

Environmental Impact of Pipeline Vandalization on the Nigerian Landscape: The Case of the Niger Delta Region

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ABSTRACT The study is premised on concern for the Nigerian conflict on crude oil exploration. It is designed to know the level of the causes of pipeline vandalization and its environmental impacts in the Niger Delta region. The data used for the study were obtained from 100 oil company's officials and an equal number of subjects of the host communities in the Niger Delta region. In order to make sure that the analysis of the information collected is valid, simple percentages were used in the data analysis. Each hypothesis was tabulated and analyzed. The result showed that there is a high degree of pipeline vandalization in the Niger Delta region. Pipeline vandalization is rooted in long history of neglect, marginalization and repression of the people of the Niger Delta.

INTRODUCTION

The Nigerian oil industry and its dominant actors, conceptualized in this study as 'petro-business' are embroiled in intense conflict with the oil bearing communities of the Niger Delta over issues of environmental degradation and charges of marginalization in employment provision, patronage and ancillary contracts. The conflict has assumed a radical dimension since the 1990's, with local militias frequently using violent protests to subvert and obstruct the oil activities resulting in what has likened to 'petro-violence'. There are a number of other less violent protest measures and exogenous forces in the Niger Delta, which potentially pose security threats to petro-business given the contemporary volatility of the oil region and the increasing fluidity of violent and non-violent protests. Consequently, because of the peculiar nature of Nigeria's political economy as an oil-dependent neo-patrimonial states, oil resources and oil rents are central in shaping national political discourses and the broad rhythms of accumulation and social conflicts, including security threats in the oil producing region (Watts 1999).

Even though oil is most strategic to Nigeria's economy and politics, it is significant that the Nigerian state has been unable to evolve a coherent and constructive policy framework for the management of oil resources and their negative externalities, the distribution of the accruing revenues or for engaging with the increasingly restive oil-bearing communities of the

Niger Delta. Most oil-related legislation and policies in Nigeria tend to promote the rent-seeking interest of the state and the corporate or profit maximization interest of petro-business for the most part at the expense of the concerns of the local people for ecological preservation, human security and sustainable development. The logic and pervasiveness of patron-client networks as well as the trajectories of domestic capitalist accumulation rooted in the historical patterns of authority and ethno cultural solidarity, which are some of the defining characteristics of neo-patrimonial politics in Nigeria, have necessitated the systematic exclusion and repression of the Niger Delta region, largely populated by diverse ethnic minority groups. The Nigerian state which controls the bulk of the oil revenues and petro-business have historically been dominated by a coalition of ethnic majority elites who exploit their privilege position to perpetuate their interests in the oil economy and national politics.

Beleaguered by far-reaching legitimacy crises partly emanating from its inability to accommodate the participation and popular pro-development aspirations of the majority of the populace, the state is beset by growing opposition towards its authority by various militia groups and disgruntled civil society movement in the Niger Delta area and beyond. The need for consumers at different locations led to the introduction of a network of various transportation means. This human effort is as a result of the diverse importance of the product. Various means of transportation ranging from truck barges, tankers, rail and pipe-

lines have been introduced and developed worldwide to assist oil and its products reach consumers wherever they are.

Pipeline is an effective means of uninterrupted and steady supply of crude oil. This medium ensures that consumers get their product at the right time. This mode of transportation also helps to reduce accident, spillage, and environmental pollution (Patterson 1962). Pipeline as a mode of transport have existed for over a century and their development has been closely connected with the expansion in the oil industry and growth in automobile use (Lawal 1989, 2001a, 2005, 2006b; Manners 1963). The introduction of pipelines as a means of transportation dates back to the early Christian era when water supplies are known to have been piped over long distances. History recorded that bamboo pipes were used in China, circa 5,000 B.C and pipes made of clay or stones were widely used in the ancient civilization of Egypt, Mesopotamia and Rome.

The first crude oil pipeline made of wood was laid in the United States of America in 1861. Thereafter, the first modern oil pipeline was constructed in Pennsylvania in 1865. Soviet Union (USSR), Britain, Venezuela, Canada, Columbia have constructed oil pipelines. But it was not until 23rd December, 1955 that Nigeria opened its first pipeline to crude oil to link Oloibiri oil field in Kugbo Bay, a distance of 11 km in Rivers State of Nigeria. The pipeline Act of 1965 also simplifies the procedure and also determines the condition under which pipelines are constructed in Nigeria. It is highly imperative to state in unequivocal terms that pipeline vandalization which most times lead to environmental pollution is a threat to life of both fauna and flora.

Pipeline vandalization is the willful destruction of pipelines for selfish gain. When vandalization occurs, supply is usually cut off. Beyond this, it has several environmental impacts. Large areas of arable land get destroyed if the fire-outbreaks and oil spillage that result from oil pipeline vandalization. Marine and aquatic life gets destroyed, all of which are important in the diet of the people. When spilled product gets washed into the swamps, streams and rivers, marine life gets contaminated and when such marine life is consumed, it creates health problems. The present study analyses the environmental impact of pipeline vandalization in the Niger delta region.

