

TOPIC: “THE IMPLICATION OF OIL AND GAS SPILLAGE IN A COMMUNITY WHERE AQUATIC LIFESTYLE IS THEIR MAIN SOURCE OF LIVELIHOOD”.

PAPER PRESENTATION

BY GODSON AZU



Abstract:

The three components of the earth nature, Air, Soil, and Water, has been gravely distorted since the discovery of crude oil and its components in many oil producing countries around the world, for a century. And most especially in the Niger Delta region of Nigeria, where the purity and virginity of the earthly nature components have been hugely contaminated and inhospitable due to the resulting environmental degradation and its serious ecological imbalance leading to a disconnection and disaster on mankind and the host communities.

From the discovery of the first commercial oil well in **Olobiri in 1956**, the issues of oil exploration and its impact on the aquatic environment has remained a source of constant friction between oil producing companies and the exploited host communities. The oil and gas exploration activities in the Niger Delta areas has hugely affected the fishing productivity in the host communities, having been the major economic preoccupation of the indigenous people.

Record has shown that as at 2016, the daily production of crude oil in Nigeria stood at **1,999,855**, million barrels per day making it the largest oil producer in Africa, the seventh largest under **OPEC productivity quota**, and the thirteenth largest producer in the world. The harmful effects of oil spills on living aquatic resources cannot be overemphasized, as it kills plants and animals, in **estuarine zones**, oil settles on beaches and kills organisms that live there; it settles on the ocean floor, killing the bottom-dwelling organisms,(Benthic), such as crabs; therefore, oil spillages endangers fish hatcheries, and contaminates the bodies of commercially valuable fishes in the coastal waters.

This paper therefore calls for a radical approach to the oil production regulatory framework, and an intensive implementation and enforcement of such regulatory laws, to ensure a consistent adherence to sustainable oil spillage free exploration and exploitation in the oil producing communities.

Keywords: Oil and Gas, Spillage, Environment, Degradation, Regulations, Aquatic

Introduction:

Since the full operational and production of crude oil in commercial quantity by the **British Shell Petroleum company in 1958 at Olobiri** the first oil producing community now located in present day Bayelsa state, over the years the discovery of this abundant natural resources of oil and gas deposit, has steadily replace the economic earnings of the host communities, from agriculture and fisheries productions, as they continue to lose huge amount of agricultural lands, extensive deforestation, and its excellent fishing waters. Now subjected to environmental degradation, as a result of the ecological unfriendly exploration, and government policies that expropriated the indigenous people of the region of their rights to the values of those natural resources.



Conceptualisation of the following terminologies:

Environment: the environment here is centred on the condition under which all living and nonliving organisms or things occur naturally on earth, such as; ecological units, soils, sea, atmosphere, and natural phenomena. (Turner, et. al. 1994)

Oil exploration: this refers to the search by multinational oil companies for hydrocarbon deposits beneath the earth's surface, which entails highly sophisticated technology that involves a gravity of magnetic survey, passive seismic, or regional seismic procedures. (Forsythe, 1996)

Oil exploitation: this is the process by which oil is extracted and removed from the ground through seismic activities, thereby resulting in degradation of the environment in the form of depletion, oil spills, and deforestation without regards to its regeneration, to the impoverishment of the host communities. (Garland, et. al. 1990)

Gas flaring: this is the process of separating and burning of the gas produced from pumped up oil resources from the ground, which is flared as waste into the air. Causing air pollution, resulting in the many airborne diseases and climate change elements.

Environmental degradation: this is the huge level of deterioration of the environment through depletion of resources, (air, sea, soil and water); the destruction of ecosystems and the extinction of aquatic, which results to the reduction on environmental capacity to meet the social, economic and ecological objectives and needs of the host communities. (Stem, et. al. 1996)

Objectives:

The objectives of this presentation is to try emphasis on the following factors;

- To identify the oil and gas exploration activities on the environment.
- To determine the impact of oil spillage and gas flaring on subsistence agriculture, physical environment, and social life of the host communities.
- To determine what extent the government and oil producing companies, have mitigated in reducing the impact of oil exploration diverstasion on the host community, by using secondary sources to arrive at most of the key findings.



