

Analyzing Three Decades of Oil Spill Incidents in the Niger Delta: Causes, Response Mechanisms, and Community Impact 1990 to 2024

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Abstract

Oil spills presents a complex and persistnet socio ecological crisis produced by the interaction of decades of exloration, infrastructural issues and criminal economies around oil theft, and weak governance of incident reporting and remediation in the Niger Delta. Empirically, the problem is not only the frequency of spill events but also the chronicity of contamination, the contestation of spill causation, and the limited credibility and capacity of response institutions. Drawing on a multi-dimensional analytical approach that covers political economy of spill causation, architecture of response, governance and accountability, and community impacts, this paper argues that spill persistence reflects a co evolution of incentives and institutional weaknesses. Evidence from UNEP's Ogoniland assessment shows severe pollution and institutional failures, including threats to human health and the need for long term restoration, while other analyses highlight weaknesses in joint investigation practices and the politics of attributing spills to sabotage versus operational failures. The paper concludes that sustainable spill governance requires strengthening independent verification, improving transparency and accountability in investigation and remediation processes, and centering community protection as a measurable performance outcome rather than an aspirational commitment.

Keywords: Niger Delta, oil spills, NOSDRA, remediation, sabotage, corrosion, environmental governance, community impacts

Introduction

The Niger Delta region represents one of the worst examples of extractive industry-induced environmental challenges in Africa and the world. Oil extraction in the regon which started in the area since the late 1950s has spawned a multifaceted issue of contamination that destabilise ecosystems and lives up to date. spill incidents have left a trail of chronic land and water pollution in a region where livelihoods are dependent on agricultural activities and fishing. This has been met with poor response, indicating structural malfunction, rather than sporadic mishap (Kadafa, 2012; Frynas, 2012). To appreciate the magnitude of the problem, an empirical footprint is required. According to official records, over three million barrels of oil were emitted into the Niger Delta environment by thousands of spillages between 1976 and 2001 (Nwilo & Badejo, 2005). Subsequent researches indicate that the real volumes are greater, because of undetected or unreported spills, especially in remote onshore areas (Ordinioha & Brisibe, 2013). The latest and

the most extensive evaluation taken so far by the United Nations Environment Programme established widespread soil and groundwater pollution in the area of Ogoniland, as well as benzene levels well above the safe levels of drinking (UNEP, 2011). UNEP made a conclusion that the process of environmental recovery would take several decades in case clean-up efforts were not only adequately funded but also maintained. These results support the idea that the effects of oil spillages in Nigeria Delta are not temporary environmental shocks but permanent shocks.

With the determination of the extent of pollution, the issue of causation comes into the limelight. In the Niger Delta, oil spills are caused by various factors such as corrosion, machinery failure, human mistakes and interference by third parties. The dominant causes of the industry and regulatory rhetoric tend to focus on sabotage and oil theft, a description that has meaningful outcomes of liability and compensation (Kadafa, 2012). There are independent studies that however dispute this focus. Amnesty International (2017) reports a set of severe flaws in the investigation of the spills, such as the impossibility of making consistent evidence and jumping to the conclusion about sabotage. The peer-reviewed studies also indicate that spill incidents in ageing infrastructure and inappropriate maintenance constitute a significant proportion of the total spill cases, especially along older onshore pipelines (Achebe et al., 2012; Elum et al., 2016). Causation is not technical as such. It is also political, which is determined by who has access to resources and the allocation of responsibility.

Oil spills of the Niger Delta must be perceived both as governance events and material events. A material event happens when crude oil gets into soil, water and biological systems which interferes with the ecological process. A governance event takes place when institutions react by investigating, attributing, clean up and compensating. Concerns these processes in Nigeria include regulatory firms, oil companies, and the representatives of communities but they are not held accountable due to weak enforcement and the use of data generated by oil companies (Frynas, 2012; Amnesty International, 2020). Late reactions may spread spills, damaging the ecological environment and social discontent. Lack of governance therefore increased physical injury.