The Study Area

The Niger-Delta region is composed of the following states: Bayelsa, Rivers; Akwa-Ibom, Cross-River, Delta, Edo, Imo and Abia (Fig. 1). The region lies between longitude 5°00'E and 8°00'E and latitude 6°00'N and 5°00'N. The region is bounded in the south by the Bight of Bonny and in the east by some part of the Cameroon Republic. In the northern part, it is bounded by some adjoining states like Anambra, Kogi, Enugu, Ebonyi and in the west by Ondo and Ekiti.

Causes of Pipeline Vandalization

The causes of oil pipeline vandalization, which started in Niger Delta can be traced back to the long history of neglect, marginalization and repression of the people of the region by successive governments since the first republic (Brume 2006). The cumulative effect of all these has been the lack of development and wide spread poverty and its content amongst the people of the Niger Delta. The immediate cause of the growing vandalization is general discontent of the host communities which has given vent to this unlawful method of recovering or 'scooping'. What is seen by many as their oil well that has been unfairly carted away by the government at the center in Abuja and other places, while they wallow in abject poverty and unemployment.

According to information supplied by the Pipelines and Product Marketing Company (PPMC) an arm of NNPC, Nigeria has a total network of over 5,001 km of oil pipelines consisting of 4,315 km of multi-product pipelines and 666 km of crude oil pipelines. These pipelines crisscross the country and inter-link the 21 petroleum storage depots strategically dispersed across the country, the refineries at Kaduna, Port-Harcourt I and II and Warri, the off shore terminals at Bonny and Escravos and the 4 Jetties at Atlas-Cove, Calabar, Okrika and Warri. For safety and security prevention/reasons, these pipelines are buried about 1 m beneath the surface along a 25 m wide Right Of Way (ROW) specifically acquired by the Government for the purpose. Host communities are contracted to clear the Right Of Way on a regular basis.

In theory at least, a surveillance team of PPMC, community leaders, police and indigenes

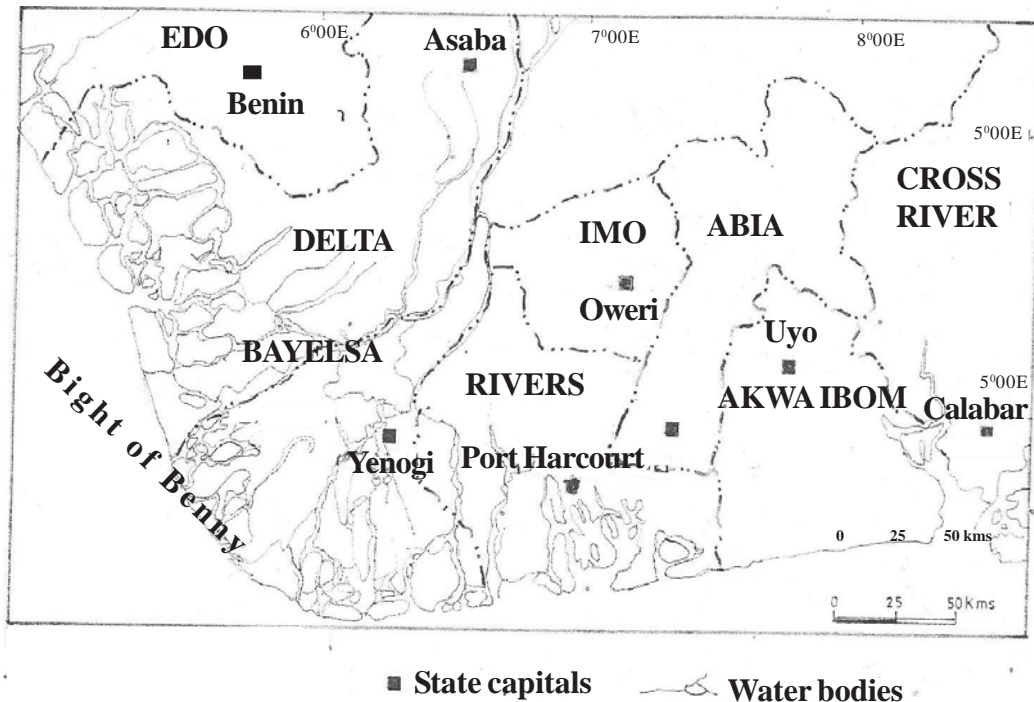


Fig. 1. Map of Niger Delta

are put together to guard the pipelines. Regular aerial surveillance of critical sections of the pipelines is also carried out by the PPMC/NNPC. In spite of all these precautionary and security measures, pipeline vandalization has been a re-occurring decimal in the volatile oil rich region in the Niger Delta. The Niger Delta is an area that is richly endowed with both material and human resources. It is an area that has provided the resources and mainstay of the Nigerian economy, namely oil for over four decades. Since the discovery of oil in the Niger Delta in 1958, various legislations have been passed and decrees enacted. The consequences of this have led to the dispossession of a large number of its people, destruction of their lands, pollution of their water and a host of other environmental problems.

