Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.5, No.15 2014

Environmental Management and Sustainable Development in Nigeria's Niger Delta

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Abstract
This study examines environmental management and sustainable development in the Niger Delta region of Nigeria. The data utilized in this study were obtained from both primary and secondary sources. While the primary data were derived from focus group discussions, the secondary data were obtain from relevant textbooks, journals and other documents. The findings of the study, shows that environmental management policy gaps, poor commitment to the implementation of environmental policies, poor environmental management practices as well as weak development agenda are constraining factors to sustainable development in the Niger Delta. The study made some useful recommendations including development agenda that is environmentally, socially and economically benign and synthetic and integrated environmental management principles and practices that are in tandem with sustainable development.
Keywords: Environmental management, sustainable development, Niger Delta, Nigeria.

1.1 Introduction

Environmental management has been recognised and accepted globally as critical to sustainable development. This seeming consensus is based on the understanding that the environment is at the heart of development and management is only an instrument and a process that seeks to achieve a fair balance between environment and development on a sustainable basis.

Sustainable development that is inextricably linked to the environment was popularized by the World Commission on Environment and Development (WEED) report of 1987 titled "Our Common Future". The report notably emphasized the inevitability of a new development path is sustainable human progress is to be achieved. This new emphasis led to a focus on topical issues like population, energy, industry, human settlement, quality of life and productive use and effective management of environmental resources.

Despite the arguably important link between environmental management and sustainable development, environmental pollution and degradation as well as the many-sided socio-economic and political effects that pose serious challenge to man, the environment and development, have remained topical and of grave concern of governments at different levels, non-governmental organizations, policy analysts and individuals, particularly academics. In Nigeria, environmental management and sustainable development, issues have generated serious concern largely because of policy gaps, lack of political will to enforce environmental policies and poor development agenda.

1.2 Statement of the Problem

The advent of oil production in the Niger Delta has led to deforestation and ecological degradation, threatening the renewable natural resources and the ecosystem services in a number of ways. The oil producing areas of the Niger Delta have faced so many environmental problems caused by pollution arising from oil activities such as gas flaring, oil spillage, drill cuttings, drilling mud, fluids used in production and chemicals injected to control corrosion or to separate oil from water and general industrial waste. The activities have not only affected the hydrology of the seasonally flooded fresh water swamp and the brackish water of the mangrove forest; they have also killed crops, destroyed fishing grounds and damaged the drinking water sources.

In the face of the many-sided effects of oil exploration and production activities in the Nigeria's Niger Delta, there is poor environment planning and management typified by policy gaps, lack of political will and poor commitment to the enforcement of existing environmental policies and weak environmental justice. Central to the above dysfunctional environmental management regime in Nigeria's Niger Delta is the interplay of politics in the formulation and implementation of policies that affect environmental management. This study examines environmental management and sustainable development in the Niger Delta region of Nigeria.

1.3 Objectives of the Study

The objectives of this study are to:

i. Examine the relationship between commitment by Federal Government to environmental management policies and sustainable development in the Niger Delta Region of Nigeria.
ii. Assess the relationship between genuine development agenda and sustainable development in the Niger Delta Region of Nigeria.

iii. Make useful recommendations that will engender sustainable development through appropriate environmental management policies and practices in the Niger Delta region of Nigeria.

1.4 Research Questions

i. Is there any relationship between commitment by the Federal Government to environmental management policies and sustainable development in the Niger Delta Region of Nigeria?
ii. Is there any relationship between genuine development agenda and sustainable development in the Niger Delta Region of Nigeria?

1.5 Significance of the Study

The significance of this study is evident in its modest efforts to establish a relationship between environmental management policy gaps, poor commitment by the Federal Government to the implementation of environmental management policies, poor environmental management practices, weak development agenda and sustainable development in the Niger Delta region of Nigeria.

1.6 Environmental Management: A Conceptual Discourse

Environmental management is a purposeful activity that is aimed at maintaining and improving the state of an environmental resource affected by human activities. Environmental management is also the process of managing the environmental issues associated with an organisation's activities. Environmental management encompasses all the activities and technologies necessary to manage the environmental performance of governmental and non-governmental organizations and institutions Environmental management is based on the concept of continuous improvement of an organisation's environmental performance over time. In this way, an environmental management system (EMS) is continuously changing in line with the organisation's activities as well as external influencing factors such as environmental legislation, changes in technology, and market pressures. This dynamic nature allows organisations to improve their environmental performance at a rate and to the level relevant to them.

Environmental management (EM) is the term used to describe the overall management system a firm can use to integrate environmental issues within the existing management and operating systems, thus enabling the company to conduct its activities while ensuring the associated environmental impacts are managed. Environmental management can equally be viewed as the management of the interaction and impact of human activities on the natural environment. Environmental management is concerned with ensuring that ecosystem services and biodiversity are protected for equitable use by future human generations and ecosystem integrity is maintained as an end in itself by taking into consideration ethical, economic, and scientific (ecological) variables. Environmental management tries to identify the factors that have a stake in the conflicts that may rise between meeting intra and inter-generational the needs and protecting the environment.

