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TRANSITIONING TO SUSTAINABLE DEVELOPMENT AND A GREEN ECONOMY IN THE NIGER DELTA OF NIGERIA: CHALLENGES AND PROSPECTS

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PREFACE

This policy research monograph is part of the on-going research of the *Centre for Population and Environmental Development (CPED)* on the research theme titled "Growth and Equity in Nigeria" in the current strategic plan (2010-2014) of the Centre. The most commonly applied measure of progress is the volume of economic activities. This is hinged on the wrong perception that the natural resources that support economic activities are plenteous and presumably unlimited. In pursuing this view of development, the environment has become the scapegoat, and has come under unsustainable pressure, particularly in developing economies, such as the Niger Delta region of Nigeria, in particular and the country as a whole. This monograph examines the production and consumption activities of a resource-rich, but peripheral and marginalized region of a developing country, Niger Delta, that is on an unguided race to develop, and is consequently paying little or no attention to the sustenance of the very environment that supports the process.

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ACRONYMS

BP	British Petroleum
CNL	Chevron Nigeria Limited
CPED	Centre for Population and Environmental Development
DDR	Disarmament, Demobilization and Reintegration
DPR	Department of Petroleum Resources
EBAN	Environment and Behaviour Association of Nigeria
EFCC	Economic and Financial Crimes Commission
EIA	Environmental Impact Assessment
EJNF	Environmental Justice Network Forum (South Africa)
EPNL	Elf Petroleum Nigeria Limited (Tota)l
ERA	Environmental Rights Action
ERF	Environmental Restoration Fund
GCC	Global Citizen Centre
GDP	Gross Domestic Product
ICPC	Independent Corrupt Practices and other Related Offences Commission
IDRC	International Development Research Centre
IRP	International Resource Panel

IUCN	International Union for the Conservation of Nature
NDDC	Niger Delta Development Commission
NDES	Niger Delta Environmental Survay
NDR	Niger Delta Region
NDTC	Niger Delta Technical Committee
NESREA	National Environmental Standards and Regulation Enforcement
NIMBY	'not-in-my-back yard'
NNPC	Nigerian National Petroleum Corporation
NPC	National Population Commission
PHC	Primary Health Care
PPP	Policy, Plan and Programme
SEA	Strategic Environmental Assessment
SHD	Sustainable Human Development
SPDC	Shell Petroleum Development Company Limited
TCF	Trillion Cubic Feet
TNCs	Trans-National Companies
TNOCs	Trans-National Oil Companies
TTI	Think Tank Initiative
UNCSD	United Commission on Sustainable Development
UNCTAD	United Nations Conference on Trade And Development
UNDP	United Nations Development Programme

UNEP	United Nations Environment Programme
UNGA	United Nations General Assembly
UNNGLS	United Nations Non-Governmental Liaison Service
UO	Unnayan Onneshan
WCED	World Commission on Environment and Development
WCS	World Conservation Strategy

SECTION ONE

INTRODUCTION

Sustainable human development (SHD) has been the most dominant determinant of the direction of the global community since 1992, when the United Nations Conference on Environment and Development was held in Rio, Brazil. For many economies, development means increased economic growth (which has often been erroneously equated with progress), measured in terms of Gross Domestic Product (GDP). This is what Dowarkasing (2013) has termed the 'conventional' and 'simplistic' view of development.

Consequently, the most commonly applied measure of progress is the volume of economic activities. This is hinged on the wrong perception that the natural resources that support economic activities are plenteous and presumably unlimited. In pursuing this view of development, the environment has become the scapegoat, and has come under unsustainable pressure, particularly in developing economies, such as the Niger Delta region of Nigeria, in particular and the country as a whole. In other words, the pursuit of raising GDP almost invariably tends to overwhelm and overrun the environment, and create avoidable vulnerabilities, risks and scarcities. This path to development is what the World Bank (2013) has called 'brown growth'; "economic development that ... does not consider the negative effects that economic production and consumption have on the environment".

Thus, the economy could be losing its finite and limited natural resources; poverty could be deepening, unemployment soaring, and the general quality of life plummeting; and the environment could be devastated, even when GDP is paradoxically increasing. This unintended and incongruous but very real situation partly informed the designers of the United Nations Conference on Sustainable Development (Rio+20), held in Rio, in June 2013, to put the environment-friendly '*green economy*' concept at the centre of the discussions. "The Future We Want", which was the compromise outcome of the conference, is the collective resolve of the international community to move from a brown to a green economy, within the context of sustainable development and poverty eradication. In other words, the concept of green economy has been promoted to drive the agenda of Rio+20's vision of sustainable development and poverty eradication

by the UN members and its institutions.

In this paper, we shall examine the production and consumption activities of a resource-rich, but peripheral and marginalized region of a developing country, that is on an unguided race to develop, and is consequently paying little or no attention to the sustenance of the very environment that supports the process. In order to achieve this objective the rest of the paper is divided into six sections. The next section outlines the core conceptual issues. This is followed by a summary of the environmental setting of the Niger Delta region of Nigeria; then the economic development activities are briefly presented. Some of the key challenges of production and consumption activities are interrogated; then some of the issues to consider in moving toward a green economy are outlined, and the concluding remarks are made.

CONCEPTUAL ISSUES

Three concepts are central to this discourse, namely: sustainable human development, brown/green economy and human/environmental rights. They are briefly outlined below.

Sustainable Human Development (SHD)

There are said to be more than one hundred definitions of sustainable development (SD). They all derive from an historical progression of intellectual interest on the subject. According to Dewan (2009), although agronomists and ecologists had implicitly dealt with the subject "as early as 1949 (Leopold, 1949 and Carson, 1965), the term 'sustainable development' was first put forward by the World Conservation Strategy (WCS) in 1980 (IUCN, 1980) ... followed by the Brundtland Commission Report (1987) and the Rio Earth Summit (1992)".

However, the most commonly acknowledged reference point is the definition enshrined in the Brundtland Report of 1987, namely, that "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet theirs" (WCED, 1987; 43). It is the "process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are in harmony, and enhance both current and future potential to meet human needs and aspirations"

(Mabogunje, 1996; 30, 31; cited in Ikelegbe, 2013; 17).

Resolving sustainable development in terms of human welfare, particularly within the context of the environment and its resources, Tolba (1987) characterizes it as the development that:

- ♣ provides support for poor and vulnerable groups who, due to very limited choices put pressure on, and destroy, the environment;
- ♣ fosters an autonomous and self-reliant development, within the constraints of environmental resources;
- ♣ does not degrade nor destroy the quality of the environment, on the one hand, nor reduce its long-term productivity, on the other;
- ♣ ensures that such core survival issues as health, food security, safe water, shelter, and appropriate technology, are not compromised; and
- ♣ gives central consideration to people as the most important resource in the development process.

Held in Rio, Brazil, in 1992, The United Nations Conference on Environment and Development, in its declaration, identified twenty-seven "principles of sustainability". Principles 1, 3, 4, 15, 22 and 23, below, among others, appear to be particularly relevant to societies in which resource exploitation and development practices tend to infringe on the survival rights, particularly, of poor and vulnerable groups, through the degradation of their environment and ecosystems. They, therefore, stifle poverty alleviation efforts.

- ♣ ***Principle 1***: Human beings are the centre of concerns for sustainable development. They have a right to a healthy and productive life, in harmony with nature;
- ♣ ***Principle 3***: The right to development must be fulfilled so as to equitably meet development and environmental needs of present and future generations;
- ♣ ***Principle 4***: In order to achieve sustainable development, environmental protection constitutes an integral part of the development process and cannot be considered in isolation from it;
- ♣ ***Principle 15***: In order to protect the environment, the precautionary approach shall be widely applied by states,

according to their capacities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation;

- ***Principle 22***: Indigenous people, their immediate and other local communities have a vital role in environmental management and development, because of their indigenous knowledge and traditional practices. Therefore, states should recognize and duly support their identity, culture and interests and promote their effective participation in the achievement of sustainable development; and
- ***Principle 23***: The environment and natural resources of people under oppression, domination and occupation shall be protected (http://www.3mfuture.com/sustainability/definition_sustainably_development.htm).

According to Joshi, Ravindranath, Jain and Nazareth (2007), sustainable development implies economic growth, together with the protection of environmental quality, each reinforcing the other. They have also cited IUCN (The World Conservation Union, 1991) as defining sustainable development as meaning "to improve the quality of life, while living within the carrying capacity of ecosystems". Thus, sustainable development must necessarily encompass reasonable compromise between and among the three policy areas of economy, environment and society (Joshi, Ravindranath, Jain and Nazareth, 2007; 9).

From the perspective of human and environmental rights, The Swiss Monitoring of Sustainable Development Project (MONET, 2001) is claimed to have proposed the following definition of sustainable development: "ensuring dignified living conditions with regard to human rights, by creating and maintaining the widest possible range of options for freely defining the plans. The principle of fairness among and between present and future generations, should be taken into account in the use of environmental, economic and social resources" (Joshi, Ravindranath, Jain and Nazareth, 2007; 9).

A common thread that appears to run through all definitions of

sustainable development is the apparent conflict between sustainability and human development goals. As Dewan (2009; 3) puts it, "attaining human development may require the use of more (and more) resources, whereas, ensuring sustainability may require constraining the use of resources and making some 'defensive expenditures'". A balance is, therefore, needed between human development and resource sustainability. This is because, as Strange and Bayley (2008; 24) have quoted the United Nations Assembly as observing, "the well-being of the environment, of economies and of people is inextricably linked, ... (therefore) ... sustainable development is about integration: developing in a way that benefits the widest possible range of sectors ....". It is within the context of the task of finding the right balance between the competing demands on natural resources and social resources, without unduly sacrificing economic progress, that ***sustainable human development*** is defined.

