ACE SOAS Consortium Anti-Corruption Evidence Making Anti-Corruption Real

Working Paper 044

Mitigation and transformation solutions to networked corruption in artisanal refining in the Niger Delta: retooling anti-corruption analysis for effective policy

Pallavi Roy[1], Alexander Sewell[2], Fyneface Dumnamene[3]

April 2022

[1]SOAS University of London.
[2]Alexander Sewell, Stakeholder Democracy Network (SDN) (www.stakeholderdemocracy.org) Nigeria
Fyneface Dumnamene, Youths and Environmental Advocacy Centre (YEAC) (www.centreadvocacy.org) Nigeria

All correspondence to:
Pallavi Roy (pr16@soas.ac.uk)

Contents

Boxes

Tables

Figures

Executive summary

In contexts where rents from a particular sector or activity are shared widely and are substantially larger than available alternatives for the widest cross-section of society, common strategies such as increasing transparency and accountability measures, targeting behaviour, or identifying incentives are unlikely to result in reduced corruption. These are contexts of 'networked corruption' where corruption is characterised by a hierarchy of benefits. This means that rents from the sector are captured and shared across all relevant sections of society, from high-level politicians and security agencies to local communities. In some cases, the rent capture is purely for reasons of personal gain and is the result of abuse of entrusted power. In others, corruption helps to meet an everyday need for many communities, sometimes even at the cost of social damage. As a result it is not possible to create an effective coalition to organise anti-corruption efforts. The solution here is twofold: first, design policy in a way that can reduce the social damage and help alleviate these needs for the community, and secondly, design policies that enable people to behave in ways that make self-enforcement possible, therefore reducing corrupt behaviour. The more immediate requirement of policy is to mitigate the damaging effects such as pollution externalities in the extractive sector while follow-on policies should design for strategies for alternative livelihood creation. These policies are also usually 'second best' as they do not target the corruption problem in the sector in its entirety, and focus on mitigating the effects of social damage. However, in adverse contexts where everyone has an interest in being corrupt, strategies for mitigation can be one way of reducing the negative welfare effects and, in the medium term, strategies for transformation can effectively change incentives for at least some members of the community.

With its super-normal profits or rents and the tendency to be controlled by politically powerful people, the extractive sector raises significant challenges for anti-corruption. In a context of rule by law, the incentives for rule-following behaviour are very weak within the sector and can only be imposed if other sectors are collectively powerful enough to impose rules on them, or productive enough to not be affected by it. Yet this is not the case in Nigeria or, indeed, in most resource-rich low- and middle-income countries (LMICs). While exploration and production activities could be moderately rule-following (given international contracts and the technology required), other activities like distribution, marketing and licensing are 'rent-thick'. This means that the distribution of benefits is often not in line with the social good, but is based on the politics of patronage or repression. The specificity of the extractive sector in Nigeria is that the capture and sharing of rents derived from it are widespread across socioeconomic segments, and 'benefit' a range of actors with varying levels of incomes and livelihoods. This makes it especially challenging to design policy that tackles corruption.

This research focused on the micro level in Nigeria since the problems of corruption at the macro level in the oil sector are politically too intractable to be feasibly addressed in the short-to-medium term. We focused on the artisanal oil refining industry in the Niger Delta. Though conducted through small-scale units, artisanal refining is an illegal activity based on refining stolen crude oil, which is then sold on to black markets as various petroleum

products. This is a hugely damaging activity, not just because it is deemed criminal but also because of the pollution it causes for the local community. One might expect that pollution from industry products like diesel and petrol would make the sites unpopular and result in local demands for shutting them down. Yet this is far from the reality. Our research suggests that this is not just about the direct livelihoods created through the artisanal oil industry value chain, but also the many indirect livelihoods that are not part of the value chain but are linked to the operation of artisanal oil industry sites.

Our research proposes an alternative approach to trying to eradicate this form of corruption through heightened enforcement, including crackdowns by security forces – a solution that has already proved unsuccessful. The *mitigation and transformation* strategy includes mitigating the harmful effects of the artisanal oil industry, such as pollution, alongside providing other livelihood opportunities that will become transformational in the longer run. The appropriate 'anti-corruption' response here is unconventional as it involves working to mitigate the pollution and related health externalities that hurt vulnerable people – namely, children, youth and women – and then designing transformational strategies that encourage solar power generation and exploring productive livelihood opportunities as alternatives, rather than top-down strategies that depend on sanctions and prosecutions. Not only are those top-down strategies unlikely to change behaviour towards rule-following practices, but they sustain a cycle of violence by further alienating a population with high levels of perceived and real grievances. The long-term aim is to ensure sustainable opportunities gradually emerge that reduce the incentive to rely on corruption-driven incomes.

1. Introduction

A substantial body of literature exists on anti-corruption strategies that identify increasing transparency and accountability measures, targeting behaviour, or identifying incentives as possible solutions. Yet in contexts where rents from a particular sector or activity are shared widely and are substantially larger than available alternatives for a wide cross-section of society, such strategies are unlikely to result in reduced corruption. These are contexts of 'networked corruption' where corruption is characterised by a hierarchy of benefits. This means that rents from the sector are captured and shared across all relevant sections of society, from high-level politicians and security agencies to local communities. In some cases, the rent capture is purely for reasons of personal gain and is the result of abuse of entrusted power. In others, corruption helps to meet an everyday need for many vulnerable communities. In many cases, the social damage that results from the corruption affects vulnerable communities disproportionately. The solution here is twofold: design policy in a way that can help address the damage and alleviate these needs for the community and, at a later stage, design policies that enable them to behave in ways that make self-enforcement possible and therefore reduce corrupt behaviour, and – the more immediate requirement – mitigate the damaging effects such as pollution externalities in the extractive sector. These policies are usually considered 'second best' as they do not target the corruption problem in the sector in its entirety, and focus on mitigating the effects of social damage. However, in adverse contexts where everyone has an interest in being corrupt, strategies for mitigation can be one way of reducing the negative welfare effects and, in the medium term, strategies for transformation can effectively change incentives for at least some members of the community.

Research from SOAS-ACE (Anti-Corruption Evidence) shows that simply identifying the causes and effects of corruption, and providing that information and analysis to politicians, enforcement agencies or even the 'public', has not resulted in sufficient action in these specific contexts. Enforcement and implementation are sometimes used interchangeably, and enforcement is often understood as sanction from above. But in our framework, enforcement needs horizontal support or peer-driven checks to be implemented. Where the rule of law is not strong, enforcers may not be able to enforce, even with all the information, procedures and formal technical capabilities, and implementation is likely to be selective. It is also in such contexts that implementation will be selective and not impartial. Here, we also have to ensure that at least in the sector or activity we are looking at, there is sufficient pressure from different organisations to limit corruption and enable formal accountability processes to work (Khan and Roy, 2022). Without ensuring this, anti-corruption efforts are not only likely to fail, but repeated failures may further demoralise citizens who perceive anti-corruption efforts as not producing the desired results (Cheeseman and Peiffer, 2020).

In these cases, transparency and accountability measures are not likely to lead to effective anti-corruption outcomes. If there is no evidence that at least some capable and productive organisations have an incentive structure that requires low corruption and the enforcement of rules within the sector, it may not be possible to improve checks and balances to make anti-corruption work. The evidence-based approach here is to show the feasibility of a

sectoral strategy where corruption is very likely to be lower because the checks and balances are more feasible. In sectors or activities where the configuration of interests, capabilities and power is such that there are no organisations that want to check corruption in these activities, and all relevant organisations benefit from corruption, then strategies to *mitigate and transform* may be the only feasible anti-corruption strategies. Essentially, they involve identifying new strategies for differently distributing the benefits to at least some levels of the hierarchy rather than improving outcomes using existing strategies.

To achieve this, insiders must have an interest in following rules, have the power to enforce rules, and this enforcement also has to be socially desirable. These conditions can be found in rule-of-law countries where rule enforcement is mostly impersonal and impartial, unlike in countries with weaker rule of law, where rule enforcement is selective or where there is rule *by* law (Khan, 2018). Of course, countries lie on a spectrum of law enforcement, but most high-income countries are at the rule-of-law end of the spectrum, while most LMICs exhibit rule *by* law. Countries at this end of the spectrum have high levels of informality and hence many organisations have low productivity and violate rules, as they cannot comply with them. Politics is also informal, as the size of the budget is limited. Given the low levels of revenue collection via taxation, policies cannot be financed formally and political leaders or parties frequently use off-budget and discretionary means to finance spending. As a result, powerful people violate rules as it is not in their interest to be rule-following, and there is as yet little demand for a general or non-selective rule enforcement. This demand is a function of a more formal society with a complex economy and a large number of complex transactions that require impersonal interactions and contract enforcement (Roy and Khan, 2021). This is why economy-wide strategies are unlikely to work in many LMICs. Hence sectoral or even sub-sectoral opportunities have to be discovered and supported with feasible strategies, for the reasons described above.

A necessary condition of such a strategy is to ensure that most organisations or people engaged in a specific activity can profitably or sustainably follow the rules, almost like as a 'business case' for anti-corruption where rule-following behaviour, rather than rule-breaking, will ensure profits. However, this is an incremental strategy and not a macro-systemic one. This also means there may not be a feasible solution for every sector in the short term because rule-following is not always sufficiently profitable in these contexts. Enforcement is only viable when there is genuine demand for following and enforcing specific rules within an activity from interested and capable actors. In contexts of rule by law, rule-following will emerge only when effective horizontal or peer-driven checks on behaviour are possible in that sector or level of activity (Khan and Roy, 2022).

From this perspective then, the extractive sector with its super-normal profits or rents and the tendency to be controlled by politically powerful people in LMICs raises significant challenges for anti-corruption. In a context of rule by law, the incentives for rule-following behaviour are very weak within the sector and can only be imposed if other sectors are collectively powerful enough to impose rules on that sector, or productive enough to not be affected by it. But this is not the case in Nigeria or, indeed, in most resource-rich LMICs. While exploration and production activities could be moderately rule-following (given international contracts and the technology required), other activities like distribution,

marketing and licensing are 'rent-thick'. This means that the distribution of benefits is often not in line with the social good, but is based on the politics of patronage or repression. The specificity of the extractive sector identified in Nigeria is that the capture and sharing of rents derived from it are widespread across socioeconomic segments and 'benefit' a range of actors with varying levels of incomes and livelihoods. This make it especially challenging to design policy that tackles corruption.

Our research focused on the micro level in Nigeria since the problems of corruption at the macro level in the oil sector are politically too intractable to be feasibly addressed in the short-to-medium term. We focused on the artisanal oil refining industry in the Niger Delta. Though conducted through small-scale units, artisanal refining is an illegal activity based on refining stolen crude oil, which is then sold on to black markets as various petroleum products. This is a hugely damaging activity, not just because it is deemed criminal but also because of the pollution it causes for the local community. In theory, it should be easy to mobilise community members against artisanal oil industry 'camps' and activities and shut them down, but as our research shows, the opposite is often the case (see SOAS-ACE, 2021, The networked economy of the artisanal oil industry in the Niger Delta).

