

Environmental Degradation Resulting from Oil Exploitation, and Population Displacement in the NigerDelta, Nigeria

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Abstract: Oil and gas exploration in the Niger Delta region of Nigeria began some fifty four (54) years ago. Since the early sixties till now, oil from this region of the Nigeria has been the major foreign exchange earner for the sustenance of the economy. Unfortunate to note is the fact that since oil exploration and exploitation began in the country in the Niger Delta, the region had not been at peace. The region had suffered all forms of environmental degradation resulting from crude oil spillage and gas flares. The peoples' source of livelihood has been destabilized thereby leading to high rate of poverty, social crises/conflict and involuntary migration of people for both security and succour. The people of the region are thus in severe pains and risk of extermination should the present trend of environmental degradation and negligence persist. Thus, this paper addresses the plight of the Niger Delta as a case study of the effect of environmental degradation on human vulnerability. It is believed that continuous existence of the Niger Delta people as a social sect is dependent on how prompt efforts are made to combat the environment nuisance in the region.

Key words: Environmental degradation, Niger Delta, oil exploitation, population displacement, migration.

1. Introduction

Environmental degradation such as land degradation and pollution of water, air or soil are brought about by the misuse of resources, poor planning, poor infrastructure and poor governance and monitoring. Such carelessness, mismanagement of resources and industrial accidents/pollution are on the increase worldwide to such an extent that ecosystem services are being compromised in all regions of the world [1]. When these factors are superimposed on global environmental change phenomena such as climate change (change in rainfall patterns, sea-level rise, increased frequency of heat waves, and so forth, depending on location) it can be foreseen that more of the global population will be facing environmental stresses in the future.

Environmental degradation from local to global

scales can also be coupled with increased exposure to environmental hazards (e.g., floods, droughts, hurricanes, oil, and gas pollution) and will thus increase the risks these hazards pose to local populations. These three themes of loss of ecosystem services, climate change, and environmental disasters are developed below to illustrate how increasing pressures on the environment and impacts of environmental hazards may serve in the future as major root causes for migration.

The Niger Delta is described as a unique ecological zone by virtue of its size and geophysical configuration [2]. It is one of the world's largest wetlands covering an area of approximately 70,000 km² and is located in the south-south geopolitical region of Nigeria. It lies between latitude 4° and 6° North of the equator and longitude 5° and 7° East of Greenwich.

Along the coast, the Niger Delta as shown in Fig. 1, stretches from the Benin river in the West to Bonny river in East, while in land, it begins a few miles below Aboh at a point where river Niger bifurcates

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into river Nun and Forcados into the Atlantic West at the South, stretching over 160 miles [3, 4]. The Delta could be described as a prism that was formed by the accumulation of sedimentary deposits transported by rivers Niger and Benue. Within the flood plains, the river splits into six major tidal channels and innumerable smaller outlets. Fluvial sediments are deposited throughout the Delta with sand and silt suspension during both high and low flood regimes. The region experiences very high annual rainfall ranging between 3,000 to 4,500 m with double

maxima characteristics of July and September peaks. Although the Niger Delta can be roughly categorized into four ecological sub-zones (coastal barrierIslands, mangrove, fresh water swamp forest and the lowland rainforest), the mangrove is the largest and dominant eco-subzone. In terms of socio-economic development, the region could be described as being a "rich region with poor people". It is blessed with abundant Crude Oil and Natural Gas, which is the main stay of Nigeria's economy. Fig. 2 shows various soils wells and