A systematic definition of sustainable human development requires that it is properly situated within the general concept of development. It is in this context that Haq has been quoted as asserting that:

> *The basic purpose of development is to enlarge people's choices ... (manifested in valued) ... greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives.*

Similarly, within the context of the general concept of development, Dewan (2009) has quoted Speth (1994) as defining sustainable human development as:

> *development that not only generates economic growth, but* ***distributes*** (emphasis mine) *its benefits equitably; that regenerates the environment rather than destroy it; that empowers people rather than marginalizing them. It gives priority to the poor,*

> *enlarging their choices and opportunities, and provides for their participation in decisions affecting them. It is development that is pro-poor, pro-nature, pro-jobs, pro-democracy, pro-women and pro-children.*

This pro-people, pro-poverty eradication and implicitly rights-based definition has seemingly been accepted, and was largely adopted by the United Nations in its 2011 Human Development Report, which, while continuing to emphasize its implicit inter-generational-equity and justice focus (Kates, Parris, Leiserowitz, 2005; 10, 11), has been quoted by the UNDP (2012) as defining sustainable human development as:

> *the development of people's choices and capacities through the formation of social capital so as to meet, as equitably as possible, the needs of the current generations without compromising the needs of future ones. It focuses on development that does not only generate economic growth, but distributes its benefits equitably; those regenerate the environment, rather than destroy it; empowers people rather than marginalize them.*

Sustainable human development creates an environment in which human security is guaranteed and human beings can develop their full potential and lead a life of dignity and freedom (Hasegawa, 2001). As Costantini and Monni (2005; 335) have argued, within the context of sustainable human development, income and economic growth are only a means and not an end to development, and people's well-being depends on how income is used to achieve higher quality of life standards. In other words, the principles and tenets of sustainable human development would have been violated, if the rights of a people to a good life are infringed upon.

This is why, in spite of the seemingly impressive performance of the Nigerian economy, in terms of macroeconomic indicators, with the Gross Domestic Product (GDP) reportedly growing at over 7.0 per cent, the quality of life of the Nigerian people has remained poor; and in many aspects (such as access to primary health care and employment), the indicators of personal welfare have actually being plummeting. Indeed, the National Population Commission (NPC) recently announced that the

unemployment rate in Nigeria rose from 21.1 per cent in 2010 to 23.9 per cent in 2011 (The Punch, 11/10/2013; 30). The principles of sustainable human development have thus, been violated by the development pattern in Nigeria.

Measuring sustainable development has been a major challenge, given its diversity of definitions and complexity of the thematic issues covered. However, in 1995, the United Nations approved the setting up of the Commission on Sustainable Development (UNCSD) to, among other things, develop sustainable development indicators to provide a common platform for assessing human development in different countries. The third edition of the indicators started with a set of 134 indicators, which were progressively collapsed into 96, then 58 and finally a core set of 50 indicators (UNCSD, 2007; 9); the so-called '*blue book*'. Within the context of the '*blue book*' Dewan (2009) has cited the United Nations as asserting that safe water, environmental sanitation and access to health care services are among 'the most pressing challenges facing humanity'. In spite of its rich resource base, these are paradoxically some of the major challenges of the unsustainable development in the Niger Delta region of Nigeria.

Brown versus Green Economy

According to the International Resource Panel (IRP) of the UNEP (2011a), world leaders are now increasingly understanding the anomalies and daunting challenges posed by the seeming conflicts between making progress towards a more sustainable economy, which requires a reduction in resource use at all levels (global, national and local), on the one hand, and human well-being, which demands that economic activities should expand but expect environmental impacts to diminish, on the other. The conflicts arise due to type of economy that drives the development process in the different economic scenarios. It is in this regard that economies are dichotomized into those characterized either by ***brown growth*** or ***green growth***.

According to The World Bank (2013), "brown growth describes economic development that relies heavily on fossil fuels and does not consider the negative side effects that production and consumption have on the environment". This type of economy "sees economic progress only in numbers" (Dowarkasing, 2013). By way of contrast, the World Bank (2013) has quoted Deichmann as positing that green growth is the one that "implies moving to a far cleaner energy system, that uses energy more

efficiently and too much better natural resource management, especially on agricultural lands and in forests".

The IRP has developed the concept of '***decoupling***' in the attempt to explain and resolve the challenges in the use of the environment for development and the impact of the latter on the former. At its simplest, decoupling is process of reducing the amount of resources, such as water or biomass fuels, used to produce and sustain livelihoods and ***delinking*** economic development from environmental deterioration (UNEP, 2011a: xi).

In the literature, decoupling has been resolved at two levels, namely: resource and impact. Accordingly, UNEP (2011a: 4) has defined ***resource decoupling*** as the reduction of the rate of use of (primary, environmental) resources per unit of economic activity. It is a sort of 'dematerialization' "based on using less material, energy, water and land resources for the same economic output". Resource decoupling invariably and ultimately leads to an increase in the efficiency with which resources are utilized.

In the context of the Niger Delta region, where poverty compels over 80 per cent of the population to depend on fuel wood for cooking and heating energy, any technology that improves on the efficiency of the use of biomass by delivering more heat energy from a given quantity of fire wood, would be deemed to be contributing to resource decoupling, because such a technology would require less environmental resources for the same service than hitherto (CPED, 2003 and NDDC, 2004, in Omuta, 2011; 2013).

On the other hand, ***impact decoupling***, requires increasing economic output side-by-side with the reduction of negative environmental impacts. "Such impacts arise from the extraction of required resources (such as groundwater pollution due to oil spillages or use of agricultural chemicals), production (such as land degradation, wastes and emissions), the use-phase of commodities (for example cooking, which results in suspended particulate matter), and in the post-consumption phase (again wastes and emissions)" (UNEP, 2011a: 5). Impact decoupling means that negative environmental impacts decline while value is added in economic terms.

For instance, against the background of the Niger Delta region of Nigeria, if biomass could be converted more efficiently into energy, less pressure

would be put on the environment, the women would be healthier, and have more time for more economic contribution to the sustenance of the household economy. The burden of poverty would be reduced (Omuta, 2011; 2013).

Both resource and impact decoupling can be further distinguished between 'relative' and 'absolute'. Regarding this distinction, ***relative decoupling*** of resources or impacts applies to the situation where the growth rate of the environmentally relevant parameter (resources used or some measure of environmental impact) is lower than the growth rate of a relevant economic indicator (for example, GDP). On the other hand, ***absolute decoupling***, occurs where resource use declines, irrespective of the growth rate of the economic driver. This latter relation is shown by the Environmental Kuznets Curve that claims that if prosperity rises beyond a certain point, the environmental impact of production and consumption decreases. Absolute reductions in resource use are rare and occur only when the growth rate of resource productivity exceeds the growth rate of the economy (UNEP, 2011a: 5).

Resource decoupling is particularly important and relevant when:

- ♣ a specific resource is scarce and its further depletion could frustrate societal progress (such as oil, rare minerals, biomass fuels, or fertile land to produce food for the growing human population) (UNEP, 2010a; UNEP, 2010b), and
- ♣ a specific resource poses high environmental risks that cannot be alleviated by using the resource better.

On the other hand impact decoupling is particularly important when:

- ♠ the use of a resource poses immediate threats to human and ecosystem health (such as toxic emissions, persistent organic pollutants, impacts on soil fertility or impact of gas flaring on ambient temperature and crop growth), and
- ♠ technological solutions (such as better ways of converting biomass fuels) have substantial potential to prevent harm to humans and ecosystems.

Decoupling is, therefore, a catalyst to the concept of ***green economy***. The United Nations Environmental Programme (UNDP) defines a green economy as one that results in ***improved human well-being and social equity, while***

significantly reducing environmental risks and ecological scarcities. A green economy represents an alternative vision for growth and development, in which economic growth and improvements in people's lives are generated in ways that are consistent with sustainable human development (Barua, 2012).

In its simplest expression, a green economy is one which is characterized by the three pillars of:

- ♣ low carbon technology;
- ♣ resource-use efficiency; and
- ♣ socially inclusive growth;

in which, an improved, sustained and enhanced standard of living is driven by green public and private investments, that contribute to eradicating poverty, improving human welfare and creating opportunities for green employment and decent work for all, while maintaining the healthy functioning of the earth's ecosystem (UN, 2012).

These are achieved by reducing carbon emissions and pollution, enhancing energy and resource efficiency, and preventing the loss of biodiversity and ecosystem services. Although the concept "gives the impression of an economy that is environmentally-friendly, sensitive to the need to conserve natural resources, minimize pollution and emissions that damage the environment in the production process", on the one hand, "and produce products and services, the existence and consumption of which do not harm the environment", on the other, Khor (nd; 68), has expressed concern, as has been observed elsewhere, over the possibility of the green economy constraining other conflicting aspects of development, such as cutting back on the use of natural resources, on the one hand, as well as poverty eradication and job creation, on the other.

However, in Ocampo's (nd; 3, 4) opinion, the concept provides the response to the plethora of crises (climate change, food and economic, among others) that presently plague the world, because embedded in it is the promise of a new economic growth paradigm that is friendly to the earth's ecosystem and can also contribute to poverty alleviation. In other words green economy stands on the premise that sustainability depends on "getting the economy right". Economic growth and environmental stewardship become complementary, rather than competitive.

From the point of view of prioritizing the commitment of resources,

Barkart (2012) defines green economy as that driven by investments in six critical sectors, namely:

- *Renewable energy*: wind, solar, geothermal, marine (including waves), biogas, and fuel cell;
- *Transportation*: alternative fuels, public mass transit, hybrid and electric vehicles, car-sharing, and car-pooling;
- *Water management*: water reclamation, grey water and rain water systems, low-water landscaping, water purification, and storm water management;
- *Waste management*: recycling, municipal solid waste salvaging, brown field land remediation, superfund clean-up, and sustainable packaging;
- *Land management*: organic agriculture, habitat conservation and restoration, urban forestry and parks, reforestation and afforestation and soil stabilization; and
- *Green buildings*: green retrofits, for energy and water efficiency, residential and commercial assessment, green products and materials.

These are called green investments and the jobs they generate are correspondingly called green jobs. UNEP (2009) defines green jobs, generically, as those created directly in the various green investment sectors and related activities, which reduce the environmental impact of these sectors and activities and ultimately bring them down to sustainable levels. They are also called 'decent/clean jobs', that help to reduce consumption of energy and raw materials, decarbonise the economy, protect ecosystem services, such as water, flood protection and biodiversity, and minimize the production of wastes and pollution.

