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Evaluation of the Impacts of Oil Spill Disaster on Communities and Its Influence on Restiveness in Niger Delta, Nigeria

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Abstract

Nigeria is the sixth-largest exporter of oil and correspondingly the sixth largest nation among the Organisation of the Petroleum Exporting Countries (OPEC). The petroleum product account for more than 90% foreign exchange for the Federation of Nigeria while the immediate environment suffers more than 90% environment and socio-economic degeneration. The incidences of oil spills however, negatively impacted the Niger Delta communities and the environment described as one among the worst impacted zones globally. Whilst the affected communities struggle for attention and justice for the environmental damages through protest, agitations and violence, the Nigerian state and the oil and gas industries continue with their operations. The paper investigates impact of the oil spills on community's livelihood structures and its influence on restiveness in selected Niger delta affected communities. The paper adopts a qualitative research through interviews and group discussions with social activist, chiefs, experts in the field, youths and community leaders to identify oil spill impacts on community socio-economic conditions. Data collected were analysed using thematic template analytic techniques. The study shows a high impact on the entire communities with different factors that have contributed to the increase on social aspects of the affected. The paper makes a recommendation to all stakeholders within oil related and the multinationals to improve their strategies and or contingency planning in tackling oil spill-related issues and adhere to community's plight when appropriate.

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1. Introduction

While most countries of the world faced natural hazards, Nigeria is faced with numerous technological and or human induced hazards, among which oil spills are leading with severe short and long term cumulative impacts on affected populace. For instance, European nation experienced 10 incidences of oil spills in 40 years, while Nigeria experienced 9,343 incidences in 10 years [1, 2]. Studies have also shown that the quantity of oil spilled in the Nigerian environment in five decades was at least 9-13million barrels, equivalent to (50) Exxon Valdez oil spills of 1989 (260,000 barrels) [3, 4]. This positioned the region as one among five most ruthlessly petroleum damaged environment in the world [5, 6]. Consequently, these disasters have affected the environment, arable lands, water resources and livelihood structures of the immediate oil producing communities of Nigeria [5]. The impact further degenerates to increase in poverty, crisis and unrest within the crude oil producing environment [7]. Leading to formulations of different agitation groups in call for environmental justice and livelihood support mechanisms. This paper stresses, that oil spills have not just caused environmental, ecological, water and air pollution, but have negative stark socio-economic breakdown which includes loss of job and restiveness through the non-payment of monetary and infrastructural compensations to affected host and transit oil communities. This calls for the need to investigate the socio-economic impacts specifically, as large number of studies have looked at the environmental and health impacts [8-12]. Importantly, how the impact influence restiveness using statistical analytical tools for the analysis.

2. Literature Review

2.1 Disasters and Disaster Impacts

The term ‘Disaster’ has undergone a number of efforts at redefining, with some more effective than others, depending on the purpose and interest, what individuals consider as a disaster, the situation, disciplines and context. Quarantelli and Dynes [13], described disaster as an entrance into a state of uncertainty, duplication of war, catastrophe and, an expression of social vulnerabilities. Mohamed Shaluf [14], described disasters as an emergency occurring due to human-induced or natural hazards that result in noteworthy changes in circumstances over a period. However, this definition doesn’t reflect the harshness of the incidents. Parker and Handmer [15] define disaster as “unusual natural or man-made event, including an event caused by failure of technological systems, which temporarily crushes the response capacity of human communities, groups of individuals or natural environment and which causes massive damage, economic loss, disruption, injury and/ or loss of life”. However, United Nations International Strategy for Disaster Reduction [16] describe disaster “as a serious disruption of the functioning of a community or society, involving widespread human, material, economic or environmental losses and impacts, which exceeding the ability of the affected community or society to cope using its own resource” (p.9). This definition embodies the same as Parker and Handmer [15] emphasis on the economic and human ability to withstand the harshness of the effects. From the definition above, disaster can be defined as an un-prevented incident that forcefully placed vulnerable people in the quest for external assistance and this study adopts the definition of the United Nations.

