

ENVIRONMENTAL DEGRADATION, SPATIAL POVERTY AND RESOURCE ALIENATION IN OGONI LAND: IMPLICATIONS FOR SUSTAINABLE LIVELIHOOD DEVELOPMENT

PORONAKIE, NWIEKPUGI BRIGHT (Ph.D)

Department of Geography and Environmental Studies
Faculty of Social Sciences
Ignatius Ajuru University of Education
Rumuolumeni, Port Harcourt
Rivers State
Nigeria

And

MAEKAE, JOB (Ph.D)

Department of History and Diplomatic Studies
Faculty of Humanities
Ignatius Ajuru University of Education
Rumuolumeni, Port Harcourt
Rivers State
Nigeria

Abstract

Environmental issues have intensified great concerns in recent times, especially as it affects human welfare and social justice. Several earth summits e.g. 1972 Stockholm in Sweden, 1992 Rio-de-Janeiro in Brazil and 2002 south Africa amongst others were held intermittently due to increasing environmental awareness and concerns for environmental degradation, coupled with the upsurge of environmental activism in most polluted hotbeds of the globe and the urgent need to enhance environmental quality for livelihood sustainability in the Niger Delta Region, particularly Ogoniland. Environmental devastations through decades of unethical oil and gas extraction have attained genocidal proportions such that human life is near extinction. Ogoniland exhibits a high degree of resource alienation due to its strategic economic location and enormous advantages of natural endowments that sustained Nigerian economy. The acquisition of valuable large expanse of land for both government and multinational companies for instance, refineries, petrochemical plant, fertilizer companies, Onne Sea Port Complex, etc. have not only impacted the environment negatively but also ensured constant loss of the people's means of living, decline in bio-diversity and agricultural output, intensified inefficient and inequitable use of natural resources, engendered soil instability and conflicts leading to rural-urban migration. The prevailing conditions were appraised through literature and observational techniques upon which policy recommendations were made. Environmental and economic rehabilitation and restoration were emphasized to include immediate and effective environmental clean-up exercise, adequate provision of basic amenities, adoption of the policies of decentralization and public participation policy in all development programmes, skill acquisition schemes for the youths, ensure good governance through electronic voting that advocates free and fair elections and improved capacity-building strategy for adequate security of life and property in Nigeria.

Keywords: Environment, Environmental Degradation, Pervasive Poverty, Resource Alienation and Ogoniland.

Introduction

The concept “Environment” refers to the complex process of physical, chemical and biotic factors (e.g. land/soil, climate, water bodies and living things) that act upon an organism which ultimately determined its forms and survival (Poronakie & Ibeh, 2014). In other words, environment means the totality of surroundings within which man, animals and plants live in harmony and symbiotically appreciate themselves as a functional system. According to Arokoyu and Umeuduji (2004), the environment represents the concrete setting on which man creates the basis of his life and activities on planet earth. Today, there are glaring evidences of growing threats to our environment, health and means of living particularly in Ogoniland where natural and human induced changes and transformation are common place. These problems have arisen from the people’s persistent conditions of poverty and underdevelopment (Adeyemo, 2008). While acknowledging the above submission, UNDP (2006) reported thus:

Poverty has become a way of life due to economic stagnation, agricultural underdevelopment from soil infertility, unemployment, poor quality of life arising from shortages of essential goods, facilities and money, isolation and poor communication system, government insensitivity and an unhealthy environment spreading diseases and malnutrition (UNDP, 2006).

The paradox of poverty and fears of insecurity amidst environmental wealth in Ogoniland (Niger Delta) was predicted before the artificial creation of Nigeria on October 1, 1960 when she got her independence. This is what one may called the “Willink’s Prophecy” is being fulfilled today even under the democratic system of government from 1999 till date. The fact remains that Nigeria’s leadership style over the years has persistently neglected the development of basic infrastructural facilities that would have raised the people’s living standard. These include all-weather roads, modern schools and hospitals, regular electricity supply, potable water, agricultural inputs/machinery, employment opportunities, industries, recreational facilities etc. despite series of non-violent protests and agitations under the Movement for the Survival of Ogoni People (MOSOP) in 1990 till date.

The unpleasant social and environmental conditions created by nature and man in particular with his complex economic activities e.g. oil and gas extraction have induced ecological changes leading to economic underdevelopment and hence negative transformations of the environment such as soil impoverishment, environmental degradation and pollution, over-crowding homes and spread of deadly diseases among other adverse impacts on the people and environment. These have intensified the protests that were organized locally and internationally to create awareness particularly the place of environment in the development process. According to Agwu et al (2000), the global concern coupled with the rising environmental awareness, more especially the upsurge of environmental activism in most polluted areas of the globe have compelled some central governments to formulate environmental policies for their respective countries. The crux of the matter is that the Ogonis are at the verge of extinction due to decades of mindless oil and gas exploration and exploitation activities by Shell Petroleum Development Company (SPDC). These activities have caused oil spills, gas leaks, flares and emissions of toxic chemicals, atmospheric pollution, land-subsidence, depletion of water and forest resources, erosion, effluent and waste generation which degrade and impoverish the environment, collapse indigenous economy leading to pervasive poverty, unemployment and constrained accessibility to basic welfare facilities and services in Ogoniland (Ogoni Bill of Rights, 1990).

Table 1: Trends in Nigerian Poverty (1980-2004)

Year	Poverty incidence (%)	Estimated Total Pop. (Millions)	Population in Poverty (Millions)
1980	28.1	65.0	18.26
1985	46.3	75.0	34.73
1992	42.7	91.5	39.07
1996	65.6	102.3	67.11
2004	54.4	126.3	68.70

Source: National Bureau of Statistics (2005) Poverty Profile for Nigeria.