Among the notable instruments of dispossession were the petroleum Act of 1969 and the Land Use Decree of 1978 (Floyd and Sule 1979). In the eyes of many, the combined effect of these laws in Unitary Military Government was that local colonization had replaced foreign imperialism; Revenue from oil was siphoned to develop other parts of the country, while the Niger Delta

itself was neglected in terms of social services and facilities like Federal Universities, Hospitals or modern Highways and Communication facilities. Its environment was either polluted, thus posing grave health hazards to the citizens of the area or bypassed by highly inflammable petroleum pipelines which posed serious danger to the life of its citizens. Hunger, deprivation and unemployment became the lot of the people as their ecosystem, farmlands and aquatic lives became destroyed during the over forty years of oil exploration and production.

Pipeline vandalization is as a result of general discontent whose expression is not limited to pipeline destruction. When this discontent is left nauseated or unmitigated, the form of its expression groups horizontally and vertically; horizontally in the sense that it gains greater followership both in the Niger Delta region and beyond. An alarming number of lives of the productive age bracket of citizens in the host communities have been lost due to explosion resulting from pipeline vandalization. On 14th May, 2006, no fewer than two hundred people were killed following a fuel pipeline explosion in Ilado village, Lagos State. Another bitter experience

was the pipeline explosion at Jesse town, Delta State; on 17th October, 1998, no fewer than one thousand were killed. In 2000, a pipeline explosion at Osisiom in Abia State claimed about one hundred lives. Similarly, on 19th June 2003, another pipeline explosion was recorded in Isikwuato community of Abia State leaving behind a death toll of about one hundred and fifty lives.

Vertically, this expression of discontent escalates from where quest for development or employment or equitable treatment with others, to the current agitation of resource 'control' and most recently, hostage taking of expatriate oil workers conflicts and crisis in various forms become the inevitable consequences of unmitigated discontent, of which oil pipeline vandalization is only form of expression.

Aim and Objectives

The aim of this study is to undertake a detailed study of the causes of pipeline vandalization as well as the environmental impact of pipeline vandalization in the Niger Delta. Towards achieving these aims, the specific objectives were the following

- To determine the perception of environmental impacts of pipeline vandalization by the host communities.
- To determine the motivating factor behind pipeline vandalization.
- To determine the extent of pipeline vandalization in the Niger Delta.
- To examine the economic human and environmental consequences of pipeline vandalization in the Niger Delta.
- To propose measures to check the trends and find a lasting solution to the criminal act.
- To examine the causes of pipeline vandalization.

In order to achieve the objectives, the study has attempted to provide answers to the following research questions.

- What is the relative degree of pipeline vandalization in the Niger Delta region?
- To what extent does the discontentment of the host communities degenerate into pipeline vandalization?
- Why has successive government continually neglected the Niger Delta in the area of social infrastructures?

- What is the extent of neglect of the Niger Delta by the Government?

Hypothesis to be Tested

1. H_0 There is no significant relationship between pipeline vandalization and oil spillage.
 H_1 There is significant relationship between pipeline vandalization and oil spillage.
2. H_0 There is no significant relationship between environmental impact and the host communities.
 H_1 There is significant relationship between environmental impact and the host communities.
3. H_0 There is no significant relationship between hunger, deprivation, unemployment and pipeline vandalization.
 H_1 There is significant relationship between hunger, deprivation, unemployment and pipeline vandalization.
4. H_0 There is no significant relationship between pipeline vandalization and the health of the people of the Niger Delta.
 H_1 There is significant relationship between pipeline vandalization and the health of the people of the Niger Delta.

This study is expected to make both the theoretical and practical contributions to oil pipeline vandalization in the Niger Delta region and provide a basis for closer scrutiny of the various dimensions of pipeline vandalization. Both answers and solutions would be sought regarding genuine causes of pipeline vandalization. This study is useful to all the stakeholders in the oil industry, the Nigerian National Petroleum Corporation. The Petroleum Products Marketing Company (PPMC), the various oil companies, the government and the host communities. Finally, this study is expected to stimulate research interests in other aspects of oil transportation in general and vandalization in particular.

Environmental and Socio-Economic Impact of Oil Pipeline Vandalization

Brume (2006) noted that when an oil pipeline is damaged, the product or the crude oil passing through it has to be transported by some alternative means usually by road tankers, a process

which invariably is more expensive than transportation by pipeline. Transportation by tankers suffers the added disadvantage of being tardy and restrictive in terms of capacity. The process has created shortages which encourage black marketing whereby consumers pay exorbitant prices and are rendered poorer in real terms. Shortages arising from transportation by tanker constrain industries, in particular those which rely on diesel-driven generating for power to operate at less than optimum capacity utilization, could lead to retrenchment and increased unemployment. In addition, when in situations of fuel shortage, industries buy their supplies at higher prices and such increases are passed on to consumers whose economic situations get depressed.

Vandalization induced fuel shortages encourage anti-social elements to adulterate the petroleum products which are then sold to unsuspecting buyers. In the process, vehicle engines are damaged, further creating economic hardship for vehicle owners. Usually, when vandalism occurs, supply is usually cut off. In the Shell Petroleum Development Corporation (SPDC) incident which occurred on 17th September, 1999 at Ekakpomre, about 100,000 barrels of crude oil from most of the land fields had to be shut in. When this happens, there is a substantial economic loss to the nation, which in 2005 was estimated by the NNPC at over \$10,000 million (that is, about N110 billion). In efforts to stem vandalism government has had to expend resources to procure vehicles and equipment in order to patrol the pipeline network. Such resources could have been utilized for more productive purpose.

