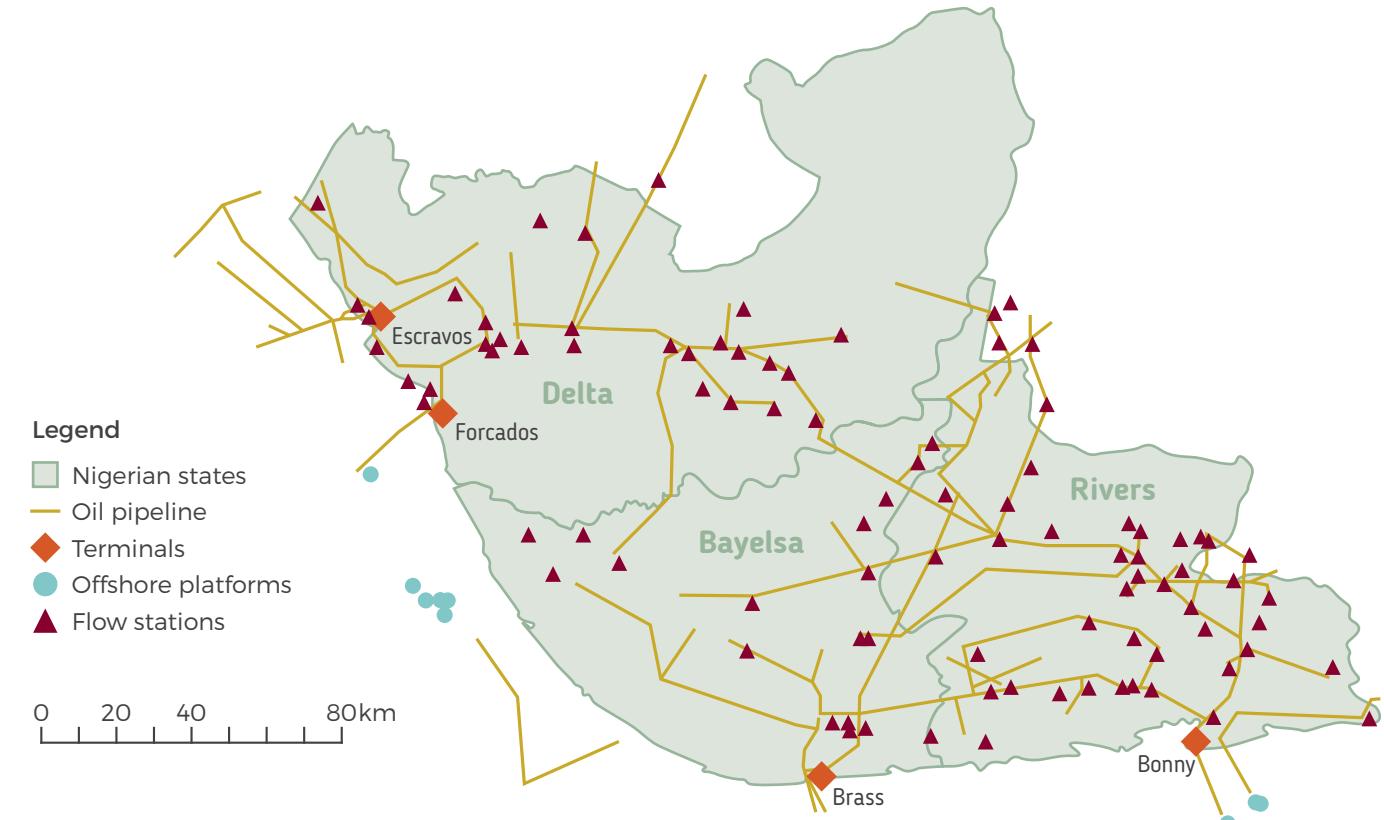
Nigeria's oil reserves are significant, at 37 billion barrels on- and offshore. This equates to 51 years remaining of supply. However, the context is one where major global economies are determined to transition away from fossil fuels in coming decades.<sup>45</sup> Meanwhile, globally, oil supplies have grown since the discovery and inclusion of hundreds of billions of shale oil discoveries in, for example, Canada, Venezuela and the US.<sup>46</sup>

A reform of the petroleum sector in Nigeria is overdue. The Petroleum Industry Bill has been in development for almost two decades.<sup>47</sup> President Muhammadu Buhari's recent Production Sharing Contract Act increases Nigeria's tax take from each barrel, and international oil companies (IOCs) are concerned.<sup>48, 49</sup>

The Nigerian offshore market has attracted development, as offshore blocks have been licensed and sold. But there is new competition in the Gulf: Ghana and Senegal have also begun developing offshore, with Ghana launching its first offshore licensing in 2018.<sup>50</sup>

Overall, IOCs' attitude is net negative – and many would prefer to exit if they could. 'IOCs probably would sell more of their Nigerian assets if they could. The big question is whether they can actually exit.'<sup>51</sup>

**Figure 3: Oil infrastructure in the study areas of Bayelsa, Delta and Rivers<sup>52</sup>**



## **Oil price outlook and the COVID effect**

After the latest COVID-led oil price shock the global market has recovered relatively quickly. Although hitting a low of US\$18 per barrel in April 2020, the oil price has stabilised at US\$45 per barrel – with a forward price of US\$49 for August 2021, no doubt shored up by OPEC-agreed production cuts. Production in 2020 has been capped at below 1.6 million bpd, and the NNPC's ambition to reach 3 million bpd by 2023 seems ambitious.

The Nigerian federal government took swift action, making spending cuts and receiving a US\$3.4 billion facility from the International Monetary Fund (IMF) and a US\$150 million stabilisation fund contribution from the Nigerian Sovereign Investment Authority. However, it is starting from a fiscal position that is yet to recover from the last collapse in oil prices in 2015.<sup>53</sup>

Nigeria's resilience to oil price shocks is significantly limited by its lack of fiscal buffers. This vulnerability makes the Nigerian economy more prone to damage by oil crime, given the potential for illegal oil to undermine demand for legitimate product.

## **Nigeria's resilience to oil price shocks is significantly limited by its lack of fiscal buffers**

Countries like the United Arab Emirates (UAE) and Norway, also heavily dependent on oil, have built financial reserves that are an order of magnitude greater than that of Nigeria.<sup>54</sup> Nigeria's total 'buffer' presently represents US\$2.25 billion – only 7.7% of the revised federal budget for 2020. By contrast, Norway's public spending budget of US\$159 billion has been given a healthy US\$37 billion injection from the Norwegian sovereign wealth fund, worth US\$1 trillion.<sup>55</sup>

This lack of reserves is partly attributable to low government income. Nigeria's tax-to-gross domestic product (GDP) ratio is only 7.8%, and if oil and gas is removed, this dips to 4.6%. This compares unfavourably with even low-income countries like Burkina Faso (11.5%) and Tanzania (12%).<sup>56</sup>

Nigeria has weathered previous oil price shocks. Oil price falls in 1980, 2008 and 2015 all led to significant negative income effects. However, by 2016 Nigeria's foreign reserves were depleted and therefore the corrective effects of shoring up the naira were no longer available.<sup>57</sup>

In 2016 Nigeria's economy tipped into recession, and the early signs are that the 2020 contraction is likely to be even more severe. Nigeria's economy shrank by 6.1% in Q2 2020.<sup>58, 59</sup>

Recent downgrades by all three rating agencies of Nigeria's sovereign debt emphasise the precarious nature of the economy, and its ability to attract investment.<sup>60</sup> This is a serious limiting factor on investment in refining capacity and other much-needed oil industry investments.