Table 1 revealed that the poverty incidence in Nigeria was just 28.1% involving 18.26 million people in 1980. Twenty four years after, 68.7 million people have become poor, making it 54.4% of the population. These figures showed that there is economic growth in the country but without the corresponding “trickle down” effect being manifested in the Nigerian society particularly Ogoniland which is prone to poverty incidence. Thus, Saro Wiwa (1992) stated thus;

The number of our people in the junior and senior cadres of the federal public service can be counted on the fingers of one hand. So also is the number in the police force and armed forces, the children are largely out of the school and university. Many families have lost their bread winners and our economy has collapsed completely. The position is certainly not enviable, not by comparison with other ethnic nationalities in Rivers State.

Table 2: Consequence of poverty using crime index by type in Nigeria

S/N	Type of Crime	Index
1.	People using and dealing on drugs.	71.49
2.	Vandalism and theft (oil bunkering)	76.74
3.	Violent crime e.g. assault, armed robbery, kidnappings and killings.	79.74
4.	Corruption and bribery	88.36

Source: Numbeo (www.numbeo.com/crimerankings64country.jsp)

Table 2 above indicates that poverty has led people to involve themselves in many criminal activities in Nigeria at large and Ogoniland in particular. Corruption and bribery is the highest (88.36%). This is followed by violent crimes such as assault, armed robbery, kidnappings and killings (79.74%). Next to this, is vandalism of crude oil facilities and artisanal refining of crude oil popularly called crude oil theft/bunkering (76.49%) and lastly drug pushers (71.49%) respectively. Suffice it to say that mass unemployment and inadequate welfare facilities and services in the presence of high population growth rate are among the major factors of crime insurgencies in Nigeria at large.

Table 3: Comparative analysis of poverty and health indicators for some OPEC countries

OPEC countries	Survival derivation people expected to survive to age 40 (%)	Population without access to safe water (%)	Population without access to health (%)
Nigeria	33.8	49.0	49.0
Mexico	8.3	17.0	7.0
Uruguay	3.6	5.0	1.0
United Arab R. Emirates	5.4	25.0	18.0
Libya Arab Jamahiriya	16.2	3.0	5.0
Indonesia	14.8	38.0	7.0
Syria Arab republic	10.3	15.0	10.0
Iran	11.7	10.0	12.0
Algeria	10.6	22.0	2.0
Iraq	15.4	22.0	7.0

Source: Human Development Report, 1997 (UNDP, New York). Adapted from Oyegun & Akpoghme (2009).

Table 3 revealed that the health sector has the same poverty scenario. The UNDP (1997) report on Human Development for some petroleum exporting countries (OPEC) showed that the percentage of the population which does not live up to the age of 40 years in Nigeria is the highest with 33.8% while only 3.6% in Uruguay. Similarly, only 3% of the people of Libya have no access to safe drinking water. In Nigeria, the problem is more acute with 49% for the population without access to safe water and healthcare services.

According to UNFPA (2004), Nigeria also tops the list of a sample of sub-Saharan Africa countries as the least literate country with an illiteracy level of 72% of her population (see table 4 below).

Table 4: Literacy sample of Sub-Saharan African Countries

Country	Illiteracy (%)		Total (%)
	Male	Female	
Nigeria	28	44	72
Botswana	25	20	45
Kenya	11	24	35
Cameron	21	36	57
Ghana	20	37	57
Uganda	23	43	66

Source: Oyegun and Akpoghomen (2009).

Looking at the challenge of environmental and economic development of Nigeria where Ogoniland is located; the leaders woefully failed to enhance livelihood sustainability of their subjects. They do not generally feel a uniform commitment to the economic development of the whole country. According to Rimmer in Bell-Gam (1990:1), the location of industries, universities, farms and other investments seemed to depend more on the interests of the rulers or the group they are most faithful towards. Again, policies consequently become evaluated and shaped by how and where, and to whom they deliver welfare. Thus, in the drama of haphazard development syndrome, most ethnic groups lacking political clout lose out as observed in Ogoniland. The consequences are greater if their home lands are also far away from the capitals.

Table 5: Ranking of major problems, issues and priorities in the Niger Delta including Ogoniland

Problem Type	Problem Subset	Priority Ranking
Natural Environment	Coastal river bank erosion	Moderate to high
	Flooding	Moderate
	Sedimentation/Siltation	Low
	Subsidence	Low
	Exotic(water Hyacinth)	High
Development related	Land degradation/soil fertility loss	High
	Agricultural decline/short fallow	High
	Delta forest loss (Mangrove etc.)	High
	Bio-diversity depletion	High
	Fisheries decline	High
	Oil Spillage	Moderate
	Gas flaring	Moderate
	Sewage and waste water	High
	Other chemicals	Moderate
Socio-economic problems	Poverty	High
	Unemployment	High
	Community oil company conflict	High
	Inter-community conflict	High
	Intra-community conflict	Moderate
	Conflict over land	High
	Inadequate compensation	High
	Decay in societal values	High
	Poor transportation/high fuel cost	High
	Housing pressure and infrastructural decay	High
	Displacement	Moderate

Source: Adapted from Oyegun and Akpoghomeh (2009:19).