Vandalization induced for disasters destroy economic crops such as cocoa, coffee, palm trees, rubber amongst others which are sources of income to their owners. When oil spillage occurs as a result of vandalism the oil companies and the nation get entangled in huge financial costs. Large areas of arable land get destroyed in the fire outbreaks and oil spillage that result from oil pipeline vandalism. Marine and aquatic life also gets destroyed. It was reported that sea birds are especially vulnerable to oil pollution since oil clogs their feathers while the ingestion of oil when birds attempt to preen themselves lead to enteritis and other complaints. Local birds' population may seriously diminish too. Also the immediate damage by coastal spills

is associated with oiling of sub-states and sediments, especially intertidal ones. Medium term pathological effects occur in some cases for instance the Amococalis spillage was followed by a high incidence of foot and mouth rot and lesions in flat fish and mullets for a year or more (Moffat and Linden 1995). The increasing and alarming rate of pipeline vandalism and communal unrest has greatly affected the movement of petroleum and its products in the country. Pipes are sometimes damaged by people protesting against injustice in the spatial allocation of the benefits of petroleum (Ikporukpo 1985, 1995); between 1977 and 1979, 24 percent of the spills and 2 percent of the quantity spilled were due to such sabotage. The author stated that setting fire on the land oil spills accidentally or intentionally is more harmful to the soils as it will promote speedy permeation of lighter hydrocarbons fractions through the porous and permeable sandy soil to the ground water. The impact of this level of spillage is long term.

Effects on Human Health

As evidenced by the unfortunate Jesse and Oviru court incidents, oil pipeline vandalism can cause fire disasters with tragic consequences. Many lives are lost in a most sudden tragic, and violent manner when fire is mistakenly ignited. When pipelines are vandalized, oil spill and marine organisms may become contaminated by poly-nuclear aromatic hydrocarbon (PNAS). Thus because many organisms such as oysters, crabs, lobsters, mussels and many types of fin fish are often part of man's diet their contamination could be a threat to human health.

Olokesusi (1987) support the above assertion by identifying the following harmful effects of oil spillage which kills plants and animals in the estuarine zone; fish barnacles, mussels, crabs, planktons and rock weeds are the hardest hit. In the Nigerian coastal environment, large areas of mangrove ecosystem have been destroyed, oil settles in the beaches and also settles on the floor of the ocean sand which kills botanic organisms. Those of the organisms that survive may accumulate toxics in their tissues making them unfit for human consumption. The poisoning of algae may disrupt major food chains and eventually decrease the yield of edible fish. Oil endangers fish pond in coastal waters and contaminates the flesh of commercially valuable fish

Sea birds are not exempted from this onslaught. The sea and river reduce the coastal amenities and threaten the survival off sea animals. Oil spillage destroys farmlands, pollute drinkable water and causes drawbacks in fishing of coastal waters. It is therefore important to greatly examine the environmental impact of pipeline vandalization in the Niger delta Region.

Environmental Effects on the Nigerian Landscape

Vandalization of pipeline discharges of petroleum products constitute serious soil, water and air pollution in the Niger Delta areas. During vandalization, the landscape is considerably disturbed through tampering and movements of vehicles, whether in the wilderness area or cultivated lands. In addition, the pressure of the gas explosive is a serious environmental hazard. Fish and other forms of aquatic life are sometimes exterminated around the area. Oil pipeline fires have been the awesome experience of many communities in the Niger Delta area of Nigeria. Serious cases of pollution of well water and streams with petroleum products have been reported in the area.

During vandalization, petroleum products are regularly discharged into the environment. This product discharge which is highly toxic often finds its way through run offs and the erosion of contaminated soil into the water bodies pollutes them. There is high emission rate of carbon oxide and sulphur oxide from explosion of pipeline. The latter is characteristic hazard of eye irritation and is often experienced. Explosive pipeline emits smoke containing lead, among other pollutants. Studies have indicated that high level of lead concentration on vegetation and soil, especially in areas of vandalization of pipeline is high according to Ese(2006) and Alator (2004) The major adverse socio-economic and environmental effects of vandalization of pipeline include:

- Atmospheric pollution by combustion contaminants.
- Thermal pollution of air land and water.
- Destruction of vegetation and associate wild life.
- Damages of buildings and other structures by acid rain.
- Damage to the soil and crop by heat and the deposition of primary and secondary contaminants.

- Photogenic pollution both by day and by night.
- Loss of livelihood.
- Severe discomfort and misery
- Human illness and death.
- Enforced modification of the area to screen out some of the flare

Major Causes of Pipeline Vandalization in the Niger Delta

- Long history of neglect by the government.
- Marginalization and repression of the people of the Niger delta.
- Poverty and unemployment of the youth.
- Lack/inadequate social amenities like electricity, educational facilities, roads, drinkable water and health care facilities.