## **An incomplete circle – the refining shortfall**

A further major weakness of the Nigerian oil economy is its lack of refining capacity. Nigeria has, on paper, refinery capacity of 445 000 bpd in four refineries.<sup>61</sup> But each plant operates at low utilisation.

The NNPC admitted that the Kaduna (northern Nigeria) refinery was entirely out of operation in the 12 months to January 2019. One report suggested Nigeria's refineries operated at only 11% capacity, compared to 81% and 85% in Egypt and South Africa respectively.<sup>62</sup> This lack of refining capacity often drives a shortage of refined product, which in turn creates demand for illegally refined product.

Nigeria has to import 80% of its refined product needs in crude/refined swap deals worth US\$6 billion (2018). The murky fuel importation sector is a major source of corruption and the lack of functional transparency provides critical cover for the burgeoning illegal refining trade.

A new refinery – Dangote – targeting 650 000 bpd is under construction, with a promised expansion of the Port Harcourt facility. But both projects have suffered repeated delays. Another hope is that small 'modular' refineries can attract investment in the Delta and increase capacity.<sup>63</sup>

## Estimating the economic impact of oil crime

Estimating the net loss to the economy as a result of oil crime has attracted surprisingly little attention beyond the ‘barrels per day’ estimates of direct theft. In an ideal world, an economic impact approach to this question would yield a more holistic answer.

Economic impact analyses are frequently used to assess and justify investments in infrastructure and natural resource production sites (such as mines), but not usually in connection with an organised crime assessment. We would argue that the economic nature of artisanal refining warrants their consideration here.

## Estimating the net loss to the economy as a result of oil crime has attracted surprisingly little attention

Economic impact is categorised as ‘direct’, ‘indirect’ and ‘induced’. Here, the direct impact is direct gains attributable to oil production less net losses from theft, while the indirect impact is the ripple effects of oil production and theft, both positive and negative, such as increased transportation and security. Induced effects are produced by increased or decreased economic activity by employees of bunkering and artisanal refining.

The complexity in the case of Delta bunkering and artisanal refining is that while there are clearly direct losses attributable to the activity, the artisanal refining ‘industry’ also has a positive economic profile from the perspective of the refiners and their customers. While not a full economic assessment, we have tried to review the evidence for positive and negative economic impacts below.

## Suppressed production and other direct losses

Economic harm is a much-contested concept in development economics. Many observers equate stolen or lost resources and products in various illicit trades with pure economic loss. This is certainly the line taken by the Nigerian government.

A 10-year study by NEITI reports a staggering US\$41.8 billion in revenue lost from oil theft. NEITI views this as lost revenue for the government: ‘[I]n fiscal terms, the country lost enough in 20 months to finance the proposed budget.’<sup>64</sup>

While it is difficult to calculate the direct attributable ‘loss’, the scale of oil crime is a major operational challenge for the NNPC and oil industry and undoubtedly contributes to production challenges.

### Who is to blame? Criminals or structural decline?

Stolen oil does not necessarily equate to a direct fiscal loss. While bunkering activities, and spills more generally, may lead to a decreased yield in certain years, Nigeria’s production challenges are not necessarily the product of oil crime. Yet oil crime is often cited as a reason for production shortfalls.

Global oil output decreased by 23–29 million bpd during the early COVID crisis in the spring of 2020. Nigerian production reflected OPEC’s shoring up of the oil price in April, limiting production to 1.4–1.6 million bpd, from a previous high of 2 million bpd.<sup>65</sup>

In addition to the global COVID slowdown, analysts attribute Nigeria’s dropping oil output to a natural yield decline as Delta reserves run down, and a slow and confused offshore oil licensing process.

Oil analysts forecast a drop of 35% in Nigerian crude production over 10 years, partly attributable to delays to the Shell, Total and Exxon-Mobil deep-water projects.<sup>66</sup>

At the very least, oil crime appears to be far from the sole cause of production declines in Nigerian oil.

One counter to the ‘economic loss’ argument is that artisanally refined oil helps to address the significant unmet demand for refined fuel.

*A greater proportion of crude (75%) is meant for the local market and the remaining 25% is meant for export. In terms of refined products, the ratio is 85% for internal use and 15% for export, out of which 12% is diesel and 3% is petrol.*  
Community activist

In this section we examine this duality further.

## Environmental costs – the endless clean-up

While environmental impact is evaluated in a later section, the economic effect of environmental damage is briefly considered here. The environmental damage goes well beyond the anticipated clean-up costs, given the years of lost health and farming and fishing output.

One estimate puts the total clean-up costs across the entire Delta region at US\$50 billion. The estimate is possibly extrapolated from the anticipated US\$3–6 billion (originally US\$1 billion) identified for Ogoniland, a region of Rivers State.<sup>67</sup>

## Security costs

The cost of repairs to damaged pipelines, and of the additional security needed to protect them, is significant. NEITI cites costs of repairs to damaged pipelines of N363 billion (about US\$1 billion) from 2014–16.

The cost of security is difficult to quantify, but it is notable, particularly compared to that in other oil-producing areas. Shell's Nigerian security costs were reported at US\$148 million – 43% of its global security budget – in 2009 (albeit at a time of greater unrest).<sup>68</sup> More recently (2016/17), security contracts in Bayelsa and Rivers alone were thought to be in the region of US\$30 million.<sup>69</sup>

The security and related costs of onshore oil production are extraordinarily high and another indicator of the range of indirect costs.

## Direct economic benefits and disbenefits

A recent report assessed total earnings from the enlarged artisanal refining sector as US\$620 million across the supply chain.<sup>70</sup> Refined fuel scarcity in Delta continues to drive demand for this artisanal product; a situation that may well worsen with the cancellation of the federal fuel subsidy. Refined fuel prices were capped until June 2020, but the scheme actually led to widespread fuel shortages.<sup>71, 72</sup>

These artisanal refineries operate using simple equipment – a pot welded from several drums, and an open fire to heat crude – and therefore set-up costs are low, with payback periods counted in weeks rather than years.

Studies have shown the productivity and profitability of these camps have improved significantly since 2012, with a low waste percentage (about 10%) compared to conventional refineries. In some instances fuel quality is higher than that of 'legal' refined fuel.<sup>73</sup>

Artisanal refining outputs are predominantly kerosene and diesel, meeting Delta citizens' needs for transportation, household energy and cooking, and providing scope for significant volumes for onward sale outside the region.<sup>74</sup>

Refined fuel prices were capped until June 2020, but the scheme actually led to widespread fuel shortages

The artisanal refining sector is a major employer. In 2018 it employed about 1 000 workers in Bayelsa State and about 4 600 in Rivers (Delta figures unknown; Bayelsa numbers may be low given security efforts to reduce artisanal refining in 2018). Workers earn significantly more than teachers, police, military personnel and farmers.<sup>75</sup>

*It impacts positively. For example, artisanal refiners share kerosene to housewives. This enables them gain support and legitimacy for their activities. They also share money to the needy, go to weddings and drinking bars to display their wealth and support events.*  
Community spokesperson

Security costs are, however, high for artisanal refiners. The risks of a Joint Task Force (JTF) or other security interventions – which often result in the destruction of camp equipment and barges – are high. In addition, bribes and security outlays are expensive, often costing millions of naira.