Thus, green economy, by encouraging green investments helps to achieve sustainable human development by investing in green technology, using eco-friendly energy sources, as much as possible, and using more efficient methods. These investments need to be catalysed and supported by targeted public expenditure, policy reforms and regulation changes.

The development path of a green economy is characterized by the maintenance, enhancement and the rebuilding of natural environmental resources (capital) as a critical economic asset and as a source of public benefits, especially for poor people, whose livelihoods and

security depend on nature (UNEP, 2011b: 2). It creates jobs of the type and at the level that addresses rural poverty that is the core cause of the deepening poverty in marginalized regions like the Niger Delta of Nigeria. It reduces carbon footprint through reduced energy use and consumption, as well as consumption. Consequently, it accelerates the transition to a low carbon society (UO, 2012; 1).

Considering that people are more environment-dependent in developing countries than otherwise, the Global Citizens Centre (GCC) has identified what they called the *triple bottom line* of a green economy as follows:

- *Environmental restoration*, driven by the realization of the fact that the ecosystem is made up of finite resources, with a limited capacity for self renewal and regeneration;
- *Social justice,* driven by the realization that, like natural resources, both culture and human dignity are very precious resources that require adequate stewardship so as to conserve them; and
- *Local relevance and rootedness,* driven by the realization that connection to place is a *sine qua non* for sustainability and justice.

The green economy is, thus, more than environmental in scope. According to Cosbey (nd; 40),

> *A green economy should not only maintain, but should enhance the value that the poor in developing countries derive from agriculture, fisheries and forest harvest; all activities that depend fundamentally on a sound environment. It should help reduce energy poverty, through the provision of low-cost distributed renewable energy systems. And if successful, it should help reduce the vulnerability of the poor, to the impacts of unchecked climate change, desertification, ocean degradation and loss of biodiversity, as well as the impact of local air, soil and water pollution.*

Most of these are reflected in the development challenges of the Niger Delta region of Nigeria.

Human/Environmental Rights

Embedded in the brown and green growth divide, is the rights-based approach to development; that is, the

extent to which activities of development processes infringe or do not infringe on the rights of the people, within the context of the environment. The United Nations Non-Governmental Liaison Service (UNNGLS) (2002), has quoted Kofi Anan as saying that "the rights-based approach ... describes situations not simply in terms of human needs, or of development requirement, but in terms of society's obligations to respond to the inalienable rights of individuals. It empowers people to demand justice as a right, not as charity, and gives communities a moral basis from which to claim international assistance, where needed". Thus, UNNGLS (2002; 1), has argued that, seen from the view point of 'access', the rights approach has the potential to empower local communities and civil society organizations to make social and environmental claims and to hold state and non-state actors accountable for their acts of omission and commission, while exercising basic civil and political rights to be free from harassment and abuse. Thus, when situated within the environmental context, the rights-based approach dovetails into environmental rights and environmental justice.

According to McDonald (2002), the environmental justice literature is far from homogeneous; it is in fact raven with deep ideological splits on foundational questions such as race, class and gender. However, central to the concept of environmental justice is the incorporation of environmental issues into the broader intellectual and institutional framework of human rights and democratic governance accountability (Wenz 1988; Bullard 1990; Capek 1993; Bryant 1995; Cutter 1995; Goldman 1996; Harvey 1996; Heiman 1996; Dobson 1998; Schlosberg 1999; Bowen and Haynes 2000). The concept necessarily encompasses the widest possible definition of what is considered "environmental" (as pertaining to a place where we live, work, play, and pray (DEOHS, nd; 1)) and is totally and completely anthropocentric in its orientation; placing people, rather than things (flora and fauna), at the crux of a complex web of social, economic, political, and environmental relationships. As DEOHS further puts it, environmental justice refers to the belief that *all citizens*, regardless of ethnicity or socio-econ class, should equally share in the benefits of environmental amenities and the burdens of environmental health hazards.

For instance, Wenz (1988; 111) argues that: *everyone* has the right to a standard of living adequate for the

health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. Environmental justice, therefore, deals with a web of relationships between the individual, on the one hand, and the various ways that his surroundings affect his welfare, on the other.

In the opinion of McDonald (2002; 3), the concept concerns itself more with the injustices that arise as a result of these relationships, and how to both remedy and prevent their future occurrence. For instance, McDonald (2002) argues that, as against the situation where those who can defend their environmental rights resist environmentally-injurious activities on the principle of 'not-in-my-back-yard' (NIMBY), the sitting of a toxic waste next to a poor, black community, in South Africa, simply because it is poor and black, is an environmental injustice, because it violates the basic human rights; which should be remediated and prevented. It is in this context that persuading poor and ignorant Mr. Nana to accept the storage of a consignment of Italian toxic waste at the back of his house in Koko, Delta State, in 1988, for instance, is also considered a mischievous environmental injustice; a violation of, and an infringement on, Mr. Nana's fundamental human right to life in a healthy environment; which violation and infringement demand remediation and prevention.

McDonald (2002; 4) has adopted an extensive quote from the South African Environmental Justice Network Forum (EJNF) to capture the basic philosophical tenets and justify the focus on human and democratic rights that are core to the global environmental justice literature and movements:

> *Environmental justice is about social transformation directed towards meeting basic human needs and enhancing our quality of life—economic quality, health care, housing, human rights, environmental protection, and democracy. In linking environmental and social justice issues the environmental justice approach seeks to challenge the abuse of power which results in poor people having to suffer the effects of environmental damage caused by the greed of others. This includes workers and*

communities exposed to dangerous chemical pollution, and rural communities without firewood, grazing and water. In recognizing that environmental damage has the greatest impact upon poor people, EJNF seeks to ensure the right of those most affected to participate at all levels of environmental decision-making. (EJNF 1997).

SECTION TWO

THE NIGER DELTA REGION

The Niger Delta region of Nigeria is the largest wetland in Africa and the third largest in the world. It consists of a low lying terrain, dissected by a complex network of creeks, streams and rivers. It is a well-endowed ecosystem, consisting of one of the richest and highest concentrations of biodiversity on earth. The ecosystem supports abundant flora and fauna, and can sustain the cultivation of a wide variety of crops and economic trees. The region has also been claimed to have more species of freshwater fish than any other ecosystem in West Africa (Emoyon,

Akpoborie and Akporhonor, 2008).
The Niger Delta is unarguably, the richest and most endowed region in Nigeria. It produces the vast majority of the oil and gas wealth of the country. Its importance to the economy and politics of Nigeria can be better appreciated by the fact that as far back as 2000, oil and gas accounted for more than 98 per cent of all the export earnings and about 83 per cent of the federal government revenue, as well as generating more than 14 per cent of its GDP. It also accounts for 95 per cent of the foreign exchange earnings and 65 per cent of government budgetary revenues
(http://enwikipedia.org/wiki/Petroleum_industry_in_Nigera (22/08/2013).
The Niger Delta is politically defined to encompass the nine states that produce the vast majority of the oil and gas, which drive the Nigerian economy, namely: Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo, and Rivers, and their 185 local governments; 13,329 settlements, aggregated into 800 communities of 12 major ethnic groups

The region has a total population of about 40 million, projected to exceed 45 million by 2020. Out of the over 13000 settlements identified in the Niger Delta Development Commission (NDDC) master plan, 94 per cent have populations less than 5,000 people, while only about one (1) per cent can be classified as urban

(CPED, 2003, cited in Omuta, 2011; 12).

The nine states are located in the three southern geopolitical zones of: Southwest, South-South, and the Southeast. The six oil and gas producing states in the South-South geopolitical zone (Delta, Bayelsa, Rivers, Akwa Ibom, Cross River, and Edo) and their adjacent offshore accounted for 91.5 per cent of the gross national oil production, but only 15 per cent of the total population in 2008. Ondo State, in the Southwest zone, and Imo and Abia States, in the Southeast zone, are the other producing states; and together, the three peripheral states accounted for only about remaining 8.5 per cent of total oil production in 2008 (Iledare and Suberu, 2010; 3).

Perhaps the projected continuing relevance of the region to the sustainable human development of Nigeria can be better appreciated if, we recognize that as far back as 1997, the United States Energy Information Administration had put the proven oil reserves of the nation at between 16 and 22 billion barrels (3.5 x $10^9 m^3$). However, according to the Group Managing Director of the Nigerian National Petroleum Corporation (NNPC), the daily crude oil production is expected to rise by another 1.4 million barrels from its current (2013) 2.6 million bpd by the year 2020, just as crude oil reserves is also expected to grow to 40 billion barrels from its present (2013) 36 billion barrels (Vanguard, Monday August 26, 2013). Nearly all of these reserves are concentrated in the Niger Delta region and its off-shore.

According to the 2011 BP Statistical Energy Survey, Nigeria had proven natural gas reserves of 5.29 trillion cubic metres in 2010, representing 2.82 per cent of the world. Like oil, almost all of this natural gas is found in the Niger Delta region, where it occurs in association with the former. However, due, largely to the lack of infrastructure, 75 per cent of associated gas is flared, while 12 per cent is re-injected. Indeed, Nigeria has been identified as the country that flares gas most in the world, after Russia (Bassey, 2004). Although Nigeria has set several zero-flare deadlines since the 1980s, with the last target being 2010; and although government has verbalized its provision of incentives for the production and use of gas; and although claims have been made for plans to raise earnings from natural gas to 50 per cent of the revenue from oil, by 2010, the lack of political will and official corruption have encouraged the continued flaring

(wastage) of gas (www.mbendi.com/cyngoi.htm).

The present and potential wealth of the Niger Delta makes it a major theatre of economic activities. This is because both the locals and the national government depend heavily on its natural resources to sustain their survival. Consequently, huge pressure is put on the environment. The fragile nature of the ecosystem sets a very delicate carrying capacity that determines the limit of the amount of pressure that the environment can absorb and for how long.