Although, SPDC has recently been sacked from Ogoniland by the Federal Government due to environmental degradation effects; its ecological damages from previous oil operation activities require immediate clean-up, exercise, restoration and adequate compensation to victims of pollution which leads to environmental degradation and poverty, Oyegun and Arokoyu (2002) said;

The air may be fresh and pure to the eyes and yet, be radioactive. Food and water may appear wholesome and yet be full of chemical poisons. Of a truth, pollution is often an invisible killer because mankind is daily dying of cancer, stroke, respiratory ailments and other deadly diseases. Monuments and buildings are being progressively defaced, animals and plants are being decimated; rivers are being depleted of aquatic lives (fish) while forest are dying. Improper or poor industrial waste management strategies and pollution have grown to such catastrophic proportions that something has to be done and quickly too; if global tragedy is to be avoided. (Oyegun & Arokoyu, 2002:185).

Government intervention efforts like the establishment of boards/commissions/programmes/projects and initiatives for economic and human development, e.g. the environmental clean-up exercises at the company's exist, the Amnesty offer and package to the Niger Delta Militants and currently, the National Empowerment Programme have failed to provide sustainable solutions to the plight of the poor masses who lived in the rural communities of Ogoniland and Niger Delta at large. In spite of the huge resources devoted to these development initiatives to stabilize the economy, the establishments/programmes/projects at one time or the other suffered from lack of focus, irregular and inadequate funding, official profligacy, corruption, excessive political interference, lack of transparency and accountability, and high overhead expenditure.

Presently, both the federal government and multinational oil company e.g. SPDC operating in the Niger Delta do pump about 2.3 million barrels of crude oil into the international market daily. This contributes 95% of the country's foreign exchange earnings (CBN, 2002). As a matter of fact, 75% of the oil wealth is earned from the Geographical Niger Delta states e.g. Rivers, Bayelsa and Delta, leaving only 25% from the rest six states in the region. Nigerian crude oil is associated with gas, and the quality of her gas is very high making it to be of high demand globally. In 2005, the natural gas reserves increased to 1875 Tcf. And Chukwueke (2006) states that there is also the indication that gas could overtake oil in economic potential to the nation due to World economic growth, changing energy markets, significant environmental advantages of gas over oil and coal and advances in technology. It is pertinent to observe that out of the fourteen oil-producing countries in Africa, (e.g. Algeria, Angola, Chad, Congo, Egypt, Equatorial Guinea, Gabon, Libya, Mauritania, Nigeria, South Africa, Sudan and Tunisia), Nigeria's Niger Delta is the only region with endemic social and political instability, massive environmental degradation, impoverishment, pervasive poverty and inequality, mass unemployment, decay in societal values, erosion, flooding etc. (See Table 5 above). Again, among the World's top ten oil producing countries (Saudi Arabia, Canada, Iraq, United Arab Emirates, Kuwait, Iran, Venezuela, Russia, Libya and Nigeria); Nigeria is the 10th with the least oil reserve of 24 billion barrels and the most volatile in terms of agitations and resource based conflicts. According to Briggs (2007), Nigeria is the only country in the world which has so cruelly plundered its oil producing districts without any genuine policy of compensation.

In the United States of America (USA), Louisiana and Texas are the two top oil producing states and their environment is neither degraded nor impoverished as observed in Ogoniland and Niger Delta region at large. Louisiana (USA) with the largest oil deposit is also the World's biggest producer of crayfish and agriculture still thrives significantly. For Texas, the economy is the second largest in USA. Paradoxically, oil producing communities in Ogoniland (e.g. Yorla, Bormu, Bodo-West, Dere, Korokoro, Ebubu etc.) are grossly underdeveloped infrastructurally and by implication, a poor area amidst environmental wealth. Unfortunately, oil exploitation in the area has woefully failed to improve the people's quality of life because the economy has not witnessed any industrial diversification. The oil and gas industry has not positively transformed the socio-economic landscape or welfare of the people. Rather, it has deprived the people of their means of livelihood. e.g. land and water resources, depleted the forest resources and on the aggregate degraded their natural environment (UNEP's Report, 2011). Again, it has worsened the economic miseries of the people, thereby keeping them in a state of destitution and breccial

disillusionment. Sequel to the poor living conditions of Ogoni people, Honourable Magnus Ngei Abe in an open letter to President Olusegun Obasanjo titled "The unanswered questions of non-development in Ogoniland" stated thus;

Ogonis never fought for oil to be left alone beneath the grounds, rather they complained because they saw a valuable resource draining away without provisions being made to provide for their future. The Ogoni man today wants oil drilling in Ogoni to resume with a company different from Shell Petroleum Development Company (which for obvious reasons can never be welcomed in Ogoni) and with themselves as co-participants and beneficiaries. Surely, Nigeria can find a company ready to work in partnership with Ogoni people. Perhaps then, the drills will be a sound of hope, and the gas flares will be seen as the first sights of a new dawn, which you have brought perhaps. But the Ogonis will not want indefinitely while their youths roam other lands endlessly without hope, and mother's age prematurely toiling at stubborn fields that do not yield and dying tearfully in the midst of plenty. Somehow, somewhere, either you or your Vice President must have a heart. The Ogoni people are loyal, peaceful and trustworthy people. They could not have suffered all this agony and trauma for nothing. The federal government must make concrete efforts to improve the lives of the Ogoni people by providing roads, electricity, education, industries and healthcare, especially for the Ogoni people (The Guardian, January, 19, 2000).

