

## **Probable Psychological Impacts of Environmental Pollution (Oil Spills) in the Coastal Areas of the Niger Delta of Nigeria: a Philosophical Discourse**

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**Abstract:** The major environmental issue in the Niger Delta region of Nigeria concerns its petroleum industry's oil spills. Until this time, several studies and media reports have focused on its impacts on the arable land as well as socioeconomic survival of the people in the region, neglecting the psychological well-being of these inhabitants. The present paper adopts an interdisciplinary approach to uncover the probable psychological impacts of this environmental hazard on the residents in the Niger Delta region. The paper provides evidence-based information aimed at raising public awareness and the oil companies' attention to the psychological impacts of this menace and above all aimed at influencing policy issues regarding environmental pollutions due to oil spills in the region. Whereas academic collaboration in research is needed, we contend that an urgent place to begin is in the schools by introducing instructional approach designed to equip children in the Niger Delta with requisite thinking skills to understand the reality of their conditions, analyze and assess the situation critically and be prepared mentally to pursue a meaningful way to ameliorate their situation for a better future. We also concluded that cognitive-behavioral intervention programs are needed to ameliorate the psychological concerns arising from exposure to oil spills in the region.

**Key words:** Environmental Pollution • Niger Delta • Nigeria • Oil Spills • Philosophical Discourse • Psychological Impacts

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### **INTRODUCTION**

The Niger Delta area of Nigeria is a home to an estimated thirty-one million residents [1] and up to 40 different ethnic groups. The region covers 20,000 km<sup>2</sup> within wetlands of 70,000 km<sup>2</sup> formed primarily by sediment deposition which makes up 7.5% of the country's total land mass. It is the largest wetland and maintains the third-largest drainage basin in the Africa region. The Niger Delta's ecological environment can be broken down into four zones: coastal barrier islands, mangrove swamp forests, freshwater swamps and lowland rainforests. Its well-endowed ecosystem contains one of the highest concentrations of biodiversity on the planet, in addition to being able to support abundant flora and fauna, arable terrain that can sustain a wide range of crops, lumber or agricultural trees and more species of freshwater fish than any ecosystem in West Africa[2].

The coastal area in the Niger Delta is an abode to oil explorations in Nigeria[3]. The description of the Niger Delta region is also based on contextual prism and it includes: Abia, Akwa-Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers States [4]. The region is undoubtedly among the most oil polluted regions worldwide despite its ecological endowments. According to Wikipedia[2], since the discovery of crude oil in Nigeria, the major environmental concern in the Niger Delta region of the country is the petroleum industry's oil spills in their host communities. Although, there were up to 7,000 spills between 1970 and 2000, Environmental groups often argues that more than 300 oil spill cases occur in the region each year [5]. According to Nwilo and Badejo [6], oil spills in the region is due to sabotage, oxidation of pipes and storage tanks, lack of care during oil production operations and oil tankers accidents. In addition, about fifty percent (50%) of the spills is due to

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oxidation, twenty-eight percent (28%) to sabotage and twenty-one percent (21%) to oil production operations. Moreover, one percent (1%) of the oil spills is due to engineering drills, failure to effectively control oil wells, failure of machines and insufficient care in loading and unloading oil vessels. At the present, there is observation that the illegal refining of crude oil by oil thieves accounts for twenty-eight percent (28%) of the total oil pollution in the region[5].

Worryingly, the United Nations Environment Programme's [7] report show that oil spills in the southern part of the Niger Delta led to contamination of drinking water, wreckage of the fishing industry and threatening of the health of the local residents. The impacts of oil spills on the Niger Delta region have also been described as 'devastating' in that mangrove forests are being obliterated, fish and shellfish are dying off, whole ecosystems are collapsing and at occurrence, people are forced to take their children out of school when they cannot catch the fish they needed to earn a living [8]. In fact, the amount of damage that is being done to both the ecological environment and the Niger Delta residents who rely on the environment, is actually colossal. As a result, Environmental groups are at all times calling on the oil drilling companies to properly clean up these spills when they occur. But according to some media reports, these Environmental groups have kept decrying that this demand remains unmet even though the effects of the oil spills – especially when not remediated - last for a very long time [8, 9].

