MDC Journals.
International Journal of Scientific and Allied Research
[IJSAR]

IJSAR Journal of Physical and Environmental Science (IJSAR-JPES)
Volume 1, Issue 2 (September 2014), 30-37.
www.mdcjournals.org

Opinion Article

The Impact of Niger Delta Oil Exploration and Green Economy Sustainability

Okoronkwo, Onyebuchi[1] and Mgbojirikwe, Chinaka Constantine[2]

[1]Department of Economics,University of Calabar, Nigeria
[2]Department of English and Literary Studies University of Calabar, Nigeria

ABSTRACT: *The vociferation for the control of oil exploration spill hazards all over the globe is not unexpected. Those who go about the business of agitating for green economy are convinced that no society truly desirous of development can ignore the hazard of Oil spillage. This is as a result of its consequences on health, environment, youth restiveness, and unending agitation in the areas involved. The experiences of developed countries that involve in oil exploration in the world is a substantiation of this reality. However, the reverse seems to be the case in many developing countries where there has been a huge gulf between the anticipated gains of oil exploration and reality on ground. Given the Nigerian situation, this then leaves one wandering to whether oil exploration brings about development everywhere or not. This paper investigates the Niger Delta exploration and green economy proclivities towards their search for development and offers economical and environmental exposition for the missing gaps. While the paper argues that the universal features that define green economy are requisites for development anywhere, there are however some peculiar factors that stringently inhibit against the manifestation of this relationship in the Niger-Delta. These factors, in their intrinsic and extrinsic forms, are epitomized by leadership failure across Niger-Delta and Nigeria in general. This poses enormous threats to the developmental aspirations of the people. It also accounts for the inability to provide the basic needs of the people in spite of huge resources, both material and human. This paper thus suggests and concludes that government has a central role to play in putting in place strategies, targeted public expenditures, policy reforms and regulatory changes to promote further investment and initiatives by the private sector and civil*

***KEYWORDS*:** Exploration, Green economy, Impact, Niger Delta, Sustainability.

I. INTRODUCTION

Over the years, the activities of humanity, particularly during the last couple of centuries have had a profound impact on the natural environment. Fast depletion of the world's natural resources has raised many moral as well as practical questions concerning present and future generation. Furthermore, a number of global environmental problems such as acid rain, the greenhouse effect of atmospheric pollution and depletion of the ozone layer are raising concerns throughout the world. Nigeria is not left out especially, Niger Delta area.

Fifty years ago, oil was discovered in the Niger Delta region of Nigeria. Today, at 2.1 million barrels per day, Nigeria is the sixth-largest oil producing country in the world [1]. The petroleum industry in Nigeria is the largest industry and main generator of GDP. Though Nigeria is identified by international community, the operations of foreign oil exploitation firms and their disregard for human rights and environment degradation become expedient for our concern. The Nigerian government, oil corporations, and oil dependent Western

countries have been criticized as too slow to implement reforms aimed at aiding a desperately under developed area and remediating the unsustainable environmental degradation that petroleum extraction and exploration has wrought [2].

The amount of oil extracted from Nigeria was expected to expand from 1500/10/bbI/d/ M3/ in 2003 to 1.27/moil-bb/d/M3/ in 2010 [3]. Natural gas reserves are well over 187 trillion ft (2,800, km), the gas reserves are three times as substantial as the crude oil reserves. Nigeria's total petroleum refining capacity is 445,000 barrels per day (70,700 m^3/d) [2]. There are four major oil refineries; the Warri refinery and petrochemical plant, the New Port-Harcourt Refinery, the old Port Harcourt Refinery, as well as the now defunct Kaduna Refinery [4]. Almost all the country's primary reserves are concentrated in and around the delta of the Niger River [4]. The recent Niger Delta development bill define Niger-Delta to include the South-South geo-political zone, comprising Edo, Delta Bayelsa, Rivers, Akwa-Ibom and Cross River states and the neigbouring oil producing part of Ondo, Abia and Imo states [5]. The Niger Delta comprises of 70,000km^2 of wetlands formed primarily by sediments deposition; it is home to over 20 million people and 40 different ethnic group. The Delta's environment can be broken down into four ecological zones: Coastal barrier Islands, mangrove swamp forests, freshwater swamps, and lowland rainforests. The region has experienced slow poisoning of its waters and the destruction of vegetation and agricultural land from oil exploitation [6].

