

# **Oil Spillage And Environmental Degradation: Assessing The Challenges Of Host Communities In The Niger Delta Region Of Nigeria**

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## **Abstract**

*Crude oil has been one of the most important resources that is mainly used all over the world. It contains a wide range of the products that are needed by man in one area of his activity or the other. In Nigeria, it is the resources on which the country's economy anchors on. But irrespective of these values attached to crude oil particularly in the Niger Delta region and Nigeria in general, it has some negative impact on man and its environment, especially in the form of oil spillage and environmental degradation. This spillage and environmental degradation have caused a lot of harm to both the environment, health as well as the economy of the people living in the Niger Delta Region of Nigeria. Emphasis is on oil spillage in Egbema in Ogbia/Egbema/Ndomi local government area in Rivers state. Empirical data made available for this study from the area of the study showed that damages ranging from increase in health hazards, poor farming/fishing ponds, poor compensation to the host communities amongst others constitutes the challenges faced by the Niger Delta communities in that region. Based on the findings of the study, the researcher recommends among others that as a matter of urgency should speed-up their social responsibility in their operational areas.*

**Keywords:** *Oil Spillage, Environmental Degradation, Host communities and Challenges.*

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## **I. Introduction**

In Nigeria, the exploration of oil occurs in several states especially those in the Niger Delta Region. The environmental degradation of the region has generated socio-economic difficulties. There have been complaints of marginalization among the people leading to the militancy and other forms of hostilities. Despite its abundant valuable resources, the Niger Delta area of Nigeria is one of the poorest regions in the world and among the least developed parts of Nigeria (Reuben & Ugocha, 2025). The oil induced environment degradation destroys their main sources of income and productive economic activities of farming, fishing, resulting in distressing and proliferating rate of unemployment in the region (Obulor, 2025). Without relief in sight, the activities of the oil companies have left indelible negative imprints on the socio-economic and general wellbeing of the host communities.

The impact of these spillages on the Niger Delta communities and its environs have been very adverse especially in the Niger Delta region and lack of care for the environment and the local residents by the oil companies have resulted to a lot of youths restiveness in Niger Delta communities such as Warri, Ogoni, Onne, Egbema and in some areas in River State in Nigeria. Not only have the youths of the oil producing areas come up with sense of communal conflict of resources, extraction activities, but the perceived scale of environmental degradation associated with oil exploitation activities which has gained both local and international attention (Renben, *et.al*; 2025).

The Nigerian government and oil companies have responded by harshly cracking down on protesters, because the Niger Delta region especially those who have been mostly affected for decades have been trying to stand up for themselves for the environment and their basic human and economic right (Awodozie & Izoba, 2025). Shell oil company for example has ever been criticized for trying to divide communities by paying off some members of the host communities to disrupt non-violent protests. Also, due to the lack of care by the government and oil companies for the environment and people of the local communities in which oil companies operate, and

in order make their cries heard, the youth of most communities in the region have taken to the act of sabotage, thereby vandalizing oil pipelines and properties of oil companies in their communities.

Olukaajiri, *et.al* (2024), opines that crude oil drilling has rendered the farmlands infertile, polluted the community's water body, damaged properties and caused several episodes of health epidemic. Despite all the negative impact resulting from continuous crude oil drilling and spillages, Shell Petroleum Development Company (SPDC), AGIP Oil Company and other oil prospective companies operating in Niger Delta and the government did not think it wise to look in the direction of the people. It was due to these negative and lack of concern for the community that made some members of the host communities to sabotage the oil. Magada, *et.al* (2025) maintains over time that the environment of the Niger Delta and other oil producing communities has been completely devastated by decades of reckless oil exploration and ecological warfare by shell oil company and other multinationals. This he said makes the situation in the Niger Delta region a "paradox of plenty".

According to Ukpene, *et.al* (2024), it is evidently pathetic that a once rich agriculture potential environment has been devastated and impoverished by oil spillage. Due to many forms of oil generation, environment pollution is evident throughout the Niger Delta. Farming and fishing have become impossible or extremely difficult in oil affected areas and even drinking water have become scarce, thus leading to malnourishment and the spread of disease. One of the most visible consequences of the numerous oil spillages has been the loss of mangrove trees which was once a source of both fuel woods for the indigenous people and a habitat for the area's biodiversity (Mogboruko, *et.al*, 2024). Governments right from the military rule to the present civilian government have introduced so many policies and initiatives to try to cope with the challenges and effects of suffering caused by oil exploration and exploitation in the Niger Delta region. However, none of these initiatives, so far seem to have been able to prevent the situation from escalating. It is against this background that this research was set up to investigate the oil spillage and environmental degradation and its challenges on the host communities using Egbema in Ogba/Egbema/Ndoni local government area in River State as a case study.