Environmental management demonstrates the commitment by organizations and institutions to the management of their environmental performance in line with globally accepted standards and a shift in environmental policy away from the traditional 'command and control' environmental legislative instruments to the use of voluntary schemes and market-based instruments. Furthermore, in support of the concept of sustainable development, environmental management provides a new approach for controlling environmental issues. Environmental management underscores the need to place people and their needs at the forefront of every concern and serve the physical, psychological, developmental, cultural and social interests equitably. Development must be environmentally, socially and economically sustainable.

Environmental management is a multi-faceted approach to meeting the needs of all stakeholders from business, industry, governmental authorities and nongovernmental organizations, as well as consumers in the field of the environment. Environmental management involves the development of standards that help organizations to take a proactive approach to managing environmental issues. Environmental management entails the development of normative documents to facilitate the fusion of business and environmental goals by encouraging the inclusion of environmental aspects in product design and it offers a wide-ranging portfolio of standards for sampling and testing methods to deal with specific environmental challenges. Environmental management equally ensures standards for business, government and society as a whole by making a positive contribution to the world through the promotion of quality, safety, economy, reliability, compatibility, interoperability, conformity, efficiency, effectiveness and good management practices

1.7 Development: A Conceptual Understanding

Development is a very vague term and it is very difficult to precisely define it. It is a step towards achieving some goal and in nature it is every changing. It is not absolute but a relative term because it is difficult to measure development. Whereas a particular activity may be considered development or a step forward in a particular society it may not be so considered in another society. Development is very much related with aspirations and expectations of the people. It is interaction of the people with the natural resources available to them.

The dictionary meaning of 'development' is teleological, since it is usually linked with growth into a higher, fuller and mature condition. But quite often development in administration is viewed as some dynamic

change of society from one stage to another without assuming that it is final stage. Some view development as a state of mind or rate of change in particular direction. Development is also seen as an aspect of desirable and planed change influenced by governmental action. Thus development is value based and a broad concept. Riggs still more broadens it when he says that it is process of increasing autonomy and discretion of social systems. For him, diffraction is necessary for development by which he means degree of differentiation in a social system. But he has laid stress on discretion. For him development is increased abilities of human societies to shape their own cultural environments.

Development is a multi-dimensional process involving the reorganization and reorientation of the entire economic and social systems (Todaro, 1985: 87). It transcends beyond the improvement in income and output to the radical transformation in institutional, social and administrative structures. Although development is commonly seen in a national context, its holistic realization may necessitate fundamental modifications of the international economic and social system. Development is therefore a many-sided process. At the level of the individual, it connotes increased skill and capacity, greater freedom, creativity, self-discipline, responsibility and material well being (Rodney, 1972:1). Commonly, the term "development" is used in a restricted parlance primarily because the type of economy in any society is an index of the other social features. Development is essentially a continuous process of generating and more efficiently allocating resources for achieving greater socially satisfying ends (Aboyade, 1973: 16).

Development is made up of two basic and fundamental interrelated parts: increasing the availability of resources and improving the utilization of available resources. While the first component encompasses the natural, human and financial, the second component is a complex function of social organization, level of technology, efficiency of management and the content of public policy (Aboyade, 1973:16). Thus, the resource that is primarily critical to the development process is the natural resource. This is because the natural endowment constitutes the basis for man's primary economic activities. The land, its terrain together with its climate, flora and fauna, determine the nature, shape and direction of development in agriculture, forestry, livestock and fishing. Also the numeral deposits, their location, extent and quality directly influence the development of mining, energy and manufacturing activities.

The availability and distribution of water resources, including the pattern and flow of rivers, equally have direct relationship with the distribution of human settlements, transport and communication as well as the potential for the development of infrastructural facilities. All these, interfaced with historical migrations and the evolution of social organization, assist to shape the development of government, commerce, finance and service activities (Aboyade, 1973:17). All the same, from the perspective of resource availability for economic development, the significant factor is not simply the size of the surface area; rather, it is the productive capacity represented by the economic quality of the physical environment. Therefore natural environments become resources when they are discovered and exploited (Fajingbesi, 1999: 91).

Development implies change and this is one sense in which the term ''development'' is used to describe the process of economic and social transformation within countries (Thirtwall, 1990:8). This process often follows a well-ordered sequence and exhibits common characteristics across countries. The concept of development embraces the major economic and social objective and value that societies strive for and the three basic and distinguishing components or core values in the wider meaning of development are life-sustenance, self-esteem and freedom (Goulet, 1971: 17). Life sustenance is concerned with the provision of basic needs, while self-esteem and freedom have to do with the feeling of self-respect and independence and liberty from the three evils of want, ignorance and squalor. These three core components are interrelated, for lack of self-esteem and freedom result from low levels of life sustenance and both lack of self-esteem and economic imprisonment become links in a circular, self-perpetuating chain of poverty by producing a sense of fatalism and acceptance of the established order-the accommodation to poverty (Galbraith, 1980:12).