Artisanal oil industry sites provide both direct employment, via work at camp sites, and indirect employment, through sales of products, and catering and hospitality services to the camps, among other activities. This is because despite being oil-rich, the Niger Delta remains one of the more politically volatile regions of Nigeria (United Nations Development Programme (UNDP), 2015). Due to the severe electricity supply constraints in Nigeria, much of the demand for artisanal oil industry products comes from locals who purchase diesel produced at such sites to power their generators. Even though this corrupt behaviour is a response to critical shortages in welfare goods, the externalities are damaging in terms of the effects on the environment and community health. This is why it is important to address corruption in the sector. And where that is not feasible, the policy response needs to be to mitigate the effects of that corruption. Studies have shown that the theft of crude is a dynamic of rent capture and large-scale political corruption in the macro political economy of the oil sector (Katsouris and Sayne, 2013; Cartwright and Atampugre, 2020). However, artisanal oil industry activities are not always linked to the macro level political economy, and are sustained, in some part, due to local demand, for the reasons outlined above.

Our research proposes an alternative approach from trying to eradicate this form of corruption through heightened enforcement, including crackdowns by security forces – a solution that has already proved unsuccessful (Stakeholder Democracy Network (SDN), 2018). This includes mitigating the harmful effects of the artisanal oil industry, such as pollution, alongside providing other livelihood opportunities. The appropriate 'anti-corruption' response here is unconventional as it involves working on mitigating the pollution and related health externalities that hurt vulnerable people – namely, children, youth and women. The next steps are to encourage solar power generation and explore productive livelihood opportunities as alternatives, rather than top-down strategies that depend on sanctions and prosecutions. Not only are those top-down strategies unlikely to change behaviour into rule-following practices, but they sustain a cycle of violence by further alienating a population with high levels of perceived and real grievances.

The paper is structured as follows. The next section provides an outline of the history, nature and drivers of the artisanal oil industry. Section 3 presents an analysis of how networked corruption operates in the sector. Section 4 presents our research findings, including data on livelihoods and fuel quality, and how those relate to networked corruption. Section 5 discusses the feasibility of mitigation and transformation strategies and presents some recommendations, while Section 6 presents our conclusions.

2. History, nature and drivers of the artisanal oil industry in Nigeria

The artisanal oil industry in Nigeria refers to the theft of crude for onward sale or local refining. Our research only looked at the incidence of the local refining of stolen crude. The term 'artisanal' belies the relatively complex, illegal and polluting nature of the industry. It has grown and formalised substantially, increased in sophistication along the value chain, and in places is run by large unions or cartels who have significant leverage in local and provincial government politics. Artisanal oil industry sites are mostly operative in Rivers, Bayelsa and Delta states, though they are also found in other oil-producing states in Nigeria's south. These are the three states where refineries are most concentrated, the technology of production is most advanced, and the political economy at the local, regional and national levels appear most intertwined. Rivers and Bayelsa (where we conducted our research) produce around 21% and 18% respectively of Nigeria's crude oil (Golden, 2022). The sites use stolen crude as their raw material. Between 2015 and 2021, oil theft and repairs of oil pipelines from which crude was stolen cost the Nigerian economy at least $29 billion. The daily loss amounts to 200,000 barrels per day (Addeh, 2022).

The artisanal oil industry value chain involves 'tapping', whereby oil is diverted from pipelines to illegal exporters and artisanal oil industry refiners. Oil theft through such means is informally known as 'bunkering'. The oil is then transported by boats (which are hard to target in Niger Delta's dense, estuarine, mangrove-covered topography), for use either in artisanal oil industry sites or to be mixed with better-quality crude for sale on the black market. The crude in the artisanal oil industry site is 'cooked' in ovens where crude products or various condensates like diesel, petrol and kerosene are produced in processes that are hugely polluting. These 'refined' products are then transported by river or road to markets in the local communities, other states in the South-South and, according to anecdotal reports, even further afield to states such as Anambra, Imo and Abia in the South-East.

The Nigerian government's response to bunkering and, to a lesser extent, artisanal oil industry activities has been swift, persistent and highly militarised. Activities in the industry are illegal in Nigeria, and the Nigerian army and navy (Joint Task Force) have launched periodic offences against sites via operations named Operation River Sweep, Operation Calm Waters, Operation Swift Response, Operation Crocodile Smile, Operation Delta Safe, and Operation Quiet Waters. Camps have also been 'decommissioned' leading to further pollution, as the methods used include setting sites on fire. However, this has only led to the rise of armed militia such as the Niger Delta People's Volunteer Force (NDPVF) and the Movement for the Emancipation of the Niger Delta (MEND) in the early 2000s, and the Niger Delta Avengers (NDA) in later decades, from within these local communities. Their conflicts with the military have been responsible for some of the most violent militant movements in Nigeria (Asuni, 2009).

However, some of these activities, especially in the artisanal oil industry, enjoy the support of many local communities. This would seem counterintuitive given the violence and

instability they have to face, both from security forces and the militant groups, as well as the effects of pollution from artisanal oil industry sites. While oil spills by international oil companies that have not been cleaned are chiefly to blame for damaging the delicate and complex ecosystem of the Niger Delta, micro-level pollution from the artisanal oil industry is also a contributory factor to water and air pollution in the region. The reasons for their persistence, despite these adverse outcomes, are twofold. First, bunkering and artisanal oil industry operations are part of well-organised and powerful political syndicates or networks that can include members of security forces, members of government organisations such as the Niger Delta Development Commission, and even politicians who can use these illegal proceeds to fund elections. Fighting elections is costly in Nigeria, especially for the posts of president and governors. The *Financial Times* reported that it costs $2 billion to fight presidential elections in the country (Pilling, 2022). While not as costly as a presidential election, it would be safe to say gubernatorial elections would also be very costly for candidates. Illegal activities in the artisanal oil industry sector provide the required funding for many such political activities.

The second reason why these activities persist is that artisanal oil industry sites provide both direct and indirect livelihoods to some of Nigeria's most impoverished populations. We outline the nature of livelihood creation linked to the industry in Section 4. While estimates of per capita incomes of Nigerian states are not easy to come by, one study based on extrapolating social indicators found that Rivers and Delta were in the top five performers, while Bayelsa ranked at 27 out of 37 (Igbokwe, 2017). Despite this, Rivers had an unemployment rate of over 40% and Bayelsa and Delta had a rate of over 30%. These rates are high when compared to non-oil states such as Benue, Kebbi and Osun (National Bureau of Statistics (NBS), 2021: 39). These three oil-bearing states do not score as high on the Multidimensional Poverty Index (MPI) when compared to their per capita incomes and, indeed, to other states that are not oil -rich (Oxford Poverty and Human Development Initiative (OPHI), 2017: Table J). Rivers and Bayelsa also had the lowest rank, according to the Human Security Index, in the economic domain, though they do rank higher in some other aspects, such as education (UNDP, 2015: 93).

These levels of underdevelopment are also one reason why militancy is high in the region. The Federal Government of Nigeria has provided for constitutional mandates like the derivative principle via section 162 of the Constitution of 1999, whereby 13% of oil revenues go to the oil-rich states of the Niger Delta. It has also implemented amnesty programmes where militants are encouraged to lay down weapons in return for compensatory funding and/or livelihood training. The first remedy has been a matter of much debate, as some analysts are of the opinion that the proportion of the derivative principle is too low for the oil-rich states, while others contend that very little of the funds have actually been disbursed and used by state governments to help affected communities. In the case of the amnesty schemes, there is anecdotal evidence that many formal militants access the funding but do not cease their violent activities (Oyefusi, 2014; Onuh et al., 2021).

These political economy effects have been discussed richly and at length in the literature (Thurber et al., 2010; Nwajiaku-Dahou, 2012; Usman, 2020; Onuh et al., 2021). However, this research has a specific focus and that is the political economy of artisanal oil industry sites

and the communities around them. This micro-political economy has seldom been addressed, either in the literature or by policy-makers. The artisanal oil industry owners, workers and communities are a part of the hierarchy of benefits referred to earlier, though the payoffs are not as high for them as for those further up the hierarchy. This makes it imperative to study the possibilities of designing policies that will reduce or remove a community's need to be part of and to support artisanal oil industry activities. Such an incremental step is likely to be more feasible to address than the corruption in the security forces or within state capitals. Yet the entrenched and networked nature of corruption also means that change might not be evenly spread across communities. What is needed is to ensure that vulnerable communities do not suffer the 'multiplier' effect of corruption. Essentially, the exclusionary effects of corruption cannot be immediately addressed, but these communities should not also have to deal with the pollution externalities.

Methods

Field research was conducted in November and December 2019 across two states of the Niger Delta where the artisanal oil industry is most prolific. In Rivers state, we focused on Ogu-Bolo local government area (LGA); in Bayelsa state, we focused on Nembe LGA. Both are located in riverine creeks with boat access to the Gulf of Guinea, which facilitates (illegal) international trade; and both have a heavy concentration of pipelines and wellheads, which are the source of the crude oil for refining.

Key informant interviews were conducted to explore the cash flows, connections and motivations to engage with the artisanal oil industry. These were held with individuals involved in tapping pipelines to syphon crude oil, owners of artisanal oil refineries, transporters of refined fuels from refineries to markets, and marketers. Outside the direct value chain, key informant interviews were conducted with networked businesses, including owners of hotels, restaurants, bars and brothels, and material suppliers. Other interviewees include those not directly connected to production but who consume the fuels produced, such as households and businesses. Separately, a town hall meeting was facilitated in each location, with a cross-section representative of the community, comprising leaders, women, youth and business groups. These meetings explored group motivations to engage with the artisanal oil industry, and the feasibility and acceptability of a range of different solutions. We also conducted a fuel quality analysis to ascertain the quality of fuels produced at these sites, as well as fuels sold by official fuel stations at the same sites.

Both the communities were purposively chosen for the reasons outlined in Box 1.