From the foregoing, it is deduced that the feeling among the people is that they must benefit maximally from the oil wealth that the country derives from the area. This sentiment is so strong because the infrastructural facilities which are deficient in Ogoniland, abound in other areas in Nigeria (e.g. Abuja) and have been provided by the same oil wealth. The level of economic development in this area is far below the national level mainly because of the failure of the trickle-down effect of the top-down bureaucratic framework of administration. Nevertheless, the Geographical Niger Delta including Ogoniland is the location of oil and gas sector of the economy and the hub of commerce and industry of the country (Oyegun and Akpoghomeh, 2009). There is obviously been economic growth in Nigeria while paradoxically, the vast majority of its populace in this region experienced environmental degradation arising from oil spills. Writing on the activities of SPDC in Ogoniland, Gbosi, in Poronakie and Kidi (2012) reported;

When the oil companies started their exploration and exploitation in the Niger Delta region, the oil-bearing communities were basically traditional societies who depended on land and crude labour for their survival. The oil companies acquired the land, polluted the environment and left the land and people without appropriate development. The process of land acquisition, pollution of the ecosystem and general degradation took decades for these impacts to begin to manifest on the environment and the people. (Poronakie & Kidi, 2012: 242).

Consequently, President Yar' Adua lamented this inhuman situation in the country during his inauguration of members of the Energy Council for the reform of the energy sector when he said;

Our country has had for too long, a very narrow focus in the management and utilization of the hydrocarbon resources. The enormous potentials of our oil and gas industry for generating economic growth, the provision of mass employment and for providing a strong foundation for the transformation of our industrial and agricultural sectors have never really been prioritized (Adeyemo, 2008: p 16).

The initial youth restiveness over the non-development of Ogoniland which has degenerated to an all-out terrorism and militant insurgency in the area Ogoniland and Niger Delta at large is causally related to deficient provision of basic welfare facilities and services consequent on deprivations, discriminations and total neglect of the area at the expense of sustainable development goals and objectives. This is a critical instrument for the eradication of poverty, and poverty itself is central to the problems of crime and terrorism (Poronakie, 2014). According to Okowa and Okowa (2009), the war against crime and terrorism, both domestically and internationally, can only be successfully prosecuted if an effective war against poverty and its correlates of disempowerment, frustration, anger, angst, bitterness, social alienation, nihilism, etc. are waged. The argument presented for the Ogoni's environmental despoliation and economic underdevelopment holds that decades of oil spills, gas flares and leaks, emission of toxic chemicals, depletion of land and water resources etc. have accumulated to destroy the ecosystem structure which adversely affected bio-diversity to the extent of rendering most of the rural communities in Ogoniland so barren and unproductive that they are abandoned.

Today, Ogoni area is littered with uncompleted or failed government projects e.g. Gokana street in Bori town, water tanks without treated water at Bori, Bera, Taabaa, Alesa, and Nachia; dilapidated hospitals/healthcentres without modern facilities and services including drugs, unqualified and inadequate medical personnels, schools without teachers, instructional materials e.g. no well-equipped science laboratory in schools, electric poles and cables without constant lights or no rural electrification, fishponds without fish, degraded and impoverished farmlands, earth roads that constituted death traps particularly during the wet season. These are indicators of poverty and underdevelopment with the attendant fears of insecurity for the indigenes and foreigners who are frequently kidnapped and even killed in the process by the militants in the area for refusal or delaying the payment of ransome (Poronakie, 214, Tamuna et al, 2008).

The European companies have started to relocate and repatriate their investments and workers from the Niger Delta Region due to the recurrent wave of kidnappings, hostage takings and killings of oil workers and others by the militants (Oyegun, 2007). Thus, with the present state of instability, overcoming poverty, unemployment and deficient infrastructural development in the area must become the preconditions and priority for further growth and sustainable economic and environmental development of the oil and gas sector if Nigeria is to rank among the top 20th economies in the World by 2030.

Theoretical Framework

The theory of poverty and environmental sustainability is considered most appropriate for this paper. This is because it reflects the dynamics of poverty due to environmental degradation in Ogoniland (Niger Delta). Environmental degradation arising from oil and gas production in Ogoniland called for concern which makes environmentalists and other experts to study the area within the larger context of globalization. The implications for livelihood in the Niger Delta are non-negotiable with quite intense fall out and eventual extinction of most localities where oil and gas exploration activities take place.

In an attempt to resolve these challenges, the theory argues that who is responsible for most of the ills of oil and gas exploration in the region? Is it the government, oil and gas industries, youths who vandalize pipelines and other oil facilities or the global community? (UNDP, 2006). In essence, the World today recognizes the need for environmental sustainability to the development of nations. For instance, goal 7 of the Millennium Development Goal states that ensure environmental sustainability, seeks to reduce environmental degradation arising from natural and man-induced changes as well as the inefficient use of natural resources; and to improve environmental management through private sector participation and the application of environmentally friendly technologies (Oyegun, 2007; UNDP, 2006).

Nevertheless, this theory of poverty and environmental sustainability emphasized that the environment is fundamentally important to people living in poverty not only because their existence to a large extent relies on subsistence endeavours which depend on natural resources but also that they perceived their well-being as tied to their environment in terms of livelihoods, health, vulnerability and the ability to control their lives. Moreso, poorer people are more prone and vulnerable to changes taking place in their environment in part because social, political and economic exclusion means that they always have fewer choices about where they live. Hence, they bear the brunt of natural hazard, biodiversity loss, and the depletion of forests, pollution (air, water and soil) including the negative impacts of industrial activities. Sustainable livelihoods hinge on job creation and high value products that yield income for the poor as well as the vulnerable groups. The theory also stressed that the best practices of this at the global level have shown that vital factors include a healthy environment, opportunities to acquire skills, diversification of the economy, resource management and control, and financial empowerment through micro-finance scheme. Thus, the theory maintains that for Ogoniland to become economically prosperous, socially stable, ecologically regenerative and politically peaceful; its people need sustainable livelihood. The theory further acknowledged a balance between economic growth and development on one hand, and environmental resources exploitation on the other. This means equal development, which emphasizes a balance between rural and urban areas; between environment and economic development for managing the environment as articulated by Salau (1993) when he said;

Protection of the environment is also seen as essential part of development. Without adequate environmental protection, development is undermined and without development to make available resources needed for investment, environmental protection will fail. Thus, economic growth depends to a great extent on the maintenance of environmental quality and environmental quantity in turn depends to some extent on the maintenance of the well-being of the people. (Salau, 1993:p10).