Again, Omofonmwan and Odia aver that from 1956 to 2011, oil exploration has caused people in the region damages and destruction ranging from pollution, environmental degradation leading to low agricultural yield, destruction of aquatic life, home displacement etc[5]. It is obvious that the multinational companies' operations in the area and even the federation states has done little or nothing to satisfy the yearning needs and aspirations of the people to replace the lost resources or sustain the green economy of the area. By the year 2000, Nigeria had already accounted for more than 98% of export earning and about 83% of the federal government revenue, as well as generating more than 40% of its GDP from oil and gas alone. It also provides 95% of foreign exchange earnings and about 65% of government budgetary revenues [2]. According to the above source, Nigeria has a total of 159 oil fields, and 1481 (oil well & wells) in operations. The most productive region of the nation is the coastal Niger Delta Basin in the South-South region which has 98 of the 159 oil fields. But in the Niger Delta region and beyond, oil production and dredging have caused acid rain, air and water pollution and caused widespread and dramatic erosion while the host communities sit back, fold their arms and watched their once green economy erode away. Fishing and farming, the traditional occupations of the people, is no longer

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viable. This situation has caused poverty, hunger, and desperation among the people, who are struggling to eke out a living.

Air contaminants emitted by oil companies through refineries include: Ammonia, 1-Butine Benzene, Butane (N-), 1-Butene, Carbon monoxide, C15-2-butene, ethylene, hexane, hydrogen sulfide, isobutene, isopentane and nitrogen dioxide. These pollutants cause serious health effects for the people in their path. Hexane is a hazardous air pollutant that is toxic to the nervous, respiratory, and reproductive systems. It can also have adverse effects on aspects of a developing child such as birth defects or even death of fetus in pregnant women. Other toxic gases can induce convulsion, fatigue, irritability and other behavioral changes. These pollutants are also contributors to ozone formation. Ozone can lead to adverse health conditions such as causing breathing problems and aggravating asthma. Other health problems that might result from the aforementioned toxic gases include cardiovascular diseases, hematopoietic, reproductive male and female diseases, etc. It should be pointed out that tremendous economic burden also resulted. This comes in form of paying for associated health problems and clean-up costs. These costs causes increase in public taxes, research and studies on pollution. Recently, shell-BP was mandated through international law to pay the people of Ogoni land 20 million Dollars as a clean-up cost. This is expected to last for 20years. In the light of these, one will be vindicated to ask: is there any way out of this mess? Is there any hope for the future generation?

This paper is sectioned into four parts: section one deals with introduction. Part two devotes attention to literature review. Section three deals with impact of oil exploration on the Niger Delta and green economy. The final part deals with conclusion and makes recommendation.

The economic problems relating to the environment was brought to limelight during second half of the 1900s. Marshal (1890, [7]) was the first to analyze environmental problems through the concept of externality. He outlines only benefit from industrial development. The negative effect was not taken into account. Pigou (1920, [8]), on his study, sees externalities as a double edged sword. He was able to clarify that externalities has both positive and negative effect. He pointed out that the welfare of private persons could be seriously affected both in cost and benefit terms. Ukpak (2001, [9]), Kapp (1950, [10]), advance further by analyzing social cost, which to him is the direct and indirect burden imposed on third partners or the general public by the participants in economic activities. According to Kula (1992, [11]), social cost includes all costs emanating from productive processes that are passed on outsiders by way of air and water pollution which harms health, reduces agricultural yield, accelerates corrosion of minerals, endangers aquatic life forms, flora and fauna and creates

problems in the preparations of drinking water. In other words, these costs are of green economy depletion. Brookfield (1991, [12]) asserts that modern theorizing about environment centers around issue like stemming depreciation of environmental value and its resources so as to guarantee its aesthetic and life sustaining services for both the present and future generations. According to Ibanga and Obi (2001, [13]) this theorizing is embodied in the concept of sustainability. However the destination of sustainability is a set of wishful characteristics of a future [14]. Sustainable development is a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generation to come [15] , [16]. The sustainable development debate is based on the assumption that societies need to manage three types of capital (economic, social, and natural), which may be non-substitutable and whose consumption might be irreversible [17]. Ukpak (2001, [9]) identifies that social cost are problems arising essentially from scarcity of all resources in an economic system. This means that these natural resources are subject to the law of scarcity as the final goods and services produced by man. They also serve as proof that the basic economic problem is to satisfy unlimited wants with limited green economy deplete/ pollution as well as with limited green economy/ resource. Cohen and Winn (2007, [18]) point to four types of market failure as possible explanation; first, while the benefits of natural or social capital depletion can usually be privatized, the costs are often externalized. Second, natural capital is often undervalued by society for lack of knowing the real cost of the depletion of natural capital. Information asymmetry is a third reason. Often the link between cause and effect is obscured, making it difficult for actors to make informed choices. However, contrary to economic theory, many firms are not perfect optimizers. Firms often do not optimize resource allocation because they are caught in a business as usual mentality.