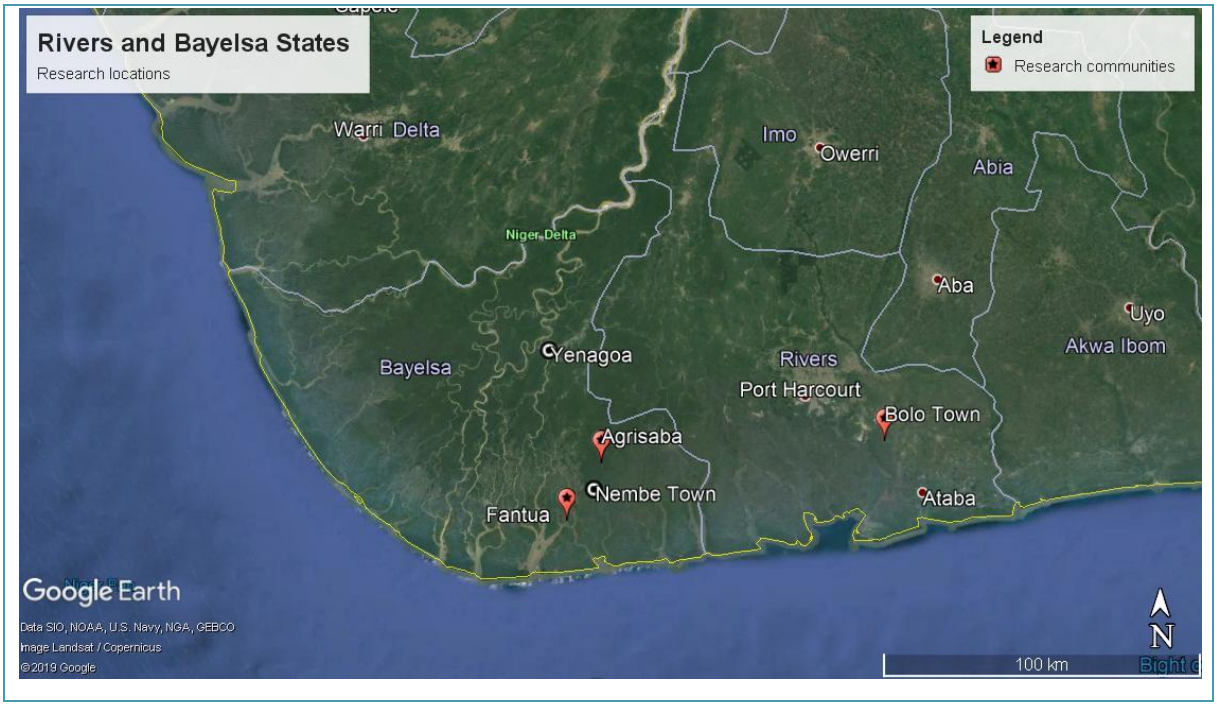
Box 1. Why Nembe and Bolo were selected

1. State	Rivers
Communities	Bolo community, Ogu-Bolu local government area
Justification	This location was selected because it seems to be one of the 'headquarters' of the artisanal oil industry in upland Rivers state, and part of the production network of one of the most dominant militants (now King) in the whole of the Niger Delta. It is in close proximity to Port Harcourt, the state capital and major market for refined products, and also has good access to the Atlantic (Gulf of Guinea) through the inland waterways. Almost everyone in the community (about 97%) is estimated to be involved in the industry throughout the value chain. The community is also dynamic in terms of accepting people from other parts of the state, Niger Delta and Nigeria, to be involved in the sector, provided they pay (which they usually do) their weekly dues to the community and other associated bodies. (River state was at the centre of a military crackdown in late 2019 when the research was conducted, as promises of a clean-up and attempts to resume oil production in Ogoniland resurfaced.) Another factor that led to the selection of this community was that some members of the research team had a long-standing relationship with actors involved in the artisanal oil industry in this area through research and projects aimed at addressing the issue. They therefore had a good reputation in the area, which enabled them to earn the trust of the communities in order to ensure that data collection was credible. For obvious reasons, these communities are mistrustful of outsiders, and that can even include Nigerians who are not from the region.

Box 1. Why Nembe and Bolo were selected (continued)

2. State	Bayelsa
Communities	Nembe Kingdom 1. Agrisaba (Bassambiri) 2. Fantuo (Ogbolomabiri)
Justification	Agrisaba and Fantuo are coastal, oil-rich communities that form part of the Nembe Kingdom. Both have been significantly devastated by activities of oil and gas exploration since the discovery of crude oil deposits in Nigeria in Oloibiri in 1958, including widespread pollution and violent crisis triggered by disagreements over the revenue due to the communities. Both still suffer a lack of basic socioeconomic amenities. Worst of all, both communities are surrounded by immense crude oil and gas deposits, but have poor access to portable drinking water, electricity supply, healthcare facilities and quality education. Fantuo, for example, has no borehole/functioning well. These inadequacies and neglect by government and the international oil companies (IOCs) led citizens from these communities into (in their large numbers) illicit activities as the only accessible and lucrative means of earning a livelihood. The waterways here link to Rivers state, and flow easily into the Atlantic ocean. These factors made it a fertile ground for the artisanal oil industry and sea piracy to thrive. Unfortunately, the artisanal oil industry and piracy activities have not changed the story of development. The level of artisanal oil industry activity increased in these locations around 2012, and was sustaining local economic activity until a surveillance contractor for an IOC forcefully closed many of the camps in 2018 and 2019. To date, no alternatives have been provided, and the situation provided an opening for detailed discussions with those dependent on the artisanal oil industry. The lead researcher and members of the research team are indigenes of Nembe, and speak the Nembe variant of Ijaw. As in the case of Bolo, this was important to establish trust.

Figure 1. The locations of the research communities in the states of Bayelsa and Rivers



3. Networked corruption and hierarchy of benefits

Our scoping of the micro-level effects of the artisanal oil industry in the Niger Delta suggests that traditional transparency-based approaches that expose malpractices to inspire community-driven action do not work when those who are meant to demand redress are benefiting in some way from the status quo. One might expect that pollution from industry products like diesel and petrol would make the sites unpopular and result in local demands for shutting them down; but this is far from the reality. Our research suggests that this is not just about the direct livelihoods created through the artisanal oil industry value chain (Onuh et al., 2021) but because of the many indirect livelihoods that, while not part of the value chain, are also linked to the operation of artisanal oil industry sites.

Conventional value chain analyses are therefore not able to capture the deep nature of interlinkages and dependence between the artisanal oil industry sites and local communities. In terms of game theory, members within the community are free riding on the public good (oil that technically 'belongs' to the nation) but they are not 'defecting' from the community because there are no incentives to do so. This is the perverse incentive in the sector that cannot be broken. It is in everyone's interests to collude as there are payoffs for a majority of the community from artisanal oil industry activities, both from within and *outside the value chain*. There is no strategic coalition for anti-corruption that can be created that is willing to defect – that is, to clamp down or report on these activities. However, while such an analysis would point to the incentive–compatibility constraint in this situation, it does not reveal the underlying and fundamental cause of such behaviour among community members. Any analysis of the reasons behind host community behaviour would be incomplete without considering the strong perception of host communities (in oil-bearing areas) that the sharing of revenue from oil has been iniquitous, and that much of distribution has neglected their developmental interests. Revenue-sharing is governed by the 'derivative principle' that currently stands at 13% – that is, 13% of the revenues from oil sector activities are returned to oil-producing states, specifically their governments. This proportion is considered insufficient by a majority of the host communities and is one of the reasons behind the long-standing conflict for equitable distribution of oil resources (TCMD 2008, Idamkue, 2021: 88). However, the communities are also ill-served by their own state governments and the Niger Delta Development Commission[1] (NDDC), as they have little to show by way of development projects that have been delivered (Adebowale, 2021, Premium Times 2021). This line of enquiry also links to our argument that while corruption might be widespread in the sector, the reasons for it are different for different sets of actors.

Analyses of the causes of conflict and violence have moved away from generalised and basic arguments of resource curse and access to finance (Collier and Hoeffler, 2004; Ross, 2004).

[1] The NDDC is a federal agency set up in 2000 for the development of the Niger Delta.

There are now more nuanced and context-specific understandings of the coalescing of formal and informal institutions where the lines between official and unofficial corruption in Nigeria are no longer clear and where such informalisation is the result of political corruption and ill-thought liberalisation (Meagher, 2010). In this paper we take this line of thinking further and use a political settlements framework to identify how the macro-level distribution of power in the extractive sector in Nigeria impacts the institutional outcome at the micro level – in this case, the artisanal oil industry sites and communities.

The oil and gas sector in Nigeria is characterised by both political and predatory corruption (for a typology of rents, see Khan, 2000a; 2000b). Extractive sector rents are regularly allocated across the government machinery through both formal and informal means for redistributive purposes, entrenching political corruption. There is also evidence of predatory corruption, which is characterised by persistent conflict in oil-bearing regions and, in some instances, state capture of oil sector agencies. As democracy in Nigeria deepens (authoritarian rule is unlikely to satisfy the demands for redistribution in the country, given that society has evolved and become more complex) and becomes more competitive and fragmented, the need for political parties to include greater numbers and provide more informal transfers is likely to increase instances of rent capture (Roy, 2017). This evolving dynamic interacts closely with the socioeconomic history of the Niger Delta, where local tribal/community identities are very strong and where the majority of illegal and informal extractive sector activities, including artisanal oil industry sites, are located. The underdevelopment and spiral of violence in this region owes itself to this interaction (Box 2).

Rent capture in the extractive sector has been a feature of Nigeria's political settlement, which is defined as a distribution of organisational power and institutional benefits (Khan, 2018). Oil sector rents sustain both formal (via subsidies and licences for petroleum product imports) and informal systems of patronage and redistribution. Until recently, international oil companies also played a key role in this patronage system, and that role has not entirely disappeared either. Given that a majority of Nigeria's oil resources are located in the Niger Delta region, this combination of predatory and political corruption has a significant impact on society here. Notwithstanding the location of resources, the centralised nature of rent capture via ministries and state-owned enterprises in the sector ensures that the distribution of benefits remains hugely asymmetrical, especially for local communities. This specific feature of rent capture in conjunction with the identity politics of the region motivates mobilisations based on questions of distributional justice and legitimacy. The NDDC, which is an arm of the Federal Government, is viewed as far removed from understanding the locally specific interests of the host community. The Commission is also considered to be politically corrupt and has remained underfunded by the Federal Government on many occasions (Gboyega et al., 2011).

Box 2. Brief socioeconomic history of Nembe and Bollo

Nembe is reportedly the location in Nigeria where crude oil was first explored in the 1950s. It is also located close to Oloibiri, where commercial production first started in 1964. Since that time, the revenue generated from selling natural resources has transformed a traditional system of governance and, in turn, set the stage for radical challenges to the governance of natural resources in the area.

The transformation can be traced back to the early 1990s, when powers to deal with the oil and gas companies were decentralised from the King (Amayanabo) to the Council of Chiefs (Alawari Ogbo)[2], following pressure over ineffective negotiations for higher royalties, compensation for environmental damage, and employment opportunities. Under the new arrangement, the multiple chiefs did not unify to negotiate with oil companies, and instead, split into factions, who would argue that they were exclusively authorised to interpret the desires of the community. Youth groups were formed to back the claims made by the chiefs, and assert that if the community gets what it wants, there would be no threats to the continued flow of oil. Inevitably, the chiefs manipulated negotiations to favour themselves, at the expense of investing funds into the community. Complicit youth groups received a small portion, but it was enough to keep them on side, and to sponsor armed conflict between competing factions. As a result of the system, economic growth stalled, and unemployment started to rise. The chiefs took further advantage of the situation to boost their incomes, and started to finance youths to tap pipelines for crude oil, which they exported via international smuggling networks.

This power dynamic shifted again in the year 2000, when Shell turned to youth groups to counter the chiefs, who were becoming more demanding. This elevated young, 'violence' entrepreneurs to positions of power, and they started to control the community's oil funds. The new system conveniently led to a tighter grip on local affairs for oil and gas companies, at the expense of stabilisation and development. As Watts (2003) argued, it became 'a realm of privatised violence, a form of consent by a form of force'.