These failures are felt the most at the community level. Crop yields, fisheries and drinking water sources are impacted by oil pollution which impacts directly on household income and food security (Ordinoha & Brisibe, 2013). The use of hydrocarbons over a long period has been linked to increased risks of respiratory and blood-related problems in the communities that have been exposed to this substance (Ordinoha, 2013). These effects do not stop at environmental degradation. Marginalisation in the economy and mistrust by the institutions provide a space that may boost the involvement in informal oil economies and undermine cooperation with the spill reporting and response interventions (Watts, 2015). The effects of the community thus contribute to risk in the future. Three connected claims are developed in this paper based on these understandings. To begin with, the nature of causation of oil spills in the Niger Delta is a changing amalgamation of technical degradation and human intervention, attribution of which is not determined by professional evaluation but rather by institutional interests. Second, spill response systems work within a longlasting capacity and responsibility restraint that slows down reaction and exacerbates results. Third, community impacts are feedback mechanisms that impinge on future risk of spillage through development of trust, behaviour and local political economies. The study seeks to explain the interaction between environmental degradation, environmental governance and spills response, and community impacts of oil spills in a historical manner by examining the case of oil spill incidents between 1990 and 2024.

Theoretical Framework

This study employs political economy as its theoretical framework. The political economy theory has a classical history linked with Karl Marx and evolved later in the field of environmental and development studies by Karl Polanyi, David Harvey, and Michael Watts (Polanyi, 1944; Harvey, 2005; Watts, 2015). Broadly, the theory explains reality by linking economic factors to broader socio-political processes in what Marx would describe as an interaction between the sub-structure and super-structure. Applied to explain spills, the theory describes the source of environmental degradation as a result of incentives, power dynamics, and institutional structure instead of technical failure. The theory believes that economic activity cannot be severed off of the political authority and that patterns of environmental degradation can show ways of distribution of costs and benefits within the society. This point of view is specifically applicable to extractive economies, wherein the concentration of profits and the externalisation of environmental hazards to local communities take place. One of the main arguments of the political economy theory is that the degradation of the environment continues, as institutions promote taking risks and undermine accountability. Governments of oil producing countries that rely heavily on petroleum revenues, have the incentive to give preference to production continuity rather than regulation (Frynas, 2012). Most of the export earnings and much of the government revenue of the oil dependent Nigerian economy comes through oil thus restricting regulatory autonomy and enforcement capability. With such circumstances spill prevention is in competition with fiscal and political pressures. Institutional design and weak inspection regimes, in turn, result in the rationality of deferred maintenance and limited sanctions instead of managerial control.

The model elucidates the reasons behind continued disputes over the spill causation of the Niger Delta. The industry and regulatory discourses often focus on sabotage and oil theft, yet independent reviews consider the corrosion and equipment malfunction to be some of the primary causes (Achebe et al., 2012; Amnesty International, 2017). According to political economy theory, such a divergence has been understood as a liability struggle, and not necessarily a technical conflict. The operators have less clean-up and payment liabilities when it is considered sabotage. Causation thus becomes an incentive motivated classification process which is determined by power imbalance between the oil companies, regulators and the affected communities.

The theory also explains flaws in spill response institutions since it has already been determined that incentives influence the causation of spills. The agencies, like the National Oil Spill Detection and Response Agency, have limited funds and use data and logistics which are reported by the companies (Frynas, 2012). These limitations influence the speed of investigating spills and evaluation of evidences. The inability to conduct a joint investigation visit in time and the lack of independent forensic checks, which are recorded in several cases in the Niger Delta, decreases the trustworthiness of official conclusions (Amnesty International, 2017). The political economy school of thought attributes such procedural gaps to institutional dependency and not administrative oversight. The framework also brings about the feedback of environmental damage to social and economic behaviour. Long-term pollution decreases agricultural output, pollutes fisheries and compromises water security which has a direct impact on household income and access to food (UNEP, 2011; Ordinioha and Brisibe, 2013). Such losses make the economy more vulnerable to the risks and make less confident in the institutions of the state. Such circumstances have been associated with the involvement in informal oil economies, such as artisanal refining, a practise that makes spill risk even greater in the Niger Delta (Watts, 2015; Elum et al., 2016). Environmental damage hence repeats the political and economic circumstances that perpetuate future damage.

Methods

The study employs a qualitative and document-based approach. It opts for a synthesis of already available evidence instead of a first-hand collection of data. Specific data sources include authoritative institutional reports, peer-reviewed scholarly literature, and policy documents on spill causation, the response mechanisms and the community impacts during a period of time. Specifically, the United Nations Environment Programme report on Ogoniland offers evidence on the depth of contamination, health hazards and institutional inefficiencies over several decades (UNEP, 2011). Official governance documents on the topic of oil spills in Nigeria such as the establishment act of NOSDRA and the National oil spill contingency plan augmented the report as they detail formal spill response requirements and arrangements. The study employs thematic synthesis to identify repetitive patterns and inconsistencies across sources and link correlate governance structures to environmental and social outcomes.