Definition of Concepts

Environmental Degradation: This refers to the spoliation or depletion of environmental resources such that they are neither available nor when available, are not in the right quantity, quality or spatial distribution. The concept also means the introduction of hazardous substances, which have the capacity to impair environmental quality. Environmental degradation is either natural or man-made; but in the case of Ogoniland, it is largely man-made. Again, the United Nations Research Institute for Social Development (UNRIDS) (1994) also argued strongly that scarcities often associated with degradation that engenders social stress with variation among social groups. Therefore, our concern is that environmental degradation is locale specific, and it should be understood within the context of the society which an environment supports.

Initially, environmental degradation often start from the exploration, exploitation, processing and transportation of crude and refined petroleum products. Several issues of oil spills have been documented in the case of Ogoniland. In 1970, the Agbada-Bomu trunk pipeline ruptured at Ejamah-Ebubure leasing large quantities of crude oil into the environment. A study conducted in 1984 revealed that due to no clean-up exercise, the extent of destruction had become permanent (Owate, 1997). Following the difficulties associated with resources recovery, SPDC has fenced their oil exploration locations in Ogoniland e.g. Zaakpon community. This implies that some expanse of land measuring over 10 lecturers have been rendered useless, barren and unproductive. Apart from oil spills and gas flares, studies such as Poronakie and Kidi (2012), UNEP's Report (2011), Adeyemo (2008), Oyegun and Arokoyu (2003) and Owate (1997) have shown that where effluents arising from industrial activities as could be observed at Alesa-Elеме Refinery and petrochemical Company at Akpajo and waste water been discharged steadily into the water courses along the creeks have modes these areas are heavily polluted. There is the persistent flow of oil chemical substances on water surface at the estuary (Owate, 1997). Hence, it affects aquatic life of the area. The same thing is applicable to the rainy season where the area experienced overflow of drilling mud from mud pits into farmlands, rivers and creeks in the area. Furthermore, the several gas flare-sites presently producing black soot arising from bunkering activities also contribute significantly to environmental degradation in Ogoniland.

As earlier stated, another important industry in Ogoniland found degrading the environment is the Petrochemical Company at Akpajo (Elеме). A study conducted by Ekong and Alagoa (1992) indicated that a significant increase of the background radiation count rate in a potassium-bearing fertilizer, as one moves closer to the dumpsite. Regrettable enough, this constitutes the discharged effluents from production into the adjoining creeks which have been affecting aquatic life and fishing activities in the area. The fertilizer plant, petroleum refineries and petrochemical industries in the study area also release noxious gases, which degrade air quality in the environment. Maffat and Linden (1995) estimated that the lead levels in Nigeria's gasoline is one of the highest in the world (0.74gml⁻¹). The discharged emissions and effluents associated with gas flares at flow stations include compounds of carbon, nitrogen, sulphur, hydrocarbons, particulate matter, heat, radiation and noise (Oyegun and Arokoyu, 2003). Similarly, Aynsley (1973) affirmed that carbon dioxide levels in the atmospheric system have increased from 290 to 350 ppm since the beginning of the 20th century. The constant emissions of these gases by the industries located in Ogoniland have the potential impact of increasing the ambient air quality and temperature of the atmosphere as a Green House Gas (GHG). Consequently, Obinna in Oyegun and Arokoyu (2003) reported that the light gas from flares has a

strong effect on crop photosynthetic regime, and also increases the breeding of insect pests which have adverse effects on human beings.

The background concentration of carbon monoxide (Co) gas is 0.1 ppm (Hodges, 1973). Current studies conducted in the Port Harcourt/Onne region indicated that this toxic gas is already over 1ppm, in fact, carbon monoxide gas has a strong affinity for continuing with haemoglobin which is the oxygen carrying component of the human blood. Hence, rather than combine with oxygen, haemoglobin continues with carbon monoxide with the net effect of supplying less and less oxygen to the organs of the body. Death usually occurs when human beings are exposed to carbon monoxide for a long period of time. The emission of Nitrogen oxides into the atmosphere by the fertilizer plant in Ogoniland is another source of concern. Hodges (1973) has revealed that concentration of 100ppm of nitrogen dioxide for a few minutes can be detrimental to animals; living organisms including man and while the concentration of 1ppm/day leads to leaf injury and stunted growth in plants. It is thus deduced from other related studies that the mean ambient concentration of Nitrogen Dioxide is about 4ppm. Looking at the relationship between sulphur dioxide and acid rain in the Niger Delta, there is no detailed laboratory analysis of water quality in the region with a pH value of 4.0. It is this pH value which is internationally accepted as an indicative of the occurrence of acid rain, while the discharge of suspended particulate matter is spatially increasing in the region, Morgan (1973) estimated that particulate matter constituted only 10% of atmospheric pollutants. Therefore, both the Ministries of Environment and Health are obliged to enforce compliance strategies through regular monitoring systems to ensure adequate treatment of effluents from industrial plants to acceptable levels before discharging them into the natural environment.