MATERIAL AND METHODS

Data for this study were collected from the host communities as well as from the oil companys' officials and used to determine the level of pipeline vandalization and its environmental impacts in the Niger Delta. One hundred copies of a questionnaire containing twenty different questions that addresses the goal & objective of the study were distributed to the oil companies' officials and the same number was distributed to Warri, Calabar and Bayelsa community people.

RESULTS AND DISCUSSION

The results are presented in Tables 1-4 shows socio-economic characteristics of the respondents which are discussed in the following.

Sex: 73 percent of respondent were males while 27 percent were females. It shows there were more males working in oil companies than females.

Age: 21 percent of the respondents were of the age group 20-25 years 38 percent were of ages 26 -35 years , 23 percent of ages 36-45 years and 18 percent of ages 46 years and above. It could be concluded that able working youths were more as against the older workers.

Marital Status: 42 respondents representing 42 percent were singles, 56 percent were married while 2 percent respondents were widows.

Education Status: None of the respondents had only primary education; 22 percent were of secondary status, 23 were of post secondary status while 55 percent were graduates. It shows that most oil company workers are educated.

Official Status: that 4 percent of the respondents fall within top-level management, 18 percent were senior/middle level management while 49 percent were official/supervisor and 37 percent were junior staff.

Working Experience (year): 41 percent of the respondents have worked between 1-10 years in an oil company, 47 percent have worked between 11 and 20 years while 12 percent of the respondents have worked for 21 years or more.

Table 1: Socio-economic characteristics

Variable	No.	%
<i>Sex</i>		
Male	73	73
Female	27	27
Total respondents	100	100
<i>Age (yr)</i>		
20-25	21	21
26-35	38	38
36-45	23	23
46 and above	18	18
Total respondents	100	100
<i>Marital Status</i>		
Single	42	42
Married	56	56
Widow	2	2
Total respondents	100	100
<i>Education Status</i>		
Primary	0	0
Secondary	22	22
Post secondary	23	23
Graduates	55	55
Total respondents	100	100
<i>Official</i>		
Top level management	4	4
Senior/middle management	18	18
Official/supervision	49	49
Junior staff	37	37
Total respondents	100	100
<i>Working Experience (yr)</i>		
No		%
1-10	41	41
11-20	47	47
21 and above	12	12
Total respondents	100	100

The Rate of Pipeline Vandalization is Very High: 73 percent of the respondents strongly agreed that the rate of pipeline vandalism is very high, 27 percent agreed on the assertion with zero percent respondents disagreed and strongly disagreed. This indicates that Niger

Delta region has been experiencing a very high pipeline vandalism.

Oil Companies are Involved in Road Construction in Host Communities: 39 percent of the respondents strongly agreed on oil companies' involvement in road construction in the host communities, 45 percent agreed, 10 percent of the respondents disagreed while the remaining 2 percent strongly disagreed.

Oil Companies Provide Educational Facilities to the Host Communities: 18 percent of the respondents strongly agreed that oil companies provides educational facilities to the host communities, 26 percent agreed, 38 percent of the respondents disagreed while the remaining 18 percent of the respondents strongly agreed. It can be concluded that oil companies are not too involved in the provision of education facilities.

The Attitude of the Communities Towards the Oil Company's Operation is Friendly: 7 percent of the respondents strongly agree that the attitude of the communities towards the oil company's corporation is friendly, 17 percent of the respondents agreed, 23 percent of the respondents disagreed while 53 percent of the respondents strongly disagreed. This indicates that the attitude of the community towards the oil company's operation is very unfriendly.

The Indigenes of the Host Communities are Usually Placed on the Key Positions in the Oil Companies: 22 percent of the respondents show that the indigenes of the host communities are usually placed on key positions in the oil companies, 13 percent agreed, 44 percent of the respondents disagreed while the remaining 21 percent strongly disagreed.

Oil companies are Involved in Controlling Environmental Degradation in Communities: 40 percent of the respondents strongly agreed that oil companies are involved in controlling environmental degradation in the community, 38 percent agreed, 19 percent of the respondents disagreed while the remaining 3 percent strongly disagreed.

Oil Companies Consult with Members of the Host Communities before Designing and Embarking on Projects: 49 percent of respondents affirmed that oil companies consult with members of the host communities before designing and embarking on projects, 35 percent agreed, 11 percent of the respondents disagreed while the remaining 5 percent strongly disagreed with the issue.

Oil Companies provide Health Care Services to the Host Communities: 37 percent of the respondents strongly agreed that oil companies provide health care services to the host communities, 34 percent agreed, 18 percent of the respondents disagreed while 11 percent of the respondents strongly disagreed.

There is Adequate Provision of Employment to Indigenes of the Host Communities: 21 percent of the respondents strongly agree there is adequate provision of employment to indigenes in the host communities, 24 percent agreed, 37 percent of the respondents disagreed, while 18 percent of the respondents strongly disagreed. This shows that there is no adequate provision of employment to indigenes of the host communities.

Oil Spills from Vandalized Pipelines Affect the Aquatic Life in Host Communities: 57 percent of the respondents strongly agreed that oil spills from vandalized pipelines affects the aquatic life of the host communities, 43 percent

agreed, while no respondents disagreed or strongly disagreed on the question. This clearly states that oil spills from vandalized pipelines affects the aquatic life in the host communities.