Consequently, as a result of the pressure to exploit its oil and gas resources for national development and its forest and aquatic resources for local development, the ecosystems have been overloaded and pushed beyond their natural carrying capacities. Furthermore, the co-location of the resources needed by the government and those needed by the locals puts both interests at some conflict. The conflict is, however, between unequal parties, in which the superiority of the government over the locals places the latter at very great disadvantage. One of the manifestations of the disadvantages is the degradation and despoliation of the environment, due to the scale of operation of the activities of government. The degradation and despoliation of the environment either completely denies the locals access or right the environmental resources and livelihood assets, on which their survival depends, or such access or right is considerably reduced. This is the background against which the major economic production and consumption activities in the Niger Delta region are briefly reviewed below.

SECTION THREE

THE *'COLOUR'* OF PRODUCTION ACTIVITIES

The objective of this section is to establish the predominant type of growth that drives the production activities in the Niger Delta region; whether it is brown or green. Environmental quality and the sustainability of environmental resources are fundamental to the overall wellbeing and development of the people of the Niger Delta region. This is because over 80 per cent of the people in the region depend on the natural environment for their livelihood (CPED, 2003). For many, the environmental resource base (which they use for agriculture, fishing, hunting and the collection of forest products) is their principal or sole source of food, as well as a veritable source of supplementary income. The rivers and creeks are

widely used for bathing and other domestic purposes, such as washing of clothes. They are also the sole or major sources of drinking water in many areas, with only 20 per cent of rural dwellers and 40-45 per cent urban dwellers having access to safe water (NDES, 2000).

Consequently, Amnesty International (2009; 2) has argued that any pollution of, and/or damage to, the environmental resources of the region constitutes a significant threat and risk to, and indeed an infringement on, the fundamental human rights of the people to decent and healthy living, as guaranteed by Rio+20 (UNGA, 2012; 11, 21).

Long before the issues were brought into the public domain, Saro Wiwa was quoted to have perceptibly portrayed the implications on the environment, environmental resources and eventually on the people of the region, of the relentless assault of oil and gas operators as:

> *"an ecological war in which no blood is (apparently) spilled, no bones are (seemingly) broken, no one is (assumedly) maimed;* ***but*** *men, women and children die; flora, fauna and fish perish, air, soil and water are poisoned, and finally, the land and its inhabitants die" (Onosode, 2003; 112).*

And, just before he and his eight pro-environmentalists were hanged (as the peaceful struggles of the people of the Niger Delta region continued to be ignored), Saro-Wiwa became more concerned and pessimistic about the continued lackadaisical attitude of the government and was quoted to have predicted that:

> *"The non-violent struggle would turn to violent in the face of business-as-usual politics ...security forces still operate with impunity, the government failed to protect communities in oil-producing areas while providing security to the oil industry, and the oil companies bore responsibilities too for the appalling misery and the political violence across the region" (Unabia, 2010; 17).*

Apart from his initial apprehension being confirmed far beyond his perceptive intuition, his prediction and fears have also since been equally proved to be true and genuine. The issues associated with oil and gas operations and their environment-related challenges degenerated into

very violent militancy that has spilled a lot of blood, crushed many bones, prematurely terminated the lives of tens of thousands of promising youth and have done incalculable damage to the environment and its resources, thereby escalating poverty

The most commonly known form of environmental degradation in the Niger Delta region is the pollution caused by oil spillages and gas flaring. Bassey (2010; 45) has cited Steiner (2008) as asserting that the Niger Delta is "one of the most oil-impacted ecosystems in the world". It is curious, however, that, while the level of societal awareness, sensitivity and concern has been raised to quite appreciable heights in most parts of the developed world, this is not yet so in the less developed countries, especially, those of Africa and indeed Nigeria and its Niger Delta region; where the people are so overwhelmed by poverty that all their energies are channelled into the struggle for survival. They, therefore, do not seem to be concerned about the implications of persistent unsustainable environmental practices, as they should be. In other words, they do not seem to be bothered with the numerous ways in which their actions or inactions and those of other parties have contributed, and continue to contribute, to monumental infringements on the environment, such as global warming and climate change. They also do not seem to be concerned about the direct and indirect effects which such infringements may be having on the quality of their lives (Omuta, 2010).

An example of this wide disparity in the level of consciousness and awareness can be seen from hue and cry which greeted the Deepwater Horizon oil rig accident which occurred in the Gulf of Mexico, in 2010, leading to the spilling of four million barrels of crude oil. The attention of the whole world was aroused by this incident and British Petroleum (BP) was made to bear the enormous cost of remediating the neighbouring sea shores, and compensating all those whose means of livelihood were affected. It is on record that this cost the company well over $26 billion.

Among the questions which this scenario raises are: What about the enormous devastation and destitution from the over 6,800 reported oil spills involving over five million barrels (Banfield, 1998; 30, 31), which have been going on in the Niger Delta in Nigeria, since oil was first drilled in commercial quantity on June 5, 1956 in Oloibiri, and the first barrels of oil were exported from that well in 1958. Omuta, (2010) has queried how much these incidents

have cost the multinational oil companies in compensation. Quite insignificant!

It should bother the international environmental community, why the age-long Niger Delta oil and gas-related environmental devastation has not raised the level of concern raised in response to the Gulf of Mexico oil spill. For instance, on September 29, 2010, BP and the Gulf of Mexico Alliance announced a $500 million (or ₦75 billion) independent research initiative to study the effects of the Deepwater Horizon incident and potential associated impact on the environment and public health. Again, the question is: How much have Shell Petroleum Development Company Limited (SPDC), Chevron Nigeria Limited (CNL) and Total (formerly Elf Petroleum Nigeria Limited or EPNL), which together accounted for almost 85 per cent of Nigeria's total petroleum production in 2008 (Iledare and Suberu, 2010; 2) and the other operators in the sector committed to the study of the impact of the spills that their operations have caused over the years, in the Niger Delta region? The difference in the nature of response generated by the single Gulf of Mexico incident, on the one hand, and the thousands of the incidents in Nigeria, on the other, is clearly attributable to the deep and pervading poverty among the people of the region, the low level of awareness and governance failure (Omuta, 2010).

Whenever environmental injustice has been contested and protested in the Niger Delta Region, government has almost always come down with a heavy hand of forceful repression and suppression. That was the scenario that ended in the extrajudicial hanging of Saro Wiwa and other environmental activists in 1998.

However, on August 4, 2011, the United Nations Environment Programme released a 262-page report on the Environmental Assessment of Ogoniland (UNEP, 2011). The main revelation of the report is that the environmental damage caused by Shell Petroleum Development Company Limited (SPDC) in Ogoniland would cost $1.0 billion (₦155.0 billion) and take over thirty (30) years to remediate, provided that on-going pollution stops forthwith (UNEP, 2011; 211, 277). The report is quite revealing in a number of ways.

- First, the fact that the two-year in-depth scientific investigation was commissioned the government of the Federal Republic of Nigeria and paid for by SPDC,

means that it must be a fair assessment and that its report could not have been manipulated.

- Second, the fact that it would cost over $1.0 billion (or ₦ 155.0 billion) to remediate the oil and gas-related environmental despoliation in Ogoniland alone is an indication of the enormity of the cost implication of the environmental devastation of the entire Niger Delta region. In fact, a non-governmental organization, the Environmental Rights Action (ERA), has demanded the establishment of a $100 billion Environmental Restoration Fund (ERF) for the region (The PUNCH, 2011).
- Third, that in order for the proposed agriculture-driven post-amnesty and post-petroleum diversification of the economy of the area to be meaningfully sustained, the oil and gas operators (trans-national oil companies ((TNOCs)) in the region must be compelled to carry out the immediate and comprehensive remediation of their areas of operation. This is the only way to ensure that the farmers can go back to the land and the fishers can go back to their fishing grounds.
- Forth, the fact that the remediation of Ogoniland is projected to take thirty years shows that the sustainable restoration of the integrity of the environment of the Niger Delta region must be considered by government as a special long-term item in the post-amnesty agenda.
- Finally, the sustainability concerns of the environmental remediation of the Niger Delta region were provided for by proposing the establishment of an Environmental Restoration Authority, an Integrated Contaminated Soil Management Centre and a Centre of Excellence for Environmental Restoration.

Since a vast majority of the population of the region survive on agriculture and fishing, the increasing threat of climate change and global warming indirectly constitute a threat to food security, by both encumbering agricultural and aquacultural production. Although a recent study shows that about one-third of the people of the region perceive climate change as an 'act of God' (Odjugo, 2011; 12), the facts available have implicated the brown economic practices that drive the

development of the country, in general and the region, in particular. For instance, Awosika (1995) claims that a total of 125.5 million cubic meters of gas was produced in the Niger Delta Region between 1970 and 1986. Out of this volume, an overwhelming 102.3 million cubic meters (or 81.7 per cent) was flared! Another estimate claims that Nigeria produced 5.7 trillion cubic feet (TCF) of associated gas between 1958 and 2000, out of which about 5.0 TCF (or about 88 per cent) was flared! (Iyayi, 2007). Indeed, we reiterate that Nigeria is claimed to rank as number one in the world in terms of the volume of gas flared relative to the total volume of oil and gas produced, accounting for 13 per cent of all the gas flared in the world every year (Iyayi, 2010; 87 and Bassey, 2007; 53). Indeed, the World Bank's 2000 annual report noted that through gas flaring, Nigeria contributes more green house gas emissions than the whole of sub-Saharan Africa combined (Unabia, 2010; 12) .

In presenting the impact of gas flaring on the climate of the NDR, Agboola and Olurin (2003) claim that about 45.8 billion kilowatts of heat is discharged into the atmosphere of the area from gas flaring. This puts the daily rate of flaring at 1.8 billion cubic feet. Similarly, Anthony (2003) has claimed that Nigeria releases 35 million tons of carbon dioxide and 12 million tons of methane into the atmosphere annually, through gas flaring. While global data are not available to make comparative judgment, these figures cannot be ignored in the discourse of climate change and its effects in the region. Suffice it to say that these releases massively compromise climatic elements and impact negatively on the environment. These are in addition to the well-documented negative health implications such as bronchitis, leukaemia, asthma, cancers and various skin disorders and their obvious implications for the life expectancy in the NDR.