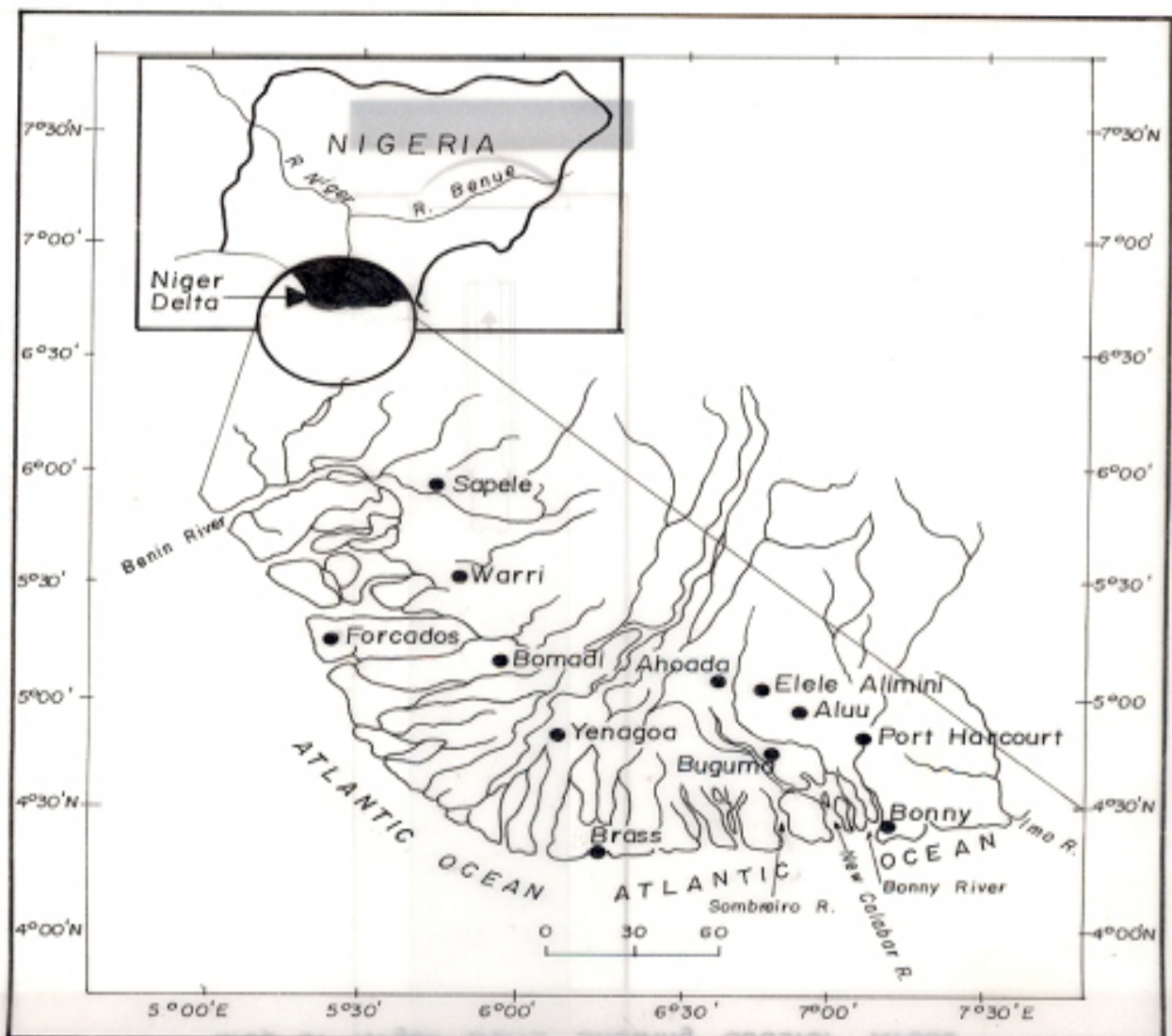


Fig. 1 Physiographic map of the Niger Delta.