In spite of the above, several research endeavors [3,10,11,12,13,14,15] and media reports [16,17,18,19] regarding this environmental menace in the Niger Delta region of Nigeria appears to have paid very little or no attention to its probable psychological impacts on the inhabitants. Yet, as there is increased crude oil demand and rapid development of petroleum oil industries in recent years, oil spill is becoming a more serious global issue [20]. In fact, some studies have explored its economic impacts on fish production [21], as well as possible ways to remediate the crude oil polluted lands and prevent the soil from unwanted substances[22,23,24,25]. In some parts of the world, counselors cum psychologists are among those scrutinizing the mental health and behavioral effects of the oil spill disaster, especially in the United States [26]. To this day, we therefore feel that, as counselors and educationists, raising public awareness to the probable psychological impacts of this environmental pollution in the Niger Delta of Nigeria would be one of the numerous ways toward spurring efforts at remediating this

environmental disaster and also influence oil pollution control policy in the region. Thus, the aim of this paper is to uncover the probable psychological impacts of this environmental pollution (oil spills) in the Niger Delta area of Nigeria.

## METHODS AND MATERIALS

**Literature Search:** A standardized literature search was conducted from several databases until February 2016. The MEDLINE, PsycINFO, Scopus, Google and the Cochrane databases were explored for scientific papers relating to oil spills and its psychological impacts.

**Selection Criteria:** We included review papers, media reports and research articles relating to oil spills and psychological impacts of oil spills.

**Data Collection:** To gather the required data for synthetic analysis, two review authors were asked to individually assess and obtain data from the original reports.

## RESULTS AND DISCUSSION

**Psychological Impacts of Oil Spills: Reports and Lessons to be Learned:** Elsewhere, previous studies have shown the presence of psychological distress in residents in some oil spill communities [27, 28, 29, 30, 31]. An article in *Psychology Today* revealed that most of these studies consistently show that individuals living in the impacted communities had significant problems with posttraumatic stress disorder including avoidance behavior and intrusive stress. In addition, many people in the affected areas were said to have reported far higher levels of generalized anxiety disorder and depression than in other areas that were not directly affected [32]. Weir [33] observed that oil spill comes with financial devastation alongside depression, anxiety and even post-traumatic stress disorder (PTSD). A U.S. study revealed that the psychological impacts of oil spill could go far beyond inhabitants of affected seashores [34]. Grattan and colleagues [34] found similar levels of psychological distress, adjustment, neurocognition, or environmental worry in residents of communities with direct and indirect oil spill exposure. According to the study authors, inhabitants of both communities experienced clinically significant depression and clinically significant anxiety. Additionally, comparative to those with steady incomes, those with spill-related income loss showed considerably poorer outcomes on anxiety, depression, fatigue, confusion and overall mood disturbance; had higher

severity of depressive symptoms; were not as much resilient; and were more likely to employ behavioral disengagement as a coping mechanism[34]. Thus, there is need for rapid recognition of mental health service needs of the residents in Niger Delta area of Nigeria and allotment of sufficient resources to remediate and prevent psychological impacts of oil spills in the Niger Delta region.

Unarguably, oil spill researches from academic researchers are needed to help residents in the Niger Delta region of Nigeria better cope with and prepare for the probable psychosocial health impacts of past and future spills. In fact, the University of Maryland Medical Center [35] revealed from a public health perspective that, it is very crucial to understand that when there is a significant environmental crisis, effort must be directed towards extending public health outreach and education, psychological monitoring and mental health services further than the directly affected areas, paying particular attention to people at risk for income loss. Therefore, given that there are things that could be done to assist people manage their stress and anxiety due to exposure to oil spills and cope in these situations, these psycho-educational interventions need to be made available without more ado in the communities where the impacted individuals live in the Niger Delta region of Nigeria.

According to Price [36], damage is occurring to the psyche of many who live in the oil spill zones, as they lose confidence in the government officials' ability to handle the disasters effectively and become withdrawn from their neighbors. Lee [37] reported that his research with other colleagues have demonstrated the profound impact an oil spill had on coastal residents by documenting how stressful the disaster has been on the psyche of the affected people. These researchers found that households involved in the fishing industry were particularly impacted and unlike households employed in other industries, their stress levels actually got worse over the year following the event, not better. Therefore, policymakers who manage disaster-relief efforts are required to acknowledge the fact that some groups, for instance, those that make a living off of natural resources and deal largely in cash-based economies, will have recuperation needs that are different from people in other types of settings. In other words, 'one size fits all' disaster relief packages cannot probably be efficient or effective in meeting the needs of affected communities that have distinctive cultural and ethnic histories, diverse community-based resources or specific labor-force arrangements.