Poverty: Fundamentally and as used in this study, poverty connotes a denial of choices and opportunities, and a violation of human dignity (World Bank, 2000). It also means lack of basic capacity to participate effectively in the economy of a given society. Hence, poverty implies not having enough to feed and clothe a family, not having a school or clinic to go to; not having adequate land on which to grow one's food or a job to earn one's living, not having access to credit. In other words, poverty also means insecurity, powerlessness, and exclusion of individuals, households and communities (Poronakie and Arokoyu, 2015). By extension, it means susceptibility to violence, and it often implies living in a marginal or fragile environment (World Bank, 2000). Summarizing the above, the UNDP (2006) stated that poverty is a condition characterized by severe deprivation of basic human needs including food, safe drinking water, sanitation facilities, health, shelter, education, and information. This shows that poverty depends not only on income but also for having adequate access to social facilities and services. By extension, it includes not only a lack of income but also productive resources to ensure sustainable livelihoods devoid of hunger and malnutrition, ill health, limited or lack of access to education and other basic welfare needs; increased mobility, and mortality from illness, homelessness and inadequate housing, unsafe environment, social discrimination and total exclusion. Again, poverty is also characterized by lack of participation in decision-making process and in civil, social and cultural life. It occurs in all developing countries as mass poverty; pockets of poverty amidst wealth in developed countries, loss of livelihoods due to economic recession, sudden poverty due to disaster or conflict, the poverty of low-wage workers and the utter destitution of people who fall outside family support system, social institutions and safety nets

(UNDP, 2000). For these reasons, poverty has absolute and relative components, and it breeds crime and economic underdevelopment which undermines the security of a community, society or nation.

The Geography of Ogoniland

Ogoni area in Rivers State (Niger Delta) lies between longitudes $7^{\circ}10^1$ and $7^{\circ}30^1$ East of the Greenwich Meridian and latitudes $4^{\circ}30^1$ and $4^{\circ}50^1$ North of the Equator. This latitudinal location implies that the area lies within the tropical region with all its climatic and topographic characteristics. The total landmass is approximately 1212km^2 with a population of 837, 239 (NPC, 2006 projected). Its population density, is 691. The area is bounded in the North by Oyibo and Obio/Akpor LGAs; in the South by Opobo/Nkoro and Andoni LGAs; in the East by Akwa-Ibom state and in the West by Ogu/Bolo and Okrika LGAs respectively. Climatically, it is characterized by a semi-hot humid equatorial climate ranging between 30°C and 36°C . Relative humidity has equally graduated from 75% to 85% or more particularly during the rainy season (Tamuno, 2008).

However, the area is typified by a uniformity of temperature throughout the year, intense conventional rainfall which occurs almost every month of the year, seasonally variable and very energetic in downpour with increasing continentality. The high incidence of rainfall coupled with low relief in the presence of high waters produce frequent flooding and erosion in the area. Popular rainfall stations (e.g. Opobo, Ngo and Bonny) that are in the same geographical location with Ogoniland exhibit some of the highest values between 3000mm-4500mm (Adoki & Adoki, 1998). The usual dry hammattan that often accompanied North-South monsoonal trade wind which was hardly felt in the coastal areas; has in recent times become notable feature of the climate due to ozone depletion, climate change and global warming (Oyegun, 2007; Bell-Gam, 1990). The coastal settlements in Ogoniland (e.g. Kono Waterside, Gwara, Kaa, Bane, Bomu, Bodo, Dere, Kporghor, Gio, Onne etc.) share all the prevailing climate and topographic problems of terrain, geology, relief, drainage, vegetation, soil and delta with relative institutional and structural facilities of modern economic system if fully harnessed. The area is administratively divided into four local government areas namely, Khana, Gokana, Tai, and Eleme. Traditionally, Ogoniland is made up of six kingdoms such as Nyokhana, Kenkhana, Babbe, Gokana, Tai, and Eleme respectively (UNEP's Report, 2011).

(See figures 1 & 2 below).

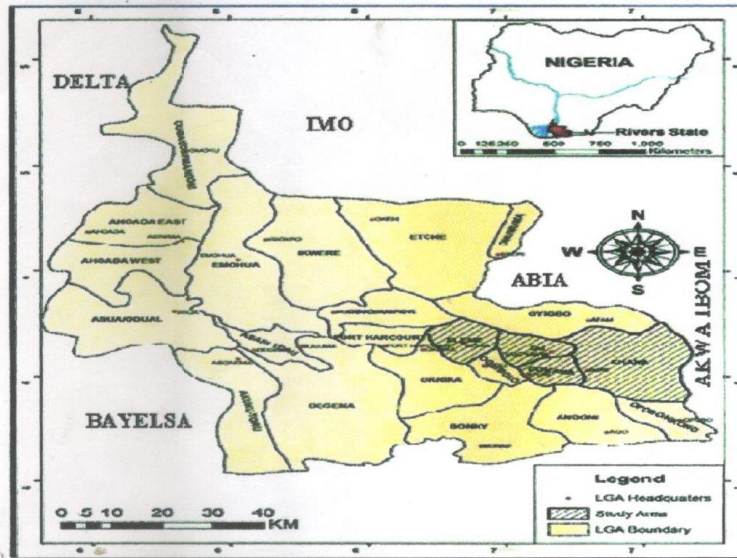


Fig. 1: Rivers State showing the Study Area (Ogoniland)
 Source: UNEP's Report (2011:p23)