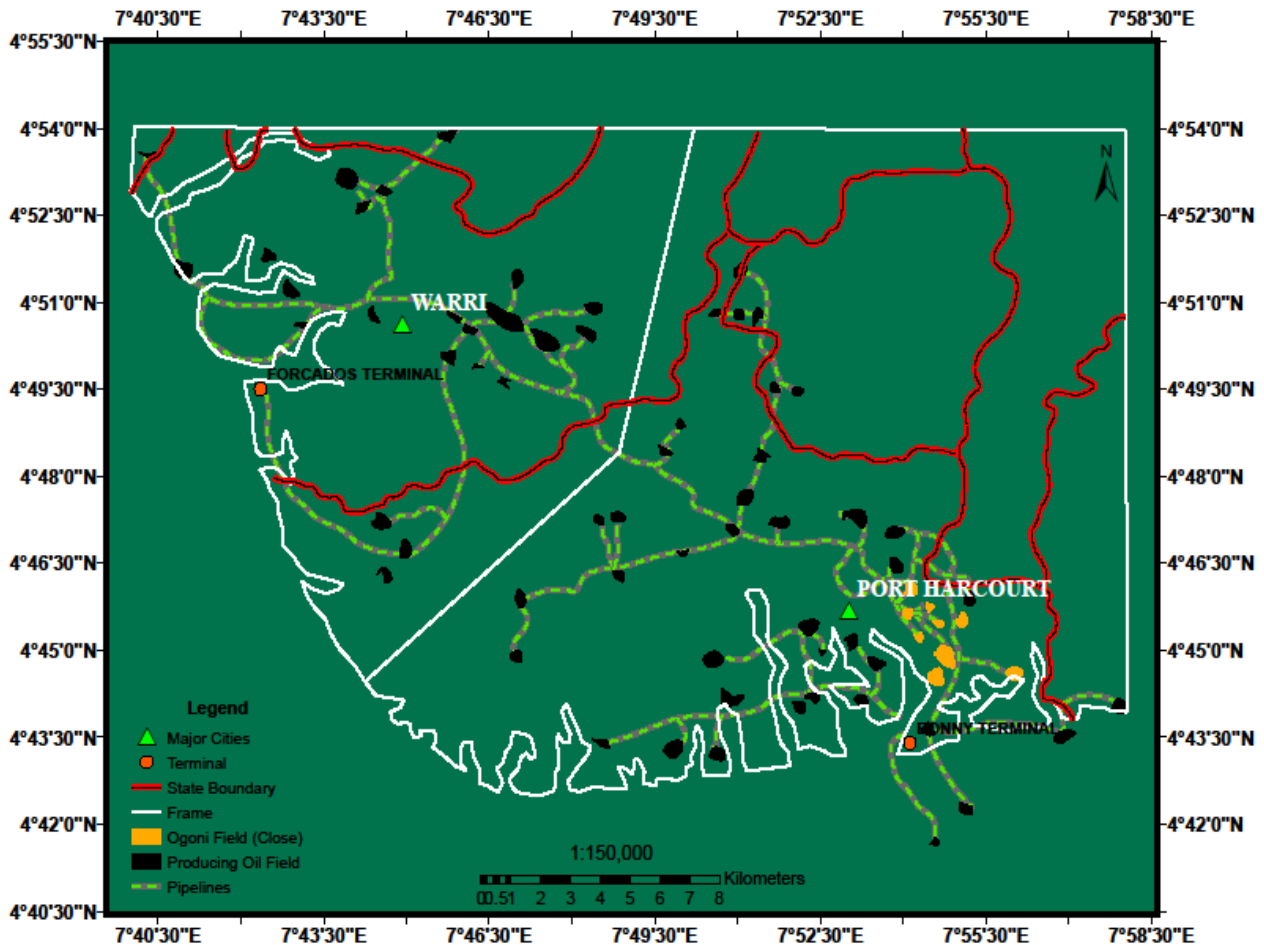


Fig. 2 Map of Niger Delta showing oil fields and pipelines.

pipelines that criss-cross the entire region. Apart from crude oil and natural gas, the mangroves offer a lot of biological resources on which the rural livelihood depend. Before the discovery of crude oil, agriculture was the dominant occupation of the people. Crude oil was discovered in commercial quantity in the region specifically in the present BayelsaState in 1956 [5]. Since then oil exploration and exploitation has continued resulting into what is termed environmental destruction due to neglect and less concern of the multinational companies in environmental management in the area.

The environmental degradation resulting from oil and gas production in the Niger-Delta has attracted the attention of environmentalists and other experts, who look at the region within the larger context of globalization [6]. The world today recognizes the

significance of environmental sustainability to the development of the nations. In fact one of the cardinal objectives of the Millennium Development Goal is to ensure environmental sustainability. It then implies that there should be reduction in environmental degradation.

The Niger Delta with a population over 10 million people is one of the industrial and commercial hubs of Nigeria. It is the home of Nigeria’s Oil and Gas Industries and a commercial nexus in Nigeria because of its coastal location. In fact, it is witnessing rapid economic growth and little or no development.

2. The Problematic

The Niger Delta environment has suffered serious degradation since the discovery of oil in the region in the 1950s. In fact, the Niger Delta environment is

being described as one of the worst polluted in the world, even though it is not the richest in oil reserve the world over [7]. In fact, the region is synonymous with crude oil spillage and gas flares which has been a source of conflict and agitation in the region. Fig. 2 reveals the extent of oil and gas exploitation as could be seen in the various oil fields and pipelines that transverse the entire landscape. The elasticity of environmental degradation with respect to oil production is elastic in the region everyday and this is well known. These include among others degradation of the forests and depletion of aquatic fauna. The long-term impacts are also possible, as in cases where mangrove swamps and groundwater are harmed. The issue of oil induced environmental disaster and its numerous effects are devastating in the region.

In this region, the loss of ecosystem services and the reoccurrence of oil pollution and other natural hazards of flood have forced most communities to look for ways to cope with scarcity of resources that can last several years. A major problem arises when these coping mechanisms are exhausted by the extended duration of the scarcity. When the coping mechanisms and adaptation strategies of communities are overwhelmed by the loss of ecosystem services, loss of land productivity can become important factors triggering the movement of people from their communities to other areas [7]. Although it is a truism that loss of ecosystem services has multiple root causes, particularly socio-economic ones, we consider that people moving because of loss of ecosystem services are environmental migrants/refugees but only when it is the consequences of the degradation of the resource base that triggers the decision to move.

It is however hypothesized in this paper that population displacement and migration is eminent in the face of persistent oil spillage and gas flares associated with oil and gas exploitation in the Niger Delta. In other words, there is displacement of the local population in the region as a consequence of environmental degradation arising from oil and gas

exploitation in the region.