Historical and political context of Oil Spills in the Niger Delta

A longitudinal analysis of oil spills in the Niger Delta must be situated within the region's evolving political and security context. Oil pollution did not emerge as a governance problem in the 1990s. Its roots lie in the early decades of Nigeria's petroleum economy, when weak regulation, rapid infrastructure expansion, and centralised control over mineral resources created conditions for environmental neglect. Understanding this earlier period is necessary because it shaped both the physical landscape of ageing infrastructure and the institutional norms that later governed spill detection, attribution, and response. Before the return to civilian rule in 1999, Nigeria's oil industry operated largely under military governments that prioritised production and revenue over environmental protection. From the 1970s through the late 1980s, regulatory oversight was fragmented and enforcement capacity was minimal. Pipelines were laid rapidly across wetlands and farmlands, often with limited corrosion protection and infrequent maintenance (Nwilo & Badejo, 2005). During this period, spill reporting relied heavily on company disclosures, and affected communities had little access to legal or political channels through which to contest environmental harm. Official estimates indicate that between 1976 and 1996 alone, approximately 1.9 million barrels of oil were spilled in the Niger Delta (Nwilo & Badejo, 2005). These figures, widely regarded as conservative, reflect a governance context in which spills were normalised as operational externalities rather than treated as public safety threats.

The 1990s marked a critical shift in the political salience of oil spills. Environmental harm became a focal point for broader struggles over resource control, state violence, and corporate accountability. The mobilisation led by the Movement for the Survival of the Ogoni People placed oil pollution at the centre of international human rights discourse and reframed spills as evidence of corporate negligence and state complicity (Watts, 2015). This period saw increased documentation of spill impacts on livelihoods, particularly farming and fishing, and growing recognition that oil pollution was not episodic but structural. Although military repression limited immediate policy reform, community mobilisation altered the interpretive frame through which spills were understood. Oil spills became symbols of political exclusion and environmental injustice, not merely technical failures. Following Nigeria's democratic transition in 1999, expectations of improved environmental governance increased. New civilian institutions inherited decades of degraded infrastructure and unresolved contamination. At the same time, political liberalisation expanded the space for community claims, litigation, and civil society monitoring. Oil spill incidents continued at high levels in the early 2000s, reflecting both legacy infrastructure problems and ongoing operational failures. Studies estimate that several hundred spills occurred

annually during this period, many involving pipelines that were over thirty years old (Achebe et al., 2012). Democratic governance did not immediately translate into effective spill prevention. Instead, it exposed the gap between formal environmental commitments and implementation capacity. As the 2000s progressed, the security context of the Niger Delta changed in ways that reshaped spill risks. Armed militancy, pipeline vandalism, and oil theft expanded significantly, particularly between 2003 and 2009. Sabotage and illegal bunkering introduced new pathways for oil release, often involving deliberate damage to infrastructure and makeshift refining activities that spilled crude directly into creeks and soils (Elum et al., 2016). These activities increased both the frequency and spatial dispersion of spills, complicating detection and response. At the same time, heightened securitisation restricted access to spill sites, delaying investigations and clean-up. The political economy of insecurity thus altered not only spill causation but also the conditions under which spills were governed. It was against this backdrop that the United Nations Environment Programme conducted its environmental assessment of Ogoniland. Published in 2011, the assessment provides a rare longitudinal window into the cumulative effects of spills across multiple decades. UNEP documented extensive soil contamination at depths exceeding five metres and groundwater pollution that rendered many drinking water sources unsafe (UNEP, 2011). In some locations, benzene concentrations were hundreds of times above international safety standards. Crucially, UNEP linked these conditions to long-standing institutional failures, including inadequate pipeline maintenance, delayed spill response, and weak regulatory oversight. The report emphasised that contamination patterns reflected repeated exposure over time rather than isolated recent incidents. This finding underscored how operational weaknesses accumulate and translate into long-run community vulnerability. Building on these findings, the post-2011 period saw renewed emphasis on institutional reform. Nigeria established more formalised spill governance mechanisms, including the strengthening of the National Oil Spill Detection and Response Agency and the articulation of a National Oil Spill Contingency Plan. The contingency plan outlines roles, responsibilities, and coordination procedures for spill preparedness and response, signalling an intention to systematise spill management under a national framework (NOSDRA, 2018). In parallel, the Hydrocarbon Pollution Remediation Project was launched to implement UNEP's recommendations in Ogoniland. These developments represent a shift toward procedural governance and institutionalisation. However, institutionalisation has not removed underlying political economy constraints. Spill investigation remains a contested process, particularly where causation determines liability for clean-up and compensation. Amnesty International (2017) documents persistent weaknesses in joint investigation visits, including delays, lack of independent verification, and inconsistencies in spill volume estimates. Where sabotage is alleged, companies often deny responsibility for remediation beyond containment, leaving communities exposed for extended periods. As a result, formal procedures coexist with informal power dynamics that shape outcomes on the ground. Delays in investigation and response frequently allow oil to spread, increasing ecological damage and prolonging human exposure. In the most recent phase of the study period, oil theft and artisanal refining have become more entrenched, driven by economic hardship, unemployment, and distrust of state institutions. These activities generate chronic low-level pollution that often escapes official spill statistics because incidents are dispersed and difficult to attribute (Watts, 2015). At the same time, divestment by international oil companies from onshore assets has shifted responsibility to smaller operators with more limited technical and financial capacity, raising new concerns about spill prevention and response (Frynas, 2012). The governance landscape has therefore become more complex, combining formal regulatory frameworks with fragmented operational realities.