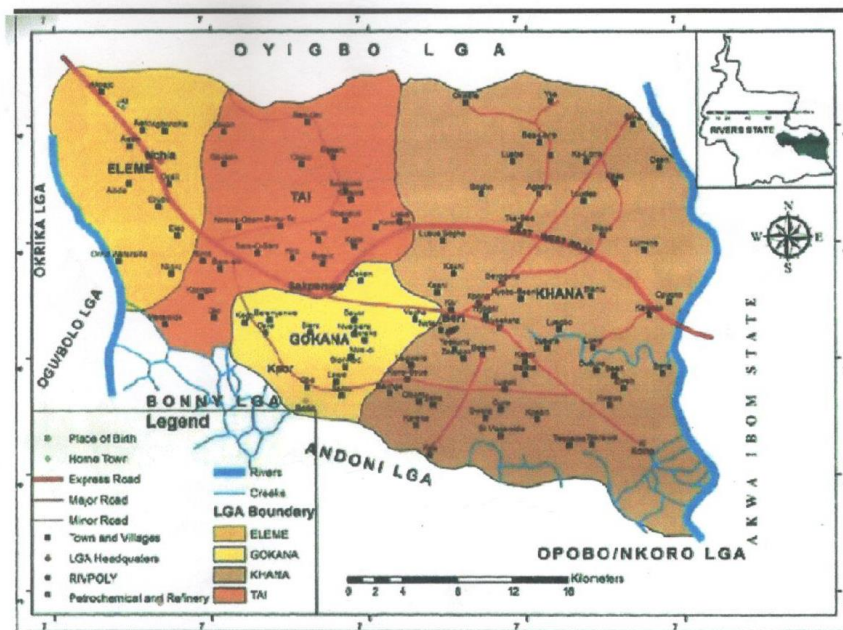


Fig. 2: Ogoniland showing Communities
 Source: UNEP's Report (2011:p23)

Economically, besides oil and gas, the people are naturally blessed with human and material resources. Ogoniland is endowed with a large number of working age population, potentially cultivatable expanse of land and fishery resources. The potentials of Ogoniland in the areas of primary agricultural production existed in a variety of cash and food crops e.g. palm oil, palm kernel, timber, yam, cocoyam, cassava, plantain, banana, coconut, vegetables and wildlife with enormous scope for padi-rice cultivation. (Amayie, 2001). In other words, the potentials of

these valuable resources have not transformed the socio-economic landscape and livelihoods sustainability of Ogoniland. This is because they are under constant and severe threats from oil and gas operations in the area. In most cases, public utilities and services are not only deficient supply but also uncommon; and where they exist, projects like rural electrification, potable water provision and treatment, all-weather roads, modern schools and health facilities, bridges, jetties, etc. lack regular maintenance and more often than not abandoned after few years of commissioning. Thus, given the vast oil and gas endowments and relative inaccessibility, its immense potentials for accelerated economic growth and sustainable socio-economic development are in contrast with its pervasive poverty with over 70% of the population living below the poverty line of #150.00/per day, poor social and economic infrastructures, severe environmental degradation and higher incidence of social unrest and insecurity (Poronakie, 2014; Okowa & Okowa, 2009).

Effects of Alienation and Degradation on Human Economic Activities in Ogoniland

The phenomenon of alienation and degradation may be global but are not subject to unequivocal interpretation (Oyegun & Arokoyu, 2003). These conceptual issues can hardly be discussed without making reference to the specific social context of Ogoniland. This specific social context of the area earlier discussed indicated that the environmental wealth of Ogoniland is found in land, water, oil and gas resources. Land appropriation is selective as it depends on the characteristics and types of land-user. Therefore, all these environmental resources were needed at one time or the other particularly land appropriate for each situation with its attendant impacts on the people's economic activities.

The area in which land appropriation and environmental degradation have been very serious in Ogoniland is in the area of agriculture. The high reduction in cultivable land through the allocation of industries and other government establishments e.g. Rivers State Polytechnic, Bori; Rivers State School-to-land authority at Agbeta, Okwale, Sime, Kpaa; the Naval College at Onne, Rivers State Government farm settlement at Bostem Tai, Police training and NYSC orientation camp, Port Harcourt Refinery Company 1 & 2, Refinery Quarters, NNPC 1000 Units Housing Estate, Eleme Petrochemical Company Akpajo, Onne Ports Complex, National Fertilizer Company village, Federal Government Township and Industrial Layout, Rivers State Government Onne satellite town. High Rainfall Station of the International Institute of Tropical Agriculture (IITA), 15 oil wells and 5 flow stations, 15 farm settlements for Equatorial Guinea returners and several oil and gas pipelines/facilities (Poronakie and Kidi, 2012).

The net effect of these establishments is the reduction on the farming activities and the number of potential farmers in Ogoniland. Again, the inability of the people to handle industrial wastes intensified pollution effects in addition to decades of oil theft (criminal refining of crude oil or bunkering) going on around oil bearing communities in the area. With high population growth in the area, the people argued that this situation has not only created the problems of food scarcity but food insecurity, unemployment and poverty (Oyegun & Arokoyu, 2003). The resulting effects of the above include drastic reduction in fallow period from seven to three years within a period of thirty years. Traditionally, Ogoni people used to have communal land tenure system, each of which was portioned among villages and families for farming and rotationally used on seven years basis. The period which farmlands are allowed to stay bushy without been cultivated on it is to make them regain its natural fertility of the top soil through organic matter

accumulations (Phil-Eze, 2010; Etu-Effector, 1993).

The prevailing situation is different because the Ogoni communities are host to many industries and other federal and state government establishments as listed above. The overall effect of the present situation is that the number of community farmlands has reduced from seven prior to Nigerian Independence in 1960 to just three now. This reduction of fallow period index and the natural system of forest regeneration leading to a severe decline in soil characteristic's status overtime e.g. soil water, breakdown of nutrients, soil crumbs and blocking pore spaces due to site exposure and organic matter diminution. A very serious economic consequence of soil degradation or impoverishment arising from the problem of land appropriation and soil pollution is the total reduction of crop yield/productivity. Researches carried out on crops planted on degraded soil are highly susceptible to both drought and pest infestation (Lal and Okigbo, 1990). On the whole, ferrasols soils found as the soil type in the study area are mainly composed of acid infertile soils that hardly support commercial agriculture.