Besides, development is universal because the conditions leading to economic expansion are universal. Thus, the traditional conception of development as the capacity of a national economy whose initial economic conditions has been more or less static for a long time to generate and sustain an annual increase in its GNP at rates of between 5.7% or more has been expanded. Implicit in the orthodox view of development is the assumption that growth in income will translate automatically to improvements in the welfare of the citizens of any given country (Iyoha et al, 2003:334). Due to the experience of many less developed countries in the 1950s and 1960s, which reveals the simultaneous existence of rapid growth and the general deterioration in the condition of human life; attempts have been made to humanize the concept of development. In the thinking of Seers (cited in Todaro, 1985:54) for instance, evaluation of developmental levels must be concerned with what has been happening to poverty, unemployment and inequality.

Development is equally a continuous and spontaneous change in the stationary state, which alters and displaces the equilibrium state previously existing. This means, it is an innovative process leading to the structural transformation of the social system through the productive exploitation of environmental resources. Development therefore represents the emergence from a primitive state through progressive advancement in

sustained socio-politico-economic growth and stability to improved standards of living for the citizenry. Indeed, development encompasses a process of improving the quality of human life which involves raising the standard of living of people (income and consumption, level of food, medical services, education and other infrastructural development); creating social, political and economic systems and institutions which promote human dignity and respect and increasing freedom of choice of goods and services.

Development is the most pressing challenge facing the human race; for despite the enormous opportunities created by the advances in technology more than 1 billion people, one-fifth of the world's population, live on less than US $1 a day, a standard of living that the United State and Europe attained two centuries ago (UNDP, 2006:117). In the past, development efforts mattered primarily to the citizens for poor countries, but today demographic, political and technological trends make development an urgent priority for rich countries as well (Summers and Thomas, 1993:241).

1.8 Sustainable Development: A Conceptual Understanding

Sustainable development which connotes an equitable and a balanced approach to development presupposes the balancing of the interests of different groups of people within the same generation (intra-generational) and among generations (inter-generational). Arguably, the most critical problem to sustainable development is poverty eradication which is not only multi-dimensional; it is also a menace to peace and sustainability across the globe. This is because poverty, like war, is both asymmetric to development and inherently destructive to all economic, social and environmental goals that are germane to and constitute the cornerstone of sustainable development. This brings into purview the issue of environmental threats and opportunities that underlie the problematic of sustainable environmental management and development in the Niger Delta region.

A sine-qua-non for sustainable development in any country is the constancy of the natural capital stock. This means that current decisions should not hinder the prospects for maintaining or improving the future stock of capital. Central to the question of sustainable development therefore is the issue of intergenerational equity because of the belief that the resource base of any economy belongs to all generations (Olaniyan et al, 2009). In the twenty years between the Stockholm Conference on Environment and the Rio Conference in 1992, there has been a growing concern that human activities increasingly threaten the health of the natural systems that make life possible on this planet.

The damage being inflicted by human activities on the natural environment render the activities unsustainable because they alter the environment irreversibly. Today, there is a scientific consensus that these environmentally damaging activities cannot continue in the future because they have destroyed the environmental conditions necessary for their continuation (Karpagam, 2008).

Sustainable development was brought into common use in 1987 by the World Commission on Environment and Development in its seminal report called "our common future". Since then sustainability has become a principal benchmark against which economic development policies are assessed by national governments, development agencies and NGOs. Although the adoption of sustainability as a benchmark for development has been hampered by ambiguities in definition and interpretation, there is a consensus that sustainable development implies an active role for government in efficient and equitable management of natural and environmental resources (Pearson, 2009).

As early as 1932, Pigou (cited in Krutilla, 1967) stressed that it is the clear duty of government as the trustee for present and unborn generations to watch over and if need be, by legislative enactment, to defend the exhaustible natural resources from rash and reckless spoliation. As the Business Council for Sustainable Development also stated, "we cannot continue in our present methods of using energy, managing forests, farming, protecting plant and animal species, managing urban growth and producing industrial goods". In line with this realization, many governments and companies are attempting to define and implement sustainable economies and businesses by experimenting with rational.

In the face of the wide acceptance of the concept of sustainable development, no single definition is yet available that is acceptable to all. Most definitions are however built upon the notion expressed by the Brundtland Commission which conceptualized "Sustainable Development" as development that meets the needs of the present generation without compromising the ability of the future generations to meet their own needs. Barbier (cited in Karpagam, 2008) also defined sustainable development as one which is directly concerned with increasing the natural standard of living of the poor at the grassroots level which could be quantitatively measured in terms of increased food, real income, educational services, health care, sanitation, water supply and the like.