Causes of Oil Spill Incidents 1990 To 2024

A major cause of spill in the Niger Delta is technical deterioration of oil infrastructure due to ageing. The pipeline infrastructure of the Niger Delta was laid between 1960s and 1980s and in many cases using materials and design specifications that did not envisage long life operations in wetland conditions of corrosion (Achebe et al., 2012). Recurrent causes of spills are corrosion and failures of valves and ruptures due to variations in pressure among others. Empirical analysis indicates that during the 1990s and early 2000s, a considerable percentage of the spills that had been recorded were due to operational failures and not external interferences (Nwilo and Badejo, 2005). This trend has been characterised by delayed maintenance and loose inspection controls but not abrupt technical shocks. The environmental analysis of the Ogoniland by UNEP gives good institutional support to this technical pathway. In the report, several incidences were recorded in which pipelines would leak over long periods until they were identified and the oil would have gotten into the deep layers of the soil and into the ground water (UNEP, 2011). UNEP clearly attributed these results to poor performance in operational control, monitoring and maintenance as well as failure to adhere to the current safety measures. Importantly, the report established that in these instances when no sabotage was detected, the pollution levels were high to initiate long-term impacts on the population health. This observation shows that the mere failure of infrastructure can produce enormous destruction, which refutes the arguments that sabotage is the most common cause of environmental destruction. The implications of the technical degradation point on spill response are self-evident. In case of corrosion and equipment breakdown are the key factors, prevention should be based on systematic replacement of pipelines, better monitoring, and inspection by an independent party. Response strategies should focus on early detection and quick containment to reduce the spread. Nevertheless, this stance is just as much of a burden to the operators and regulators which would explain the common contention of this stance in official accounts. The acknowledgement of technical failure as a significant reason supporting the corporate liability and the long-term remediation liability claims.

A second route cause is sabotage associated with oil theft. Since the beginning of the 21st century, the illegal oil economy grew across the Niger Delta, fueled by unemployment, dissatisfaction over the control of the resources and profitability of stolen crude (Watts, 2015). Sabotage also involves intentional pipeline ruptures to syphon oil, and artisanal refining also implies improvised refining facilities that often release crude and refined oil into their surroundings (Elum et al., 2016). These practises augment the spill points and create pollution in the areas which are not part of formal infrastructure. Proponents of this explanation claim that sabotage essentially changes the profile of risk of spill. Intentional violations usually happen in unsafe areas or distanced places which makes it difficult to detect and respond because of the safety issue of the cleanup personnel. Industry statistics often explains most of the spill cases that occurred in the 2010s as acts of interference by third parties in which spills were seen as security issues and not as maintenance issues (Kadafa, 2012). In this light, to enhance the performance of spill, pipelines should be policed, illegal refining networks disrupted and the state assume control of the oil-producing regions.

This framing is however hotly disputed. According to the analysis conducted by Amnesty International on the records of the company spills, the sabotage determinations are frequently based on poor or inadequate evidence, such as the observations made by a person without forensic confirmation (Amnesty International, 2017). In a number of reported incidences, spills that had been blamed on sabotage, eventually were rated to corrosion or equipment malfunction. The organisation claims that the standard practise of classifying spills as sabotage may act as a liability-

shifting device with less responsibility to the corporate in the clean-up and compensation. This criticism does not choose to deny the fact that there is oil theft. Instead, it doubts the validity of attribution processes and their effects.