3. Environmental Degradation and Population Migration

While the literature on environmental change and population movements is quite limited, two different and opposing perspectives can be discerned. One—which could be described here as the minimalist view—sees environmental change as a contextual variable that can contribute to migration, but warns that we lack sufficient knowledge about the process to draw firm conclusions. The other perspective sets out a maxima list view, arguing that environmental degradation has already displaced millions of people, and more displacement is on the way.

In one respect, the minimalists are indisputably correct. While environmental factors are of increasing interest to students of migration, little substantial research has been produced on environmental change as a cause of migration. More is known about the environmental impact of migration. Partly because it is readily observable, this dimension has received much attention, one example being the damage inflicted on Brazil's forests by new settlers. Environmental change does not figure as a separate, causal variable. While environmental factors are of increasing interest to students of migration, little substantial research has been produced on environmental change as a cause of migration in the general migration literature, although older theories did allow for natural disasters under the category of “physical” factors. Neo-classic theories emphasize economic factors and rational-choice analysis without noting environmental variables per se. The same applies to migration theories in the tradition of neo-Marxist international political economy.

Yet, common sense as well as catastrophes such as the Tsunamis tells us that environmental change obviously can cause out-migration by affecting structural economic conditions. Environmental change can also be the proximate cause of population

displacement, as the devastating floods in Bangladesh demonstrate. One analytical solution, as Bilborrow [8] suggests, is to treat the environment as a contextual factor which manifests itself in the decision calculus of the potential migrant. Land degradation, for instance, can mean reduced income; frequent flooding brought about by upstream deforestation translates into higher risk for families living downstream. More systematically, Bilborrow [8] suggests three categories of manifestations.

Environmental change may induce out migration via income effects (by reducing average incomes), by risk effects (by increasing the instability of income, and -one might add -other utilities), or by making the environment less pleasant or healthy, i.e., by social effects [8]. This is a useful elaboration of the classic decision-making models of migration. Environmental degradation finds its place as a contextual variable that affects the economic, risk and social calculus of the migrant. The effect may be felt at the level of the individual, the community or, conceivably, an entire nation.

More narrowly, Aluko [9] focuses on climate change as a cause of migration. Reviewing a series of contemporary case studies from the developing world, she concludes that it is difficult to demonstrate that climate change is a primary engine of migration. For rural people, migration is one of several coping strategies to deal with poverty which in itself reflects a combination of social, economic and political conditions. In two of his three case studies (Indonesia and Guatemala), environmental degradation appears as only one in a cluster of causes, although it is given more weight in the third case (Sudan).

Summarily, as the name suggests, the minimalists focus on the impact of a particular process such as land degradation, deforestation or changing climate on migration. But since migration, like social processes generally, is not a mono-causal phenomenon, the minimalist premise skews the discussion towards a negative answer: Environmental degradation by itself

is not important as a cause of migration or population displacement. Nor does it lend itself to easy quantification that permits a multiple regression analysis to isolate the relative weight of individual variables. The minimalists focus on the impact of a particular process such as land degradation, deforestation or changing climate on migration or population displacement.

The maxima lists, by contrast, tend to extract the environmental variable from a cluster of causes and proclaim the associated out migration as a direct result of environmental degradation. This was evident in the early writings of environmental analysts. In a neo-classic study prepared for the United Nations Environment Programme in 1985, El-Hinnawi wrote that “all displaced people can be described as environmental refugees, having been forced to leave their original habitat (or having left voluntarily) to protect themselves from harm, hunger and or to seek a better quality of life”.

4. Oil Explorations and Environmental Degradation in the Niger Delta

The exploration and exploitation of crude oil in the Niger-Delta has resulted to a number of environmental problems for the region. These environmental problems related to oil operations in the region are examined in this section. Since 1956 when the first oil well was drilled at Oloibiri in the present Bayelsa State over 1,481 oil wells have sprang up, producing from about 159 oil fields. There are more than 7,000 kilometers of pipelines and flow lines and 275 flow stations operated by more than 13 oil companies [6].

The productive and environmental impacts of the number of operators are at increase everyday in the region. The percentage of the land of the region occupied by the oil industry is less than five percent but the adverse effects associated with its operations are innumerable and region-wide. This oil related environmental problems are discussed below.

4.1 Water Pollution

The Niger-Delta region is located in the coastal part of Nigeria and this is a waterlogged area as more than eighty percent of the oil producing communities is on water. Before the discovery of oil in the region, it was characterized by natural clean long stretch fresh water and healthy water lettuce that add beauty and flavour to the environment. According to Bisina [10], the oil activities in the area have resulted to situations whereby complete polluted water is bequeathed to the children. The communities' shorelines have been washed away or eroded due to the high volume of deep-sea exploration and exploitation activities. One of the major oil induced water pollution is oil spillage. With the expansion of oil production, the incidence of oil spills has greatly increased. Available records show that a total of 6,817 oil spills occurred between 1976 and 2001 with loss of approximately three million barrels of oil in the region. Approximately twenty-five percent spilled in swamps and sixty-nine in off-shore [6].