2.2 Disaster Impacts

The strictness of any incident is not the volume and magnitude but the effects [17]. The most necessary factor in determining the seriousness of an incident such as oil spill, is where the oil ends. The extent of the effect, weather condition, socio-economic characteristic of the location and the communities therein. These in a way can be influenced by the ‘developed or developing’ nations and the response techniques, clean-up measures adopted, the effectiveness and the environmental benefit. Hence, both developed and developing nations suffers oil spill incidents [18]. For example, the 2010 Gulf of Mexico oil spill and Exxon Valdez oil spill of 1989 affected thousands of sea birds, fishes, fishing industries and waterways with continuous impact on communities [19, 20]. On the contrary, developing countries such as Angola and Nigeria are faced with similar and or worst scenarios of incidents of oil spills with degenerating impacts due to lack of management measures, response strategies and policy enforcement. Hence, it’s evident that disaster can occur anywhere, but frequently, the poor and underdeveloped countries who suffers the most severe and long-term impacts. For instance, there are growing anxieties regarding threats on loss of biodiversity,

deforestation and environmental pollution[21], in the Nigerian context. Different habitats have trailed their biodiversity at an unexpected proportion [21-23], aquatic species and wildlife have been reported depleting and threat on plant species extinction [6]. The impacts on the environment remains disheartening as the environment is a man's first right and foundation for other rights [24]. These also increase the concerns for environmental justices and pollution control campaign for drawing the world attention towards the reduction means of the degenerating impacts of oil spills on the societies. Nwilo and Badejo [25] mentioned specifically, on the degenerating situations of the Nigerian oil-producing environment with emphasis on mismanagement and lack of environmental regulation enforcement as a key drawback for proper environmental management systems. Kadafa [5] further argued that oil spill impacts on the environment and ecosystem services have increased poverty rate and displacement of people physically, mentally and job wise. The arguments of Kadafa [5]; and Nwilo and Badejo [25], demonstrate significantly, how oil spill have impacted on the environment and the ecology with the degenerated negative impacts on the social aspect of the communities which cut across local economic growth and restiveness. "These issues have received little attention so far"

2.2.1 Social and Economic impacts of oil spill disaster

Social impacts are the changes made by an organisation or company through their activities which affects the economic and wellbeing of the populace. Hence, Pegg and Zabbey [22]; Fentiman and Zabbey [24] and Celestine [26] in their different studies emphasise the severity of oil spills not just on the environment but also on culture, traditions, local economic, norms, values and ways of life among communities. However, Ebegbulem, Ekpe [7] points that oil spillages in the unique Niger Delta states have caused extensive social underdevelopment which engrosses lack of social amenities, physical infrastructure, piped water, schools, hospitals, and employment opportunities, despite the huge benefit of the crude oil product with or without oil spills on the Nigerian national economy [7]. The above argument demonstrates that instead of an increase in social and economic conditions through contributions from the end-product of the crude oil. The reverse is the case, as loss of sources of livelihood from the disaster has caused great unemployment. Further, Okonkwo [27], points that most social impacts of oil spill covers violence and frustrations, reduction in tourism and hospitality industries. Okonkwo's points are similar to Gill, Picou [28], who revealed how the British Petroleum (BP) oil spill and Exxon Valdez oil spill caused several social impacts, threatening several 'at risk' including industries, commercial and recreational fishing, tourism and other enterprises tied to their natural resources. The arguments draw the importance to establish that oil spill disaster directly and indirectly affects societies and communities in various dimensions.

2.1.2. Table Showing commonly faced impacts

The table below highlights some impacts commonly faced as a results of petroleum production within affected Niger Delta communities. These impacts on the environment have led to dissatisfaction on the communities, hence, leading to degradation of human development. Chukwuemeka and Aghara [29], adds that the dissatisfaction of affected communities is on the level of damages to the ecology by several oil spills, marginalisation and neglects regarding the development of the region. However, Chukwuemeka and Aghara [29] study did not employ any statistical and or content analytical tool for analysis. Hence, emphasises the severity of the impacts.

Table 1. The Direct and Indirect Impacts of oil spills

<i>Direct impacts of oil spills</i>	<i>Indirect impacts of oil spills</i>
<i>Environment, air, water pollution, loss of biodiversity, deforestation, displacement, loss of jobs, acid rain, skin irritation, ecological damages</i>	<i>Ingestion of contaminated food, violent conflicts, frustration, prostitution, agitations, depletion of wildlife, aquatic and plants species extinction, economic stagnation and poverty</i>

3. Study Methodology

The study assesses oil spill impacts on livelihood structures and how it influenced restiveness within affected Niger Delta communities of Nigeria. Qualitative research design is adopted using different techniques such as; focus group discussion, interviews, documents and secondary data. Eleven (11) key members of communities were purposively selected for an in-depth interview discussion in their various communities. Focus group discussion were conducted within the selected areas of the study. The participants include; youth leaders, members of periwinkle company association, chiefs, members of community representatives and members of social activists group. The rationale for selecting them was that these key people are indigenous and have lived all their lives within the communities. The participants also possess the relevant experiences for the research question under investigation, having lived and experienced different kinds of oil spills and operations of the oil and gas industries within the boundaries and shores of the region.