A third factor indirectly associated with spills is governance. Governance in this context implies the institutions, rules and practise that influence prevention, investigation and response. The laxity of enforcement, the inability to enforce regulations, and the reliance on data generated by companies undermine the deterrence against negligence and provide incentives to challenge causation (Frynas, 2012). In the case where regulators do not have an independent verification capability, spill records remain a subject of contention instead of a generally accepted social fact. A governance-based explanation helps to understand why causation debates continue to exist. The joint investigation visits that include companies, regulators, and community representatives are frequent, days after the spill, which makes it possible that physical evidence will have deteriorated (Amnesty International, 2017). The conflict over the size of the volume and the determination of causes is routine. These vulnerabilities in the steps enable both technical malfunctions and interference by a third party to exist because either route is not always disincentivized. The failure of governance is a multiplier therefore becoming more common and perilous in spillages across classes. The governance view also shows how causation arguments influence the design of response. When the classification of spill is not reliable, then the response mechanisms based on specific causes will not work. To illustrate, security-minded responses do not help much mitigating corrosion whereas maintenance programmes fail to prevent theft in case more profound socio-economic forces are unquenched. A governance lens thus assists in integrated response models which integrate renewal of infrastructure, independent monitoring and community engagement. It also highlights the fact that there should be clear investigation procedures that exude trust among stakeholders. Importantly, all three causes identified here have co-evolved over time. They are, in some cases, mutually reinforcing.

Response to Spills in the Niger Delta

The Federal Republic of Nigeria has developed formal policy/legal instruments to regulate oil spill management in the Niger Delta, with the most notable ones being the National Oil Spill Detection and Response Agency and the National Oil Spill Contingency Plan. NOSDRA is a statutory authority in charge of detecting spills, coordination, and monitoring clean-up, and compliance enforcement, and the contingency plan has levels of preparedness and agency and operator coordination (NOSDRA, 2018). The frameworks adhere to international standards of spill response conceptually. Their success however is determined by their performance at every stage of operation, detection to containment, clean-up and long-term remediation.

Spill detection and notification is the first step of response. In the Niger Delta, operator reporting and community monitoring is a common mechanism of detection and may not be based on systematic independent monitoring. Delays are usually experienced and especially onshore pipelines that pass through the mangrove swamps and creeks. As a well-known example, it is possible to mention the spills in Nigeria in 2008 and 2009 in Bodo community, Rivers State, when due to the ruptures in the Trans-Niger Pipeline, thousands of barrels of crude were reportedly released over a long period until effective containment was ensured (UNEP, 2011). Subsequent independent tests postulated that the oil had flowed over a number of weeks in creeks and fisheries and only response efforts were initiated. These delays increased the area of the affected area and caused further ecological damage, which is an example of how the poor detection compromises early response.

The second step in response is to contain and initial clean-up once the spill has been reported. Theoretically, operators use booms, block pipelines, and collect free phase oil. Practically, effectiveness in containment is highly localised. Offshore spills also face increased chances of quick containment by virtue of visibility and regulation. Swamp onshore spills have logistical and security restrictions. In the Goi community of Ogoniland, repeated oil spills in the first millennium of the 2000s received superficial clean-up that had taken away the visible oil but had left the soils and sediments contaminated with an untenable degree (UNEP, 2011). Later floods repredominantly spread the remaining oil, working to pollute waterways and agricultural lands. These instances indicate that containment tends to favour short-term visual cleansing and not ecological restoration. The result of the environmental analysis of the Ogoniland by UNEP offers the best evidence of the short-term limitation of response. The analysis showed that soil contamination had occurred to a depth of more than five metres and groundwater had been contaminated making community wells undrinkable (UNEP, 2011). Benzene levels were observed to be as high as 900 times the international safety levels in groundwater in Nisisioken Ogale. UNEP came to the conclusion that the cause of these conditions were a combination of recurrent spills and delayed response and poor clean-up over decades. The report approximated that total restoration would take up to 25 to 30 years of long-term remediation. This observation reconceptualises the oil spill response as a protracted institutional and monetary investment as opposed to a one-off emergency operation.

After the UNEP report, the Federal Government made the Hydrocarbon Pollution Remediation Project which coordinated the clean-up in Ogoniland. This project is a change to systematic remediation such as site evaluation, contractor involvement, and reconstruction of livelihood elements. There has been an uneven progress, however. The assessment of civil society by almost a decade after the UNEP report revealed that there were few sites successfully remedied, and the pace of the implementation was noted to be slow, with little transparency in choosing contractors, and community engagement (Amnesty International, 2020). In Bomu and K-Dere, citizens complained of continuous pollution even after official work to clean the projects and this questioned the quality of remediation and supervision.