Besides oil spills as source of water pollution, canalization and wastes discharged into freshwater swamps and into the sea are other sources [11]. In an attempt to shorten travel time and improve access to oil fields and production facilities, oil companies have constructed canals that in some cases have caused salt water to flow into fresh water zones destroying

freshwater ecological systems. Analysis on Table 1 shows time series data on oil spills in the region.

4.2 Land Degradation and Deforestation in the Niger Delta

Vegetation in the Niger-Delta is comprised of extensive mangrove forests, brackish swamp forests and rainforests. The large expanses of mangrove forests are estimated to cover approximately 5,000 to 8,580 km² of land [12]. Mangroves remain very important to the indigenous people of Nigeria as well as to the various organisms that inhabit these ecosystems. It is unfortunate that these oil activities have destroyed the extensive mangrove forests in the area. Apart from the illegal logging brought on by increased accessibility to forests, oil exploitation itself has depleted biodiversity, especially at ramp sites, flow stations and terminals. A lot of land degradation and forest deforestation were caused by oil induced fire and pollution on the environment. A number of oil induced fire outbreak has occurred in the Niger-Delta leading to deforestation and destruction of farmland such as the Jesse fire incident that occurred in October 17, 1998 [13]. The unfortunate thing was that this fire incident did not only destroyed farm lands or natural ecology but also killed more than 1,000 people of the community [13]. Another fire incident occurred in September, 2004 in Okirika community, Rivers State that lasted for 3 days and destroyed the plants and

Table 1 Summary of some oil spills in the Niger Delta: 1979-2005.

Episode	Year	State	Quantity spilt in barrels
Forcados terminal oil spills	1979	Delta	570,000
Funiwa No.5 well blow out	1980	Rivers	400,000
Oyakama oil spillage	1980	Rivers	10,000
System 2c Warri-Kaduna Pipeline rupture at Abudu	1982	Edo	18,000
Sohika oil spill	1983	Rivers	10,000
Idoho oil spill	1983	Akwa-Ibom	40,000
Jones creek oil spill	1998	Delta	21,000
Jesse oil spill	1998	Delta	10,000
Etiama oil spill	2000	Bayelsa	11,000
Ughelli oil spill	2005	Delta	10,000

Source: Ref. [14].

animals inhabiting the affected area [15]. Another fire scourge occurred in Ugboomro community and a study was carried out to ascertain the effect on the soil and it was discovered that contrary to the popular opinion that fire improvises bush fallowing for cropping, the site witnessed severe impoverishment not only from the fire incidence but also from the oil spill on the site [12]. Other sources of land degradation and loss of biodiversity as well as forest and crops destruction in the region are acid rain from gas flaring.

4.3 Air Pollution

About ninety-five percent of waste gases from the production fields and operation are flared. Gas flaring pollutes the air and it is common practice among companies in Nigeria especially in the Niger-Delta region which is hazardous to the ozone layer of the area and leading to climate change [16]. The flaring of gas has been practiced in the Niger-Delta for over four decades. This is the major source of air pollution in the area as well untreated waste disposal on the environment.

Today, there are about 123 flaring sites in the region making Nigeria one the highest emitter of Greenhouse gases in Africa [17]. Some 45.8 billion kilowatts of heat are discharged into the atmosphere of the Niger-Delta from 1.8 billion cubic feet of gas everyday [18]). It is not an exaggeration that gas flaring is environmentally unethical and has contributed significantly to the degradation of the environment in the region. This practice may have altered the vegetation of the area, replacing natural vegetation with stubborn grasses and the presence of these grasses indicates that the soil is no longer fertile for cultivation of crops. A major example could be seen in Opuama and Sekewu communities in the Warri North Local Government Area of Delta State in the region. It is evident that gas flaring has affected the ozone layer of the region leading to climate change that is unhealthy to crops cultivation [15].

5. Environmental Degradation and Loss of Ecosystems Functions

Ecosystems provide a wide range of services to society including products (e.g. food, fuel, and fibre), regulating factors (e.g. climate regulation), spiritual and aesthetic benefits [1, 19]. Ecosystems are affected by a variety of interacting direct and indirect drivers which operate in feedback loops. The Millennium Ecosystem Assessment identified direct drivers to be climate change, nutrient pollution, land conversion leading to habitat change, overexploitation, and invasive species and diseases; and indirect drivers to be demographic, economic, socio-political, scientific, technological, cultural and religious factors [1]. Ecosystems are however highly dynamic and in constant fluxes and rarely, if ever, in an equilibrium state. The implication is that ecosystems have their own resilience and even though they are constantly affected by anthropogenic and natural factors, they can still provide adequate levels of services to society. What is emphasized here is that at times the degradation can reach such levels that the provision of services is severely compromised and may then serve as one of several triggers for migration.