In his own thinking, Pearce (cited in Karpagam, 2008) asserted that sustainable development is a vector of desirable social objectives such that an increase in real income per capita, an improvement in health and nutrition, educational achievement, access to resources, a fairer distribution of income and increase in basic freedom. Sustainable development is that which leaves our total patrimony, including natural environmental assets, intact over a particular period. As Tietenberg (2009) posited, sustainable development is the willingness and the ability of the present generation to device a means of using depletible resources such that future

generations, at a minimum, would be left no worse off than current generation.

In the same vein, development is sustainable if, in the process of attaining it, the needs of the future generations are not compromised. Sustainable development aims at the creation of sustainable improvements in the quality of life for all people as the principal goal of development policy. Besides, increasing economic growth and meeting basic needs, the aim of lifting living standards includes a number of more specific goals such as bettering people's health and education opportunities, giving everyone the chance to participate in public life, helping to ensure a clean environment, promoting intergenerational equality. Sustainable development also aims at maximizing the net benefits of economic development, subjecting to maintaining the stock of all environmental and natural resource assets (physical, human and natural) over time.

Sustainability concerns itself with fairness regarding the treatment of present and future generations and contends that for ethical reasons exploitation of resources should not leave future generations worse off than the current. Sustainability also requires that the current generation, though capable of acting otherwise, should manage the resource base such that the average quality of life it ensures can potentially be shared by all future generations (Ashein, 2008). Sustainability also demands that the average quality of life be spread equitably within the present generation (intra-generational) and between the present and future generations (intra-generational) (Hanley et al, 2007).

Sustainability has, in fact, come to be a rallying cry and an organizing principle for much of the subsequent public discussion about natural resource and environmental policy. It therefore serves to encourage a longer-run perspective in policy discussions and decisions. (Field, 2007). Thus, the essence of economic development is long-run change which affects environmental quality. The expectation is that development would shift the production possibility curve outward and as economies change, becoming less tied to natural resources, and as less polluting technologies is adopted, and this outward shift would improve the potential trade-offs between marketed output and environmental quality (Field and Field, 2006).

1.8.1 Components of Sustainable Development

There are three basic components of sustainable development economic, social and the environment. The economic component of sustainability requires that societies pursue growth paths that generate optimal flow of income while maintaining their basic stock of man made capital, human capital and natural capital. Economic sustainability also requires internalizing all costs including the environmental costs associated with production and consumption. The three basic goals of economic sustainability are: to increase production of goods and services, satisfy the basic needs or reduce poverty and improve equality.

The social dimension of sustainable development is built on the twin principles of justice and equality. For a developmental path to be sustainable over a long period of time, wealth, resources and opportunities should be equitably shared. Social equity implies equal opportunities to all for education and for making productive contribution to society in terms of cultural diversity, social justice, gender equality and public participation. The environmental component equally demands sustainable resource use, efficient sink function and maintenance of stock of natural capital i.e. the environment should be able to perform its three functions efficiently and uninterrupted so that ecological stability and resilience are not affected.

1.8.2 Rules of Sustainable Development

The fundamental implication of the concept of sustainable development that one may understand from definitions involving inter-generational equity is that, the present generation should bequeath to the next generation a stock of 'quality of life' assets no less than those that was inherited. This can be interpreted to mean (Karpagam, 2008):

a. That the next generation should inherit a stock of environmental assets no less than that inherited by the previous generation.

b. That the next generation should inherit a stock of environmental assets no less than that inherited by the previous generation.

c. That the components of the inherited stock should be man made assets, natural assets and human assets.

The first interpretation underscored all capital assets: man made and natural. The second emphasized natural capital only and the third include human capital besides natural and man-made capital. Premised on the classification of capital, sustainability of development process may be verified. The dilemma or conflict is whether sustainability rule should be defined in terms of natural capital alone or in terms of aggregate capital stock, where aggregate capital stock includes man made capital consisting of machines, buildings, roads, and the like; human capital comprising of the stock of knowledge and skills and natural capital that is made up of renewable and non-renewable resources or any natural asset yielding a flow of ecological services with economic values over time.

Pearce (2009) proposed a constant capital stock rule as a criterion for sustainability. A precondition for sustainable development is that a nation's stock of capital should not decline through time. The two variants to this rule are weak sustainability that requires the total capital stock-physical, human and natural-are non declining through time and strong sustainability that requires that the nation's stock of natural capital is non

declining. Weak sustainability rule implies that less environment can be passed on so long as the loss can be off set by increasing the stock of roads and machinery or other man made physical capital. Weak sustainability rule will however hold if there is perfect substitutability between different forms of capital; for if the various capital forms are not perfectly substitutable, natural capital stock can not be substituted for man made capital. For example, ecological assets and ecosystem that perform life support services cannot be replaced.

Daly (2007) posited that sound principles should provide the basis for the first step toward operationality. The main principle is to limit the human scale to a level which is commensurate with the carrying capacity of the environment, for once the human activity exceeds the carrying capacity there will be a deviation from the path of sustainable development. Also, technological process should be throughout efficiency increasing rather than throughout quantity increasing, renewable resources should be exploited on a profit maximizing sustainable yield basis and in general not be driven to extinction and the rate of depletion for non-renewable resources should not exceed the rate of creation of renewable substitutes.