Research processes are decisive when it comes to the identification of responsibilities. Nigeria: The Joint Investigation Visit System is a programme that unites the oil companies representatives with the NOSDRA and state agencies and the community to determine the cause of spill, its volume, and impact. Such findings are used as guidance on the clean-up scope and compensation eligibility. Although the multi-stakeholder design implies inclusivity, it has been shown that there have been procedural loopholes. Amnesty International (2017) records examples of Kpor and Bodo in which investigations took place days after spills, without independent forensic examination, and based on visual examination of damaged pipelines. These delays decrease the accuracy of the determination of causes and volume estimates.

Consequential attribution is especially important on sabotage. The Bodo case sought early company claims that were especially spilled due to sabotage, putting restrictions on clean-up responsibility. This attribution was questioned later with independent tests which used corrosion and equipment failure as reasons. The dispute later resulted in a legal tussle in the United Kingdom with the operator settling to pay a large sum of money as well as committing to clean-up the area. This case demonstrates the influence of attribution choices on the result of the response and how a disputed investigation may postpone remediation by several years. The Amnesty International asserts that there are similar cases in the Niger Delta that should be re-examined in the circumstances where the evidence nullifies the original claims of sabotage (Amnesty International,

2017). Community engagement directly relies on the credibility of the processes of investigation and response. The communities can be the first responders in the reporting of spills and in accessing the sites. Nevertheless, the lack of trust has been compromised through frequent incidences of late clean-up and compensation. Communities in some areas of Ogoniland and the eastern Niger Delta have sometimes isolated access to spill sites or declined to sign investigation reports that they believe is inaccurate (Watts, 2015). Although this resistance may only prolong the response, it is a sign of rational scepticism, developed out of historical exclusion and unfulfilled promises. This loss of trust leads to a vicious circle. Delayed or insufficient response augments environmental damage. Violence that is not remedied in a manner that makes sense destroys trust. Lack of trust undermines collaboration during detection and investigation, which postpones response even more. Insecure situation exacerbates this cycle in places where there is currently active artisanal refining, like portions of Bayelsa and Rivers States, reducing the accessibility of regulators and enhancing the dependency on operator accounts. Weak capacity and distrust hence become inter-reinforcing as opposed to independent issues.

National Oil Spill Contingency Plan also aims to enhance co-ordination by determining the response levels depending on the size of the spill and designating the lead agencies (NOSDRA, 2018). There are massive spills that are intended to provoke the coordination and the mobilisation of the multi-agency on a federal level. Escalation has been haphazard in practise. To illustrate, major spills that were associated with the Nembe Creek Trunk Line were not always accompanied by sustained federal monitoring, even though they were recurrent and extensive in their extent. The plan is constrained by resource limitations, duplication of mandate and reliance on operator logistics that restrict its effectiveness in high impact cases.

Empirical studies on comparative governance have proposed that strategic spill response systems ought to be based on autonomous surveillance, a clear liability regulation, and long-term preparedness investments (Frynas, 2012). Niger Delta is an example where the aspect of partial institutionalisation has enhanced formal procedures without addressing underlying political economy constraints. Operators still control the generation of data, the regulators still experience inability to maintain capacity issues, the community is still peripheral to decision making other than consultations. These conditions influence the results of the response as much as technical capacity.

Community Impact of Oil Spills

Oil spills in the Niger Delta are both acute livelihood shocks and chronic stressors to the health of the population. The results of the study on Ogoniland indicate that contamination recurrent and directly affects the water security and food systems, as well as household income. According to environmental evaluation by UNEP, in some of the Ogoni communities such as Nisisioken Ogale, drinking water was contaminated with benzene levelling up to 900 times the recommended limit by world health organisation, and as a result, emergency supply of safe water was recommended (UNEP, 2011). This pollution weakened subsistence fishing and agriculture, compelling the residents to use processed food and water, thus raising the living expenses of populations, which were already low-income. Other rights of livelihood impacts have been reported in Bodo, where a massive mangrove death following the 2008/2009 spills resulted in the failure of fisheries locally and loss of artisanal fishing as a major source of income of thousands of inhabitants (UNEP, 2011; Watts, 2015). These effects are scientifically supported as being cumulative, but not reversible in the short run. The testing of soil and sediment samples in the regions of the Ogoniland showed that the total amounts of petroleum hydrocarbons were well above the regulation intervention rates of