The soils are easily compacted, have low available water retentive capacity due to larger spore spaces that makes it more susceptible to frequent soil erosion. The structural deterioration sets in immediately the soils are intensively cultivated. In terms of chemical composition, the soils have low nutrients reserves specifically nitrogen, phosphorus including some trace elements. At the beginning, the level of soil organic matter is generally high but shortly, it declines rapidly with deforestation, intensive cultivation and pollution. As degradation induced crop yield reduction, they are usually severe in acid infertile soils, mainly caused by severe crop yield decline that manifested in the depletion of soil fertility and deficiency of major plant nutrients.

Again, the scarcity of farmland engendered by land appropriation and degradation now results in a weakening of land sharing institution under traditional authority particularly individual farmland ownership. Therefore, as the social value system becomes more prone to changes and unstable with social rights intensified; communal clashes in terms of inter and intra community conflicts occurred in virtually all the communities in Ogoniland, affecting agricultural activities and its production. This also results in rural-urban migration of most potential farmers and other able-bodied individuals. As migration is often selective, particularly with loss of active population that left in search of employment opportunities not only caused the nets transfer of social value but also shortage of farm labour and food crop production in such a traditionally agricultural society. Today, Ogoni people often known for their primary agricultural production in both cash and food crops have gradually transited from a food sufficient to a food insecure area. Another important effect worthy of mentioning is the views of the respondents' interview during the field work who lamented the loss of traditional resource management skills and environmental knowledge of their local ecosystems.

The SPDC's community relations programmes have not promoted the well-being of Ogoni indigenes. In fact, there is no remarkable mark of development in the area as a result of SPDC's or any agency's intervention. Through the press, one only hears of billions of naira budgeted and allocated for invisible clean-up projects or exercises. Thus, the people became increasingly distrustful and multinationals and even government agencies purportedly created to bring development to Ogoniland. The effects of unethical industrial activities of SPDC on the environment are not only devastating but have also triggered series of crises including resource control. According to Poronakie and Kidi (2012), most of the conflicts arising from complex environmental issues and challenges, including the long history of total neglect of Ogoni people

who have helplessly watched their land and water resources being continually devastated by intensive exploration and exploitation of crude oil and gas flaring without any tangible benefit since 1958 till date by way of investment in their own development; have continued to future Ogoniland, SPDC and the entire Niger Delta Region on the national and world conflict mapping and crisis resolution agenda. Hence, the breakdown of affection informal President Yar'Adua's administration to vacate SPDC's operations was overdue for immediate quit (The Nation, June, 1 2008). The reality of controversy at present lies with SPDC's legacy of accumulated environmental despoliation, economic underdevelopment and crisis in extant forms of livelihood and survival; such that genuine reparation and general clean-up exercise along social and physical infrastructure are needed urgently. Acknowledging these demands at the sack of SPDC in Ogoniland, Ledum Mitee in Poronakie and Kidi (2012) said:

There is now a great opportunity for all stakeholders, including the remaining oil multinationals to address the grievances of the Ogoni People and other traumatized communities in the Niger Delta Region in a way that would send a strong signal to the entire region that we are important and our well-being is important. Now, is the time to genuinely address the issue of environmental damages and treat the issue of the redemption of Ogoniland and indeed, all the communities that make up the Niger Delta with urgency, transparency and commitment by all parties (The Nation, June 9, 2008).

Nevertheless, Ogoniland would have been sustainably developed if President Yar'Adua did not die.

As alienation separates between some parts of the area from the inhabitants; environmental degradation becomes more acute with intensified inefficient and inequitable land-use practices; tending to drastically changed the attributes of Ogoniland's ecological systems. Presently, the seemingly unpredicted farming and fishing environment in the area which emphasized the need for a modern re-orientation of resources management skills and knowledge to enhance not only livelihood sustainability, but also sustainable rural development and transformation of communities in Ogoniland.

Conclusion

Ogoniland is characterized by degraded and polluted environment consequent on decades of unethical oil and gas exploration and exploitation activities. The present situation is such that human lives including other living organisms that constitute the ecosystem are at the verge of extinction. To worsen the problem more, virtually all the basic amenities/well-fare facilities and services are deficient in supply; making their demands to go with protests and agitations which often lead to social unrest and political instability. Hence, the living conditions in Ogoniland is very critical to human survival particularly the impacts of environmental degradation, pervasive poverty and resource alienation which intensified inefficient and inequitable land-use practices. The natural resources base crucial to sustaining the people's means of livelihoods have been destroyed without the provision of adequate alternatives for their future survival. Thus, the problems become compounded with heightened social tension that generally necessitated government swift intervention to diffuse long awaited time bomb in Ogoniland (Niger Delta) and Nigeria at large.

Recommendations

1. The government in collaboration with multinational oil and gas companies should embark on immediate genuine environmental clean-up exercise in Ogoniland.
2. Government should provide adequate basic amenities in the area e.g. potable water, modern health facilities and services, modern school, all-weather roads, rural electrification, employment opportunities, income-generating facilities etc.
3. Adoption of the policy of public participation measure in all development programmes or projects with people-centred and bottom-top bureaucratic framework.
4. Development of skill acquisition scheme, empowerment programmes and other entrepreneurial enterprises especially for the youths in Ogoni land.
5. There is need for electronic election which advocates a free and fair election in Nigeria to enhance good governance.
6. Government should quickly improve capacity-building strategy for adequate security of life and property in Ogoniland and Nigeria at large.

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