1.9 Environmental Management and Sustainable Development

The effective management of natural resources is the key to attaining sustaining development in all sectors of the global economy. Global and National Agencies have long been at the forefront of promoting natural resources management and environmental protection. The thrust of natural resource management is to support environmental services, promote the sustainable management and use of land, water and genetic resources and to strengthen research and development endeavours. The urgent need for today is to utilize our natural resources in a sustainable manner with a focus on minimizing their depletion and pollution.

The welfare of human societies and the quality of life is directly linked to sustainable use of the natural resources. This concern has been duly recognized globally in Agenda 21, where it stated that "special attention should be paid to the demand for natural resources generated by unsustainable consumption and to the efficient use of the resources in a fashion that is in tandem with the goal of minimizing depletion and reducing pollution. This broad object has been crystallized into two UN conventions dealing directly with conservation of natural resources: the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD). These concerns were inspired by the growing global commitment to sustainable development and represented a dramatic step forward in the conservation of biological diversity.

Besides, the sustainable development of any nation is closely linked to its industrial progress, with the energy sector being the major driving force. And achieving sustainable development without drastically disrupting the environmental balance of nature is the challenging problem facing mankind today (Narayanan, 2009). Admittedly, any industrial activity will pose some degree of environmental impact that could lead to environmental degradation and hazards to well-being and health of living organisms with the possibility of environmental crisis. Cognizant of the above, all sustainability efforts studies should incorporate the technological, legal, political, environmental, economic and ethical dimensions in their policy direction and responses. Since sustainable development centres on maximizing and optimally distributing the net benefits of economic development, it requires appropriate natural resource management strategies that will accommodate conservation rules to maintain the regenerative capacity of resources and guide technological change so as to switch from non-renewable to renewable resources wherever physically possible and to develop a phasing policy for the necessary use of non-renewable resources (Brookfield, 2006).

In all certitude, environmental economics analyses the inter-relationship between economic agents and the environment. This is borne out of the realization that human economic activities have a profound impact on the natural environment in the form of rapid depletion of natural resource stock as well as through pollution. The use and misuse of resources have, in fact, raised many moral and pragmatic questions that borders on the sustainability of the present and future generations. Environmental economics is therefore concerned with the allocation problem posed by the use of environmental resources. In so far as resources were available in unlimited quantities, environmental issues were somewhat simply social issues, but with the transformation of environmental resources into economic products through a reversal in the supply/demand mix of environmental quality, the application of economic principles and theories to environmental issues has become abundantly desirable and an imperative.

The apparent increase in the demand for environmental resources is largely connected with the global sustainability question. The supply side presents a clear picture where economic growth and development accentuated by population growth have significantly reduced available supply of environmental resources. Hence, the quest for environmental quality involves the opportunity cost of giving up some amount of other desirable consumption of goods and services. This presence of opportunity cost in the provision of environmental quality explains why environmental problems have economic foundation and demands the integration of economic mechanisms and environmental issues for the effective and efficient management of environmental resources. This integrated and inter-disciplinary approach will not only assist the process of developing pragmatic tools for proper environmental planning and management, it will offer broad-based and balanced solutions to environmental issues and concerns that transcend the parochial approaches based on technological, political,

legal and ethical dimensions that are prone to and fraught with disappointing results.

A policy direction based on the above approach has become a desideratum in Nigeria because, contrary to the perception by conventional economists that the earth is an open system, a virtually limitless plane where there is always some new space and limitless capacity to supply resources and receive wastes, the earth is like a single spaceship with limited reserves of resources and a limited capacity to assimilate wastes (Karpagam, 2008).

2.0 Theoretical Framework

For the purpose of this study, Daly's sustainable development path theory was adopted. This theory started from the premise that economic development is a primary goal of society and, as a consequence, it transcends beyond the satisfaction of basic material needs to the provision of the resources needed to improve the quality of life including meeting the demands for healthcare, education and a good environment (Daly, 1994). It pointed out that while conflict between economic development and the environment was not inevitable, there are reasons why the environment might not be adequately protected by market forces - hence approaches such as the polluter pays principle and the precautionary principle should be adopted and applied through appropriate regulatory mechanisms. The theory also stressed that sustainable development can be achieved through environmentally benign economic system by incorporating better information on environmental impacts, improved techniques for analysis of public decisions and environmental justice strategies that ensures that the benefits of developments are sufficient to outweigh the costs. The theory provides a holistic view of and approach to the state of the environment in sundry fields including trends in population, households and incomes, global atmosphere, air quality, fresh water, the sea, soil, land use, minerals, fossil fuels, wild life and habitats. It also looked at how the principles of sustainable development can be applied over a full range of economic activities in agriculture, forestry, fisheries, minerals extraction, energy supply, manufacturing and services, biotechnology, chemicals, waste, development and town and country, construction, transport and leisure. According to the theory, sustainability embodies a pragmatic orientation and action programmes at the international, national and local governmental and non-governmental organizational levels. It equally underscored the imperative of individual awareness and action, the use of environmental accounting indicators, the land use planning system, energy efficiency and the role of science, engineering and technology in environmental management and sustainable development.