Ref. [15] noted that the resilience of many ecosystems is likely to be exceeded this century by an unprecedented combination of climate change, associated disturbances (e.g., flooding, drought, wildfire, insects, ocean acidification), and other global change drivers (e.g., land use change, pollution, over-exploitation of resources).

In addition, social, economic, cultural and political factors shape the relationship between society and the ecosystems of which it is a part and from which it extracts services. Thus ecosystem degradation is in itself generated by a complex mixture of factors. For example, Aaron [17] stated that “by definition, land degradation should be considered a social problem that can be avoided”. These factors can and should be targeted by concrete actions and policies to reduce,

stop and/or reverse the degradation processes.

Ref. [1] has revealed an alarming degradation of ecosystems worldwide and thus of the services that could be provided to societies by these ecosystems. The General Synthesis Report of Ref. [1] highlighted, among other points that:

- Fifteen of twenty four ecosystem services analysed are being degraded or utilized in an unsustainable way, mainly through anthropogenic actions to increase the supply of specific services;
- These actions could further accelerate the degradation of ecosystems although more scientific evidence of this is required;
- The poor are the ones suffering the most from the decline in ecosystem services with the rural poor being particularly vulnerable to changes in ecosystem services.

All ecosystems are negatively affected in one way or the other by anthropogenic activities. Dryland ecosystems are particularly vulnerable as they are prone to desertification. The wetlands on the other hand suffer irreparable degradation due to flooding and soil erosion and as the case in the Niger Delta, apart from the natural degradation process, anthropogenic factor of industrialization significantly degrade the ecosystems in the form of oil spillage and other forms of land pollution. This is why, the Millennium Ecosystem Assessment [20] highlighted that “the shortcomings of available assessments point to the need for a systematic global monitoring program, leading to development of a scientifically credible, consistent baseline of the state of degradation of our environment. This would then foster evidence-based discussions on the theme of land pollution and population migration.

- It is estimated that about 30 to 45 percent of the Niger Delta land and water are already degraded even though there may be uncertainty in the measurement of the extent of oil and gas exploitation on the Niger Delta environment;
- Pressure is increasing on the Niger Delta

ecosystems for providing services such as food, and water for humans, livestock, irrigation, and sanitation.

Oil spillage and Gas flares are likely to increase water scarcity in regions that are already under water stress. These and all the other factors and impacts identified increase the stress on many communities and will make the respective Millennium Development Goals extremely hard to be achieved and sustained in this part of the world.

5.1 Economic Multiplier Effects of Land Degradation Arising from Oil Exploitation

The economic multiplier effects of the oil induced environmental degradation experienced in the Niger-Delta are identified as follows:

Alarming Unemployment Rate: With the destruction of the main source of income and productive activities of the region, one of the economic concerns of the region is the resultant increasing unemployment [21]. As revealed in the previous section, most of the farm lands are destroyed and the rivers are polluted leading to death of fishes, most of the farmers and fishermen are thrown into confusion of joblessness. Table 2 and Fig. 3 show the unemployment rate in the region compared to the national average.

It is observed from Table 2 and Fig. 3 that unemployment rates are high in the core Niger-Delta states (Akwa-Ibom, Bayelsa, Delta and Rivers) compared to the national average. In the above states, the region is much more critical and main oil

Table 2 Unemployment rates by states in the Niger-Delta.

States	Comp	Urban	Rural
Abia	10.6	8.70	10.8
Ak-Ibom	36.9	29.8	37.1
Bayelsa	23.6	20.7	24.1
C-Rivers	16.6	7.30	18.3
Delta	23.3	23.5	19.0
Edo	14.3	24.0	11.8
Imo	22.3	23.8	32.8
Ondo	17.0	14.0	19.8
Rivers	34.2	27.5	35.2
All Nigeria	18.1	14.2	19.8

Source: Ref. [22].