The COVID-led oil price slump has had little impact on the artisanal sector, as demand has remained strong. Since official products were not available prices remained unchanged for artisanal products. Official pump prices have actually been raised owing to the ending of the fuel subsidy<sup>76</sup> and recovery in oil prices. This gives artisanal fuels a comparative advantage because their prices are lower.

## Reputation and investor confidence

The artisanal sector remains a major negative factor in terms of investor confidence in Nigeria, against the background of the long history of armed struggle and lawlessness in the Delta.

Then there is the existential threat to the state, its institutions, and citizens. This arises from the way that crude theft, in the mould of illegal resource extraction around the world, first undermines, then seeks to profit from the diminished capacity of the state and its institutions to secure its territory and assets.<sup>77</sup>

## Nigeria's international reputation and investor confidence are dented by the history of the Delta

This reputational and security challenge, has, for example, contributed to many international oil companies' preference for offshore activities. Shell remains a major onshore player, although many have commented on how Shell International has carefully distanced itself from Shell Nigeria.

The governance and security failures in the Niger Delta have a corrosive effect on stability and legitimate economic activity. This is the 'broken window' effect popularised by crime research into New York in 1970s, the argument being that if relatively small misdemeanours are left unaddressed, a downward spiral of lawlessness is created.<sup>78</sup>

While pre-COVID downgrades by all three rating agencies to Nigeria's sovereign debt cannot be attributed to oil crime alone, the Delta situation is not helping Nigeria's ability to attract investment.<sup>79</sup>

In our interviews, Niger Deltans tended to cite the negative effects of illegal bunkering and refining on the Nigerian economy, and recognised the trickle-down impact on government finances. However, many argued that illegal bunkering and refining was beneficial economically.

*The people most affected are the children because when they grow up, they will lose their sustainable means of survival, they have*

*nothing to hold on to, and this means that they are being prepared to become criminals.*  
Community member

So, the case for economic harm is significant, firstly because of the dependency of the economy on oil. Nigeria's lack of fiscal buffers and economic diversification makes it vulnerable to oil crime and demand shocks alike.

A key driver of the oil crime is unmet demand for refined fuels, given Nigeria's depleted refining capacity and the criminal diversion of imported fuels. A reinvigorated modular refinery programme is only a potential solution.

Oil crime can be accounted for in terms of both direct losses to the oil industry and inflated security costs, degraded rule of law, and environmental damage. Nigeria's international reputation and investor confidence are undoubtedly dented by the history of the Delta.

Conversely, the illegal oil industry is a driver of employment, energy availability and income in a region with precious few alternative economic opportunities.

## Social impact

The social impact of the illegal oil industry is at the heart of the paradox. While environmental damage has made traditional livelihoods – fishing, farming, etc. – unviable, artisanal oil refining and the oil industry are now the major economic drivers of the Niger Delta region.

Against this backdrop, we examine the effects on health, education, livelihoods, community cohesion and gender.

On paper, Niger Deltans tend to enjoy higher levels of living standards, education and income than many Nigerians. The 2019 living standards survey reports that a record 40% of Nigerians live below the poverty line (an annual spend of less than US\$355), but this is driven largely by Northern states.<sup>80</sup>

Niger Deltans do, however, face an environmental, energy, security and social fallout from both the illegal oil trade and the lack of alternative livelihoods.

## Health impact

Health impacts are complex and not well studied. A recent report by the Bayelsa State Oil and Environmental Commission cites higher levels of metals in inhabitants' blood, more malnutrition, and food contamination.

The Nigerian living standards survey reports average rates of health problems in Bayelsa and Rivers, but significantly worse rates in Delta.<sup>81</sup> Local residents complain of breathing and sight difficulties:

*The smoke has affected my sight and I cannot see very well. Sometimes it is very difficult to breathe because of the carbon in the air, so this affects every one of us.* Delta community spokesperson

Moreover, artisanal refining is exceptionally dangerous for camp workers. Fractional distillation of crude is achieved by heating crude in large pots on an open fire. Major explosions and fires have resulted from this artisanal practice.

*Most of our youth die[d] carelessly. We lost twenty-something youths.* Bayelsa former artisanal refiner

The UNEP study highlighted the risks of artisanal refining:

There is a high risk of self-harm from artisanal refining – a large number of accidents, fires and explosions on refining sites claim dozens of lives every year, quite apart from the long-term health effects of ingestion, absorption and inhalation of hydrocarbons.<sup>82</sup>

#### **Photo: Camp worker's burn injuries, July 2020**



### **Education impact**

The amount of money that can be earned has affected school attendance. In the Ogoni areas of Rivers State, for instance, many secondary school students abandoned their education and took up artisanal oil refining when it was at its peak. In Rivers State 60% of respondents in a recent study reported that artisanal refining has a significant effect on education (n=156).<sup>83</sup> Our own interviews showed widespread evidence of school attendance issues.

Bayelsa citizens were the most vocal about the impact on education, albeit referring to the past:

*Some teachers that were posted to this community left their job and joined bunkering. So, the school system in this community changed because of the bunkering. The schools stopped operating, both primary and secondary schools.* Former artisanal refiner

*Small children were not going to school by then. There was no school; everybody was busy in the business, doing this bunkering.* Former artisanal refiner

*The money that enters the hands of the youth is such that it makes the whole local economy dysfunctional. Local schools virtually had no students except for the last six months when security agencies clamped down on artisanal oil refining.* Community expert

This phenomenon reinforces the criminal economy: young people limit their alternative employment opportunities through poor academic achievement.

### **Livelihoods and living standards impact**

Niger Deltans have few conventional, legal employment opportunities. Male unemployment is much higher in Rivers (43%) and Bayelsa (36%) than nationally (25%).<sup>84</sup> Power and infrastructure are sub-par despite the fact that the region generates most of the national supply. Rivers and Bayelsa get only 5.9 and 3.5 hours' daytime electricity from the grid (the Nigerian average is 6.8 hours) and still rely heavily on generators.

Over 85% of our local community interviews cited poverty or economic necessity as the principal drivers of the illegal oil market in Delta, Bayelsa and Rivers states.

At the same time, illegal bunkering and refining probably provides more opportunities for employment and wealth creation than any other Niger Delta occupations, given the numbers employed:

*About half a million youth are involved in artisanal refining and the average GDP of the sector is about five times the national average.*  
Community expert

Artisanal refining, as we saw earlier, also helps to bridge the gap of refined fuel shortages. A much higher proportion of Niger Deltans rely on kerosene cookstoves (a known artisanally refined product) than the national average: 53% in Bayelsa and 44% in Rivers, against a national average of 17%.<sup>85</sup>

## Traditionally skilled workers are scarce, as many who earned a living from such skills took up artisanal oil refining instead

One consequence is a skills shortage in legitimate livelihoods. Traditionally skilled workers are scarce, as many of those who earned a living from such skills took up artisanal oil refining instead. In the Ogoni areas, the recent peace has seen a re-emergence of these skills, albeit chasing too few opportunities.

*About 2 weeks ago, I returned to the village to build a fence wall for a parcel of land intended for farming. Although I needed five people, about 50 people turned up in search of a job.*  
Community expert

## Community cohesion and lawlessness

Profit sharing is heavily skewed to camp owners, with the majority of workers being largely paid labour. The owners get most of the benefits from artisanal oil refining and launder their wealth via construction projects.