Many Lives are Usually Lost Due to Explosive from the Pipeline Vandalization: 89 percent of the respondents strongly agreed that many lives are usually lost due to explosives from pipeline vandalization, 11 percent agreed while no respondents disagreed or strongly disagreed on this issue. This indicates that pipeline vandalization usually wastes lives.

The Oil Companies now have Quite Extensive Program for Community Development Projects in the Host Communities: 63 percent of the respondents strongly agreed that the oil companies now have quite extensive programme for community development projects in the host communities, 21 percent agreed, 10 percent respondents disagreed while 6 percent strongly disagreed. This shows that there are quite extensive programme for community development projects in the host communities.

Table 2: The role of the oil companies

	No. of respondents	Strongly agreed	%	Agreed	%	Disagreed	%	Strongly disagreed	%
1. The Rate of Pipeline Vandalization is Very High	100	73	73	27	27	0	0	0	0
2. Oil Companies are Involved in Road Construction in Host Communities	100	39	39	45	45	10	10	2	2
3. The Attitude of the Communities Towards the Oil Company/S Operation is Friendly	100	7	7	17	17	23	23	53	53
4. The Indigenes of the Host Communities are Usually Placed on the Key Positions in the Oil Companies.	100	22	22	13	13	44	44	21	21
5. Oil Companies are Involved in Controlling Environmental Degradation in Communities	100	40	40	38	38	19	19	3	3
6. Oil Companies Consult with Members of the Host Communities before Designing and Embarking on Projects	100	49	49	35	35	11	11	5	5
7. Oil cCompanies Provided Health Care Services to the Host Communities	100	37	37	34	34	18	18	11	11
8. There is Adequate Provision of Employment of the Host Communities	100	21	21	24	24	37	37	18	18
9. Oil Spills from Vandalized Pipelines Affect the Aquatic Life in Host Communities.	100	57	57	43	43	0	0	0	0
10. Many Lives are Usually lost Due to Explosion from the Pipeline Vandalization	100	89	89	11	11	0	0	0	0
11. The Oil Companies now have Quite Extensive Program for Community Development Projects in the Host Communities.	100	63	63	21	21	10	10	6	6
12.The Cash Economy Created by Oil undermines those Trying to Work for Longer Term and More Sustainable Development Initiative.	100	78	78	20	20	2	2	0	0
13.Oil Ccompanies Work in a Different Environment in the Niger Delta Both PhysicalLY and Politically.	100	75	75	25	25	0	0	0	0

The Cash Economy Created by Oil Undermine those Trying to Work for Longer Term and More Sustainable Development Initiative: 78 percent of the respondents strongly agreed on the fact that the cash economy created by oil undermines those trying to work for longer term and more sustainable development initiatives, 20 percent agreed on the issue while just 2 percent of the respondents disagreed and no respondents strongly disagreed. This shows that the question above is true.

Oil Companies Work in a Different Environment in the Niger Delta Both Physically and Politically: 75 percent strongly agreed responses of the respondents that oil companies work in a different environment in the Niger Delta both physically and politically, while 25 percent of the respondents disagreed or strongly disagreed: This clearly indicated that the question above is true.

Analysis of the data collected through 100 copies of questionnaire distributed to one hundred respondents of the host communities contained twenty research items. The analysis and interpretation were based on the use of simple percentage techniques and results are presented in this study.

Age: 31 percent of the respondents were between the age group of 20 – 25, while 22 percent were between 26-35 years, 23 percent respondents for Ages 35-45 years, 23 percent respondents for 46 years and above. It shows that table working youths are high as against the dependent inhabitants.

Marital Status: 37 percent of the respondents were single, 58 percent were married while the remaining 5 percent were widow.

Education Status: 27 percent of the respondents host primary status, 45 percent had secondary status, 10 percent for post secondary status while 18 percent of the respondents were graduates. This means that the communities comprises of both illiterate and literate.

Occupation: 26 percent of the respondents were farmers, 16 percent were fishermen, 18 percent were traders, 20 percent were civil servants while 10 percent were students.

The Level of Development in Niger Delta is High: 3 percent of the respondents strongly agreed that the level of the development in the Niger Delta is high, 7 percent agreed, 48 percent disagreed, while 42 percent of the respondent

strongly disagreed. This indicates that the level of development in the Niger Delta is low.

Table 3: Age, Education and occupational status of respondents

Variable	No.	%
Age (yr)		
20-25	31	31
26-35	22	22
36-45	23	23
46 and above	24	24
Total Respondents	100	100
Marital Status		
Single	37	37
Married	58	58
Widow	5	5
Total Respondents	100	100
Education Status		
Primary	27	27
Secondary	45	45
Post secondary	10	10
Graduate	18	18
Total respondents	100	100
Occupation		
Farming	46	46
Trading	18	18
Civil servants	10	10
Fishing	16	16
Students	10	10
Total respondents	100	100

Vandalization of Pipeline in the Host Communities is High: 53 percent of the respondents strongly agreed on the fact that vandalization of pipeline in the host communities is high, 37 percent agreed on the issue, 8 percent of the respondents disagreed while 2 percent strongly disagreed. It shows from the table that the vandalization of pipeline in the host communities is very high.