### **The Problematicue**

Ever since the discovering of oil in Nigeria, the country has been suffering the negative environmental consequences of oil development. In the Niger Delta region, the centre of the country's oil industry, environmental damages have been especially large and not taken into serious consideration. Over the years, this region has attracted the attention of environmentalist, human right actives and fair-trade advocate around the world.

The region main environmental challenges result from oil spillages. Oil spillages in the Niger Delta region have been a regular occurrence, and has caused degradation of the environment to the people living in the region and the multinational oil companies operating there. There has been series of spillage from oil wells during exploration (drilling) and pipeline explosion during transportation to substations due to excessive pressure and mis-manipulation of equipment including the menacing sabotages and bacteria corrosion actions on pipeline. The oil spillage had an adverse effect on marine life, which has become contaminated in turn having negative consequences for human health from consuming contaminated sea food. All these have been noted as the root cause of conflicts in the area, as the communities now resort to confronting the oil companies operating on their lands. This project therefore, seeks to ascertain the causes and likely alternatives to permanently solve the problem to ensure sustainable peace. This will ensure continuous production of the oil in a very cordial situation.

### **Objectives Of The Study**

The general objective of the study is aimed at investigating the impact of oil spillages as a major cause of environmental degradation and socio-economic conflicts in the Niger Delta Region. The specific objectives are;

- i. To investigate the cause of oil spillages in the area studied.
- ii. To determine the aspects of the environment mostly affected by the oil spillages in the area studied.
- iii. To evaluate the environmental impact of oil spillage on Egbema communities.

## **II. Methodology And Materials**

A survey research design was used to select the four oil spill communities in Rivers state. The purpose sampling technique is appropriate to this study in the sense that the researchers used purposive sampling to select the four oil spill communities in the Niger Delta region in order to save cost, energy and time due to security challenges facing the terrain which enables the researchers to easily access and collect the needed data in the communities studied.

The study has a population of 587 respondents. Out of the number, a sample size of 263 was drawn using the Taro Yamane formula of sample size which spread across the four (4) communities selected for this study. The communities are Ndoni, Omoku, Egbema and Ogba. In each of the four communities, a convenient sample technique was used to collect data. This method is appropriate to this study because it helped the researchers to collect data from any person within the field that gave consent to be part of the respondents for the study.

The instrument for this study was a self-developed questionnaire named Oil Spillage and Environmental Degradation Need Assessment in the Niger Delta. The data collected were analyzed using linear regression analysis for thorough analysis. 263 copies of the questionnaire were administered to the respondents, while 243 copies were retrieved and used for further analysis.

### III. Results And Discussion

A total of 263 copies of the questionnaires were administered to the respondents comprising the village heads, council chiefs, community development committees, women leaders, youth leaders, council of elders and retired civil servants from the communities in the Niger Delta Region of Nigeria. The people who are indigenes of the communities were selected because they live at home, and are educated enough, and also are deemed knowledgeable in the relationship between their communities and the oil companies in their locality. Out of the 263 copies of the questionnaire administered, 243 were filled and returned, thus amounting to 87% response rate.

**Table 1: Summary of the Linear Regression Analysis on the Causes of Oil Spillage in the Niger Delta Region**

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate	Decision
1	0.13a	.017	.016	2.14	Positive

**Predictor:** (constant), Causes of oil spillage

Data presented on Table 1 show the summary of linear regression analysis for the factors responsible for oil spillage in the Niger Delta region. The analysis shows that correlation ( $r$ ) between the predictor variable (causes of spillage) and the criterion variable (environmental degradation) is 0.13. The  $r$  of the analysis being 0.13 implies that a positive relationship exists between causes of oil spillage variables and environmental degradation in the Niger Delta areas in Nigeria. The causes of oil spillage variables include vandalization of oil pipelines in the Niger Delta areas, oil theft, and non-maintenance of oil pipelines by oil companies operating in these areas. Therefore, the environmental cost implications are pronounced on the fuel stocks, both human and animal health, plantation agricultures, water bodies, as well as the soils and ecosystem.