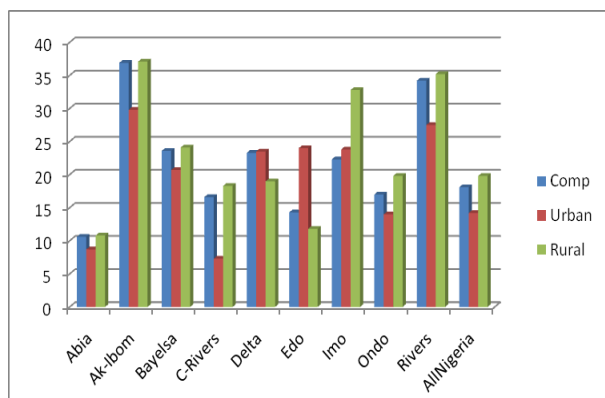


Fig. 3 Unemployment rates by states in the Niger-Delta.

producing states. The situation is much worse in the rural areas where the bulk of the population lives in the riverine areas. And the main oil activities takes place in the rural areas of these states. The table revealed that in the rural areas, unemployment rate is 37.1, 24.1 and 35.2 in Akwa-Ibom, Bayelsa and Rivers respectively compared to the national average of 19.8. What comes after such unemployment problem is alarming poverty.

The effect of land take on farming is clear. Although the amount of land used for oil production is

small, by comparison with the total area of affected communities, in the Niger Delta, it has been proven that the effect on individual landholders can be devastating [18]. Roads and canals constructed by the oil companies to link their production sites also add to the ecological problems that undermines the economies of Oil Producing Communities. Unarguably, oil based environmental degradation has engendered the collapse of local economies; setting in economic distress [23].

Analysis on Table 4 revealed that in Edo/Delta States, the incidence of poverty increased from 19.8% in 1980 to 52.4% in 1992. It later increased again to 78.44% in 2004. The case is almost the same for other states. For instance in Cross Rivers, the values increased from 10.2% in 1980 to 41.9% in 1985 which is more than 3 times increase after five years. In Imo/Abia states Fig. 3 increased from 14.4% in 1980 to 33.1% 1985 and later increased to 49.9% and 56.2% in 1992 and 1996 respectively. A close examination of Table 4 and Fig. 3 revealed that aggregate relative

Table 3 Cultivable land lost to oil exploitation-related activities in Okrika Local Government area of rivers state, 1991.

No. of persons affected	Name of oil field	No. of wells	Land area (Ita) per well	Total land area (Ita) lost to oil wells	Total land area (sq.ha) for other shell activities around the well	Land area for Helic-opter landing	Land area lost to flow station (sq.ha)	Total land area lost to oil exploitation
72	Bolo	10	6.3	6.3	1.2	1.4	6.3	71.9
66	Iwokiri	9	6.3	53.7	1.2	1.4	6.3	65.6
61	Mbikiri	8	6.3	50.4	2.4	1.4	6.3	60.5
221	Agokien	34	6.3	214.2	2.4	2.8	6.3	225.7
81	Ele	11	6.3	69.3	2.4	2.8	6.3	80.8
141	Orabekiri	21	6.3	132.3	1.2	1.4	6.3	141.2
173	Wakama	26	6.3	163.8	1.2	1.4	6.3	172.7

Table 4 Incidence of poverty in the Niger-Delta.

States	1980	1985	1992	1996	2004
Edo/Delta	19.8	52.4	33.9	56.1	78.44
C-Rivers	10.2	41.9	45.5	66.9	41.61
Imo/Abia	14.4	33.1	49.9	56.2	49.66
Ondo	24.9	47.3	46.6	71.6	42.15
Rivers/Bayelsa	7.2	44.4	43.4	44.3	49.07

Source: Ref. [22].

incidence of poverty in the region is alarming and call for attention. In the UNDP report, poverty in the region is termed as people who cannot pay school fees for their children or meet any needs such as food, having no farmland and cannot farm well, having no house to live. In another dimension, the report also explains the concept of poverty in the region as being sick and unable to see doctor.

5.2 Social Cost of Environmental Degradation and Population Displacement in the Region

Apart from the biophysical implications of the environmental degradation arising from oil exploitation in the region, there are other social dimension (conflict and violence) which has resulted to population displacement in the region. There has been alarming rate of social disorder, youth restiveness, robbery, militancy, rape, conflicts and hostage taking. Other social effects are HIV/AIDS prevalence and population displacement arising from oil induced fire outbreaks

The oil-rich Niger-Delta region has experienced an explosion in the number of conflicts ranging from intra-community to inter-community as well as communities and oil company conflicts. Social unrest has been the order of the day in the region. It is not an exaggeration to state categorically that most of these conflicts lead to loss of lives and destruction of properties of this poor people. The region is also experiencing various forms of hostage taking for financial and political gain [23, 24].

The exponential increase has largely been the result of activities of various militant groups. Youth restiveness and violence, acrimony and confrontation have been the ugly situation in the region. Youth restiveness is the direct resultant effect of poverty and unemployment. The Box 1 below shows some of the conflicts, youth restiveness, hostage taking and other forms of social unrest in the region.