The Indigenes of the Host Communities are Placed in Top Position in the Oil Companies: 8 percent of the respondents strongly agreed that the indigenes of the host communities are placed in top position in the oil companies, 16 percent agreed, 44 percent of the respondents disagreed while 44 percent strongly disagreed. This shows that few of the people of the host communities are placed in top position.

The Oil Companies have been Assisting the Communities in the Provision of Educational Facilities: 4 percent indicates that oil companies have been assisting the communities in the provision of educational facilities, 12 percent agreed, 49 percent of the respondents disagreed

while 35 percent strongly disagreed. This indicates the inadequate provision of educational facilities to the host communities by the oil companies.

There is High percentage of the Students from Host Communities Studying Under the Oil Company Scholarship Scheme: 12 percent of the respondents strongly agreed that there is high percentage of the students from communities studying under the oil companies scholarship scheme, 20 percent agreed, 43 percent of the respondents disagreed, while 25 percent strongly disagreed. This indicates the low percentage of the students from the host communities studying under the oil companies' scholarship scheme. Several previous studies have (Gbadamosi 2003, Blume 2006)

The Oil Companies have been Complementing Government's Effort in the Provision of So-

cial Amenities in the Communities: 7 percent of the respondents strongly agreed to the question that oil companies has been complementing government's effort in the provision of social amenities in the communities, 14 percent agreed, 37 percent of the respondents disagreed while 42 percent strongly disagreed on the issue. The result indicates inadequacy of the oil companies in complementing government's effort in the provision of social amenities in the communities.

Oil Companies have Done Well Towards Environmental Degradation in the Host Communities: There was no response to the strongly agreed from the respondents, 2 percent agreed to the issue, 49 percent disagreed that oil companies have done well towards environment degradation in the host communities, while 49 percent strongly disagreed on the issue. This indicates that oil companies have not done any-

Table 4: Table 4: Achievements of the oil companies towards their host communities

	No. of respondents	Strongly agreed	%	Agreed	%	Disagreed	%	Strongly disagreed	%
1. The Level of Development in Niger Delta is High	100	3	3	7	7	48	48	42	42
2. Vandalization of Pipeline in the Host Communities is High	100	53	53	37	37	8	8	2	2
3. Oil Companies Provides Employment for Indigenes of Host Communities	100	8	8	16	16	50	50	26	26
4. The Indigenes of Host Communities are Placed in Top Position in the Oil Companies	100	8	8	16	16	44	44	32	32
5. The Oil Companies have been Assisting the Communities in the Provision of Education Facilities	100	4	4	12	12	49	49	35	35
6. There is High Percentage of the Students from Host Communities Studying Under the Oil Company Scholarship Scheme.	100	12	12	20	20	43	43	25	25
7. The Oil Companies have been Complementing Government's Effort in the Provision of Social Amenities in the Communities	100	7	7	14	14	37	37	42	42
8. Oil Companies have done Well Towards Environmental Degradation in the Host Communities	100	0	0	2	2	49	49	49	49
9. Oil Spillage had done Great Damages to Aquatic Life in the Area where Pipelines are Vandalized	100	52	52	44	44	3	3	1	1
10. Many lives are usually lost due to explosion from pipeline vandalization	100	60	60	28	28	7	7	5	5
11. Petroleum Products are Scarce and Expensive in the Niger Delta.	100	54	54	43	43	3	3	0	0
12. Oil Companies Provide Health care Facilities to the Host Communities	100	0	0	12	12	31	31	57	57
13. Oil Companies Consult with Members of the Community before Designing and Embarking on Projects in the Interest of the Host Communities	100	0	0	17	17	25	25	58	58
14. The Cash Economy Created by oil Undermines those Trying to Work for Longer Term and More sustainable development initiative	100	63	63	37	37	0	0	0	0
15. Government now has Extensive Program for Community Development Project in the Host Communities	100	21	21	47	47	24	24	8	8

thing towards environmental degradation in the host communities.

Oil Spillage had Done Great Damages to Aquatic Life in the Area where Pipelines are Vandalized: 52 percent of the respondent strongly agreed on the fact that the oil spillage had done great damages to aquatic life in area where pipeline is vandalized, 44 percent agreed on the issue, while 3 percent disagreed and 1 percent of the respondents strongly disagreed. This indicates that the question above is true (Ese 2006, Alalor 2004).

Many Lives are Usually Lost Due to Explosion from Pipeline Vandalization: 60 percent of the respondents strongly agreed to the question that many lives were lost due to explosion from pipeline vandalization, 28 percent agreed on the issue, while 7 percent of the respondents disagreed and 5 percent strongly disagreed. In a clear sense, the vandalization of pipeline usually wastes lives.

Petroleum Products are Scarce and Expensive in the Niger Delta: 54 percent of the respondents strongly agreed, 43 percent agreed on the issue, while just 3 percent of the respondents disagreed but none responded to strongly disagreed. This indicates that petroleum products are scarce and expensive in the Niger Delta.