The adoption of the above theory was dictated primarily by its utilitarian value in the context of its adequacy in explaining the relationship between environmental management and sustainable development in diverse settings. This theory which provides a somewhat holistic approach to the understanding of the inevitability of managing the interface between environmental resource exploitation and economic policies for the purpose of achieving intra-generational and inter-generational sustainability is therefore germane for this study.

2.0 Research Methods

This study adopted a qualitative case study method. This research method, according to Yin (2003), has three aspects viz: investigation of a contemporary phenomenon within its real life context, the existence of boundaries between the phenomenon and the real life context and the use of multiple sources of evidence. The qualitative case study method also lends itself to exploratory, descriptive and explanatory methods. Yin emphasized that exploratory research attempts to find out about a situation, while the descriptive and explanatory research types respectively seek to know "what happened" and how and "why it happened." This study which examined environmental management and sustainable development in the Niger Delta region of Nigeria utilized both primary and secondary sources of data.

2.0.1. Primary data

The primary data utilized in this study were derived from focus group discussion sessions conducted by the researcher. Whether to test ideas for new projects, to uncover attitudes to volunteering or understand the needs of the community, focus groups are a straightforward way for research into topical issues that can benefit from the vast ideas and experiences of experts and significant others from different or related fields of study. Focus groups have proved to be a highly insightful research technique for engaging a group of people with a question, product or idea. Bringing together a group to discuss a particular topic provides a more natural setting than one-to-one interviews, as it allows participants to share their ideas and experiences and through discussion new strands of thought can emerge (Stone, 2013). This qualitative research method can generate rich data in a less resource intensive manner than interviewing. Using focus group discussion technique to engage with questions of local, national or global significance can form part of the design process of a wider survey, or it can uncover the opinions of key stakeholders.

The design, size and facilitation of a focus group can be flexible, although a key to its success is having clear aims and objectives and keeping it enjoyable and useful for the participants so as to ensure the information gathered is the most useful. Focus groups in this study were structured in a manner that the

researcher interacted with the participants so as to allow conversations to flow and develop, rather than to encourage expected answers. To enable these conversations to occur, it is important to clearly plan the focus group sessions, create a topic guide and think carefully about the facilitation of the session or sessions (Charleson, 2012). In order to ensure the fruitful use of the focus group discussion (FGD) technique, a topic guide was planned in advance and the areas for discussion were outlined with key ideas and questions to be discussed. The topic guide was constructed with some degree of flexibility because the topics may be covered in a different order. To guarantee robust and insightful discussion sessions, the mix of individuals that participated was carefully determined by the researcher who facilitated during the discussion sessions. The importance of this approach is evident in the fact that more interesting ideas can emerge from a diverse range of individuals, as their experiences and attitudes may be broader as Bolt (2011) rightly articulated.

Six sessions were conducted with six different groups made up of six (6) participants each. There is no optimal number of participants advocated in the literature, but in order to fully involve every participant and avoid uncontrollable discussion sessions, Frich-Lyon, (1981) recommended 8-12 participants, Viassof (1990) recommended 6-12 participants, Oke and Oluwadare (2002) recommended 5-8 participants and Andrew (2010) recommended 6-8 participants. In this study, the researcher used six (6) persons. The six groups were made up of academics and post graduate students. While academics had five groups and five discussion sessions, post graduate students had one group and one discussion session. The thirty academics (with six participants in five groups) were from five universities in five oil-bearing states in the Niger Delta region of Nigeria. The five universities mentioned above are Rivers State University of Technology in Port-Harcourt, Akwa Ibom State University in Uyo, University of Calabar in Calabar, Ambrose Ali University in Ekpoma and Delta State University in Abraka. On the other hand, the six post graduate students in one of the six focus discussion groups were from Delta State University, Abraka.

The six FGD sessions were conducted in three days during the month of May, 2013. Before the FGD commenced, the researcher discussed fully the issues with the participants to ensure they clearly understood them. The discussion was guided by the selected topic "environmental management and sustainable development in Nigeria's Niger Delta" and it was introduced by the researcher as the facilitator. Different questions relevant to the above topic were asked and the discussions took place in a friendly and productive manner with an observer in each of the three focus group discussion sessions. According to Woods (2012), it may also be helpful to include observers in addition to the facilitator, either for writing notes or '**sparks'** who take a role in discussion offering opposing arguments to encourage new ideas into the group if necessary. Also, the focus group discussions were recorded in order to ensure that the data captured can be analyzed later. This can be achieved through detailed note taking, although a preferred option is to record the session, so that a transcript of what was said can be written up later. Digital recorders are usually available for hire from your university. It should be noted transcription takes considerable time to carry out. A debrief of the session with the facilitators and any observers is also useful as they may have further insights.