Oil Spillages and Gas Flaring

The Niger Delta region, is located in the Atlantic coast of southern Nigeria, and is the world's second largest delta with a coastline of about **450 km**, which ends at Imo river entrance, it is classified as a tropical rain forest with an ecosystem comprising of diverse species of flora, fauna, both aquatic and terrestrial. It is also considered to be one of the ten most important wetlands and marine ecosystems in the world, with an estimated total area of **112,000km²**, with an estimated combined population of over 40 million people. The diverse ecosystems consists of its, mangrove swamps, and freshwater swamps, which are now characterized by a complete contamination of the streams and fresh water rivers via oil pollution destroying its biodiversity.

It is estimated that in over 50 years of oil exploration in the Niger Delta area, that the quantity of oil spillage is at least **9-15 million barrels, equivalent to 50 Exxon Valdez spills. Also, oil companies in Nigeria flares over 313 millions of standard cubic feet of gas annually, and this amounts to flared gas emission of 16.5 million tonnes of carbon dioxide into the air.**



Oil Spillages and Gas Flaring

The devastating effects of this oil spill on the aquatic ecosystems are numerous, considering the facts that the fishing industry is an essential part of Nigeria human sustainability, because it provides the much needed protein and nutrients required for human growth and wellbeing. But with the oil contamination and increase demand on fishing, the fish populations are declining as they are being depleted faster than they are able to restore the numbers.

Oil spillage often results from sabotage or theft, human error, accidents and operational discharges of petroleum hydrocarbon into the environment. Oil bunkering is also a source of oil spill. The DPR Annual Statistical Bulletin (2014) gives a summary of oil spill incident report and incidence summary. 65% of oil spillage caused by sabotage; 17% by unknown causes; 14.35% by natural, equipment and human errors.



A = c _____

B = coating of the fish skin and the death of fishes due to asphyxiation

C = smothering of indigenous mangroves

D = oil spills extending into agricultural farmland

Key implications:

Socio-economic Impact:

With the various harmful and toxic organic compounds introduced into the natural environment during oil extraction, such as during seismic work, oil spills, gas flaring, which indeed has affected agricultural output and the aquatic survival for fishing, therefore destroying the basis of the economies of the indigenous communities. The depletion of aquatic population in the Niger Delta ecosystem is very impactful, and as such requires an environmental protection for its over **36 aquatic families**, with a **250 species of fish**, of which 20 of these fishes are endemic, with a rare finding them elsewhere on earth.

This oil spillages in the affected oil producing communities has caused them an unquantifiable, and inhuman devastation, by depriving the indigenous people from engaging in their fishing or farming activities which is their mainstay economy. The impact has bore a significant effect on the health and food security of the local communities.

The effect of oil spills and acid rain, resulting from huge gas flaring into the atmosphere, with its polluted waters, has affected aquatic life, therefore causing fishes to be driven away from the inshore or shallow waters into deep-sea, as a result of gas flaring, the impact here is low population and poor fishing productivity, generating huge economic poverty of fish farmers who relies on fishing to support their family livelihood.

Key implications:

Physio-Health Impact:

The building bodies of the human health and wellbeing has been heavily affected by the impact of environmental degradation, pollution and reduction in water quality, have been established to be responsible for millions of deaths, and many illnesses suffered around the world. According to a study conducted by the faculty of pharmacy, University of Lagos, it was found that water samples collected from the sea, rivers, borehole, lagoons, and beaches in the Niger Delta areas, (Akwa Ibom, and Rivers States), showed that more than **70%** of the water in the areas contains a chemical called, 'Benzo-pyrene with a high concentration of **0.54 to 4ug per litre**, far above the **WHO**, recommendation of **0.7ug/1** for drinking water. There were further evidence of various health related illnesses associated with polluted waters in these communities, such as; Asthma, Breathing Difficulties, Headaches, Nausea, Throat Irritations, and Chronic-Bronchitis.