Furthermore, one of the major factors affecting the psychological problems experienced by people affected by an oil spill is the resilience that helped them cope. Everyone is not resilient in the same way in that risk factors such as poverty, life stress, poor education, a history of childhood abuse, past trauma, or other mental disorders can make people less capable to handling the stress linked to the spill[32]. For instance, Shenese and Langhinrichsen-Rohling [38] investigated the emotional impact of the Deepwater spill on adults living in affected communities and found that the level of resilience is more likely to predict long-term problems with depression and anxiety than whether or not people were affected economically by the spill. In this particular study, the researchers reported that people who rated themselves as high in resilience were least likely to report posttraumatic stress disorder symptoms, including problems with depression and anxiety. Even when the economic impact was considered, the link between resilience and ability to deal with psychological problems was extremely strong. Men were also more likely to describe themselves as resilient than women though this likely has more to do with gender stereotypes expecting men to be hardy and less emotionally vulnerable than women. There was also no significant age difference in terms of who was most likely to report being resilient. While the researchers indicated some problems with the study, including the use of a telephone survey which might distort the findings, these findings do show how important it is to watch for symptoms of posttraumatic stress and other emotional problems experienced by many people living in affected communities. In addition to those who experience job loss or other financial problems stemming from an ecological disaster such as oil spill, people with already existing problems are particularly vulnerable. Thus, designing intervention programs to help improve protective factors such as resiliency, positive thinking, humor, spirituality and flexibility can go a long way towards reducing the long-term impact of oil spills. In addition, intervention programs targeting children and adolescents, can teach them adaptive functioning skills as they grow and develop in oil spill communities and the neighborhoods.

We contend that it would be feasible to conduct intervention programs to mitigate the psychological impacts of oil spills in the Niger Delta given that Sohn and Lee [39] have been able to demonstrate the effects of cognitive-behavioral therapy (CBT) in a community district affected by oil spill. These researchers aimed at determining if CBT is an effective treatment intervention to reduce posttraumatic stress disorder symptom,

depression and state anxiety in such community. The findings from their study suggest that CBT is an effective treatment intervention to reduce the level of mental health problems of children in oil spill affected community. Thus, Nigerian academic researchers with counseling and psychological expertise are encouraged to design interventions aimed at decreasing the probable mental health problems associated with oil spills in the affected communities in the Niger Delta region of Nigeria. Besides the adaptive skills, which probably yield more or less a measure of technical proficiency needed to respond appropriately to a given imperative, critical thinking is crucially needed by children and adolescents to reflect about their life in the oil spilled zones and the attending environmental challenges. Critical thinking is a crucial lever in students' ability to deal effectively with social, political and environmental issues[40,41]. And scholars have reiterated that children who are able to think critically are more likely to evaluate and understand their situation more effectively than those who lack the ability to employ it[42]. Designing instructional methods, which enhances critical thinking across schools in oil spilled zone will enable students in these area to think on their feet, assess the problems and search for solutions to the attending social and environmental issues. We contend that there is no better time than now for academic researchers to begin to bring to awareness the psychological impacts accompanying oil spills and for the development of a robust approach for addressing the psychosocial and mental health needs of Niger Delta residents and the communities in the region. It is obvious that in the Western countries, most researches focusing on oil spill impacts on the local communities appears to be more of collaborative efforts than an individual affair and did show positive results capable of influencing policy on oil spill response. To these end, we encourage academic researchers from Nigeria to collaboratively assess the psychological impacts of oil spills in both the affected and unaffected communities in the Niger Delta region of Nigeria.

### CONCLUSION

It is our hope that evidence-based findings from academic collaborations would invariably influence public policy on oil spill response in the Niger Delta region. We also expect that such academic collaborations would help to improve the realization and expansion of the objectives of environmental pollution control and management policy of the oil companies in the Niger Delta region.

While such collaboration in research is needed, an urgent place to begin is in the schools by introducing instructional approach designed to equip children in oil spilled zone with requisite thinking skills to understand the reality of their conditions, analyze and assess the situation critically and be prepared mentally to pursue a meaningful way to ameliorate their situation for a better future.

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