The youth groups became part of the region-wide militancy in the early 2000s, and engaged in pipeline attacks and kidnapping of oil company staff. Artisanal oil refining was introduced, but the equipment was rudimentary and dangerous, so did not attract many workers, with the major focus on export of crude oil internationally, including in trade for weapons with international vessels. The presidential amnesty agreement in 2009 ceased hostilities, with the promise of increased local participation in the oil and gas industry, including the award of pipeline surveillance contracts for the youth, which would become one of the defining features of the artisanal oil industry. The ex-militants started to deal directly with the oil companies, and while they were contracted to protect infrastructure, they were simultaneously covertly operating the artisanal oil industry, and lifting major volumes of crude oil for undocumented vessels. The multiple income streams enabled a broad network of local leaders, politicians and oil company workers to benefit and coordinate the illegal trade.

[2] The king is the highest office holder who oversees all other decision-making processes, while the council of chiefs is composed of a representative of each family compound within the community, and they meet to discuss and make decisions, for approval by the King.

Box 2. Brief socioeconomic history of Nembe and Bollo (continued)

Bolo is located at the centre of Nigeria's oil and gas industry infrastructure. While there are no active oil wells in the area, there are major export terminals and refineries supplied by a network of pipelines. The evolution of the artisanal oil industry is intimately related to this infrastructure. The pipelines and abandoned wellheads are the source of crude oil for the industry.

The community is 10 miles away from Eleme, the site of the first oil refinery in Nigeria. When it was constructed in 1964, old tensions over conflicting claims on land were reignited, fuelled by payments and opportunities available to host communities. During the civil war (1967–1970) it was bombed by federal troops as they advanced on Port Harcourt, destroying a lifeline for the Biafran army, and heavily polluting the local environment. This tug of war over refining with disregard to environmental ramifications set the tone for the relationship between federal and local levels. This was propelled into violence in the 1990s, after peaceful protests against the operations of Shell in the area led to the arrest and execution of nine peaceful activists, including writer Ken Saro-Wiwa.

It also led to the closure of all 13 oil wells in Bolo, which reduced community payments, and increased competition between local elites. Violent armed groups were introduced to local battles, which increased insecurity in the area, creating the right conditions for the introduction of the artisanal oil industry. A prominent vigilante leader, Ateke Tombari, who had helped win key leadership tussles locally, attracted the attention of the ruling People's Democratic Party (PDP), who hired him to help win elections in 2003 (Nwajiaku-Dahou, 2012), the second since democracy had been reinstated. This election also reported high levels of violence in the region. With powerful patrons at the state and federal levels, Ateke was rewarded with money, weapons, legitimacy, contracts and, most importantly, the freedom to siphon crude oil and sell or refine it. The state government continued to fund his activities to build a bulwark against other gangs operating in the state, who were also expanding into the artisanal oil industry and drug markets.

These gangs would become active players during the militancy period throughout the 2000s. In 2009, Ateke was one of the first to accept the presidential amnesty, and registered 2,500 individuals under his command. After this, the artisanal oil industry would grow rapidly in the area, with many suggesting the government chose to turn a blind eye as part of the agreement. Ateke's gang members subsequently spread across the state, and established protection rackets, informally taxing businesses and motorists. This network would simultaneously structure and enforce his control over the industry. Those involved in it would collect payments from refinery operators and traders, which they used to liaise with the security service hierarchy, negotiate recurrent bribes and conditions to enable production to continue, and share other benefits, such as information on upcoming military operations to minimise the impact of raids. With wide coverage, this network is well positioned to influence elections, and has featured predominantly for the PDP in every election since 2003.

As outlined in Box 2, the socioeconomic history of these regions is rooted in a community-driven society dominated by traditional leaders. The extension of the state and its centralised patronage system, and the introduction of modern production methods (via multinational companies in oil exploration and production aligned with the state) catalysed

change faster than in other societies where the extension was more gradual. Such extensions/displacement in post-colonial and capitalist transitions is usually always conflictual and rent-generating, though rents can, in some cases, lead to productive outcomes (Khan, 2000a; 2000b). In fossil fuel-rich settings, these are compounded by environmental externalities that states and corporations do little to address. Employment generation is also inadequate given that the sector is not labour intensive. The environmental damage to soil and water affects traditional livelihoods like fishing and agriculture, exacerbating conditions of underemployment or unemployment. As a result, the wielding of informal power by engaging in informal and outright illegal activities such as bunkering, artisanal oil industry production, and violence against the formal apparatus of the state is seen as the means to bridge the asymmetric distribution of benefits.

This broader historical intuitionalist narrative reinforces local community-driven incentive structures that help sustain micro-level outcomes such as artisanal oil industry activities. Both the hierarchy and network effects need to be understood to design policies that will work at this level in the extractive sector. That a wide cross-section of society within the sector benefits from corruption is well-known (Katsouris and Sayne, 2013). However, what is important is to disaggregate the payoffs each segment receives in order for feasible anti-corruption strategies to be designed. While the payoffs at the higher levels of the extractive sector are both political and economic, those at the level of the artisanal oil industry community site are primarily economic in nature. In economic terms, the differences in what the rent-seeking supports could be identified as 'super-profiteering' at the higher levels, moving to 'sustenance' and, finally, 'subsistence'. For most of the communities involved in the artisanal oil industry, the payoffs are within a thin line between subsistence and sustenance.

However, most community members receive few political payoffs from their involvement in the industry. Political payoffs are concentrated at the higher levels, where actors range from high-level elected representatives and government officials to traditional rulers and local 'godfathers'.[3] The incentive to use oil rents as patronage or to fund political campaigns exists mostly at these levels. A combination of super-profiteering and the need to produce or access political payoffs ensures that the incentives are hard to change, and makes corruption intractable. As SOAS-ACE research outlines, it is very important to test the validity of the anti-corruption hypothesis in terms of feasibility and impact, or effectiveness, of a particular policy change (Khan and Roy, forthcoming). Given the combination described above, anti-corruption is unlikely to be either feasible or effective in this context.

There are other drivers of the continued support of the status quo identified by our research. The region, despite being oil-rich, can suffer from fuel scarcity at official retail sites. The Port Harcourt refinery, which is owned by the public sector Nigerian National Petroleum Corporation (NNPC), has a capacity of 210,000 barrels per day but has hardly operated in the past two decades. Yet, despite recording no production in 2019, the refinery

[3] A locally or regionally powerful politician who chooses appointees to run for political office and sponsors them without necessarily holding office themselves.

cost the NNPC 43.8 billion nairas ($122 million) between June 2019 and June 2020 (NNPC 2020). The easy availability of petrol and diesel (artisanal oil industry products used in residential and commercial generators) is one reason why sites are tolerated within communities. Severely constrained electricity supply is a key reason why many citizens purchase fuel on the black market in Nigeria, and fuel from some artisanal oil industry sites can travel beyond the South-South to the South-East, where small and medium-sized enterprises (SMEs) are the hardest hit (Roy et al., 2020). At the time when our research was conducted, electricity supply from the grid was available for just a few hours a day, if at all. The only alternative was for community members to purchase diesel from artisanal oil industry sites to power their generators. Even when the price is not cheaper than official rates, as was the case in Bayelsa at the time of our research (official price is N190/litre and black market price is N220/l), it is still easily available. There also seemed to be a perception that artisanal oil industry products were better quality and longer lasting compared to officially sourced fuels.

Our research considers a triangulated set of evidence considering direct and indirect livelihood linkages, the availability of (perceived) cheaper and better-quality fuels (compared to official sources), as well as fulfilment of demand for fuel sources for electricity generation in a context where electricity supply is constrained. This triangulation is also necessary to design effective and feasible anti-corruption solutions. This line of analysis in our research also shows that given the cross-sectional dependence on rents, no internal peer-driven pressure will work to reduce rent capture and corruption. Without this triangulated view and analytical trajectory, it is not possible to understand why conventional anti-corruption strategies that have been implemented up until now will not work.

4. Research findings

A. Interlinked livelihoods and needs

As explained earlier, our research tracked livelihoods not just within the artisanal oil industry value chain but also of the community that it served, in order to identify the income flows. Not only were communities located around the site accessing and buying fuel, they were also supplying many 'essential' services and goods such as catering, lodging and material supplies to workers at the site. This makes the relationship far more embedded than one where community members are consumers only. And it is essential for those designing policy for the artisanal oil industry to understand the nature of this relationship. At the town hall meetings we conducted in Nembe (Bayelsa) and Bolo (Rivers), we asked participants (a mix of artisanal oil industry workers and those supplying the sites indirectly) a straight question on banning the industry. The response in Nembe was an unequivocal and resounding 'no' (our researcher recorded the response as 'a chorus of nos'). In Bolo, the response was not as unequivocal, but suggested the community could support a ban only if the Federal Government provided other support for livelihoods that would guarantee at least the same level of income-generation.

Across these communities, our research captured both knowledge and acceptance of the harmful effects of artisanal oil industry activities, alongside a strong perception of these being illegal. In keeping with this, the mood at the town halls could best be described as one of resigned pragmatism. All respondents reported on the environmental and health consequences of industry activities, but most were also clear that the fuel products from the site were important for ensuring a stable electricity supply. One respondent at a town hall, speaking on behalf of a community, told us that despite being connected to the national grid, they had not received electricity for over three weeks. While we could not verify this independently, the extremely erratic and deficient nature of electricity supply in Nigeria is well-known. The country has some of the highest levels of self-generation in Africa. This means that power is not provided from the grid and is accessed through independent means such as generators or inverters (Roy et al., 2020).

We conducted 2 town hall meetings and 51 key informant interviews to ascertain the nature of the linkages with artisanal oil industry activities. During our fieldwork, it was clear that a well-organised and functioning 'agglomeration economy' had been established in the community around the artisanal oil industry site. This was not part of older, more established market localities but had grown out of a clustering effect caused by the artisanal oil industry activities. Many of them did not directly supply inputs to the industry but provided services to workers involved in it, such as catering, hospital and even sexual services. Material suppliers of plastic tanks and iron rods, on the other hand, directly supplied the sites. Based on this evidence, we expanded our research to community members who were not directly employed at the sites but who were dependent on their functioning for their livelihoods. Tables 1a and 1b provide an indicative outline of the interdependencies between AOI and community members not directly engaged in it.

What emerged was a revealing instance of labour market segmentation based on gender, and relatedly opportunities for accumulation. All those operating catering services that supplied workers at the sites were women who used their cookery skills to start businesses. Most of the hotels and bars were run by men, who had accumulated enough savings from being owners or workers at artisanal oil industry operations (see Appendix). Small eateries needed very little upfront investments and had almost zero sunk costs, while hotels and bars needed more sizeable investments. The involvement of men in the lucrative artisanal oil industry operations ensured that they had investable savings for ventures like hotels, while women did not. The catering points were, however, critical for women to supplement their family incomes and move beyond thresholds of subsistence (see tables 1a and 1b). One of the sites we researched was later broken up by the Nigerian Army, and we were unable to go back to substantiate, but given our scoping it is highly possible that the operations of the Army disproportionately affected the ability of women at these sites to generate incomes. The men could migrate for employment or restart their hospitality businesses. For many of the women running catering points, their primary consumer base was artisanal oil industry workers and those associated with the site. But across the activities covered, the profits were higher than incomes earned from traditional livelihoods such as fishing and farming.