*Boys who work in the creeks make money, but the 'big boys' tend to spend their money in the cities, and finance political activities. They use the money to influence chieftaincy and control power in the communities. It is part of the cause of conflict in the Niger Delta.* University researcher

The net result of a decade of significant criminal activity is a shift in the power base of communities across the Niger Delta. Community leaders and religious institutions – both Christian and traditional – no longer wield the power and authority they once had.

While many actors in the artisanal sector are peaceful, the ownership of light arms is not uncommon, which underlies a willingness to use force. In Rivers State, members of cult groups and 'former' militia members are major players in the illicit trade. Anecdotal accounts indicate that these individuals use small and light weapons to enforce control over their areas of operation and resist security agents.

The growth of the illegal oil sector has also led to a rise in prostitution:

*Prostitutes normally come to this community. Unknown women do come claiming [they are engaged in] petty trade but after a short while, they start prostitution. This reflects the money available in the community.* Former artisanal refiner

## Gender dynamics

While perceived as a male-dominated industry, women are involved in the illegal oil industry on a significant scale. They tend to play management and support roles, rather than doing the more dangerous and physical refining work. Illegal oil trade is seen as an economic necessity:

*[Participation in the illegal oil trade is driven by the] same conditions of increasing poverty and hardship. [However,] women's livelihood burdens are heavier than most men in the region ... women are breadwinners in most households across the region.* Community Activist, Rivers

Women own several smaller refining camps, and in Bayelsa and Delta own various tapping points. They are also involved in downstream transportation and bulk distribution. Women in the industry have expressed their fear and distress at the many accidents in artisanal refineries.

The social impact of illegal oil is, again, both negative and positive. Health impacts range from the contamination of air and water to the horrific injuries and deaths caused by accidents. The employment effect is arguably net

positive, given the lack of alternative livelihoods, but the attractions of the illegal sector perpetuate a lack of motivation to look elsewhere.

Moreover, the sector has created its own neo-capitalist shadow economy: a social hierarchy with its own skewed returns, favouring camp owners. With this comes a criminalised society, characterised by the threat of violence.

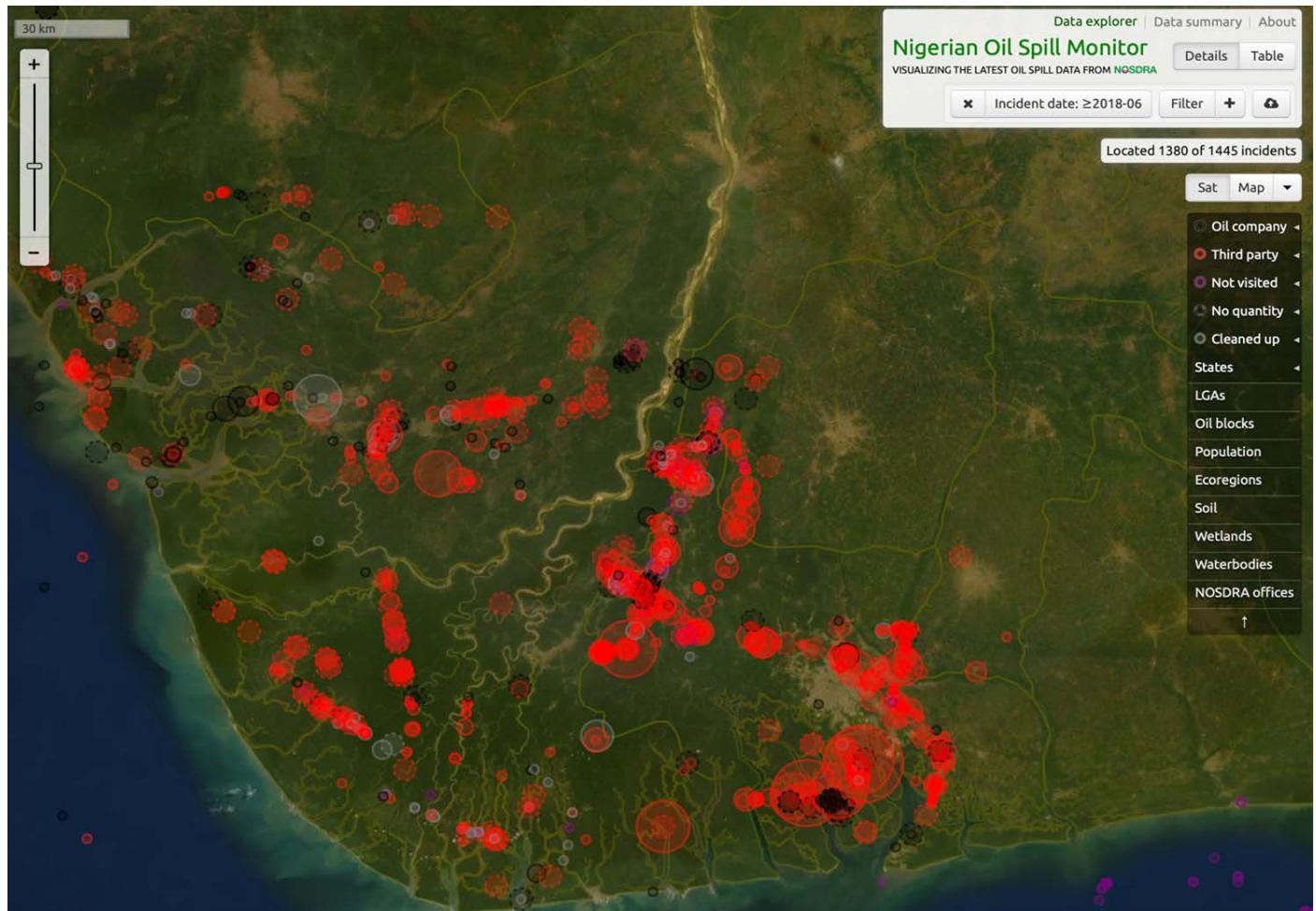
It is this normalisation that lies at the heart of the problem of addressing the illegal oil sector. While state security forces continue to treat the crime with 'extreme prejudice', Niger Delta citizens view it as business as usual, justifying it as an economic, energy and employment necessity.

## Environmental impact

Nigeria's Delta region is a wetland of 20 000 km<sup>2</sup>, home to 30 million people, that has suffered catastrophic environmental degradation for the duration of its oil development and production history. A significant proportion of this damage is from oil spills, which are attributed to a combination of ageing infrastructure and pipeline sabotage. In this section we focus on spills caused by illegal bunkerers, or saboteurs, given their significant environmental impact.

Oil spills are a well-known feature of the industry, the three most serious being the Gulf War Kuwait sabotage in 1991 (9-12 million barrels [mb]), Lakeview Gusher #1 in California in 1910 (9 mb) and Deepwater Horizon in the Gulf of Mexico in 2010 (4.9 mb). But all these are single incidents. In the Niger Delta high spill volumes represent a continual flow.