Conclusion

The Niger Delta is home to a valuable natural resource, providing livelihood in farming and fishing. However, the area is also plagued by large oil spills that threaten the lives of the inhabitants of the region, those rich natural resources, and the very livelihood of those who depend on them. It is common that indigenous communities and households would depend on the available resources in their place of origin since available resources is a sine qua non for sustainable living.

Likewise the people in the Niger Delta depend squarely on their natural environment (soil, water resources, and forest) for subsistence and survival by engaging in farming and fishing. Oil spills which occur both on land and water is threatening this means of subsistence.

it damages fisheries and contaminate water used for drinking and other domestic purposes thereby reducing any improvement in livelihood activities of people in oil producing areas. Most of the people affected are particularly the poorest and those who rely on traditional livelihoods such as fishing and agriculture. Damages from oil operations are therefore chronic and cumulative and have acted in a severely impaired coastal ecosystem compromising the livelihoods of the regions impoverished residents.

Large oil spills generally devastate ecosystem in the Niger Delta, poison seafood, fish, water birds and animals; fishermen in the Niger Delta are usually negatively affected as their sources of livelihood are destroyed; stream sources which provide drinkable water for rural people in the region remain heavily contaminated beyond use by oil spills and this affects right to life adversely.

Conclusion

Farmers and fishermen have been faced with poor harvest thereby increasing the vulnerability of the people and robbing households of a means to survive. Several major rivers are heavily polluted and also farmlands are under acid rain and oil spills. The fisheries sector itself is suffering due to the destruction of fish habitat in the mangrove zone and highly persistent contamination of many creeks, making them unsuitable for fishing

Gas flaring also contributes to climate change by releasing excess carbon-dioxide and other greenhouse gases into the atmosphere. One of the significant effects of gas flaring is its contribution to climate change devastation. Gas flares are said to release some 45.8 billion kilowatts of heat into the atmosphere of the Niger Delta areas daily, This has raised temperatures and rendered large areas uninhabitable. Climate change is a serious problem confronting millions in Africa and the situation in the Niger Delta has robbed households of livelihood sources, and increased the vulnerability of fish farming households in the region.

This therefore opined that the continued degradation of the natural environment, in the form of spills and gas flares, would render the Niger Delta extremely vulnerable to the impacts of climate change with a projected loss of 50% ability to produce cereals by the year 2020, that would rise to 80% loss by 2050. Also, air pollution from gas flaring sites lead to the production of acid rain which affects soil PH, contaminates fruits and vegetables, and also its aquatic lives.

Oil pollution has both short to medium term and long term consequences. In the short term, oil pollution would continue to deprive the people of their immediate means of sustenance in farming and fishing which has been the traditional means of survival; hence individuals and households resort to other means of livelihood. Also, individuals exposed to pollution may suffer from debilitating diseases. Oil pollution in the long run may deprive future generations of a means to survive thereby increasing the likelihood of conflict in an already restive region.

Recommendation

Base on the above presentation, I would make the following recommendations for a better environmental regulations, and a sustainable host communities engagement, to foster quality aquatic conditions for the socio-economic development of the indigenous people. The government at both federal and state levels, should endeavour to develop the political and economic willpower to pursue and ensure the greater involvement of the people from the oil producing areas, in sustaining job creation for the youths, provision of quality social amenities, and infrastructure, which would help in reducing unemployment, youth restiveness, and to enhance peace and stability in the region.

Clean-up the pollution

The government and major oil producing companies should engage to pursue a radical clean-up process, that would enable for a speedy cleaning-up action of highly polluted areas, such as, in Ogoniland, and Olobiri communities where oil spillage and gas flaring is a daily occurrence. There should be an adherence to the full implementation of (HEMP), **Hazards and Effects Management Process**, a mechanism used to curtail the impacts of oil spills on the environment.

Regulations and Law

There should be a strong compliance process, through a controlled enforcement of the implementation of various oil spillage and gas flaring environmental protection regulations and laws. Holding the major oil companies accountable for their actions on pollution and environmental degradation, which would ensure a sufficient reduction of environmental contamination, devastation, overfishing, and habitat loss, therefore sustaining the productivity and biodiversity of the marine ecosystem, for socio-economic growth of the host communities.