Box 1: A Catalogue of Escalating Violence in the

Niger Delta, 2003-2006

2003: At Irri, Isoko South local council, a traditional ruler was alleged to have sold the rights of the community to Agip Oil. This sparked off violence. At the end of the imbroglio, no fewer than palace of the traditional ruler who took to his heels in the heat of the crisis.

January 2003: Indigenes of Ohoror-Uwheru community in Ughelli North local council were attacked by a detachment of soldiers from the Joint Security Task Force. Operation Restore Hope.

21 March 2003: While the Security Task Force was on patrol off n 10 persons died and property worth millions of naira was vandalized, including the Escravos River, youths attacked the team with 17 speedboats at Oporosa on the Escravos Creek, killing three soldiers and one naval rating.

22 March 2003: Youths struck at the Total E & P tank farm in Oponani Village and killed five soldiers and destroyed property worth billions of naira.

2 May 2003: Barely 24 hours after the state House of Assembly election, youths brandishing AK-47 pump rifles and other light weapons attacked the naval base, leaving two naval ratings severely injured.

7 November 2003: Eight mobile policemen were reportedly killed by youths between Otuan and Oporoma in Southern Ijaw Local Government Area of Bayelsa State.

April 2004: Five persons including two Americans were killed by militant youths. They were among nine people travelling in a boat along Benin River, West of Warri, when they came under what was described as. unprovoked attack. The two American expatriates were the staff of ChevronTexaco.

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14 April 2004: Ijaw youths attacked and killed four children including a 90-year community leader, Madam MejebiEworuwo, in Koko, headquarters of Warri North Local Council, DeltaState.

23 April 2004: About nine members of the Joint Security Task Force, Operation Restore Hope, in charge of security in Warri were killed by militant Ijaw youths.

2 November 2004: For several hours, youths of Igbudu and soldiers of the Joint Task Force clashed in Igbudu area of Warri, DeltaState.

18 November 2004: Ijaw youths from Odioma community in Brass Council in BayelsaState, protesting an alleged violation of a Memorandum of Understanding (MoU) by Shell Petroleum Development Company (SPDC), shut down and occupied its 8,000-barrel a day flow station.

22 November 2004: At least 17 youths of Ijaw extraction were confirmed dead as soldiers deployed to guard a flow station belonging to an oil-servicing firm shot sporadically into a crowd.

28 November 2004: Ijaw youths clashed with soldiers at Beneseide flow station, near Ojobo in BayelsaState over breach of MoU.

23 December 2004: The youths in Ogbe-Osewa and OgbeIlo quarters in Asaba clashed over a land dispute. Over 100 houses were ransacked, with property running into millions of naira destroyed.

23 December 2004: At Ekpan, Uvwie local council of DeltaState, youths clashed over the appointment of Unuevworo (traditional head) of the community.

24 December 2004: Militant youths kidnapped 16 oil workers including a Yugoslav at Amatu Community in Ekeremoh local council of BayelsaState. They were kidnapped from a vessel identified as Seabulk, owned by an oil-servicing firm working with Shell.

26 December 2004: Alleged similar breach of MoU by SPDC led to the abduction of a Croatian worker, Mr. Ivan Roso, at the company Sea Eagle floating crude oil production facility.

21 December 2005: Explosion rocked Shell pipeline

in Niger Delta.

22 December 2005: Fire raged in Shell installations causing 13 deaths.

31 December 2005: Explosion rocked Shell pipeline in Niger Delta.

12 January 2006: Pirates took four expatriates hostage.

16 January 2006: Militants attacked another Shell platform and torched houseboats.

16 January 2006: Fourteen soldiers killed in Niger Delta shoot out (*ThisDay*, 16 January 2006).

18 January 2006: Soldiers, Bayelsa militants engaged in gun duel.

18 January 2006: Shell cut oil output by 115 BPD (*ThisDay*, 18 January 2006).

19 January 2006: Federal Government opened talks with militants (*The Punch*, 19 January 2006).

29 January 2006: Oil workers threatened to pull out of Niger Delta, Ref [14].

6. Conclusions

The Niger Delta region has experienced serious degradation due to oil and gas activities which has resulted to displacement of people and involuntary migration. This paper has identified a lot of issues and crises in the Niger Delta as evidence of population displacement arising from oil and gas exploitation. It is evident from the study that the Niger Delta people are threatened with extermination should the present state of environmental degradation persist. The evidence in this paper may not be conclusive, but it is logical to argue that persons who relocate from their communities, either voluntarily or involuntarily, due to oil related environmental problems are internally displaced. The occupationally displaced, whose capacity for competition has been diminished and who live as alien in their own communities are equally displaced. This again brings to the front burner the urgent need to address the environmental problems of the Niger Delta as a well of forestalling further threat to life and sustenance of the people of this oil rich region of Nigeria.

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