4. Table showing emerging themes

The table below shows the themes as they emerged from participants' frequent emphasis on the severity of the impacts of oil spills, and its related waves on the communities. Special emphasis was placed on the discussed themes from participants. The researchers grouped these themes according to the frequencies from the raw data with the support of an NVivo software program to aid analysis of the data and discussions.

Table 2. Emerging themes for coding template

Coding	Themes	
Community Impacts (CI)	Tradition and culture, water,	Health, Agricultural lands environment
Livelihood Support (LS)	Parental values-youth impacts	Increased living cost
Jobs and Tourism (JT)	Lost of Jobs	
Restiveness and Migration (RM)	Marginalisation	
Way-Out/ Compensation (W/C)	Infrastructural and monetary	

4. Preliminary Research Findings

The preliminary findings from the interviews and group discussions was analysed using thematic template techniques and with the aid of NVivo 11 software package. The rationale for using a thematic template was that the researcher during the transcription of the raw data into word documents identified important sets of themes. This helps to better organise the themes in a meaningful and useful way to aid the coding process. Upon the outcome of the data from NVivo 11 programmed as shown in Figure 1. The theme community impacts were the most coded from the eleven participants and the focus group discussion. This theme represents the overall impacts such as; environment, agriculture, ecosystem, health, social and economic activities as it affects the communities. Participants in both categories emphasised the fact that oil spills have deeply affected the entire community, directly and indirectly. Also, lack of livelihood support and loss of jobs were identified as what constitutes the long-term effects of the disaster on the community.

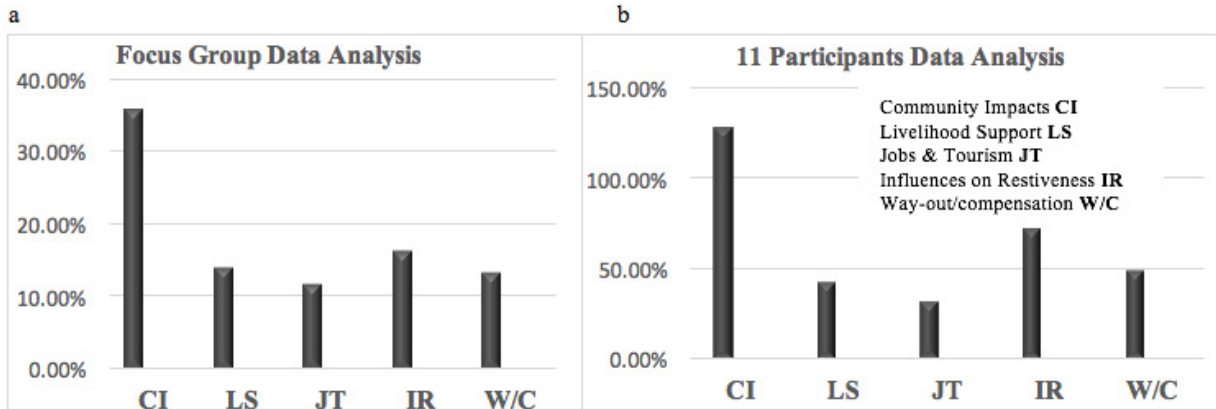


Fig. 1. (a) Focus Group (b) Individual Interview

Theme 1: Community Impacts

Theme 1 examines the impacts of oil spills on selected communities affected by oil spill disaster, to understand the degree of the impacts and how better it could be reduced. This specific theme relates to agricultural land, environment, socio-culture and socio-economic aspect of the spill on the communities and how they have coped with the impacts. The result from the top down and bottom up within the community context show significant impact on the entire structure. The factors that also contributes to the high impact on the community as shown in figure 2 emerged during the coding process. Hence, economic and social impacts showed above 33% in both key individual interviewee and group discussions. This shows that the socio-economic conditions are highly affected by the incidents of oil spill with little attention as most studies have focused on environment and lands issues within.