Figure 4: Nigerian oil spill monitor reporting<sup>86</sup>



Note: NOSDRA's mapping application shows recent oil spills (1 380 since June 2018) by cause: grey for oil companies, red for third parties/saboteurs

Constant spills are a key consequence of the 175 000 bpd diverted from legal sources.<sup>87</sup> Fewer than 50 000 barrels per year has been spilt in recent US crude extraction. Figures for Nigeria vary wildly, but the NNPC reports about 1 million barrels per year (2013–18).<sup>88</sup>

The government agency Nigerian Oil Spill Data Response Agency (NOSDRA) was set up in 2006 to monitor, investigate and take action to clean up and prevent oil spills.<sup>89</sup> There is significant disagreement among industry observers about the cause of oil spills over the years. NOSDRA's data suggests that, in the recent reporting period, the vast majority of spills are attributable to 'saboteurs' (which include those illegal bunkerers who are tapping and siphoning oil).

These bunkerers, as discussed earlier, predominantly interfere with pipelines to steal oil but often leave behind spills as a consequence.

NOSDRA's 'cause' data is meant to be verified by joint investigation visits by NOSDRA staff with security forces, but there are claims that this process is inefficient and the data often unverified and contested.<sup>90</sup>

## Case study: Who spilt the oil? Industry or saboteurs?

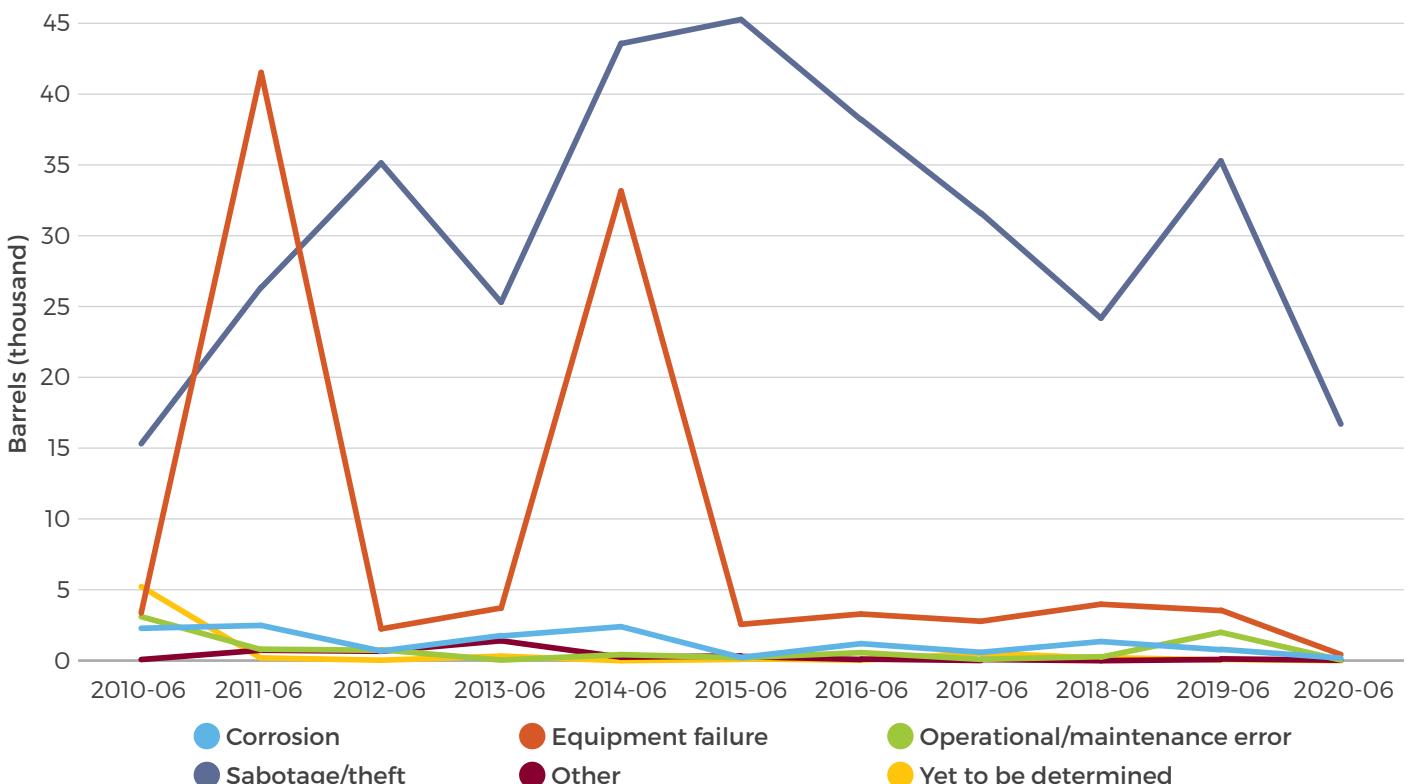
Many observers have laid a good deal of the blame for spills at the door of the oil companies. Amnesty International argues that Shell and Eni are the principal perpetrators of spills through equipment failure. It says that claims of saboteur responsibility are misleading.<sup>91</sup>

SDN's recent Environmental Performance Index attributed environmental damage to companies, using NOSDRA data on spills and gas flaring, but later reported that 76% of spills were caused by sabotage.

This tension is not new. Ten years ago a UN report put that figure even higher for Ogoniland, at 90% saboteur-caused. The report was criticised at the time as relying too heavily on data from industry and the Nigerian government.<sup>92</sup>

If NOSDRA's figures are designed to flatter industry, they are not doing a very good job. The monitor shows spikes in equipment failure-caused spills in 2011 and 2014 (see Figure 5). It has reported the trend towards saboteur-caused spills only since 2014. Circumstantial evidence for this includes SDN's separate reports on the rise of artisanal refining in Rivers and Delta.<sup>93</sup>

**Figure 5: NOSDRA oil spill monitor: spill cause, 2010–2020 (barrels)**



Gas flaring is the second most destructive environmental pollutant. Oil companies use flaring to burn off unwanted gas deposits in oil wells. It is therefore not considered further here, given our focus on organised crime. However, fines for illegal flaring do not appear to have been enforced since 2012.

### Scale of the problem

While oil spills have been monitored, their impact is not well researched outside Ogoniland, where a UNEP study was commissioned to assess environmental damage.<sup>94</sup> One estimate puts the total clean-up costs across the entire Delta region at US\$50 billion.<sup>95</sup>

We have reported here the limited, often anecdotal, evidence of environmental harm.

NOSDRA reporting confirms the significant annual spill volume, but little work has been done to assess the environmental costs to farming, fishing and human health. A recent study in Rivers reported that 95% of respondents saw artisanal refining as having a significantly negative effect on the environment.<sup>96</sup>

### Land contamination and farming effect

Oil spilt on ground severely impacts the delicate ecosystem of the wetlands, which are traditionally mangrove and cassava-producing. Mangrove is a high-value coastal ecosystem. It provides hatcheries for young fish; allows direct harvesting of shellfish; provides shoreline protection and stabilisation; regulates the climate by acting as a major carbon sink; and maintains water quality.<sup>97</sup>

## Oil spilt on ground impacts the ecosystem of the wetlands, which are traditionally mangrove and cassava-producing

According to our expert interviews, oil spills kill both mangrove plants and animals. The oil also gets buried in the sediment. It takes years for recovery and restoration through natural processes (attenuation). This results in damage beyond the visible physical damage to the entire ecosystem.