Table 1a. Bayelsa state – monthly cash flow, artisanal oil industry, Nembe

Assuming active three days per week, and four weeks per month

Assuming total cost of equipment replaced every six months

Activity (direct)	Cash flow	Per month	
Crude oil is stolen and sold	Income	Crude oil sales	85,000,000
	Costs	Wages	12,000,000
		Equipment	1,155,000
		Security ‘fees’	2,500,000
		Community ‘fees’	2,400,000
		Informal payments to International oil company staff[4]	2,500,000
	Total profit		64,445,000
Crude oil is purchased and refined into fuels	Income	Kerosene sales	22,000,000
		Petrol sales	18,720,000
		Diesel sales	47,040,000
	Costs	Crude oil purchased	50,000,000
		Wages	5,400,000
		Equipment	480,000
		Security ‘fees’	180,000
		Union fees	400,000
		Community ‘fees’	1,680,000
	Total profit		29,620,000

[4]These are informal payments made to staff who work in IOCs for information or support to steal oil

Table 1a. Bayelsa state – monthly cash flow, artisanal oil industry, Nembe (continued)

Activity (direct)	Cash flow	Per month	
Refined fuels purchased and transported to markets	Income	No sale price recorded	No sale price recorded
	Costs	Transport fee – local	4,000,000
		Wages	100,000
		Equipment	400,000
		Security fees	900,000
		Community 'fees'[5]	360,000
Refined fuels purchased and marketed to consumers	Income	Kerosene sales	396,000
		Petrol sales	495,000
	Costs	Kerosene purchased	138,600
		Petrol purchased	138,600
		Equipment	12,600
		Community fees	9,000
	Total profit		592,200

Activity (indirect)	Cash flow	Per month	
Catering services	Income	Sales	600,000
	Costs	Firewood	20,000
		Equipment	Not captured
		Ingredients	Not captured
		Transportation	Not captured
	Total profit	Estimated by respondent	360,000-480,000
Prostitution	Income	Service fees	200,000
	Costs	Room fees	Not captured
	Total profit	Estimated by respondent	300,000-400,000
Hotel	Income	Sales	456,000
	Costs	Equipment (excluding building)	116,600-150,000
		Fuel (50L per day)	210,000
	Total profit		96,000-129,400
Households	Income	Salary – subsistence fisherman	50,000
		Salary – subsistence farmer	80,000
	Costs	Investment into fishing	10,000
		Investment into farming	20,000
		Fuel purchased	15,000
		Equipment – jerry cans, hoses, generator maintenance	5,000
	Total profit		80,000

[5] This can go to vigilante groups, community leaders, etc.

Table 1b. Rivers state – monthly cash flow, artisanal oil industry, Bolo

Assuming active three days per week, and four weeks per month

Assuming total cost of equipment replaced every six months

Activity (direct)	Cash flow	Per month	
Crude oil is stolen and sold	Income	Crude oil sales	480,000,000
	Costs	Wages	36,000,000
		Equipment	5,000,000
		Security fees	3,200,000+
		Community fees	4,000,000
		Union fees	1,400,000
	Total profit		430,400,000
Crude oil is purchased and refined into fuels	Income	Fuel sales	21,600,000
	Costs	Crude oil purchased	6,000,000
		Wages	1,920,000
		Equipment	1,266,000
		Security fees	400,000
		Union fees	400,000
		Community fees	66,000
	Total profit		11,548,000
Refined fuels purchased and transported to markets by boat	Income	Transport fee	120,000,000
	Costs	Wages	350,000
		Equipment	300,000
		Security fees	Not specified – settle when encountered 1,200,000
		Union fees	8,000
	Total profit		118,142,000
Refined fuels purchased and marketed to consumers	Income		Volumes not captured
	Costs		Volumes not captured

Table 1b. Rivers state – monthly cash flow, artisanal oil industry, Bolo (continued)

Activity (indirect)	Cash flow	Per month	
Catering services	Income	Sales	Not captured
	Costs	Wages	60,000
		Equipment	80,000
		Ingredients	Not captured
		Transportation	Not captured
	Total profit	Estimated by respondent	150,000
Prostitution[6]	Income	Service fees	48,000
	Costs	Supplies, condoms, etc.	1,850
		Rent of room	12,000
		Fee to use room for sex	20,000
	Total profit		14,150
Materials supplier	Income	Sales	200,000+
	Costs	Rent	8,300
		Supplies	Not captured
		Wages	Not captured
	Total profit	Estimated by respondent	Not less than 30,000[7]
Hotel	Income	Sales	456,000
	Costs	Equipment (excluding building)	116,600-150,000
		Fuel (50L per day)	210,000
	Total profit		96,000-129,400
Households	Income	Salary – subsistence fisherman	50,000
		Salary – subsistence farmer	80,000
	Costs	Investment into fishing	10,000
		Investment into farming	20,000
		Fuel purchased	15,000
		Equipment – jerry cans, hoses, generator maintenance	5,000
	Total profit		80,000

Source: Authors.

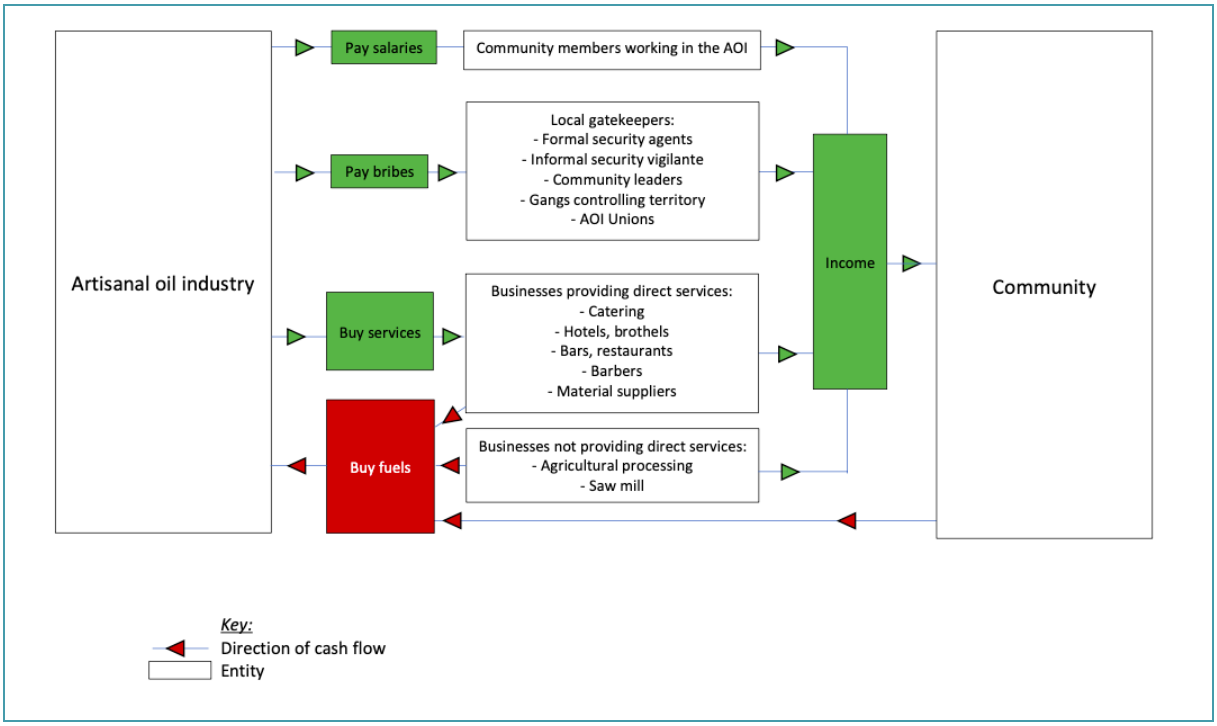
Our research strategy included constructing a social accounting matrix of the artisanal oil industry community, but the security situation and disruption due to Covid affected access to the community and data-gathering. At its simplest, a social accounting matrix is a record of transactions between individuals and organisations, and it helps construct the gross domestic product (GDP) of an economy based on this. It records investments, employment, spends, taxation, etc. It derives from the idea of everything being in and of itself an input into everything else – which means that an activity is both something people spend on and receive income from. We can, in this way, also identify which activities provide more of the

[6] This is income in a context where women providing sex services have no other source of income.

[7] In many instances, material suppliers pay themselves a salary but as a result record a lower profit.

income in the sector. The intent was to provide a snapshot of the entire artisanal oil economy that would act as a database of economic activity. We were going to use the social accounting matrix as an organising principle to show the livelihood interdependences within the artisanal oil industry community as well as outline how older livelihoods like periwinkle-gathering and fishing have been displaced, rather than as a tool for any economic modelling. However, even the study of the data we had gathered and have presented here (Figure 2) is evidence of this interdependence.

Figure 2. Income flows for the community from the artisanal oil industry (AOI)



Source: Authors.

B. Fuel fact-finding

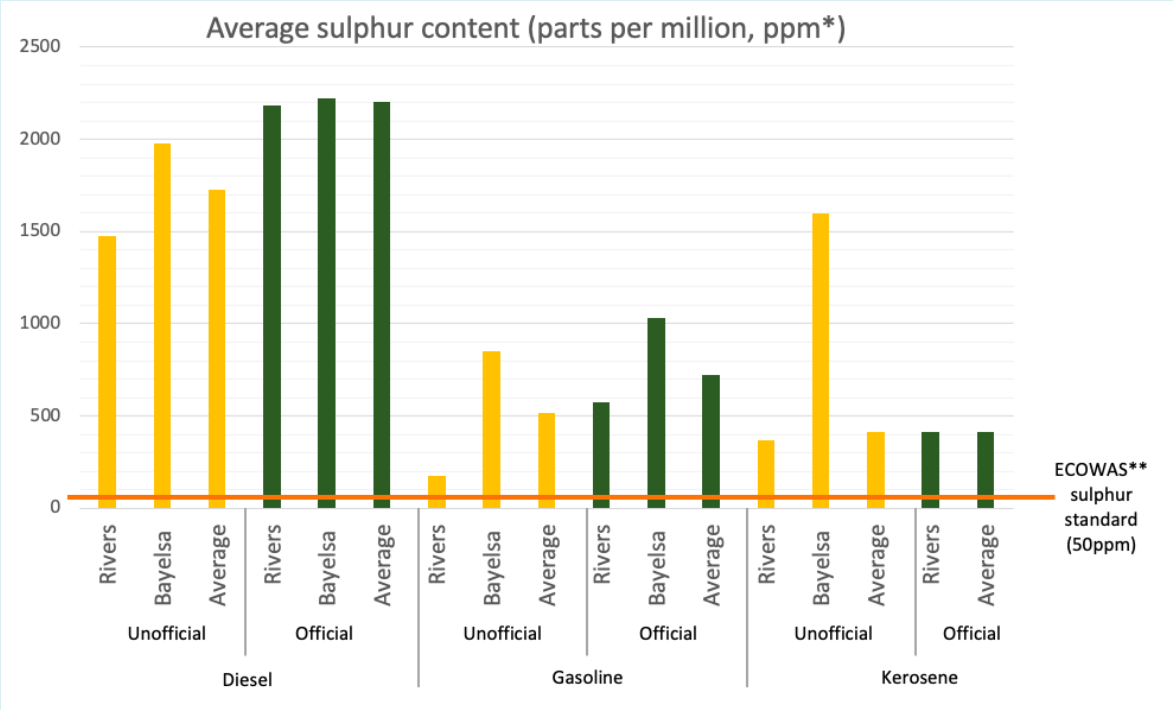
Another key finding of our research was that many in the community felt that fuel from artisanal oil industry sites was of better quality and ensured better machine performance than the fuel available at official retail sites. We therefore decided to test fuel samples from artisanal oil industry sites and official fuel stations to see if there was indeed such a difference in quality. The objective of the fuel testing was to analyse the quality (based on hydrocarbon composition characteristics), composition and pollutant level of fuel produced by artisanal refiners in two communities and compare this to fuel available at local filling stations. The sample collection was conducted in accordance with the best-practice European Commission (EC) Petroleum Liquids Sampling Approach, to ensure consistency and that no contamination affected results. The total number of samples collected from the two communities was 33, of which 24 were unofficial (that is, from artisanal oil refineries) and 9 were official (from filling stations).