the Nigerian government and contamination was observed several metres below the ground (UNEP, 2011). This level of contamination restricts agricultural regeneration and heightens chances of recontamination during seasonal floods, and this has been the dynamic effect within the central and eastern Niger Delta. The recent ecological investigations still document the occurrence of hydrocarbon residual in water, sediments, and biota in components of Rivers and Bayelsa States, which suggests that the pathways of exposure remain active due to the consumption of fish products and the access to contaminated water (Ekanem et al., 2019; Mgbechidinma et al., 2021). These results highlight the fact that oil spills not only endanger the current livelihoods but also ecological processes including nursery, nutrient cycling, that support long-term fisheries productivity and wetland resilience. The kind and the promptness of response mechanisms provided after spills is a strong mediator of the severity of community impacts. In cases where response is slow or shallow in treats of superficial clean-up, communities suffer sustained exposure and multiplied damage. In Goi and K-Dere, spillages were cleaned up repeatedly, without correcting the contaminated soils, leading to the reoccurring pollution during eventual floods (UNEP, 2011). In comparison, those cases that were taken to litigation and international scrutiny e.g. the Bodo spills actually yielded comprehensive remediation undertakings and monetary compensation. Nevertheless, these were achieved only years into the environmental degradation and lost income demonstrating that the success of remedies is often dependent on the external influence as opposed to the regular effectiveness of the regulations.

There is also a social and economic impact on response mechanisms that have no relation with the spill. The compensation is often constrained and the scope of clean-ups minimised in the investigation processes that result in the attribution of spills to sabotage, resulting in placing the burden of the harm on communities where the spill happened. According to Amnesty International sources, communities in Rivers State challenged the findings of Joint Investigation Visits claiming that inspections were delayed and technical evaluation was not sufficient to achieve a fair result on the classification of sabotages (Amnesty International, 2017). In areas where this is common, such households do not get access to benefits plans or livelihood assistance which only worsens poverty and further entrenches the feeling of injustice. The results of these procedures have a direct influence on community welfare since the access to remedial, restitution, and recovery aid depends on them. The spill response governance is also an issue that influences community trust and cooperation. The long delays between spill events, investigations and interventions convert environmental events to institutional failures. The gap between the recommendations of the UNEP and substantive remediation operations under the Hydrocarbon Pollution Remediation Project in Ogoniland almost made a decade played a role in the general mistrust in governmental pledges on the part of the community (Amnesty International, 2020). This loss of trust has physical consequences: societies can make it difficult to access sites, they will not support investigation reports, or they will cheque out of formal reporting systems. These reactions, though they are usually depicted as the obstructionist, are the rational adjustment to recurrent experiences of estrangement and unmet commitments.

The effects of oil spills and its governance also have a direct effect on the conflict process in the Niger Delta. Any environmental damage that is not plausibly managed can add to already existing grievances concerning both oil companies and state, especially when communities believe that there is a systematic prejudice in attributing spills and compensation. The research on conflict patterns in Rivers and Bayelsa States demonstrates that the conflicts over the responsibility of spills and the necessity of timely remediation frequently overlap with the more general conflicts over the control of resources and political representation, turning the environmental degradation

into the reason to protest, to take legal action, and to occasionally engage in violence (Obi and Rustad, 2011; Watts, 2018). Under these circumstances, the oil spill act as conflict multiplier and not as isolated environmental accidents. They also create tension among communities and security agencies when conducting investigations and cleaning up operations and may also widen intra-community divides on leadership, representation, and access to compensation. Such processes make it hard to work towards peacebuilding as they put the destruction of the nature into broader discourses of marginalisation and inequalities.

The development impacts are also very important and long-term, which extend even after direct spill incidents. Chronic pollution dilutes the developmental trajectories of localities by corroding the natural capital upon which rural livelihoods are pegged, and uncertainty over remediation and compensation prevents long term investment in agriculture, fisheries and small scale operations. Empirical evaluations show that household income stability and educational and health spending is less in the community following repeated spills, which supports the intergenerational traps of poverty (Ako, 2012; UNEP, 2011). Also, in places where response mechanisms are seen to be ineffective or exclusionary, there is a loss in public confidence of the formal institutions, undermining the social basis of development planning and communal action. In this regard, oil spill governance does not only define the environmental performance, but it also defines the future of inclusive development. The inability to find credible solutions to spills may place communities in the vicious circle of ecological destruction, mistrust and development patterns that are prone to conflict, but effective and timely response mechanisms can help to mitigate the effects of conflict as well as help to achieve more sustainable development outcomes locally.