Yes, the spills have gravely impacted on the community's such that there is loss of parental values due to the inabilities of full responsibilities for school children, pre-school children and the adolescents aged. The rise of living cost and energy to transport to a very long-distance zone for fishing has contributed to the inabilities of parenting. Communities are floundering in frustrations and neglect, as the sources of water which are the most important aspect of life is contaminated and neglected for several years. 'we would have preferred to stay without the oil itself than 'having but not having' we are slaves to our community, society and environment' (Focus Group Discussion)

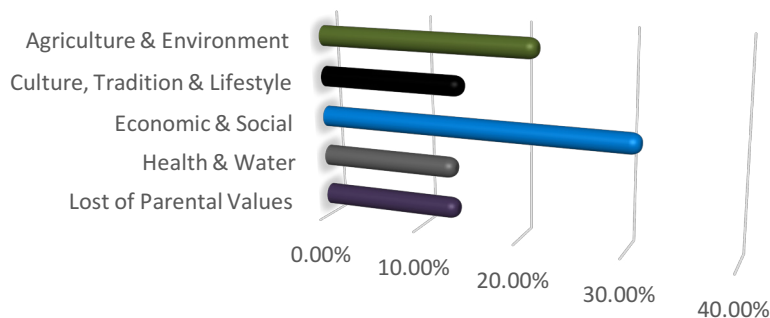


Fig. 2. Nvivo Analysis of factors on community Impact

Theme 2: Livelihood Support Structures

Theme 2 explores community's livelihood structures and support mechanisms from NGOs, government and the oil multinational bodies. The result from figure 1 shows above 21% & 13% on the coverage from participants, which implies lower support structures from the concern bodies. The participant emphasises the fact that environment and sources of livelihood are forcefully detached from their culture and social wellbeing. The lack of livelihood support has to some extent influenced restiveness and migration.

Lack of livelihood support has essentially contributed to youth restiveness, cultism, thief and social tension. We are handicapped in the midst of plenty; we live on 'survival of the fittest theory' which has contributed positively and negatively to the societal aspects. This is because most people benefit while some others lost their lives or become disabling in course for struggle with little or no recognition. We are left with no choice than agitations, protest and bunkering for livelihood support. The cassavas, yam, cocoyam, plantations, periwinkles, bloody-coco species of fish which contributed more than 80% of our livelihood has been shortened and as such left us with no livelihood support/alternative means. (Focus Group Discussion)

Theme 3: Jobs and Tourism

Theme three considered how oil spills affects Jobs and tourism within the affected communities of the study. The theme emerged as participants frequently mentioned their social activities which were partly influenced by the tourists through their local feasting, swimming and fishing festivals. Drawing upon the NVivo result in Fig.1, the theme 'Job and tourism' where the least coded showing 12% & 10%. However, participants believed that despite out of fishing for several years, the most impacts are on the water, local economy and social aspects.

The rate of social tension is on the raise because people are handicapped rooming the streets and therefore increasing the risk of killings, thief and kidnap. The tourist that partly contributed to the increase of the local economy and social aspects of the society are forcefully driven away and thereby left the communities in stagnant economy. (Focus Group Discussion)

4.1. Theme 4: Influences On Restiveness

Theme four explores how oil spills influenced restiveness within communities, and how it relates to migration. This theme is crucial as it sets to understand the factors that linked restiveness and migration within the oil spill context. This will induce the importance to which measures be applied towards restiveness reduction. Drawing from the software program NVivo 11, shows significant influence on community's restiveness with key influential factors such as; delays in clean-up, double standard games, divide and rule and frustration.

The People are physically, mentally, and emotionally frustrated, and there are segregations, enmity and lack of trust and transparency between communities and oil multinational cooperation within which has hugely influenced restiveness. Also, the divide and rule and double standard theory by the oil multinational cooperation where they engage youths and some compromised elders to protect them and their facilities by equipping them with weapons has contributed to restiveness. (Focus Group Discussion)

4.2. Theme 5: Way-out/ Standard strategy

Theme five emerged as participants emphasised on the 'way-out' from various oil spill impacts, having identified key effects on communities such as; socio-culture, loss of jobs, restiveness and socio-economic impacts. The construct under the theme if adopted is a substantial avenue for livelihood support and restiveness reduction measures. *There should be a monthly allowance for aged people within the oil transit and host affected communities. Also, infrastructural compensations such as; centres for youth training and development, good roads and good hospitals for healthcare services, youth participations in decision making and community involvement in the oil exploration services. These will practically curtail the impacts of the spill disasters on communities and its connected waves.*