The overwhelming verdict of the brief excursion into the 'colour' of economic activities in the Niger Delta region is that current production processes are driven by 'brown growth'. This is because the economic development in the area relies heavily on fossil fuels and does not consider the negative side effects that production and consumption have on the environment. More importantly, there are direct and indirect evidence that the current approach to the pursuit of development is unsustainable, insensitive to the environment and incapable of poverty eradication. A paradigm shift is inevitable if the spirit of Rio+ is to

be implemented in the development agenda.

SECTION FOUR

THE *'COLOUR'* OF DEVELOPMENT

The thrust of this interrogation is to determine the predominant type of development that has resulted from formal economic activities in the Niger Delta region; whether brown or green. One manifestation of the unsustainability of the development of the region is the parlous state of the infrastructure, in spite of the intensity of the economic activities and the huge volume of resources that it produces. Basic infrastructure are either completely lacking, or where available, they are inadequate, unsafe and archaic (UNDP, 2006; 27). Regarding social infrastructure, the Niger Delta region is the least developed in Nigeria. Below, is a brief survey of six facilities: transportation, water supply, energy supply, health care, education and employment; which are also indicators of the area's poverty.

***Transportation*:** In the area of transportation, and with particular reference to roads, the major explanation for their absence and poor state of those available in the Niger Delta, is the harsh and difficult terrain. Being low-lying and swampy in most parts, the provision of road transport infrastructure is more costly than in higher or upland areas of the country. Thus, if the provision of roads were to be determined exclusively by the cost-per-kilometre, the construction of roads in the Niger Delta region will always be unattractive. This is because while the preparatory process requires only earth work in upland areas, in the Niger Delta, the processes are more complex and include pilling, filling, stabilization and construction of numerous bridges. These mean extra costs. Consequently, good networks of roads are non-existent. Indeed the region has the lowest road density in the country, accounting for only two (2) per cent of the total road mileage in Nigeria (NDES, 1997; 42). However, the overwhelming feeling of the people is that if the region's oil and gas-derived resources have been used to develop super highways in areas that do not make any, or very little, contribution to the revenue base of the country, cost should not be a consideration in the construction of their roads.

The intricate network of streams and rivers in the region has not been translated into the infrastructure needed to rescue the people who dwell in the remote riverine areas from the problem of isolation due to inadequate transportation facilities. This is because if the water ways are

not blocked or occluded by oil and gas activities, they are silted are or invaded by exotic plants, such as water hyacinth, which hinder not only movement but more importantly fishing activities; thereby exercabating rather eradicating poverty.

Water Supply: Although, in its general sense , water is a ubiquitous element in most of the Niger Delta region, access to safe, potable drinking water is grossly inadequate. It has been estimated that only about 20 per cent of the people dwelling in the rural areas of the region (which is where the vast majority of about 99 per cent of the people live) have access to potable water. The figure increases to only between 40 and 45 per cent in the urban areas (NDES, 2000). The vast majority of the population, therefore, depend on supplies from streams, rivers, lakes, ponds, and shallow hand-dug wells. Considering that these surface waters also receive human wastes and untreated industrial discharges, including spilled crude oil; and also considering that the very high water table makes underground water susceptible to contamination, water from these sources of supply is invariably polluted and unsafe for human consumption. This explains the ubiquitously high incidences of water-borne diseases in the region.

Electricity Supply: Although one of the major features on the landscape of the Niger Delta region is the almost ubiquitous gas flare stack, the vast majority of the communities live in darkness; under un-energized and un-powered conditions. The paradox is this. Because of the gas flares, for the people living near the stacks, night never comes. Although Amnesty International (2009) has concluded that outside the homes the people "live with continuous light", they have no energy to light their rooms and/or power their rudimentary appliances. This is because there is no electricity supply. The UNDP (2006; 29) claims that only 34 per cent of people of the region use electricity for lighting, while the vast majority (61 per cent) use kerosene or a lantern. Surveys by the Centre for Population and Environmental Development (CPED) (2003), Wokocha (2010) and Inoni (2009) have confirmed that the vast majority of over 74 per cent of the households in the region depend on biomass sources of fuel for their cooking and kerosene for lighting. Economic activities in the area are, therefore, completely driven by brown energy, with all their implications for the environment.

***Health Care*:** In the area of human health, the poverty of the Niger Delta Region is manifested in what the UNDP (2006; 32) has called a dismal health and health care service delivery, characterized by poor hygiene; little or no health information and education; a grossly inadequate capacity for service delivery; inadequate provision of hospitals, clinics and primary health centres; and a lack of effective operational plans for holistic health management.

The precarious state of the available facilities is vividly presented in an NDES (2000) survey which showed that there was an average of only one primary health care (PHC) facility for every 9,805 people. Furthermore, the survey showed that an average PHC facility serves an oversized land area of 44 square kilometres. Equally alarming is the finding that there is one facility for an average of 43 settlements. The situation is expectedly worse for higher-order secondary health care; with respect to which there is only one facility for every 131,174 people. The average secondary health care facility serves an area of 583 square kilometres and an average of 48 settlements. The reality of the challenges that these statistics pose will be better appreciated against the background of the poor state of the transportation facilities presented above. These are violations of the expectations of the UNGA Rio+20 recommendations.

***Education*:** Although many states of Niger Delta Region are not classified as educationally disadvantaged, and although the school enrolment figures put the region significantly above the national average, nonetheless, its educational facilities are inadequate, considering its land mass, number of communities and population. For instance, an NDES (2000) survey showed that the core Niger Delta states (Bayelsa, Delta and Rivers) which cover about 30,000 square kilometres and have over 3,800 settlements and an estimated population of eight million, had only 2,169 primary schools and 545 secondary schools. This meant that at the time of the survey, there was one primary school to every 3,700 people; serving an average area of 14 square kilometres. Furthermore, one primary school served an average of two settlements. With regard to secondary schools, there was one to every 14,679 people, serving an area of 55 square kilometres, and meeting the needs of an average of seven settlements. The results are the expected overcrowded classrooms, inadequate and overstretched furniture.

Employment

Perhaps the most potent factor that fuels insecurity, youth restiveness, militancy and general criminality in the Niger Delta region is the unacceptably high level of unemployment. Indeed, the area has been described as having the worst unemployment rates in the country (Emuedo, Anoliefo and Emuedo, 2007; 220). The major explanation often offered for this situation is that the oil and gas sector activities are highly specialized and require equally specialized skills. Furthermore, since the vast majority of the population of the Niger Delta region is made up of rural, local, illiterate, unskilled village dwellers, they are often very easily and conveniently dislocated and displaced in favour of their urban-based, more educated, more skilled and more sophisticated counterparts. Consequently, the issue of employment and participation in the oil and gas sector generates perennial bitter feelings of alienation, which has in turn resulted in conflicts between and among communities and ethnic groups, on the one hand, and between them and government and oil and gas trans-national companies (TNCs), on the other, in the Niger Delta region.

Opinion is held that redressing the inherent capacity disadvantage of the local people requires empowering socially and economically marginalized groups and individuals, strengthening social and infrastructural institutions and facilities, (such as skills acquisition centres), and developing the capacities of existing local groups. Furthermore, fully participatory and inclusive approaches to the planning and implementation of development interventions are essential; partnerships and collaborations can go far in removing the barriers to social inclusion. Interventions tailored and customized to localities or groups will meet their unique needs. Such interventions must include vocational training for the restive youths of the region.

As it is with production activities, the resultant development outcomes of the brown growth approaches have not been friendly and sensitive to the environment, neither have they reflected the expectations of Rio+20. They have not been pro-poor. More importantly, all the principles of environmental justice are violated by all the indicators of development in the Niger Delta region. Their human rights have also been violated.

SECTION FIVE
SYMPTOMS OF UNSUSTAINABILITY

That the above indicators are also symptoms of the unsustainability of the present development scenario in the Niger Delta, can be confirmed by two major developments in the area; namely: insecurity and conflicts, the amnesty programme.

Marginalization, Insecurity and Conflicts

One of the expressions of poverty is frustration. And, frustration, in turn, leads to aggression, which is usually expressed violently. The combination of frustration and aggression gives rise to what Dollard, Doob, Miller, Mower and Sears (1939) have called the frustration-aggression hypothesis, which posits that "the occurrence of aggressive behaviour always presupposes the existence of frustration, and contrariwise, that the existence of frustration always leads to some form of aggression" (Emuedo, Anoliefo and Emuedo, 2007; 217).

Frustration is said to exist when the fulfilment of a goal is prevented. The frustration of the people of the Niger Delta region can be put in an historical perspective. In 1954, Nigeria adopted the federal system of government, with a three-region structure: the West, the East and the North. At independence, in 1960, the West was ruled by a majority group, the Yoruba; the East also by a majority group, the Ibo; and the North by yet another majority group, the Hausa-Fulani. There were only three years between the creation of the Midwest Region in 1963 and the first military coup of 1966 and the subsequent civil war. The major ethnic groups were, therefore, the perceived main contributors to the nation's wealth; and the allocation of revenue to the regions was based on the principle of derivation, which was on the average 50 per cent (Emuedo, Anoliefo and Emuedo, 2007; 207).

However, since the Petroleum Decree No. 51 of 1969 was promulgated to alter the derivation principle enshrined in the 1960 and 1963 constitutions, the changes in the nation's revenue sharing formula have known only one direction; down ward, to the disadvantage of the producing states and in favour of the federal government. The explanation for the first alteration was the need for the federal government to have resources to prosecute the Nigerian civil war. However, this happens to coincide with when oil and gas were becoming the undisputed main sources of national revenue. The war ended over forty years ago, but the government is yet to reverse, abrogate and annul the obnoxious

Decree 51 of 1969. Rather, clandestinely, oil and gas are now being perceived as the gifts of God, and, therefore, *free goods*, in contradistinction to the cotton and grounds of the north, the palm oil of the east and the cocoa of the west, which were *owned* by the pre-civil war regions.