These processes have interacted with the local conditions of political economy so that they can indirectly raise risks of future spills. Where livelihood is destroyed and there is no clean-up, alternative sources of income are illicit oil refining and pipeline interference. According to the studies of artisanal refining in Rivers and Bayelsa States, environmental degradation and unemployment can be listed as the main factors of interest in participating in the activities, which further cause spills and fires (Akinwale, 2018; Obi, 2020). Therefore, poorly or unfair response systems do not only fail to reduce harm, but also may facilitate feedback mechanisms that perpetuate environmental hazard and insecurity.

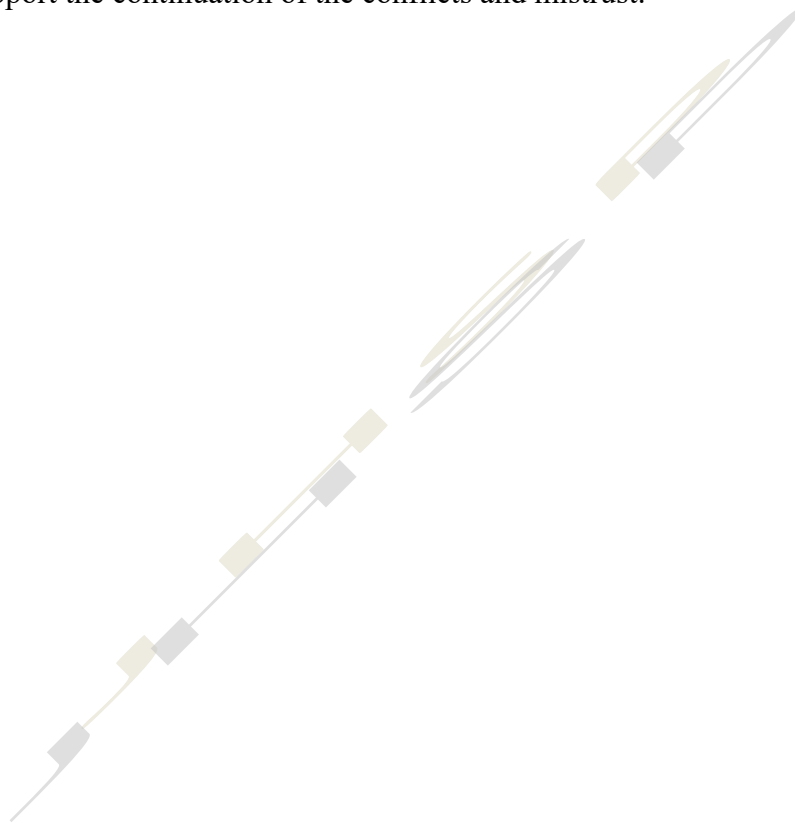
Conclusion

The paper outlines the reasons why the oil spills in the Niger Delta have been a long-lasting and socially negative issue in the past thirty years despite having such institutions as regulators, response mechanisms, and technical containment and remedial capacity. The analysis shows that the frequency and intensity of spills do not provide the explanations of persistence but the combination of material contamination and failure in governance. Spills in the Delta are not isolated accidents but recurrent issues reinforced by political, institutional and economic frameworks which determines the mechanisms of harm production, recognition and response.

As the historical analysis indicates, the causation of spill has not remained the same, it has evolved. Old infrastructure and corrosion are key technical impetuses, although heightened by poor maintenance regimes that necessitates growing consideration over years, and ad hoc implementation. Meanwhile, the development of oil theft and artisanal refining has enhanced the frequency of spill incidents and changed the security environment under which the detection and response is provided. These channels are not independent of each other. Depending on the governance conditions, one of the causes becomes recorded, accountability is distributed and the

prevalent narrative turns into technical failure or sabotage. Consequently, the establishment of causes can be more of an institutional motivation and less of a technical fact.

The response mechanisms influence the results just as the preliminary spill. Regulatory intent is reflected through formal mandates and planning tools like the NOSDRA, the National Oil Spill Contingency Plan, but these tools rely on credibility, fast response, and follow through. It has been demonstrated in the case of Ogoniland, and other impacted communities that delayed investigations, disputed results, and a cursory clean-up procedure turn spills into long-term exposure dangers. Where the response to the contamination is delayed or partial, the contamination turns out to be chronic and propagates the public health, livelihood damage and ecological damage. Response failures do not thus simply fail to fix spills. They engage in promoting their consequences into community effects. The loss of livelihoods, health hazards, and the environmental degradation overlap with mistrust of institutions and exclusion of compensation procedures to support the continuation of the conflicts and mistrust.



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