The samples were analysed in a certified laboratory in Nigeria, which requested anonymity given the sensitive nature of the research. The tests covered total petroleum hydrocarbons (TPH), to review hydrocarbon characteristics against international benchmarks, to understand exposure risk for workers at the artisanal refining camps, and to ascertain the extent of threat of soil contamination. Sulphur content was tested because this is a significant source of particulate matter emissions, which cause soot and lead to severe respiratory diseases and cancers. It was previously detected in extremely high levels across West Africa, and is representative of dumping of dirty fuel by international commodity traders, who have been found to purposely blend fuels to as low a standard as possible, often using toxic additives, based on the regulatory failures in destination markets (Guéniat et al., 2016; Human Environment and Transport Inspectorate, 2018). Manganese content was tested as this is a cheap additive used to boost the octane number (the higher the number, the better the performance of the engine) but it is banned in the European Union because it is a human toxicant. Finally, benzene levels were tested, as this is a carcinogen, pollutant and toxicant.

Worryingly, all fuel samples generally had a high concentration of long carbon chains, which increases fuel viscosity, impacting the temperature and completeness of combustion ('sooty' burning), with negative effects on performance and emissions. All fuel samples also had high sulphur levels, the primary component of particulate matter and soot emissions. While these levels were significantly higher than national standards across all samples, they were, however, consistently higher in official than unofficial samples. These tests were only meant to be indicative, especially since our sample size from official sites was smaller. However, the fact that all samples produced results that were well below the accepted standards is deeply concerning as it brings into question fuel quality levels even from official sites (filling station owners also often dilute their official stocks according to anecdotal evidence). It is increasingly obvious that fuel quality is not just an issue with artisanal oil industry sites. In early February 2022, 350,000 tonnes of refined fuel that had exceptionally high methanol levels was imported by four Nigerian firms, including a subsidiary of the state-owned NNPC. While using additives like manganese is extremely harmful, they can escape detection in terms of engine performance. High levels of methanol can actually be detected in engine performance, leading to many affected vehicles on Nigerian roads. The fuel consignments had to be hastily traced and recalled. The country has since had to place emergency orders for replacement imports, as severe fuel shortages built up (Dzirutwe, 2022). Box 3 provides a breakdown of the quality of the samples analysed, by fuel type.

Box 3. Fuel sample comparisons

- **Diesel:** Samples of unofficial fuels from Bayelsa state had the highest volume of relevant chain lengths. Longer chain lengths in hydrocarbons imply better quality as they have lower flammability and volatility and are more viscous. Along with average concentrations of other chains similar to the benchmark levels, it shows that a fairly good quality of diesel is produced at artisanal refineries. It also highlights that poor-quality, high-sulphur diesel is sold on the official market in both states, with average sulphur content 44 times what the official standards allow.
- **Petrol:** Samples of unofficial fuels from Bayelsa state again had a high volume of relevant chain lengths, similar to the benchmark, and much more aligned than samples of unofficial and official fuels from Rivers state. In contrast, samples of unofficial fuels from Rivers state had very low concentrations of relevant carbon chains. One official sample from each state contained high benzene levels, perhaps the result of additives. Two official and two unofficial samples in Bayelsa contained high manganese levels, also used as an additive, but no manganese was found in the Rivers state batch of samples, raising the possibility that it is used locally in Bayelsa state. Both these additives are known to be toxic to human health.
- **Kerosene:** All samples of unofficial and official fuels had very low concentrations of relevant carbon chains, indicating high viscosity products that burn with a sooty flame. This is of concern because it is used in households for cooking and lighting. Bayelsa state samples of unofficial kerosene contained extremely high levels of sulphur, posing another pollution risk of household particulate matter and soot.



* Parts per million ** Economic Community of West African States.

Source: SOAS-ACE.

C. Addressing healthcare concerns

Repeated studies have referred to the environmental degradation and negative health effects of both legal and illegal oil-related activities in the Niger Delta (Ordinioha and Brisibe, 2013; Yakubu, 2017; Chineda and Chukwuemeka, 2018; Onuh et al., 2021). There has been some mobilisation around addressing the oil spills and air pollution, with local and international civil society organisations pressuring international oil companies to clean up their production processes. Artisanal oil industry activities have also been targeted, and for obvious reasons, since they are easier to sanction than international oil companies or large criminal syndicates. Yet very little attention has been paid to addressing the health-related externalities that are an inescapable outcome of the pollution linked to the industry.

During our extensive fieldwork, we looked for efforts to ameliorate these health effects and found little evidence of any. Compared to the past, safety at the artisanal oil industry sites is taken relatively more seriously and according to our field research, there has been a reduction in the number of accidents in what is still a hazardous activity. Some sites are providing workers with better safety gear such as protective shoes and have also changed production processes to lessen dangers of explosion. But there have been few efforts to limit the dangers of exposure to hazardous fumes and polluted water. There is even less mitigation available for communities, even though they are almost as closely affected. Hence despite the pragmatism we referred to on page 18, community members and artisanal oil industry workers both provided strong evidence of demand for healthcare services that could treat pollution-related health conditions.

D. The gendered impact of the artisanal oil industry

As outlined earlier, women comprise a significant proportion of entrepreneurs indirectly linked with artisanal oil industry activities. Our findings are twofold. First, given the nature of networked corruption, female entrepreneurs who are indirectly involved in the artisanal oil economy stand to lose a great deal if anti-corruption efforts were to actively pursue shutting down camps, as indeed happens frequently. For instance, women who run catering and hospitality businesses can earn up to N38,000 a day when the camps are in operation by running hotels where workers stay. This ensures that support for closing down the artisanal oil industry is highly unlikely, unless there are efforts to provide alternate livelihoods. It is also evident that there is a lack of research on the effects of externalities from artisanal oil industry activities on women. Our research shows that while it is difficult to change incentive structures for women, it is also evident that they are seriously affected by pollution from the artisanal refineries. On the other hand, policies to tackle the artisanal oil industry, such as amnesties (which have been favoured by successive Nigerian governments), exclude women completely.

Some of the starkest findings of our research concern the prostitution businesses that have grown to serve the artisanal oil industry sites. These resemble the contingencies of a wartime economy and exist almost solely to serve the industry, with women migrating from long distances and settling at the sites. They earned slightly less than caterers (up to

N20,000 per day) but these earnings provided security to women who often had very few opportunities in alternative businesses. Some had even used their savings to invest in their own brothels, and in a few cases even invest in refinery ownership. However, these women remained the most vulnerable among the community around artisanal oil industry sites.

5. Mitigation and transformation

As we have shown in this paper, the extractive sector is characterised not just by the magnitude of rent-seeking in terms of its relative value to other sectors, but also by the inclusion of actors and organisations from a cross-section of society. Simply enforcing the law is unlikely to work in these contexts as there are too many violators with an incentive to break the law. Attempting to enforce the law from above in these cases may not only fail, but it may also harm marginalised and vulnerable people disproportionately, or even trigger violent conflicts. The economy of the local community is also integrated into the artisanal oil industry in multiple ways. As a result, there is no internal peer-driven pressure for enforcement. This makes strategies to mitigate the harmful effects of pollution and health externalities an imperative in the short-to-medium term. In the long term, solutions that focus on socioeconomic transformation are required. In the case of the artisanal oil industry in the Niger Delta, this can be achieved through electricity provision via solar power and, at a later stage, providing alternative livelihood opportunities that generate at least as much income as that generated from the artisanal oil industry and related activities.

These approaches – rather than the conventional approach of criminalising the activities of the artisanal oil industry – may gradually create interests and capabilities for effective peer-driven approaches in the longer term. The 'big-bang' top-down approaches of criminalisation and violent crackdowns on artisanal oil industry sites only serve to alienate local communities even further, and provide more heft to identity politics of local communities. There is also the critical issue of proportionality to be considered here. Community members are well aware that these top-down approaches affect them disproportionately while the politically connected and powerful actors who are also involved in corruption in the sector – on a larger scale with more damaging consequences – escape sanction. Efforts to prosecute and punish such actors have also not yielded satisfactory results in Nigeria. It is in this context that efforts to mitigate become important, as they would deliver at least some viable and effective solutions for redressal. For some organisations and individuals working on anti-corruption in the sector, it might mean that focusing on mitigation in fact lets powerful perpetrators get away. However, it would also be difficult to argue that the politically powerful will be prosecuted and punished any time soon in Nigeria, or indeed in most other LMICs. In the interests of distributive justice, therefore, solutions have to be identified for those disproportionately affected both by corruption and the sanctions that are imposed in response to it, until society evolves sufficiently to enforce laws on the powerful.

This is the reason why we are suggesting a portfolio of strategies to address these deep-seated inequities in the Niger Delta. The most urgent one is to provide healthcare solutions to the conditions caused by air and water pollution at the site and in the surrounding area. None of the camps we studied were providing any treatment to workers, and primary healthcare centres in the region were not even providing basic healthcare, let alone treatments for pollution-related conditions. Unsurprisingly, there is huge demand for such

care, along with basic healthcare provision that also does not seem to be available to many members of these communities.[8] There is no doubt that primary healthcare needs to be strengthened in the region but any attempts to do so should be in conjunction with expanding services to treat pollution-related conditions. There also needs to be some debate on whether these services should be provided independently of primary healthcare centres, as these centres face their own constraints of understaffing and underfunding.[9]

The short-to-medium term transformational strategy that has significant potential is the provision of solar power for these communities who are currently critically under-served by the national grid. Nigeria has some of the most ambitious targets for renewables-driven electricity generation and is already a leader in designing solar policy (Rural Electrification Agency, 2021). Wind energy is another hugely unexplored potential (Mba, 2020). Multilateral funders have been rightly wary of allocating funds to Nigeria's grid-based electricity sector, but there is some appetite from these funders for projects in the renewable energy sector. The incentives in the renewable sector are better aligned for productive and effective outcomes, as the technology for such generation is well-developed now. The political risk of capture – when compared to opportunities in the national gird –is also much lower, as the renewable sector is sufficiently delinked from patronage networks of the national grid and fossil fuel-based electricity sector (Roy et al., 2020).