Oil Companies Provide Health Care Facilities to the Host Communities: There was no response for strongly agreed on this question, 12 percent agreed but 31 percent of the respondents disagreed while 57 percent strongly disagreed. It shows that there was no provision of health care facilities from oil companies to the host communities

Oil Companies Consult with Members of the Community Before Designing and Embarking on Projects in the Interest of the Host Communities: There was no response for the strongly agreed on the issue that oil companies consult with members of the community before designing and embarking on projects in the interest of the host communities, 17 percent agreed while 255 of the respondents disagreed and 58 percent of the respondent strongly disagreed. It could be deduced that the oil companies consulted people in government rather than members of the host communities.

The Cash Economy Created by Oil Undermines those Trying to Work for Longer Term and More Sustainable Development Initiatives: 63

percent of the respondents strongly agreed, 37 percent agreed on the issue, no response from the respondents stated disagreed or strongly disagreed. It indicates that the question above is genuinely true.

Government now has Extensive Program for Community Development Project in the Host Communities: 21 percent of the respondents strongly agreed on this question, 44 percent agreed on it while 24 percent of the respondents disagreed and 8 percent strongly disagreed. It could be deduced that the programmes are still not effective for community development projects in the host communities.

CONCLUSION

In view of the complex realities of the Niger Delta community dissatisfaction, work and unresponsive government security force abuses and inter-community violence fueled in part by resource, a more comprehensive approach to the problems in the oil producing communities is necessary. Given increasing tensions related to the upcoming local, state, and federal elections and the violence that has already occurred in the Delta, urgent action is needed to avoid further oil pipeline vandalization, conflict and the attendant human right abuses and environment degradation associated with it.

RECOMMENDATIONS

Local and state governments should be held fully accountable for their inability or unwillingness to effectively utilize revenues, and the Federal government should seek to achieve a negotiated solution to the fundamental demands of the people who live in the oil producing areas of Nigeria. In addition, the Federal government must ensure proper discipline over the security forces and help them accountable for abuses. Oil companies should broadly assess their interactions with the communities where they work, including employment, community giving relations and with the government authorities and security forces, and community relations generally. They must ensure at minimum that they are not exacerbating the problems in the Niger Delta, but also take steps to ensure that their actions contribute immensely and positively to human right environment in which they work. Given multiple

failures by all of the institutions involved to adequately fulfill their obligations, external pressure is needed as well. The role of the international community is highly welcome.

REFERENCES

- Alalor AE 2004. *Environmental Implications of Oil Exploitation in the Niger Delta Region: A Case Study of Uzere Community of Delta State*. B.Sc. Degree Thesis, Unpublished. Ojo: Lagos State University.
- Brume A 2006. Pipeline Vandalization in Niger Delta *Paper Presented by Urhobo History Association of Nigeria*.
- Ese TC 2006. *The Vandalization of Pipeline and its Environment Impact on the Nigerian Landscape. A Case Study of the Niger Delta Region*. Master of Transport Planning Thesis, Unpublished. Ojo: Lagos State University.
- Floyd B, Olu Sule RA 1979. The Nigerian land use decree. *Geography*, 64: 52 – 54.
- Gbadamosi KT 2003. Oil exploration and environmental degradation: The Nigerian experience. *LASU Social Sciences Journal*, 5(1): 85-100.
- Ikporukpo CO 1985. The management of oil pollution of national resources in Nigeria: Trends and patterns. *Journal of Environment*, 20: 1999-2006.
- Ikporukpo CO 1995. Pipeline transportation in Nigeria: Trends and patterns. *Journal of Transport Studies* 1(1): 4-16.
- Lawal MO 2005. The geographical location of retail outlets/service stations in the Nigerian petroleum industry. *Indonesian Journal of Geography*, 37(2): 103-111.
- Lawal MO 2006. The trends and impacts of pipeline network distribution in Nigeria petroleum industry. *Indonesian Journal of Geography*, 38(2): 169-183
- Lawal MO 1989. Pipeline development in the Nigerian petroleum industry. *Geography* 74(1): 60-62.
- Lawal MO 2001a. *Nigerian Pipeline Network and Environment Challenges of the 21st Century*. Lagos: Tunwobi Press.
- Lawal MO 2001b. Historical development of the pipeline as a mode of transportation. *Geographical Bulletin*, 43(2): 91-99.
- Manners G 1963. The pipeline revolution. *Geography*, 47: 154-157.
- Moffat D, Olof Linden 1995. Perception and reality: Assessing priorities for sustainable development in the Niger River Delta. *AMBIO: A Journal of the Human Environment*. 24(7-8): 527 – 537.
- Olokesusi AO 1987. Characteristics of environmental problems in Nigeria and management prospects. *The Environmentalist*, 7(1): 55-60.
- Patterson GS 1962. Techniques of Petroleum Development. *Proceedings of the United Nations Inter-Regional Seminar on Techniques of Petroleum Development*. 23rd January – 21st February 1962, United Nations.
- Watts MJ 1992. *Petro-Violence. Some Thoughts on Community Extraction and Political Ecology*. USA: University of California.