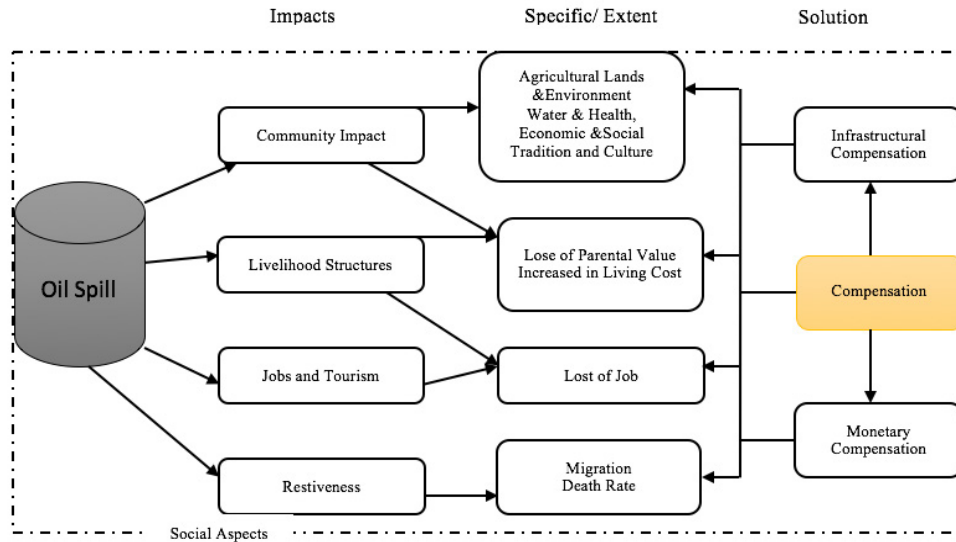


Fig. 3. Impacts Flow and Solution

5. Discussion

The study inferred that the information collected from the community representatives, social activist members, the periwinkle picking company associates members and the youth leaders, will enable the oil and gas industries to improve or change their strategies. The findings from the study show significant impacts of oil spills on the entire sources of community livelihood structure. The finding is supported in the literature [7]. The study illustrates that there is a defeat of parental values, an increase of living cost due to damages to the environment, waterways, livelihood structures (See Fig. 2), loss of traditional learning lifestyles due to restive situations, migration and socio-economic format devastation [22, 24]. The identified effects on the communities have existed for decades, hence the communities have coped with more agitations and protest as some ways of looking for standard mitigation strategy. The oil spills to an extent have increased living standards of the communities and thereby instigating kidnap, killings and social tension.

The study shows high level of impact on the community and influences on restiveness. The various factors that contributed to restiveness where delays in clean-up, neglect, frustrations, divide and rule policy, none payment of compensations and lack of community participation in decision making [29]. These problems were further investigated to find the solutions. Hence, it was discovered that infrastructure and monthly allowances for the aged population within affected transit and oil producing communities will reduce the numerous impacts on the communities. The study discovered several specific observations such as the sudden increase of deformity in new-born babies and skin irritations. However, there is no empirical study to confirms the recent increase and deformity in new-born babies as observed during the data collection within communities of study, which the study recommends.

6. Conclusion and Recommendations

The emerging themes from this study are the researchers' theoretical contributions in exploring the impacts of oil spills on communities and its influences on restiveness within affected communities of the Niger Delta. The study concludes by stressing that oil spill impacts on communities are numerous and thereby needs the government and or the oil related companies to involve the community members in decision making. Involving the community will give an insight to vital needs of the community, which will be imbibed in the structure of the infrastructural compensation. While this study was limited to a small sample within oil spill affected communities, there are potentials that other none oil spill affected communities might be suffering the same issues. The qualitative research design appears appropriate for researching oil spill impacts at the community, and the study could be expanded into further research

by involving the oil multinationals and government agencies to draw their output towards a standard strategy for tackling oil spill-related issues. Studies should also be conducted to find the connection between oil spills, blindness and deformities in new born babies within oil spill affected communities. The study recommends that the stakeholders within oil related and the multinationals should improve their strategies and or contingency planning in tackling oil spill-related issues and adhere to community's plight appropriately.

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