The remarkable frustration of the people of the Niger Delta region will be better appreciated when it is situated within the context of the recognition of the fact that in the history of the country, of all the natural resources that have ever been exploited, and or are still being exploited, only oil and gas are conceived as God-given and have been consequently nationalized.

It is against this background that Emuedo, Anoliefo and Emuedo (2007; 226) have asserted that: "The violent protests in the Niger Delta are, therefore, essentially part of opposition to economic marginalization and political domination by the state". Consequently, Alapiki and Allen (2007: 257) correctly concluded that: "in the context of ethnic politics in Nigeria, where the major ethnic groups have dominated the politics and economy of the country, the Niger Delta peoples describe their fate as that of internal colonialism". Government response to the violence, insecurity, conflicts and militancy in the region was repression and suppression, exclusion and marginalization. Unfortunately, rather than abating, they escalated. The result was greater militancy and insecurity, more violent disruption of oil and gas production, steeper drop in national revenue and correspondingly greater national economic uncertainty. A new approach was imperative.

The Amnesty Experiment

When it became clear that the use of force would not resolve the challenges to peace in the Niger Delta, and that the deployment of heavy-handed state security forces was only exacerbating insecurity and escalating violence in the area, the government decided to apply the carrot-and-stick approach. The result is what is now known as the amnesty programme.

In a nutshell, the amnesty programme was designed to grant unconditional pardon to those who had been involved in the crime of militancy against the Nigerian state, in return for complete and equally unconditional disarmament, demobilization and reintegration (DDR).

Three elements of the programme are particularly noteworthy:

- First, is the vocational training of its participants or enrolees, in carefully selected areas of interest and need, within Nigeria and abroad. The expectation is that the acquired vocational skills would sustain the beneficiaries, reintegrate them into the society, and keep them out of crime and criminal acts; so that they can permanently embrace peace.
- Second, is the payment of a stipend of $433, made up of a daily food allowance of $10 and monthly stipend of $133, to ex-militants.
- Third, is that government is expected to take advantage of the peaceful interlude provided by the amnesty to holistically develop the region.

The ultimate translation of this third leg of the amnesty tripod is to give sustainable attention to all the issues that provoked the grievance, frustration, aggression and discontent that caused and fuelled the militancy, leveraging on the peaceful interregnum provided by the amnesty

Among the visible positive results of the almost five-year programme are: the verifiable relative calm in the region; less interruption in oil and gas operations; the corresponding steady increase in national oil and gas production; as well as increases in the oil and gas revenue earnings.

These early gains, notwithstanding, some strong issues are being raised, and fear expressed about the programme's sincerity and sustainability, on the one hand, and the transparency of its management, on the other.

Perhaps the greatest fear concerning the sustainability of the amnesty programme is about its legitimacy. The programme came into existence by the fiat of a proclamation by the then President, Umaru Musa Yar'Adua on June 25, 2009. As at present, there is no law backing it up. It was only logical for the present administration of President Goodluck Jonathan to support, and continue with it for at least two reasons. First, he was part of the administration that initiated it, then as Vice President. Secondly, he is from the Niger Delta Region and so could be seen technically as part of the struggle for fiscal and environmental justice in the area. The fear then is the uncertainty in the absence of an enabling law, of what could happen should a President come into power

that was not part of the initiative and also not from the Niger Delta region, and consequently not committed to the programme.

Some perceive the programme as the latest outlet for profiteering and racketeering. Indeed the opinion is held in some quarters that the agitation for amnesty for some murderers and criminals operating under the aegis of Boko Haram in some states in the northern part of the country is actually a clandestine attempt to 'deregulate' the programme so that more people can benefit from the largesse that government is perceived to be doling out under the concept.

Yet another concern about the amnesty programme is the legitimate argument that the 30,000 youths (captured in three phases) who reportedly surrendered their arms and ammunitions and are now beneficiaries, were not fighting for themselves alone. Rather, they represent the deep feelings, grievances, frustrations, discontent and anger of millions of other non-militant, but equally disadvantaged people in the Niger Delta region, many of whom, for various reasons, are not able, or do not want to carry weapons now. Therefore, rehabilitating 30,000 youth, though commendable, is tantamount to treating the symptoms and ignoring the root cause of the militancy challenge. It is indeed only scratching the surface of a very deep rooted challenge.

Furthermore, the fundamental question has been raised regarding how the trained ex-militants would be engaged on a sustainable basis without job opportunities to absorb and integrate them into the society. We reiterate that one of the planks on which youth unemployment in the Niger Delta region is explained is the lack of specialised skills required in the oil and gas sector. If unemployment causes frustration and discontent, which in turn cause violent militancy among the youths then the fear is that, frustration may be amplified, if after acquiring the needed skills, the ex-militants cannot find jobs. This is another way of doubting the programme's capability to eradicate poverty in the region. To the extent that this fear is genuine, to that extent should we expect greater and more violent militancy in the region, if the amnesty programme does not look beyond mere skills acquisition. Green jobs must be created in enough numbers to absorb the skilled youths that will soon graduate from the amnesty programme, and the generality of the other non-militant youths of the region.

The Niger Delta Technical Committee (NDTC), set up by the Government of the Federal Republic of Nigeria on September 4, 2008, when Goodluck Jonathan was Vice President, has presented a template that, with guided amendments and implementation, could achieve several green goals of Rio+20.

In addition to the amnesty programme, which was recommended as a Disarmament, Demobilization and Reintegration (DDR) package, other salient recommendations of the NDTC include:

- immediate raising of the present derivation share of oil and gas derived revenue from 13 per cent to 25 per cent,
- setting up a youth empowerment scheme, structured with the capacity and capability to create jobs across the region,
- the completion of the East-West Road (from Lagos to Calabar), which was expected have been completed by 2010,
- construction of link routes from the East-West Road to the coast for all the coastline states,
- dedication of 5,000 kilowatts of electricity to the Niger Delta states, to stimulate (especially micro, small and medium) economic activities,
- rehabilitating and equipping of all existing health care facilities,
- rehabilitating and equipping all the primary and secondary schools and staffing them with qualified teachers,
- setting up structures for the sustainable implementation of the report, such as:
  - The Niger Delta Special Infrastructure Development Fund,
  - The Niger Delta Futures Trust Fund, and
  - Community Trust Fund. (ICG, 2009 and TELL, 2009, cited in Ani, 2011; 75).

SECTION SIX
THE CHALENGES

What has become clear from the outline of the economic activities and the corresponding standard of living in the Niger Delta region, as it is also true of the rest of Nigeria, is that production has been driven completely by 'brown growth'. This conclusion is hinged on the fact that economic development in the region relies overwhelmingly on fossil fuels, but unfortunately has not given enough, if any consideration to the negative side effects that production

and consumption have on the environment. It is against this background that some key challenges are considered below.

Governance Deficit

The core proposition of this discourse is that governance failure, more than anything else, is the principal explanation for the unsustainable development of the Niger Delta region, as well as its lingering environmental challenges and the endless violence. It is not the quantum of oil and gas produced that is critical to the sustainable development of the Niger Delta region but how much of that is ploughed back and utilized for its development (Adele Jinadu and Abutudu, 2007). Investigations in three Niger Delta states (Abia, Akwa Ibom and Cross River) by Adele Jinadu and Abutudu (2007) revealed that there is little respect for transparency and accountability in the management of the resources accruing to the respective states, local government areas and even the Niger Delta Development Commission (NDDC), the regional development agency.

Particularly noteworthy is the perception by the public that the political elites do not commit the resources that they receive to enhance the welfare of the people and eradicate poverty. Rather, "politicians are viewed by respondents as essentially concerned with diverting public funds for buying personal property, paying their political godfathers and supporters and generally living a life of comfort and luxury" (Adele Jinadu and Abutudu, 2007; 35).

So far, the management of petroleum-derived resources is shrouded in unnecessary secrecy. This is largely because, before the recent attempts at reforming the electioneering process, politicians never saw themselves as accountable to the people and as such, the people have had little or no access to their elected officials at all levels of government. Consequently, the political class has become rascally, arrogant, reckless, mischievous, wayward and very irresponsible. This is another way of saying that governments and their agencies have been failing in their social contract with the people, because those who run the affairs of governance are perceived to be corrupt.

Another indicator of governance failure is the challenge of institutional weakness and multiplicity of agencies operating in the region. At present, the institutions targeting the developmental and environmental challenges of the Niger Delta region include the several River Basin Development Authorities (RBDAs),

the Niger Delta Development Commission (NDDC) and the Ministry of Niger Delta Affairs. In many ways and in several areas, the mandates of these institutions overlap.

Flowing from the above are the inconsistencies in the jurisdictions of some regulatory agencies of government, such as between the National Environmental Standards and Regulation Enforcement Agency (NESREA) Act of 2007 and the Department of Petroleum Resources (DPR). This is how Amnesty International (2009; 6) summarized it: "The regulatory system in the Niger Delta is deeply flawed. Nigeria has laws and regulations that require companies to comply with internationally recognized standards of "good oil field practice", and laws and regulations to protect the environment, but these laws and regulations are poorly enforced. The government agencies responsible for enforcement are ineffective and, in some cases, compromised by conflicts of interest".

Institutional weakness and governance failure are also reflected in what NDES (1997) has called 'the very feeble penalties stipulated for offenders'. For instance, sections 43 (3) and 45 of the petroleum reefing regional section of the Petroleum Act, CAP 10, LFN, 2004, which requires the manager of a refinery to take measures to prevent and control pollution of the environment and makes any contravention punishable with a fine of N100.00 (One hundred naira, only) or $0.65! Such sanctions cannot deter polluters (discourage 'brown growth') and protect the environment (encourage 'green growth'). In fact, if it was allowed, some polluters would find it more convenient to pay up front and operate unsustainably and recklessly.
While the above laws show the lack of seriousness on the part of government regarding the regulation of oil and gas activities, there is also an even more unpardonable lack of seriousness on the side of government, regarding the implementation of the ones that have some teeth. In other words, governance failure is also manifested in the lack of, or weak political will to carry out oversight responsibilities, especially in the area of environmental management. That is why, after shifting the deadline for gas flare-out several times, the Department of Petroleum Resources (DPR) seems to have become very uncomfortably and mysteriously silent. As Unabia (2010; 13) puts it:

> "*The Nigerian Government has set three different deadlines since 1969 to stop the practice and the latest of*

which is January 2010, yet none has been observed. And the Nigerian judiciary has over and over again ordered different oil companies to stop gas flaring because "it is a gross violation of the constitutionally-guaranteed right to life and dignity, which include right to a clean environment, poison-free healthy environment". But none of the oil companies has heeded this injunction, rather gas flaring continued unabated at a very scorching temperature".