*As a result of the 2008/2009 Bodo oil spill, about 1 000 ha of mangroves died. One ha of mangrove can support 90–250 tons of fisheries production annually. Although there is ongoing remediation, it will take about 25–30 years to re-establish the ecosystem. Professor of Development*

### Water contamination and effect on fishing

Pollution affects a coastal/swamp environment more severely than land. Land naturally limits the spread, whereas flowing water spreads it.<sup>98</sup>

## Pollution affects a coastal/swamp environment more severely than land

One of the most frequently referenced effects of spill pollution is the decline of fish and other water-borne species. While there is little research to isolate the effects of oil spill pollution from other harms such as overfishing and pesticide contamination, the level of oil pollution in the Niger Delta is extraordinary and probably unique globally.

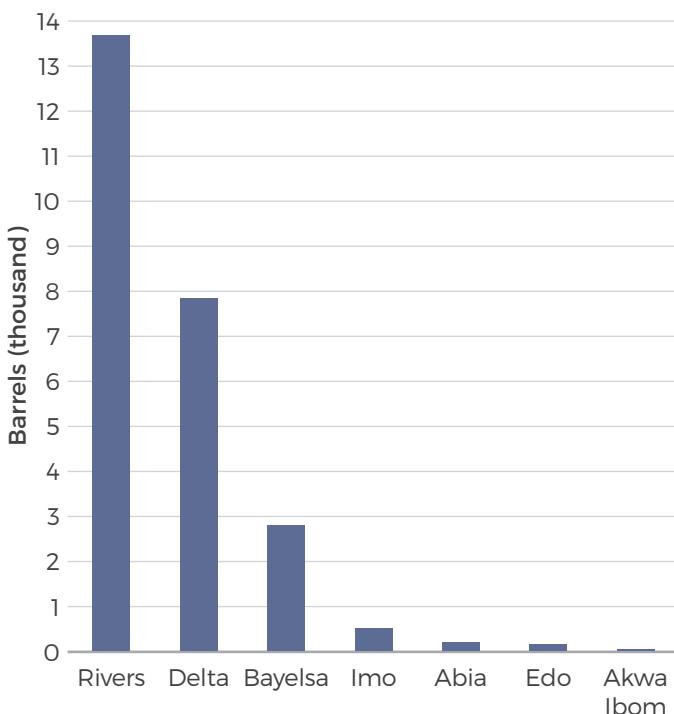
A recent study on the effects of oil spills in Nigeria shows that increasing levels of oil production negatively impact fish production.<sup>99</sup>

Expert interviews confirm that low tidal areas are the source of periwinkles, shrimps and crabs.

*There are about 2 000 legacy sites that have not been cleared and new sites are being added on a daily basis due to operational spills which is then compounded by artisanal oil refining. If urgent action is not taken, the environment of the Delta could be irredeemably damaged. Professor of Development*

*For example, in Port Harcourt in the area close to the refinery, the underground water in the entire area was heavily polluted so much that if you dig with a shovel, you will encounter oil-like liquid. Every borehole within the area is polluted. Official, Nigeria House of Representatives*

**Figure 6: Spills by state<sup>100</sup>**



### The Ogoniland clean-up saga

Ogoniland is an area in Rivers State that suffered massive environmental damage in the early years of oil exploitation, and before the growth of artisanal refining. Following violence and a state overreaction, Shell withdrew from the area in 1993.<sup>101</sup>

UNEP has reported significant health effects, leading to a low life expectancy of <50 years. Mangroves and cassava were destroyed, and surface water contained oil, destroying fish stocks. It estimated that environmental restoration could take 25–30 years.<sup>102</sup>

While not attributable to bunkering, at least in the main, the Ogoniland devastation is a severe warning. To kick start the clean-up process, a US\$1 billion oil industry-provided fund was established. Administered by an official government project – HYPREP – progress has been distressingly slow. HYPREP's first incarnation was bogged down by corruption and inaction and 'bled dry by its management' (industry insider).

According to a recent report,

the 21 sites currently being cleaned up by HYPREP cover only a fraction – some 11 percent – of the total area identified by UNEP. Yet little of the work has been completed. By May 2020, many sites had closed down. Some of these stopped work due to the COVID-19 lockdown in parts of Rivers State. However, the majority had stopped work earlier.<sup>103</sup>

In our interviews there was a consensus that illegal bunkering and refining had had an overwhelmingly negative effect on the environment. People were not able to fish, farm or use river water owing to pollution.

Many commented that the pollution began because of oil spills by oil companies that were not cleaned up. However, the pollution became much worse after illegal bunkering started. Rivers respondents appeared to be particularly badly hit, given the loss of basic foodstuffs.

*You see no fish if there is oil spillage, you cannot fish, you cannot get maybe one or two things from the river. Unemployed graduate*

*When you wake up in the morning, you see this air; everywhere will be polluted. The water is not safe again because of the oils spills. Fisherwoman*

The overall environmental degradation of the Delta is both alarming and poorly understood. While the effects on land farming, fishing and population health are significant, there have been no formal assessments of the environmental damage across the Niger Delta.

UNEP's study of Ogoniland is a good example, but is limited to one area in one state, and is now nearly 10 years old. Niger Delta-wide research needs to be completed to account for a whole generation of regional bunkering spills, artisanal refining accidents and pollution and oil infrastructure failures.

### Existing state and security responses

Existing responses to Delta oil crime are, if not especially effective, at least established, given the longevity and visibility of the crime. Federal, state, community and industry responses have all tried to stem the tide of illegal bunkering and refining, particularly since the 2009 amnesty.

In this section we review those responses and their reported effectiveness from the perspective of citizens, stakeholders and observers. This section does not try to replicate some of the more exhaustive reviews of policy and legislation, but instead focuses on Niger Deltan citizens' views on the efficacy of security and state responses.

### State policy and political support

Despite strong legislative frameworks in many areas, including anti-corruption, the federal government lacks

overarching oil industry legislation. So delayed is the Petroleum Industry Bill – it has been ‘floating around in Abuja for two decades’<sup>104</sup> – that even the minister for petroleum has recently been lobbying for it.<sup>105</sup>

A draft bill was sent to the President’s Office in August 2020, with rumoured reductions in oil and gas royalties and restructuring of the key actors.<sup>106</sup> Buhari’s recent Production Sharing Contract Act increases Nigeria’s tax take from each barrel, although industry analysts were concerned this would turn investors off future deep-water contracts.<sup>107</sup> A major federal policy initiative was launched in 2017 aimed at supporting a modular refining market in Nigeria (see box).

The criminality of both bunkering and artisanal refining is already established in law. The former is more clearly a criminal offence,<sup>108</sup> with the latter addressed in an older act prohibiting unauthorised refining.<sup>109</sup> In contrast, the state attitude to artisanal mining in North Western Nigeria is positively one of encouragement. The state government passed legislation this year making artisanal mining both legal and licensed.<sup>110</sup>

One component of reform for the troubled petroleum sector could be diluting the NNPC’s influence, which currently holds majority stakes in all the oil JV companies. The NNPC itself has conceded that its shareholdings should decrease from 60% to 40%. This would boost investor confidence in these entities. The model for Nigeria LNG (49% NNPC, with 51% among ENI, Shell and Total) appears to be a healthier example.<sup>111</sup>

There are various state and federal policy efforts to provide support to the Niger Delta, such as the establishment of the Niger Delta Development Corporation (NDDC), which we have not attempted to review in detail here, given its economic aid focus. There is some evidence that federal involvement in environmental damage is still unrecognised:

*I launched an investigation to find out where [water pollution] was coming from, forming a joint committee with the oil companies to investigate it. When there was [evidence] of an underground leakage from within the refinery, the federal government refused to take responsibility. As commissioner, I pushed for the State government to take up the issue, but they were not bold enough to take the federal government to court. Official, Nigeria House of Representatives*

## The modular refining promise: Is smaller better?

A major federal policy initiative was launched in 2017, aimed at supporting a modular refining market in Nigeria. A previous policy preventing small-scale refining was changed to allow for modular refining (a lowering of the licence fee from US\$1 million to US\$50 000).<sup>112</sup> Under this policy, modular refineries would have significant capacity and require external financing.<sup>113</sup> But there have been few results thus far.