The longer-term solutions to the damage caused by the artisanal oil industry have to involve creating alternative income-generating strategies that are sufficiently attractive to pull people away from the artisanal oil industry (SDN, 2020a; 2020b; 2020c). An alternative livelihood programme run by SDN, a non-governmental organisation (NGO) working in the region, has demonstrated that actors in the artisanal oil industry sector are willing to engage in dialogue for alternatives, and subsequently transition out of the industry into formal employment. In both Rivers and Bayelsa states, individuals were trained in trades such as welding, creek rice production and fisheries management, and subsequently established businesses that they were able to sustain. The programme had good results, with no participants returning to the artisanal oil industry, and the majority reporting a better quality of life. The challenge is to replicate this strategy in other areas – and to scale up the businesses to increase profit levels, which would make the options more attractive to individuals who are earning high incomes from the artisanal oil industry. Such a strategy would also be critical to ensure the safeguarding of women who often have to resort to the dangerous and illegal marketing of products from artisanal oil industry sites, and who are more vulnerable to being caught by security forces. Many of these women have become part of the local economy linked to the artisanal oil industry through providing catering services at the sites.

[8] Town Hall 2, Bolo, Rivers state, 23 November 2019.

[9] Ibid.

Another solution to artisanal oil industry activities that is often suggested is modular refining.[10] Site owners tend to be the strongest proponents of such refineries. Yet the modular refineries they have in mind are not the same as those the Nigerian government has in mind (PwC, 2017). These are to be co-located within currently existing large refining facilities or near marginal fields, and are beyond the technical scale and scope of artisanal oil industry operations. However, our research (SOAC-ACE, 2021; 2022) has shown that the learning-by-doing that has taken place as artisanal oil industry operations have evolved has ensured a significant upskilling of those directly involved in production. Livelihood generation policies that are currently being considered must consider utilising this workforce, which has relatively high technical skills.

[10] Modular refineries are small, crude oil processing facilities, typically less than 30,000 barrels capacity, which can produce petrol and diesel. The Federal Government repeatedly proffers these as a solution to the artisanal oil refining industry, yet provides little formal support other than guidelines on how to apply for licenses.

6. Conclusion

In this paper, we have outlined that the most challenging instances of corruption are those where effective horizontal checks do not exist, nor are they likely to be swiftly created with alternative policy designs. If the corruption in these cases results in significant social damage, the most feasible anti-corruption strategy we propose is mitigation and transformation. The aim here is to address the damaging consequences of corruption since the corruption itself is intractable and difficult to address. In the Niger Delta, this is compounded by the fact that it is the relatively marginalised and politically weaker sections of the community who end up being regularly criminalised and affected by frequent attempts to 'clean up' the artisanal oil industry via military operations.

At the start of 2022, the governor of Rivers state announced a renewed crackdown on the artisanal oil industry (Naku, 2022). This was triggered by public pressure over dangerous levels of air pollution that has become increasingly visible as a black soot since 2016, but became worse in 2021. Emissions modelling suggests that all the artisanal oil refining activity and consumption of the fuels produced could only be responsible for around half of the air pollution; other sources are thought to be burning of biomass and non-organic waste, consumption of dirty official fuels, effluents from official refineries and other dirty industry (SDN, 2020d). What is evident from the other sources of pollutants is that these are not just difficult to deal with in operational terms but are also politically more difficult to address. This makes the artisanal oil industry 'easier' to tackle in terms of policy and the results are also more visible, though it is highly unlikely that air and water quality will improve markedly after yet another attempt at cleaning up. Destruction of sites is also less difficult to verify. There can be many claims about site shutdowns, but the fact that they are located in the bush makes it difficult to access them for verification. Ironically, the violent destruction of the sites replicates the approach taken by the military over the past two decades, despite several calls by the Nigerian National Assembly to redesign the decommissioning or dismantling process and eschew the violence associated with it (Adanikin, 2020).

Strategies for mitigation and transformation require actors to think differently about anti-corruption, because those strategies involve identifying which outcomes of corruption can be mitigated feasibly, rather than addressing the corruption directly. However, in situations where corruption is networked and therefore intractable, this strategy provides an opportunity for policy intervention that can deliver feasible and effective support to some of the most marginalised communities who are disproportionately affected by corruption, even as the long-term goal remains one of tackling corruption directly.

7. References

Adanikin, O. (2020) 'Pollution: FG urges taskforce to partner NOSDRA to decommission abandoned refineries'. International Centre for Investigative Reporting, 6 February (www.icirnigeria.org/pollution-fg-urges-taskforce-to-partner-nosdra-to-decommission-abandoned-refineries)

Addeh, E. (2022) 'Massive oil theft, high pipeline repairs cost, bleeding Nigeria's economy'. *This Day,* 16 February (www.thisdaylive.com/index.php/2022/02/16/massive-oil-theft-high-pipeline-repairs-cost-bleeding-nigerias-economy)

Adebowale, A. (2021) 'How state governments cheat oil-producing communities in use of 13% derivation fund'. *Premium Times,* April 23 (www.premiumtimesng.com/news/headlines/456847-analysis-how-state-governments-cheat-oil-producing-communities-in-use-of-13-derivation-fund.html)

Asuni, B.J. (2009) *Understanding the armed groups of the Niger Delta*. New York: Council on Foreign Relations (www.cfr.org/sites/default/files/pdf/2009/09/CFR_WorkingPaper_2_NigerDelta.pdf)

Cartwright, R. and Atampugre, N. (2020) 'Organised oil crime in Nigeria: the Delta paradox – organised criminals or community saviours?' *Enact,* 26 November (https://enactafrica.org/research/research-papers/organised-oil-crime-in-nigeria-the-delta-paradox-organised-criminals-or-community-saviours)

Cheeseman, N. and Peiffer, C. (2020) *Why efforts to fight corruption hurt democracy: lessons from a survey experiment in Nigeria*. SOAS-ACE Working Paper No. 27. London: SOAS (https://ace.soas.ac.uk/publication/why-efforts-to-fight-corruption-hurt-democracy-nigeria)

Chinedu, E. and Chukwuemeka, C.K. (2018) 'Oil spillage and heavy metals toxicity risk in the Niger Delta, Nigeria' *Journal of Health and Pollution* 8(19): 1–8 (https://doi.org/10.5696/2156-9614-8.19.180905)

Collier, P. and Hoeffler, A. (2004) 'Greed and grievance in civil war' *Oxford Economic Papers* 56(4): 563–595 (www.jstor.org/stable/3488799?seq=1)

Dzirutwe, M. (2022) 'UPDATE 2-Nigeria did not check methanol levels in imported gasoline, NNPC says'. *Reuters.com,* 10 February (www.reuters.com/article/nigeria-gasoline-shortage-idUSL1N2UL14I)

Gboyega, A., Søreide, T., Le, T.M. and Shukla, G.P. (2011) *Political economy of the petroleum sector in Nigeria*. Policy Research Working Paper 5779. New York: World Bank, Africa Region, Public Sector Reform and Capacity Building Unit (https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-5779)

Golden, E. (2022) *Full list of oil producing states in Nigeria (2022 updated)*. *Golden News,* 3 March (https://goldennewsng.com/2022/03/03/full-list-of-oil-producing-states-in-nigeria)

Guéniat, M., Harjono, M., Missbach, A. and Viredaz, G-V. (2016) *Dirty diesel: how Swiss traders flood Africa with toxic fuels*. Lausanne, Switzerland: Public Eye (www.publiceye.ch/en/publications/detail/dirty-diesel-1-1)

Human Environment and Transport Inspectorate (2018*) Investigations of the Dutch Inspectorate: heavy fuel oil for sea-going vessels and on-road fuels for West Africa.* Netherlands: Human Environment and Transport Inspectorate, Ministry of Infrastructure and Water Management (https://english.ilent.nl/documents/reports/2018/07/04/heavy-fuel-oil-for-sea-going-vessels)

Idamkue, J.B. (2021) *Resource governance and protracted conflict in Nigeria's Niger Delta: understanding the perceptions and grievances of the people in oil-bearing communities*. London: Lexington Books

Igbokwe, O. (2017) *'How we projected the GDP for states in Nigeria'*. *Medium.com,* 20 September (https://medium.com/kingmakers/how-we-projected-the-gdp-for-states-in-nigeria-5ccc5e2c85f7)

Katsouris, C. and Sayne, A. (2013) *Nigeria's criminal crude: international options to combat the export of stolen oil.* London: Chatham House (www.chathamhouse.org/sites/default/files/public/Research/Africa/0913pr_nigeriaoil_es.pdf)

Khan, M.H. (2000a) 'Rents, efficiency and growth' in M.H. Khan and K.S. Jomo (eds.) *Rents, rent-seeking and economic development: theory and evidence in Asia*, 21–69. Cambridge: Cambridge University Press

Khan, M.H. (2000b) 'Rent-seeking as process' in M.H. Khan and K.S. Jomo (eds.) *Rents, rent-seeking and economic development: theory and evidence in Asia*, 70–144. Cambridge: Cambridge University Press

Khan, M.H. (2018) 'Political settlements and the analysis of institutions' *African Affairs* 117(469): 636–655 (https://academic.oup.com/afraf/article/117/469/636/4690667)

Khan, M. and Roy, P. (forthcoming) *Making anti-corruption real: how to stop wasting money and start making progress*. London: SOAS University of London, Anti-Corruption Evidence (ACE) Research Consortium Working Paper

Mba, C. (2020) 'Where is Nigeria in the $500bn offshore wind energy market?' Dataphyte, 25 March (www.dataphyte.com/latest-reports/development/where-is-nigeria-in-the-500bn-offshore-wind-energy-market)

Meagher, K. (2010) *Identity economics: social networks and the informal economy in Nigeria*. Oxford: James Currey

Naku, D. (2022) 'Wike declares 19 suspected illegal refinery kingpins wanted, orders director's arrest'. *Punch,* 10 January (https://punchng.com/wike-declares-19-suspected-illegal-refinery-kingpins-wanted-orders-directors-arrest)

National Bureau of Statistics (2021) Foreign trade in goods statistics Q3 (https://nigerianstat.gov.ng/elibrary/read/1241099)

NNPC (2020) *Financial and operations report, June 2020.* Nigerian National Petroleum Corporation (https://nnpcgroup.com/NNPC-Business/Business-Information/Pages/Monthly-Performance-Data.aspx)

Nwajiaku-Dahou, K. (2012) 'The political economy of oil and "rebellion" in Nigeria's Niger Delta' *Review of African Political Economy* 39(132): 295–313. DOI: 10.1080/03056244.2012.688805.