The implication of this weakness for the development of the nation can be better appreciated when it is recognized that Nigeria has more gas than oil reserves; and stands to generate more revenue from the former in the long run. Unfortunately, Nigeria flares over 80 per cent of its gas. The short-sightedness of Nigeria is clearly revealed when we realize that it is gas that drives the economy of Qatar.

Knowledge Gap

Knowledge drives any given process or system; and the quality of its results is, therefore, determined by the quality of its knowledge stock. Research generates evidence-based knowledge that informs and influence policy. The quality of research, therefore, determines the quality of the policy that it supports. It is within the context of this syllogism that knowledge gap is identified as a challenge in transitioning to a green economy in the Niger Delta region of Nigeria.

According to Koon, Nambair and Rao (2012; 1), the divide between research and policy tends to be quite substantial in most developing countries. The factors responsible for this divide have been dichotomised into those on the supply and demand side. The principal factors on the supply side are the limited local pool of human and financial resources which constrain the production of quality and policy-relevant and policy-ready research.

There are two explanations for this. First, as a result of limited competitiveness, most research proposals are not robust and strong enough to attract the type of funding required to support large scale and long term investigations. Secondly, and relatedly, the research activities that are implemented tend to be very small in terms of scale; often covering one or a few communities, whose results are of very limited relevance for informing sustainable

development policy. In other words, many developing countries, including Nigeria, in general, and its Niger Delta region, in particular, are characterized by limited institutional capacity to generate research to aid policy making.

On the demand side, avenues for research up-take to influence policy are severely constricted. One reason for this is the bureaucratization of the policy making process, in which, researchers and research institutions have only a minor role. Other common obstacles in this regard are centralized decision making and a policy making culture that gives little importance to evidence-based research (Koon, Nambair and Rao, 2012; 1). This will be expanded further in the next section.

Furthermore, policy makers consider the credibility of researchers and research outputs as key requirements for cooperation. Consequently, where there are doubts about the credibility and integrity of researchers or research outputs, then the demand would be weak.

The Research-Policy-Implementation Gap

Flowing from the last section is the syllogism that: research findings are useless unless and until they meaningfully influence policy, policies are, in turn, useless unless and until they are implemented. Implementation is the process of turning policy into practice. However, as a result of the weak link between research and policy implementation, it is common to observe a 'gap' between what was planned and what actually occurred as a result of a policy (Buse, Mays and Walt, 2005). According to Honadle (1979; 6), "Implementation is the nemesis of (policy) designers, it conjures up images of plans gone awry and of social carpenters and masons who fail to build to specifications and thereby distort the beautiful blue prints for progress which were handed to them. It provokes memories of 'good' ideas that did not work and places the blame on the second (and second-class) member of the policy and administration team ..."

In Nigeria, as it is in many developing countries, this is almost always the case, where there is invariably a wide gap between policy making, on the one hand, and policy implementation, on the other. This is due largely to the fact that there is little or no coordination between research and programme implementation. According to UNCTAD Virtual Institute (2006), there tends to be a lack of effective, timely and sustained communication

between researchers, policy makers and policy implementers. According to Makinde (2005; 63), inadequate information can lead to a misunderstanding on the part of the implementers who may be confused as to what exactly are required of them. In practical terms, on the one hand, policy makers are not always informed about ongoing research, while on the other, researchers often lack knowledge of the most pressing policy questions and issues that they would need to make their research more relevant to policy. As a result, many research findings are not the considered priorities of policy makers.

Consequently, though research activities are intended to improve programme delivery, the former are isolated from the latter, in terms of resource allocation, manpower planning and strategic development. The degree to which research output is translated into actionable policy depends on the degree of success in the communication between the two sectors. In this regard, both sectors almost always tend to operate in silos.

SECTION SEVEN

PROSPECTS FOR A GREEN ECONOMY

Having regard to the 'brown processes' driving the development in the Niger Delta region, as well as the challenges that the production and consumption activities have thrown up, moving towards a green economy in the area requires reversing the challenges that confront the present approach to development, so as to make the process more sustainable to poverty eradication. Among the proposals proffered for this purpose are the following.

Institutionalization of Good Governance

Perhaps the greatest impetus needed to drive the transitioning to a green economy is the political will to tackle the identified challenges. Political will is needed to operate a truly democratic system. A system that is not plagued with greed and avarice. Government has attempted to tackle the problem of corruption by establishing a number of agencies, such as Independent Corrupt Practices and other Related Offences Commission (ICPC) and the Economic and Financial Crimes Commission (EFCC), to deal with

corrupt office holders. However, weak a political will has not allowed the war to be moved beyond mere verbiage. Consequently, corruptions continue to be condoned and even encouraged and promoted by lackadaisical attitude of law enforcement agencies and the judiciary towards proven offenders. In other words, beyond legislation, political will is needed to implement the relevant laws that regulate the production and consumption of environmental resources, with sincerity of purpose. It requires the courage to deal with all offenders, equally.

More specifically, political will is needed to implement recommendations such as those of the Niger Delta Technical Committee (NDTC) and the UNEP Report on Ogoniland. Political will is needed to run transparent and accountable structures, in a system of local government, even more than federal and state administrations, which have acquired a reputation for being run like private establishments of their chairmen.

In order for good governance to grow and thrive, there must be the institutionalization of the democratic principles of persuasion, freedom, equality, equity, negotiation, and consensus building (Alapiki and Allen, 2007; 258). Good governance based on institutionalized democracy must be expressed in accessible, accountable, responsible, responsive and transparent leadership. Good governance must be problem-solving and determined to deliver such public goods as employment opportunities and quality social amenities and infrastructural facilities. It must be inclusive and accommodating, based on participatory partnership and must guarantee peace. Good governance must be characterized by openness.

In the Niger Delta Region, as in the rest of Nigeria, the affairs of government are run clandestinely and in secrecy. This is an aberration that has no place in democracy and so should not be allowed to continue. A situation where even the pay of elected political public office holders is not known to the tax payers, who both elected and pay them, cannot be said to be good governance. It is hoped and expected that with the Freedom of Information (FoI) Act, 2011, governance would become more transparent and accountable. Governance should be run as public, rather than private enterprise at all levels.

Integrating Research and Policymaking

The gap between research and policymaking must be closed, if the transition to a green economy is to be achieved. This will require a paradigm shift from the present 'silo operations' to a 'research-to-action strategy'. The research-to-action strategy requires that the knowledge gained from research is not kept in the 'researcher's silo', rather its policy implications are transmitted and communicated to decision-makers and implementers. When researchers and policymakers operate in 'silos', the latter tend to see the results of the former as extraneous, alien and an imposition.

The focus of the research-to-action strategy is to get decision-makers and those that will use the results of research to be integrated into the implementation of research from the very onset. By deliberately involving them in the research, the results can then be 'co-owned' by both the researcher and decision-makers. The integrated approach is participatory. It involves the engagement of key representatives of the different tiers of decision-making in various phases of the research. In the case of the Niger Delta region, the relevant levels of decision-making in the transition to a green economy are:

- ♣ The federal: The Ministry of Niger Delta Affairs, headed by a Cabinet Minister; Permanent Secretary and Directors; and the Niger Delta Development Commission (NDDC), headed by a Managing Director; and Directors;
- ♣ The state: The Executive Councils of the nine individual states, led by the respective State Governors; the nine State Legislatures, led by the Speaker of the respective Houses of Assembly; the Permanent Secretaries and Directors of the ministries relevant to the subject of research;
- ♣ The local government: The Local Government Council, led by the Chairman; Legislative Arm, led by the Speaker; and the Supervisory Councillors of the relevant ministries;
- ♣ Non-state Actors: These have major contributions to make toward decision-making users and consumers of proceeds of the development process. They include: private not-for-profit organizations and non-governmental organizations.

The formal mechanism for integrating research findings and decision-making, involving these key stakeholders should be through

sustained consultations on the keys issues on the environment, sustainable development and poverty eradication, within the context of a green economy. The mechanism should also involve regular feedbacks through meetings with the various stakeholders. Other mechanisms are policy linkage meetings and workshops.

Strengthening Pro-Environment Policymaking

In Nigeria, the most commonly applied instrument for monitoring the sustainability of development and informing policy regarding the impact of development activities on the environment is the environmental impact assessment (EIA). The EIA law was enacted by the Federal Government in 1992, as a tool for integrating environmental concerns into all major activities throughout the country. Among the widely acknowledged advantages (though not uniformly applicable) of the EIA, are those it:

- ♣ improves project design and sitting;
- ♣ ensures a more informed decision-making;
- ♣ results in more environmentally sensitive decisions;
- ♣ ensures reduced environmental damage;
- ♣ ensures increased accountability and transparency during the development process;
- ♣ and contributes positively towards achieving sustainability (Abaza, Bisset and Sadler, 2004; 7).

However, a number of constraints have also been associated with the EIA. These include:

- ♣ that small-scale projects that are often excluded from EIA applications may have significant long term impact;
- ♣ difficulties in ensuring sufficient and adequate public participation;
- ♣ poor integration of bio-physical impact, on the one hand, and social, economic and health impact, on the other;
- ♣ production of reports that are too long and technical for the lay public to understand;
- ♣ lack of mechanisms to ensure that EIA reports are integrated into decision-making; and
- ♣ the lack of technical and managerial capacities to execute strong EIAs in many developing countries (Abaza, Bisset and Sadler, 2004; 8).