*The federal government promised modular refineries – a good step in the sense that those in artisanal refining could be supported, trained, and licensed to operate and thereby pursue a legitimate livelihood. Three years on and nothing seems to be materialising.*

The programme has attracted similar criticism from community leaders across the Niger Delta. They see it as being too expensive to encourage local investment and offering little in terms of employment opportunities, compared to the ‘half million youths employed in the artisanal sector’ (community spokesperson).

*However, the size and complexity of the modular refineries being established are beyond the reach of current artisanal refiners. A [more] appropriate modular unit is one that is small in size – ‘cellular refinery’ – [and] can be housed in a 2 500 m<sup>2</sup> area.*  
*Local observer*

Opportunities for local, smaller-scale refining remain attractive. There are different types of modular refineries with different product outputs. The most complex have a relatively high 30 000 bpd output and can produce the full suite of products: petroleum motor spirit, diesel and kerosene. A diesel-only modular refinery can be established at a much smaller scale (<20 000 bpd) at half the capital cost.

The smallest envisaged refinery scale, sometimes described as ‘cellular refinery’, is only 3 000 bpd, with a total capital cost of US\$27 million. While smaller refineries have lower economies of scale, they are more accessible to Niger Deltan investors.<sup>114</sup>

Some community leaders argue that all these proposed costs are out of the range of the current artisanal sector, and that the federal government should legitimise artisanal refining itself<sup>115</sup> by selling crude directly to artisanal refiners at competitive prices. But no proposals have been seen that address the environmental and safety issue of artisanal camps.

## Enforcement and military support

The response to violence and crime in Delta was militarised early in the history of the Delta unrest. The Joint Task Force (JTF) was created in 2003, composed of the Nigerian army, navy, air force, police and state security.<sup>116</sup> The task force has been accused of heavy-handedness in its treatment of the militant threat (largely activists from the Movement for the Emancipation of the Niger Delta [MEND]) leading up to 2009's amnesty.

More recently, the JTF's principal target has been illegal refineries, with multiple recent operations designed to destroy illegal refineries. Press claims of the destruction of 1 000 camps in 2016 and over 2 000 in 2017 are difficult to verify, and local accounts and analyses emphasise the speed with which local refineries can be rebuilt.<sup>117</sup> Criminal proceedings are often pursued for illegal bunkerers, but we have uncovered no artisanal refiner prosecutions of note.<sup>118</sup>

There have been many reports of corruption within the JTF forces and the police, implicating them in bribe taking to allow tapping, refining and illegal transportation.<sup>119</sup> Reviews by SDN and Transparency International reported systemic corruption featuring, for example, set payments of US\$1 700 per night for illegal oil loading (onto barges).<sup>120, 121</sup> Our expert interviews confirmed this:

*Nigeria's JTF was involved in the crimes. They were ostensibly in the Delta to help but for example they sold house boats given to them by oil companies for profit. In addition, senior elements of the Nigerian Navy were implicated. Former security head, international oil major*

Our local interviews reflected aspects of this activity, and how attractive a state security posting to the region is. In Delta State 80% of those interviewed said that security forces took bribes. In Rivers there was general awareness of government efforts to stop the illegal trade, but no interviewee believed this was effective.

Half of interviewees said that police and state forces were involved in the acceptance of bribes.

*You will see a military man praying that he should be transferred to the Niger Delta – the riverine area – so that they can exploit the people engaged in the [illegal] business. Delta activist and writer*

*But when you talk about the security personnel in the river, the Navy, the army, the police, they are all bunkerers. They take the money and allow them to come in and take the oil. Bayelsa field interviews*

## Industry and surveillance/monitoring

Oil companies involved in Nigeria became overwhelmed as the Delta crime situation worsened in the 2000s, partly driven by militant activity. Initially their aim was to combat oil crime using conventional enforcement methods, which had been successful in other regions:

*Oil security professionals used to look at Colombia as the 'poster child' of tackling oil theft in that a combination of remediating factors meant they got theft under control. They hoped to do the same in Nigeria, but the security project was ceased when similar efforts were unsuccessful. We took pictures of spills, but received no official response. We looked at security systems to protect pipelines remotely, but militants would hear where these systems had been installed and simply took them out. Former security head, international oil major*

As a result, pipeline monitoring contracts – largely involving manned monitoring – have become big business in the Delta. For the security contractors, these are lucrative contracts. The amount paid to Bayelsa oil security contractors in 2017 was over US\$30 million, compared to a total of US\$2 million (for both states) in 2012.<sup>122</sup>

There is little transparency in this contracting process: the contracts themselves are rarely made public, and are not subject to the procurement rules set out in Nigerian public procurement legislation. They can, thus, be awarded uncompetitively.<sup>123</sup>

Political affiliations are a major aspect of these awards. David Lyon in Bayelsa State is CEO of Dalon Security and was the All Progressives Congress (APC) candidate for the Bayelsa governorship (see box).<sup>124</sup> In Rivers, contractors have allegedly shifted their support to the People's Democratic Party (PDP) as the governorship switched from the APC to PDP.

*The oil companies go into communities, get a few community leaders onto their side, pay them some money, or give them some contracts; then these community leaders will be on the side of the oil companies against their communities.*  
Nigeria House of Representatives

In Delta State 30% of interviewees said that employing locals in security and legalising the activities would put an end to crime and create jobs in the area.

## The David Lyon effect: Dalon Security and NAOC

In Bayelsa State our interviews all picked up the significant impact that Dalon Security has had on tackling bunkering and artisanal refining. Dalon is the security contractor for NAOC, the main oil company in Bayelsa, which won blocks OML 60-63.

Dalon entered the picture in about 2014. Our interviewees reported a three-pronged strategy:

- Informing the community about the negative environmental and economic effects of oil crime
- Promising refiners and bunkerers amnesty for ceasing activity and compensating former artisanal refiners and bunkerers by hiring them as security
- Destroying the illegal oil infrastructure

This form of private sector amnesty has been seen as a replacement of the state amnesty programme, which ended in 2015.<sup>125</sup> The Dalon payments are not without their critics: many of the women interviewed said that even though everyone was promised amnesty, 'only the boys were being paid'.

While controversial, the programme appears to have had an effect. SDN's 2017 artisanal refining survey of Rivers and Bayelsa showed that the number of Bayelsa artisanal camps had dropped from 61 to 48 between 2016 and 2017. In the same period, although camps were much smaller, the number in Rivers had increased from 535 to 1 275. In our interviews all 11 Bayelsa respondents claimed artisanal refining had stopped in recent years.

David Lyon won the Bayelsa governorship election in 2019, but the Nigerian Supreme Court annulled his election victory the day before his inauguration, on the grounds of a technical information error by his running mate.