2.0.2. Secondary Data

The secondary data in this study were derived through content analysis instrument. This instrument was utilized in collecting relevant data from texts, journals, newspapers and magazines in an analytical manner that is fruitful for the study. Content or textual analysis enables a researcher to carry out an in-depth analysis of existing data and to provide explanation for them in a manner that is useful and fruitful as Richard (2012) rightly emphasized.

2.0.3. Data Analysis

Analyzing focus group discussions involve firstly revisiting your aims and objectives and looking through the detailed notes or a full transcript if you have had the time to produce one. The analysis is aimed at identifying key themes and points of consensus or disagreement as well as noting useful quotations which reflect the purposes of your research (Woods, 2012). In this study, all the notes taken at the focus group discussion sessions were read and transcribed. The transcribed versions of the focus group sessions were compared with the notes taken during FGD sessions to fill the identified gaps. The consensus in the opinions and the commonality in the ideas expressed and presented during the focus group discussion sessions constituted the basis for answering the research questions raised in this study. This process was supported with the qualitative data generated in the study through in-depth content analysis of cognate text books and journals (Richard, 2012) premised on the thematic discourse "Environmental Management and Sustainable Development in the Niger Delta Region of Nigeria".

2.1. Niger Delta Environments, Oil Production and the Problem of Degradation

The environment has been recognized and accepted as both an economic and social asset as well as an agent of development. Field and Field (2008:30), for instance, argued that inputs of natural resources have always been recognized as important in economic production and that environmental quality may be thought of as a productive asset of society. He further argued that the productivity of the natural environment lies in its ability to support and enrich human life as well as, in some cases, its ability to assimilate and render less harmful the waste products of the economic system. Eugene (2005:9-10) also noted that the environment provides man with many

services for which man must be grateful because without them human life cannot exist on the earth. He further classified the services as material that pertain to the products of the natural world which have an economic value to human kind, assimilative capacity that concerns how the environment helps in the removal, dispersion and degradation of wastes or residues produced on the earth and life support and amenity that is concerned with the maintenance of the gaseous composition of the atmosphere, the regulation of the earth's temperature and maintenance of the weather patterns as well as aesthetic and recreation.

The environment provides the economy with raw materials, which are transformed into consumer products by the production process and energy which fuels this transformation There is, in fact, a consensus of opinion that the environment is not only a productive asset, it is also an agent of development in all societies, whether pre-modern or modern transitional or industrial, developing or developed. In the face of the of the inevitability of the function of the environment for the development of any society, there is the concern that achieving sustainable developmental balance of nature is the challenging problem facing the globe today (Narayanan, 2009:2) Development, may therefore be described as a double-edged sword because it has both positive and negative far-reaching effects on the environment. A careful look at the globe will reveal that the population is increasing swiftly, the stock of many vital resources are diminishing rapidly, deforestation has become an epidemic, biodiversity is declining rapidly, deserts are expanding, soils are degenerating at a fast rate, fish stocks are diminishing, wild life habitats are disappearing and accumulation of greenhouse gases threaten to change climatic systems (Asthana and Asthana, 2006:3003).

Attempts at reconciling development and the environment emerged with the "new" environment of the 1980s and environmental issues are being given increased importance in the development debate (Morvaridi, 2005:5). The growing concern about the negative impact of development on the environment stems from the fact that the natural processes are being disrupted by productive activities such that the quality of life and even life itself is being threatened. In the developing economics, the nature of environmental problems fundamentally differs from that of the developed economies. This is because as Karpagam (2008:325) stressed that the most important difference is that the third World is not merely worried about the quality of life; it is worried about life itself. Although Karpagam (2008: 325) contended that environmental problems of the developing societies arise not because of excessive technology or development but because of direct dependence on natural resource exploitation to sustain economic livelihoods, it is instructive to note that they are still confronted by the development dilemma. This position is in tandem with Pearson's (2009:538) view that the poor often suffer the most from environmentally unsound development because they are the most directly dependent on primary resources. Mankind is greedily consuming the resource of the environment, spoiling them at the same time and polluting the surroundings with enormous quantities of wastes of all shades thereby provoking the question ''is it development or destruction?''

Nigeria's Niger Delta region is richly endowed in natural resources with strong potentials for the socio-economic growth and development of Nigeria. The same region that is the treasure base of Nigeria and constitutes the major source of revenue in a predominantly mono-product economy has remained under threat from rapidly deteriorating environmental and socio-economic conditions. In so far as development has been accepted as the transformation of society, a move from old ways of thinking and old forms of social and economic organization to new ones (Stilglitz, 2008:23) developmental transformation entails questioning existing arrangements and continually seeking alternative and more efficient ones including better processes of change that demands not only acceptance, but also promotion of human welfare and development. The challenge of development, in the broadest sense therefore, is to improve the quality of people's lives and it calls for higher incomes, higher standards of education, health and nutrition, a cleaner environment and equal opportunity as Preston (2005:7) clearly asserted.