**Table 2: Summary of the Linear Regression Analysis on the Environmental Aspects Mostly Affected by the Oil Spillage in the Niger Delta Region**

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate	Decision
1	0.20a	.040	.41	2.16	Positive

**Predictor:** (constant), Environmental degradation

Information presented on Table 2 show the summary of linear regression analysis for the relationship between environmental degradation and oil spillage in the Niger Delta area. The analysis show that the correlation ( $r$ ) between the predictor variable (environmental degradation) and the criterion variable (oil spillage) is 0.20. The  $r$  of the analysis been 0.20 implies that a positive relationship exists between environmental degradation and oil spillage in the Niger Delta region of Nigeria. This positive relationship reveal that the most affected areas by oil spillage are agricultural materials such as crops, aquatic lives, animals, economic trees, and at times human beings.

**Table 3: Summary of the Linear Regression Analysis on the Environmental Impacts of Oil Spillage on the Niger Delta Communities**

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate	Decision
1	0.22a	.048	.046	2.56	Positive

**Predictor:** (constant), Environmental impact

Table 3 show the summary of linear regression analysis for the relationship between environmental impact and oil spillage in the Niger Delta communities. The analysis show that the correlation ( $r$ ) between the predictor variable (environmental impacts) and the criterion variable (oil spillage) is 0.22. The  $r$  of the analysis been 0.22 implies that a positive relationship exists between environmental impacts and oil spillage in the Niger Delta communities in the Niger Delta region of Nigeria. This positive relationship implies that environmental impacts such as contamination of the physical environment resulting from the presence of oil spillage (the discharge of liquid petroleum hydrocarbons), shallow water bodies which is prone to pollution by oil spillage, jeopardizing of the ecosystem that leads to the death of aquatic lives in the rivers, ocean or sea.

Other environmental impacts include; loses in economical values of the environment, pollution of water bodies which jeopardizes industrial plant such as power, desalination, nuclear and water treatment plants, etc.

#### **IV. Summary Of Findings**

Based on the three research questions posed to guide this study, the following were stated as the summary of findings:

- i. The findings of the study revealed that the level of conflict over the environment is that between oil companies and the oil producing communities and centres on corporate neglect, environmental degradation and disruption of social and economic life.
- ii. The findings of the study also revealed that the environmental areas mostly affected by oil spills in the Niger Delta region are economic trees, farmland, fishponds, destruction of the ecosystem, health problems, etc. these in one way and other has fuels scarcities in the midst of plenty in the Niger Delta region.
- iii. The findings of the study revealed that the impact of oil spillage on the Niger Delta communities was so diverstating to an extent that the communities in the region have witnessed levels of poverty, lack of basic infrastructure, economic disempowerment, human rights violations, social disorder, absence of governance and ever-deepening integration into the global capitalist market economy.

#### **Contribution**

This study provides empirical evidence for understanding the level of oil spillage and environmental degradation in the four communities studied. Though studies abound on the topic of the study, but to the knowledge of the researchers, none of them is on the communities covered by this study in terms of geography. It therefore concludes that a more attention on oil spillage and gas flaring should be given by both the government and oil companies operating in these areas so as to reduce the negative impact of oil spill on the environmental degradation of the host communities.

#### **V. Conclusion And Recommendations**

From the results of the study, it can be concluded that oil spillage and environmental degradation in the Niger Delta region of Nigeria were caused by the oil and environmental conflicts between oil companies operating in the oil producing communities and the corporate neglect, as well as the inadequate social responsibilities of the oil companies operating in the Niger Delta region. This situation led to environmental degradation and disruption of social and economic life, lack of developmental projects, violation of human rights, amongst others.

The paper therefore recommends that oil companies operating in the Niger Delta region in Nigeria should as a matter of urgency increase their social responsibility in their area of operations. Secondly, the oil companies should as well given employment opportunities to their host communities, particularly to their sons and daughters that are qualified to work in the relevant vacant position in the oil companies. Thirdly, the governors of Rivers, Imo, Delta, AkwaIbom, Edo, Ondo, and Bayelsa states should use the 13 percent oil derivation from the federal account given to this Niger Delta states to develop the oil producing communities in their areas.

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