Dalon has been criticised for human rights violations by some quarters, although this could be politically motivated.<sup>126</sup> Some recent reporting, including from our local interviews in Bayelsa, suggests the 'amnesty' payments to former artisanal workers have begun to dry up, and that Dalon's contract with NAOC might be up for review.

The Dalon model is clearly far from perfect, but it offers important insights into the potential for a multi-modal response to the artisanal refining and bunkering problem.

## Community responses

Community leaders initially achieved a great deal, but over time became as implicated in partisan behaviour as other stakeholders.

*Communities are incapable of understanding the full dimension of the problem. That explains why chiefs collaborate with government and oil companies to short-change their people. People do not participate in project selection; community priorities are not sought.*

Community activist

Conversely, some community representatives appreciate the immediate and longer-term ramifications of the problem. However, there are often difficult choices to be made between short- and long-term priorities. There is evidence that some suffer 'compassion fatigue' in terms of the challenges of the oil crime issue.

A significant number oppose the modular refining programme on the grounds of unrealistic investment expectations, and lobby for the legitimisation of the artisanal refining sector, but this is a point where views diverge.

## The militaristic state response has had mixed effects, particularly given the allegations of corruption

Our review of stakeholders' perceptions of the responses to oil crime shows a mixed picture. Policy support exists but has often been ineffective in implementation. The long-anticipated Petroleum Industry Bill may act as a reforming force. State support for modular refineries is welcome but slow moving.

In terms of enforcement, the militaristic state response has had mixed effects, particularly given the allegations of corruption. Community groups have been split on their positioning on oil crime. Industry security responses have proven more successful: the pipeline monitoring contract in Bayelsa appears to have played a significant role in reducing artisanal refining and illegal bunkering in the state. This is owing to a unique combination of community communication, financial support and conventional security activities.

## Recommendations

Industrial-scale oil crime in the Niger Delta has been an issue for at least 20 years, despite government, international community and industry attempts to address the problem using a full armoury of response technologies and policies.

There is ample evidence that both bunkering and artisanal refining continue unabated across the states of Delta and Rivers. Bayelsa State appears to be an exception to this trend, with a curbing in artisanal refining brought about partly by an oil company's security contractor.

There is ample evidence that bunkering and artisanal refining continue unabated across the states of Delta and Rivers

At the heart of the problem is a criminal and social paradox: the state security apparatus continues to condemn all forms of bunkering and illegal refining, yet civil society and some politicians acknowledge the scale and social embeddedness (if not the necessity) of the informal energy industry.

It is clear that federal responses are far from effective in either limiting the extent of the crime or alleviating the social and energy-poverty issues of Niger Delta communities.

The following recommendations are aimed at an alternative approach. The aim would be to harness political and economic resources in Nigeria and internationally to create economic alternatives that both address illegal activities and encourage Niger Delta citizens into alternative livelihoods.

## Economic recommendations

While not a direct cause of oil crime, Nigeria's economic dependence on the oil sector creates a greater vulnerability to the crime. At the same time, its lack of a fiscal buffer reduces the state's ability to address crime and encourage economic diversification.

### *1. Establish a stronger funding base for the Nigerian Sovereign Investment Authority*

To achieve this, the federal government should create a stronger funding base for the Nigerian Sovereign Investment Authority (US\$2 billion) via a new excess crude account.

Nigeria's 'refining gap', while again not a direct cause of crime, creates a shortfall of refined fuel. This contributes to the continuing market demand for artisanally refined products, both in the Niger Delta and further afield.

The 2017 modular refinery policy initiative has received little investment. This may be a combination of the lack of available state funding and the relative unattractiveness to international investors. In addition, there is some antipathy to the initiative from Niger Delta citizens, who view it as benefitting international investors more than locals. The smaller 'cellular' refinery model appears to be a better fit for the Niger Delta's purposes.

### *2. Promote a kick-started cellular refinery programme to close the refining gap with strong local participation*

Simpler cellular diesel and kerosene refineries in the Niger Delta might prove more affordable to local investors given their lower capital cost. These projects should be established and feature strong participation by local citizens – in terms of both employment and equity ownership. We recommend research into alternative forms of external finance such as development impact bonds.

## Social recommendations

There have been positive initiatives around developing alternative livelihood projects in the Niger Delta, but these cannot act as a like-for-like replacement of the financial attractions of the illegal sector. We therefore make the following recommendations:

*3. Combine 'cellular' refinery programmes with alternative livelihood projects*

In order to address both the refining shortfall and the lack of other employment alternatives, further research is needed into the feasibility of combining each cellular refinery project with a local alternative livelihood plan. This could include agricultural diversification, which could form part of social impact funding.

Our findings on the security approaches used by oil companies included a reflection on the positive effects in Bayelsa State achieved by Dalon Oil & Gas. Dalon's approach combined a community engagement exercise, amnesty payments and enforcement activities.

While seen as controversial by some, and undoubtedly partly politically motivated, elements of the programme may offer useful lessons. These lessons may serve as a template for elsewhere in the Niger Delta. This could lead to a Niger Delta-wide protocol for pipeline surveillance contracts.

*4. Explore balanced approaches to oil security activities*

Further study is needed of successful models, and their replicability, if appropriate. We recommend a particular focus on the arrangements for community and amnesty aspects of the programme, which may translate usefully across states and communities.

Managing corruption is a key determinant in stabilising the economic, social and environmental impacts of oil theft in the Delta. Our findings included coverage of the allegations of corruption by the security forces working in the Niger Delta.

*5. Launch a renewed investigation into corruption in security forces*

Under the sponsorship of the Nigerian federal anti-corruption agencies, a project should be established to investigate corruption by JTF agencies in connection with oil security.

## Environmental recommendations

Our findings highlighted the good work of NOSDRA in monitoring the oil spill issue. This process might best be led by an expanded NOSDRA. However, many interviewees commented that NOSDRA lacked the necessary remit and funding.

*6. Strengthen NOSDRA's remit and capacity*

NOSDRA's remit should be expanded to include a stronger investigation and remediation function, enabling clearer oil spill reparation, and stronger prophylactic policy development.

We found that the damage done to the Niger Delta environment could be at an order of magnitude greater than that assessed in the Ogoniland project, for which a US\$1 billion fund is administered by HYPREP. There was no authoritative assessment of this wide-scale environmental degradation, although UNEP did so for Ogoniland in 2011.

*7. Establish a dedicated environmental fund to target damage from spills across the Niger Delta, and conduct an environmental assessment*

A fund should be established to address environmental damage in the Niger Delta. The fund could be created from contributions from the UN (such as UNEP), oil companies, federal government and international donors. In addition, an environmental harm and remediation assessment should be completed.

The research has shown that pipeline surveillance technology has not been deployed effectively to aid in the monitoring and protection of pipeline systems.

*8. Investigate more effective uses of technology to increase pipeline surveillance*

The federal government should mandate more effective technological surveillance to be introduced by oil companies, using a federally approved system.

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## About ENACT

ENACT builds knowledge and skills to enhance Africa's response to transnational organised crime. ENACT analyses how organised crime affects stability, governance, the rule of law and development in Africa, and works to mitigate its impact. ENACT is implemented by the ISS and INTERPOL, in affiliation with the Global Initiative Against Transnational Organized Crime.