II. IMPACT OF OIL EXPLORATION IN THE NIGER DELTA AND GREEN ECONOMY

The impact of oil exploration in the Niger Delta is numerous but it can be summarized as follows:

2.1 Oil spills: This is a common occurrence in the Niger-Delta of Nigeria. It has been estimated that between 9 million to 13 million barrels have been spilled since oil exploration started in 1958 [6]. This has major impact on the ecosystem. For instance, the mangrove forest has been destroyed. An estimated 5-10% of Niger-Delta mangrove ecosystems have been wiped out either by settlement of oil or spills take out crops and aquacultures through contamination of the ground water and soil. Sheen of oil also contaminates drinking water. If the drinking water is contaminated, even if no immediate health effects are apparent, the numerous hydrocarbons

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and chemicals present in oil represent carcinogenic risk. Offshore spills, which are usually much greater in scale, contaminate coastal environments and cause a decline in local fishing production. Nigerian regulations are weak and rarely enforce, thus, allowing oil companies, in essence, to self-regulate [6].

2.2 Gas flaring: It has been observed that Nigeria flares more natural gas associated with oil extraction than any other country with estimates revealing that out of the 3.5 billion cubic feet (99,000,000m^3) of associated gas produce annually, 2.5billion cubic feet (71,000,000m^3), or about 70% is wasted via flaring [19]. This flaring releases large amount of methane, which has very high global warming potential. The methane is accompanied by carbon dioxide of which Nigeria is estimated to have emitted more than 34.38million tons in 2002, accounting for about 50% of all industrial emissions in the country and 30% of the total Co_2 emissions [19]. The toxic gases from this flare can coat the land and communities in the area with soot and damage adjacent vegetation.

2.3 Air pollution: From burning, fossil fuels cause damage to crops, building and public health as fully mentioned in our work above. Anthropogenic climate changes might result from greenhouse emissions from burning oil, gas and coal.

Finally, water pollution may occur through oil and its ancillary industries. This gas adds poisons to the water, which harm plants, animals, and humans.

In conclusion, it is glaring that communities that house refineries and chemical plants are burdened daily from toxic emissions that these facilities release from everyday operations.

A green economy is one that results in improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities [20].

A green economy or economic development model is fashioned on sustainable development and knowledge of ecological economics. The Nigeria economy as we all know is dependent on agriculture and exploitation of non-renewable natural resources such as hydrocarbon, bitumen, iron ore and other solid minerals. The discovery of crude oil, subsequent oil boom and the industrial revolution all combined to set the stage for gradual decline in agricultural production [21]. Nigeria's envisioned green economy is summed up in the vision 2020 initiative launched in 2007 with a mission that by year 2020, Nigeria will be one of the 20 largest economies in the world, able to consolidate its leadership role in Africa and establish herself as a significant player in the global economic and political arena. The question now is what should be done to make our dreams come true? The following were suggested to save the green economy from further depletion.

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Focus should be directed on the development and use of new bio fuel. Bio fuels are renewable fuels made from biological materials. They are derived from biomass including recently living organisms like plants or the metabolic by products. Bio fuels from palm oil, soy, corn, sugar cane etc should be avoided as this leads to deforestation, increased food price and worsen soil erosion.

New and alternative method of oil exploration that will minimize the incident of oil spills, gas flaring and pollutant emission should be sought and implemented. This can be achieved through the acquisition and use of new technologies.

III. CONCLUSION

This paper has examined the Niger Delta oil exploration and green economy. We have made effort to show that there is no place where oil exploration is done without negative effects. Nigeria (Niger Delta) is not an exception. Government have a central role to play in putting in place strategies, targeted public expenditures, policy reforms and regulatory changes to promote further investment and initiative by the private sector civil society. Bringing energy and reducing health hazard to the rural poor is one of the most important contributions that a green economy can make to Nigeria. Persistent poverty and low human development in the Niger Delta region of Nigeria can only be reversed if structural constraints underpinning their economic vulnerability are addressed as we suggested and recommended.

IV. RECOMMENDATIONS

Though the main source of revenue in Nigeria come through oil exploration, we recommend the use of targeted spending, good national policies and incentives by government to spur green investment. This will reduce hazard from the exploration.

International aids and finance should be sought to enable Nigeria acquire new technology and trade related capacity building in green sectors. This will enhance economic diversification in growth, poverty reduction and achievement of millennium development goals.

There should be introduction of taxes to guide against pollution as this has been left free especially, carbons flaring. This will help to remove the burdens from the innocent public to the multinational companies that act as polluters. This will help to bring down emissions rate.

There is also need to increase clean up penalties that are being imposed to equate the extent of damages. This will force the multinational companies to seek for alternative ways of reducing emissions.

Alternative source of power generation should be developed, encouraged and used. Alternative sources of power include solar energy, wind power, wave, fresh water and salt water differentials electricity generation. If the abundance of solar energy in Nigeria is developed, we can export this power and gain solar economy while preserving our forest, ecosystem and hence our green economy.

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