Onuh, P.A., Omenma, T.J., Onyishi, C.J., Udeogu, C.U., Nkalu, N.C. and Iwuoha, V.O. (2021) 'Artisanal refining of crude oil in the Niger Delta: a challenge to clean-up and remediation in Ogoniland' *Local Economy* 36(6): 468–486 (https://journals.sagepub.com/doi/abs/10.1177/02690942211071075)

Ordinioha, B. and Brisibe, S. (2013) 'The human health implications of crude oil spills in the Niger Delta, Nigeria: an interpretation of published studies' *Nigerian Medical Journal* 54(1): 10–16. DOI: 10.4103/0300-1652.108887.

Oxford Poverty and Human Development Initiative (2017) *Nigeria country briefing*. Multidimensional Poverty Index Data Bank. Oxford: OPHI, University of Oxford (https://ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings)

Oyefusi, A. (2014) 'Oil bunkering in Nigeria's post-amnesty era: an ethnopolitical settlement analysis' *Ethnopolitics* 13(5): 522–545 (www.tandfonline.com/doi/abs/10.1080/17449057.2014.931120)

Pilling, D. (2022) '*What is Nigeria's government for?*' *Financial Times*, 31 January (www.ft.com/content/c4025da8-7951-4ed1-bccd-5d546f86786c)

Premium Times (2021). NDDC has 13,000 doubtful projects despite receiving N6 trillion allocation in 19 years – Malami. *Premium Times*, 2nd September Online https://www.premiumtimesng.com/news/headlines/482638-nddc-has-13000-doubtful-projects-despite-receiving-n6-trillion-allocation-in-19-years-malami.html

PwC (2017) *Nigeria's refining revolution*. PricewaterhouseCoopers Limited (www.pwc.com/ng/en/assets/pdf/nigerias-refining-revolution.pdf)

Ross, M.L. (2004) 'How do natural resources influence civil war? Evidence from thirteen cases' *International Organizations* 58: 35–67 (www.jstor.org/stable/3877888?seq=1)

Roy, P. (2017) *Anti-corruption in Nigeria: a political settlements analysis*. London: SOAS-Anti-Corruption Evidence (ACE) Research Consortium Working Paper 002 (https://ace.soas.ac.uk/publication/anti-corruption-in-nigeria-a-political-settlements-analysis)

Roy, P., Iwuamadi, K. and Ibrahim, J. (2020) Breaking the cycle of corruption in Nigeria's electricity sector: a political settlements analysis. London: SOAS-ACE Research Consortium Working Paper 020 (https://ace.soas.ac.uk/wp-content/uploads/2020/03/ACE-WorkingPaper020-NigeriaPowerSector-200319.pdf)

Roy, P. and Khan, M. (2021) 'Digitizing taxation and premature formalization in developing countries' *Development and Change* 52(4): 855–877 (https://doi.org/10.1111/dech.12662)

Rural Electrification Agency (2021) 'Solar power Naija – enabling 5 million new connections' (https://rea.gov.ng/solar-power-naija)

SDN – Stakeholder Democracy Network (2018) '*More money, more problems' – economic dynamics of the artisanal oil industry in the Niger Delta over five years*. London, UK and Port Harcourt, Nigeria: Stakeholder Democracy Network (www.stakeholderdemocracy.org/moremoneymoreproblems)

SDN (2020a) *Rice cultivation in the Niger Delta – alternative livelihoods to the artisanal oil industry*. SDN, 2 July (www.youtube.com/watch?v=j6pKT3Hs6Ro)

SDN (2020b) *Aquaculture in the Niger Delta – alternative livelihoods to the artisanal oil industry*. SDN, 2 July (https://youtu.be/Gab7lqFI6HY)

SDN (2020c) *Welding skills for agriculture processing in the Niger Delta – Ogoni youth livelihood project*. SDN, 2 July (https://youtu.be/D_P0HTchKjs)

SDN (2020d) *Dirty fuel: an analysis of official and unofficial petroleum products in the Niger Delta*. London, UK and Port Harcourt, Nigeria: Stakeholder Democracy Network (www.stakeholderdemocracy.org/report-dirty-fuel)

SOAS-ACE (2021) *The networked economy of the artisanal oil industry in the Niger Delta*. SOAS-ACE, 11 March (https://youtu.be/-GvfEM7iEMs)

SOAS-ACE (2022) *Inside an artisanal oil refinery in the Niger Delta*. SOAS-ACE, 18 February (https://youtu.be/d5WBcORKpOE)

Technical Committee on Niger Delta (2008) Report for the Technical Committee on the Niger Delta

Thurber, M.C., Emelife, I.M. and Heller, P.R. (2010) *NNPC and Nigeria's oil patronage ecosystem*. PESD Working Paper #95. Stanford, CA: Program on Energy and Sustainable Development (https://pesd.fsi.stanford.edu/publications/nnpc_and_nigerias_oil_patronage_ecosystem)

UNDP – United Nations Development Programme (2015) *Human security and human development in Nigeria*. National Human Development Report, 2015. New York: UNDP (https://hdr.undp.org/sites/default/files/2016_national_human_development_report_for_nigeria.pdf)

Usman, Z. (2020) 'The successes and failures of economic reform in Nigeria's post-military settlement' *African Affairs* 119(474): 1–38

Watts, M. (2003) 'Economies of violence: more oil, more blood' *Economic and Political Weekly* 38(48): 5089–5099 (www.jstor.org/stable/4414347)

Yakubu, O.H. (2017) 'Particle (soot) pollution in Port Harcourt Rivers state, Nigeria—double air pollution burden? Understanding and tackling potential environmental public health impacts' *Environments* 5(1): 2 (https://doi.org/10.3390/environments5010002)

8. Appendix

Data collection details for Nembe

Group	Individual	Method*	M/F	Age	Location
Artisanal oil industry workers	Point owner 1/1	KII	M	Adult	Nembe
	Point owner 2/3	KII	M	Adult	Nembe
	Point owner 3/3	KII	M	Adult	Nembe
	Refiner 1/3	KII	M	Adult	Nembe
	Refiner 2/3	KII	M	Adult	Nembe
	Refiner 3/3	KII	M	Adult	Nembe
	Transporter 1/3	KII	M	Adult	Nembe
	Transporter 2/3	KII	M	Adult	Nembe
	Transporter 3/3	KII	M	Adult	Nembe
	Marketer 1/3	KII	M	Adult	Nembe
	Marketer 2/3	KII	M	Adult	Nembe
	Marketer 3/3	KII	M	Adult	Nembe
Immediate suppliers	Catering 1/3	KII	F	Adult	Nembe
	Catering 2/3	KII	F	Adult	Nembe
	Catering 3/3	KII	F	Adult	Nembe
	Brothel 1/3	KII	F	Adult	Nembe
	Brothel 2/3	KII	F	Adult	Nembe
	Brothel 3/3	KII	F	Adult	Nembe
	Hospitality 1/2	KII	F	Adult	Nembe
	Hospitality 2/2	KII	M	Adult	Nembe
Extended links	Households 1/3	KII	F	Adult	Nembe
	Households 2/3	KII	M	Adult	Nembe
	Households 3/3	KII	F	Adult	Nembe
	Firms 1/3	KII	M	Adult	Nembe
	Firms 2/3	PI	M	Adult	Nembe
	Firms 3/3	KII	M	Adult	Nembe
Mitigating measures	Agrisaba community – total 35 in attendance. Groups represented: (chiefs, youths, community surveillance/security, women, Ijaw youth council, refiners reps/union)	THM	Ratio M:F (24:11)	Range (23–60)	Nembe

*KII (Key informant interview), Town Hall Meeting (THM).

Data collection details for Bolo

Group	Individual	Method*	M/F	Age	Location
Artisanal oil industry workers	Point owner 1/1	KII	M	42	Bolo community
	Refiner 1/4	KII	M	36	Bolo community
	Refiner 2/4	KII	M	40	Bolo community
	Refiner 3/4	KII	M	27	Bolo community
	Refiner 4/4	KII	M	26	Bolo community
	Transporter 1/2	KII	M	43	Bolo community
	Transporter 2/2	KII	M	45	Bolo community
	Marketer 1/2	KII	M	39	Bolo community
	Marketer 2/2	KII	F	34	Bolo community
Immediate suppliers	Catering 1/3	KII	F	39	Bolo community
	Catering 2/3	KII	F	29	Bolo community
	Catering 3/3	KII	F	33	Bolo community
	Brothel 1/6	KII	F	21	Bolo community
	Brothel 2/6	KII	F	27	Bolo community
	Brothel 3/6	KII	F	26	Bolo community
	Brothel 4/6	KII	F	30	Bolo community
	Brothel 5/6	KII	F	25	Bolo community
	Brothel 6/6	KII	F	31	Bolo community
	Hospitality – Hotel 1/1	KII	M	34	Bolo community
	Hospitality - Bar 1/3	KII	M	36	Bolo community
	Hospitality – Bar 2/3	KII	F	43	Bolo community
	Hospitality – Bar 3/3	KII	M	32	Bolo community
	Supplier 1/2	KII	M	40	TRAILER PARK
	Supplier 2/2	KII	M	43	TRAILER PARK
Extended links	Households	KII	M	48	Bolo community
	Firms	NIL	NIL	NIL	Not applicable
Mitigating measures	Bolo community – total number in attendance 30 Groups include Community Development Committee, artisanal oil refiners, caterers, marketers, medical personnel from the community health centres	Town Hall Meeting	Ratio M:F 26:4	Range 23–60	Bolo community

*KII (Key informant interview), Town Hall Meeting (THM).

ACE SOAS Consortium **Anti-Corruption Evidence**
Making Anti-Corruption Real

About the Anti-Corruption Evidence (ACE) Research Consortium:

ACE takes an innovative approach to anti-corruption policy and practice. Funded by UK aid, ACE is responding to the serious challenges facing people and economies affected by corruption by generating evidence that makes anti-corruption real, and using those findings to help policymakers, business and civil society adopt new, feasible, high-impact strategies to tackle corruption.

ACE is a partnership of highly experienced research and policy institutes based in Bangladesh, Nigeria, Tanzania, the United Kingdom and the USA. The lead institution is SOAS University of London. Other consortium partners are:

- BRAC Institute of Governance and Development (BIGD)
- BRAC James P. Grant School of Public Health (JPGSPH)
- Centre for Democracy and Development (CDD)
- Danish Institute for International Studies (DIIS)
- Economic and Social Research Foundation (ESRF)
- Health Policy Research Group (HPRG), University of Nigeria Nsukka (UNN)
- Ifakara Health Institute (IHI)
- London School of Hygiene and Tropical Medicine (LSHTM)
- Palladium
- REPOA
- Transparency International Bangladesh (TIB)
- University of Birmingham

ACE also has a well established network of leading research collaborators and policy/uptake experts.

Anti-Corruption Evidence (ACE) Research Consortium
SOAS University of London, Thornhaugh Street, Russell Square, London WC1H OXG
T +44 (0)20 7898 4447 • **E** ace@soas.ac.uk • **W** www.ace.soas.ac.uk

SOAS University of London