It is against this background that the Strategic Environmental Assessment (SEA) has been gaining recognition as a 'promising approach to take account of the environmental effects of policy, plans and programmes' (Abaza, Bisset and Sadler, 2004; 85). Many aspects are common and overlapping in the various defined and understood concept. According to Abaza, Bisset and Sadler (2004; 86), "SEA refers to a formal, systematic process to analyse and address the environmental effects of policies, plans and programmes and other strategic initiatives. This process applies primarily to development-related initiatives that are known or likely to have significant environmental effect, notably those initiated individually in sectors, such as transport and energy, or collectively through spatial land use change". Also, according to Wikipedia, effective strategic environmental assessment "works within a structured and tiered decision framework, aiming to support more effective and efficient decision-making for sustainable development and improved governance by providing for a substantive focus regarding questions, issues and alternatives to be considered in policy, plan and programme (PPP) making."

Among the advantages of the SEA approach are those it:

- ♣ Extends the well-known principles of the EIA to higher levels of decision-making, when major alternatives are still open and there is far greater scope than at the project level to integrate environmental considerations into development goals and objectives;
- ♣ Allows the environmental problems associated with development to be capture at their upstream source, in policy and plan-making processes, rather than mitigating their downstream symptoms or project-level impact (Abaza, Bisset and Sadler (2004; 86).

Abaza, Bisset and Sadler (2004) have promoted the use of SEA in developing countries, like Nigeria, for a number of reasons. These include, that:

- ♠ its requirements help to strengthen openness and transparency in the decision-making processes;
- ♠ it is a step toward a more proactive integrative approach to impact assessment and environmental management;

- it promotes sustainable development by reviewing macroeconomic policies, investment, trade and development programmes, and energy, transport and other sector plans that are known to have significant impact on the environment;
- it is consistent with the World Bank and other international development agencies of mainstreaming the environment into all aspects of their activities.

Exploring Green Energy

According to Examiner.com (http://www.examiner.com/article/green-energy-definition-examples-types; (Retrieved on 05/11/2013)), the exact definition of green energy has changed recently, as modern science has increased the capabilities of engineers and activists alike. Several projects can become new ventures into green energy, including waste-to-energy and nuclear fusion. Furthermore, carbon nanotubes are becoming useful in energy storage as well which may translate to slow and sustainable green energy types like bacteria. Natural disasters have also played a big role in what constitutes green energy types. The recent nuclear meltdown, caused from a tsunami off the coast of Japan, has turned critics against fission power as a viable green energy source. Generally, green energy is any source of power that is sustainable and not excessively harmful to human health or the environment (http://www.brighthub.com/environment/science-environment/articles/61357.aspx Retrieved on 05/11/2013).

Examiner.com (http://www.examiner.com/article/green-energy-definition-examples-types; Retrieved on 05/11/2013) also claims that fire is the most famous example of green energy. Although fire can become a green energy activist's nightmare, the basic concept of growing fuel for energy production encompasses many green energy types called biomass. The best example of green energy in the form of biomass is ethanol extracted from crops, like corn ethanol.

A liberal definition of green energy would include: solar energy, wind power, geothermal heat, biomass, tidal change, waves and fresh water/saltwater differentials electricity generation sources, conversion of methane gas from municipal solid waste and hydroelectricity. Nigeria, in general, and the Niger Delta, in particular appears well-endowed with green energy sources and potentials. With its abundant sun shine and corresponding solar energy; its huge coastal waves; its fresh water/salt water differentials; its strong winds

and numerous rivers, the Niger Delta region offers sustainable alternatives to oil and gas as sources of energy. Green investments in these sources of green energy will generate green employment, which will also preserve our forests and ecosystems, thereby enhancing and sustaining a green economy.

Sustainable Environmental Research

If we may adopt the UNEP 2011 Report on Ogoniland as a template for the entire Niger Delta Region, then the post-amnesty governance of the area will require the urgent establishment of the following:

- An Environmental Restoration Authority,
- An Integrated Contaminated Soil Management Centre,
- A Centre of Excellence for Environmental Restoration (UNEP; 224, 208, 227).

These short term recommendations should constitute the first steps in sustaining the environmental research needed to address the challenges of the knowledge gap which has stalled efforts at dealing with the pervading poverty, ignorance, unacceptably high youth unemployment, and non-existent or weak infrastructure, among many others, in the region.

To continue to delay in acting on these recommendations is to play the ostrich. This opinion is supported by the argument that the grievances, discontent, frustration of, and the resultant aggression by, the people of the region will always seek expression in ways that are usually not (and will not be) peaceful. In spite of the amnesty programme, the majority of the people in the region still feel marginalized and ignored. And, this is antithetical to peace building because as Olawale (1999) has been quoted to have argued, the more a people is ignored, avoided and denied merited attention, the more likely that they will be persuaded to adopt non-peaceful ways to attract attention (Alapiki and Allen, 2007; 256). With particular regard to the Niger Delta scenario, it should, therefore, be expected that the vast majority of the frustrated youths who were hitherto non-militant and reluctant to carry arms may be transformed from unarmed militancy to arms-bearing militancy, since that would appear to them to be the only way to attract the attention of government. If this is allowed to happen, militancy will not only predictably resurface but will escalate and the next phase of violence will be more explosive and make the past experiences look like a child's play. It is in this context that some segments of the region are of the opinion that

what the amnesty has given to government may only be 'false' and 'temporary peace', because as Unabia (2010) has concluded "its focus is not on the root cause of the crisis".

Diversifying the Economy and Creating Green Jobs

The economic base of the Niger Delta region is presently too narrow and vulnerable to sustain long term development. It is unsustainable because it is driven by brown growth, powered solely by oil and gas. But this has not always been the case. The present vulnerability and unsustainability of the economy can be explained by the fact that oil and gas are non-renewable, finite resources that will eventually be exhausted with time. Oloibiri community in Bayelsa State is an eloquent testimony and a pointer to the inevitable fate that belies the region in the absence of foresighted post-petroleum planning. It should, therefore, concern the governments of the region to consider how development will be sustained beyond or without oil and gas.

However, with its stock of natural and human resources, the region offers immense opportunities for developing and growing a diversified, broad-based economy. A diversified economy would not only reduce its present, unsustainable dependence on non-renewable oil and gas, but more importantly jumpstart new green industries and provide sustainable livelihoods in order to achieve poverty eradication (UNDP, 2007). An alternative economic structure is imperative to leverage on its abundant natural resource endowment.

Almost sixty years ago, a French economist (Perroux, 1955) coined the concept of the '*growth pole*' to describe the juxtaposition of propellant industries, which, through their mutual forward and backward linkages are able to attract other growth-generating activities, thereby galvanizing, multiplying and amplifying the developmental impetus of an area, through agglomeration economies and cumulative causation. Such industries and activities are classified as '*propulsive*' because their rates of growth are higher than the overall national average and, therefore, have the capacity to propel the economy. Perroux (1955) called such propulsive activities and industries, 'growth poles' because, they, like a 'field of magnet', centripetally attract to their operational localities, activities that depend on their outputs as inputs, as well as those whose outputs needed as inputs; besides the indirect requisite labour, social facilities and services. Growth poles, therefore,

tend to have cumulative or multiplier effects on the growth and development of their regions.

The agricultural sector is a comfortable home for 'growth poles' in the Niger Delta region. It is noteworthy that until the early 1970s when oil and gas became the mainstay of the national and regional economies, it was the agricultural sector that propelled and sustained growth and development of the area, as elsewhere in the country. Economic growth was propelled through the commercial production of various cash crops, which accounted for 70 per cent of the GDP and 75 per cent of national exports. In fact Unabia (2010; 11) called the Niger Delta region the one-time "agricultural pride of West Africa".

Fortunately, and in spite of the massive degradation due to pollutions from oil spillages and gas flaring; with an envisaged comprehensive and sustained remediation, the ecological and environmental resources of the Niger Delta region still have enough integrity, capacity and potential to support the commercial production of economic crops such as rice, sugar cane, cocoa, roots and tubers, citrus fruits, plantains, rubber and rubber products and oil palm. In addition, the area is also blessed with huge resources for aquaculture and forestry. Therefore, governments at all levels, the oil and gas sector, trans-national oil companies (TNOCs), multi-national donor agencies and other stakeholders must be encouraged to synergize and actively support the resuscitation of properly structured commercial cultivation of these crops, for which the region has reasonable prospects, as well as the establishment of green bankable agro-based industries related to them. Moreover, such growth pole projects can provide the justification for the speedy development of badly needed infrastructure and facilities.

Other benefits of a resuscitated agricultural sector will include: capacity building, training and skills acquisition, especially tied to modern technology; establishment of seed multiplication centres; access to credit and affordable modern storage facilities. It must be pointed out, however, that access to land must be liberalized, if the full potentials of a robust and sustainable agriculture-driven diversified economy are to be realized in the Niger Delta region. In other words, a well-structured and well-engineered agricultural sector will encourage green investments, establishment of green industries, create green jobs and sustainable and progressively eradicate poverty in the region.

SECTION EIGHT

CONCLUSION

In spite of the huge resources that the region is endowed with, and in spite of the equally huge contribution that it makes to the overall development of Nigeria, the environment of the Niger Delta region continues to neglected and indeed abused. The land, water and air are polluted beyond permissible levels by the transnational companies that exploit are oil and gas for the Nigerian state. The people are poor and unemployed. They are uneducated and hungry. They have no access to safe water, health care and clean energy. Rather they depend on natural capital for fuel wood and on the ecosystem for food and supplementary income. It is, therefore, no longer contestable that the economic development of the region is not sustainable.

However, transitioning from the present brown economy to a preferred and more sustainable economy and growth is confronted by a number of challenges. These include: governance failure as a result of weak political will; knowledge gap; and policy-implementation gap. Among the actions that will facilitate the transitioning from brown to green economy targeted at poverty eradication are: integrating research and policymaking; strengthening pro-environment policy; exploring green energy; sustainable environmental research; and diversifying the economic base and creating green jobs.

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