In the early days of the oil industry in the Niger Delta Region of Nigeria, exploration and production activities of transnational companies (TNC's) were at a relatively low level, less visible and intrusive than they are presently. Oil-bearing communities were thriving on their traditional vocations of farming and artisanal fishing for which they depended essentially on land, watershed and natural resources which were fertile, unpolluted and highly productive. Industrial and population pressures on land and water resource was yet unknown in most of the communities (Onosode, 2006). Today, as a result of the increasing profile of exploration and production activities owing to the involvement of many oil majors and minors, the Niger Delta region has been a victim of environmental pollution and degradation. The same land that was productive has given way to the deteriorating effects of the operations of the oil conglomerates. Shell Petroleum Development Company (SPDC), the oil conglomerate on behalf of the NNPC/Shell/Elf/Agip Joint Venture as at 1996, operated oil mining licenses covering an area of over 31,000 square kilometres. The company operated an extensive network of about 900 producing oil wells; 100 flow stations/gas plants; 4500m of oil and gas flow lines and over 1500km of trunk lines through which oil flows from the aggregates of overlapping and superimposed pools of accumulations of petroleum located in the geological structures of the oil region to the two major terminals at Bonny and Forcados (Ejumudo, 2005).

Arguably, the proportion of land take is far more significant than it seems, considering the fact that the Niger Delta constitutes one of Nigeria's most difficult geographical terrain and a significant proportional (of about two thirds) is made up of water or at best is riverine. There is therefore a limited, usable land. The accompanying effect is that in many areas of the region, there is land hunger, especially as oil companies cut up and confiscate farmlands with the legal backing of the state. As land is farmed into oil concessions, degrading of natural resources on the land commonly results in death of the land that is marked by declining productivity and rural-urban migration is intensified. In fact, valuable portions of farmland, lowland, fresh water swamp forest and mangrove resources have been degraded and such loss of habitat and resources in the oil communities that depend on natural resources is devastated, leaving the people in a vicious cycle of poverty (Onosode, 2006). The trail of natural resource degradation in places like Oloibiri, Kokori, Sangama, Boma and other oil-bearing communities are testimonial.

Associated implications of the operations of the oil conglomerates in the Niger Delta region are oil spillage, gas flaring and pipeline vandalization. While oil spillages occur at various stages of product handling, from exploration to production through refining to distribution and marketing, no less than 96 per cent of the spills are associated with the exploration and production and therefore localized in the producing areas (Roberts, 2005). Over the years, oil companies have spilt much oil in the region. Between 1976 and 2006, there were 9,005 reported cases of oil spills with a spillage of about 10.1 million barrels of which only 2.4 barrels were recovered, while the rest were retained in the environment. About 6,500m barrels of oil were spilt in 700 separate incidences each year in Rivers, Delta, Bayelsa and Akwa Ibom states (World Bank, 2008). In January 1998 alone, about 40,000 barrels of light crude leaked from a Mobil Producing Unlimited pipeline at Eket in Akwa Ibom state. The incidences of spills and their impact are varied across the ecological zones, with more spillages in land than swamp and off-shore operations. This impact of spills on the Niger Delta environment is more revealing in view of the fact that Nigerian crude is very toxic and chemical dispersants often used to clean up spills tend to aggravate the damage on the aquatic environment. In addition, dispersants merely make spills more soluble and relatively invisible to the eye, but they do not remove the toxicity (Ayonote, 2005). The long-term effects of oil spills can be very enduring largely because the devastation of plants and farmlands continue in so far as spilled oil block oxygen supply and destroy essential nutrients in the soil like magnesium and nitrogen.

As far as gas flaring is concerned, across the Niger Delta, oil conglomerates burn off gas from hundreds of oil wells in huge fires. The disposal of associated gas has been a major challenge to the region and the Nigerian state. On the average, roughly 1000 standard cubic feet of gas is produced in Nigeria with every barrel of oil. With oil production of about 2.0 billion scf of associated gas is produced every day. Nigeria flares more gas than any other country in the world, for the country is estimated as being responsible for a quarter of global flares (Onosode, 2006). World Bank (2009) estimated that Nigeria flares about 75 percent of the gas it produces due to lack of a local market and infrastructure. Apart from the fact that gas flares constitutes a massive and monumental waste of a valuable national financial and energy resource, they cause significant environmental damage, principally because they kill vegetation, suppress the growth of some plants and diminish agricultural production. The dysfunctional effects of the exploration and production activities of the oil conglomerates and operators in Nigeria since the close of the 1950s have not only become a hydra-headed problem, they have raised many concerns and attracted the attention of environmental and human rights activists, development scholars and research experts as well multi-layered levels of government. In-fact, with the full-blown oil exploration and production activities of the oil giants in the oil-bearing communities of Nigeria, several issues including environmental degradation, poverty, marginalization, resource control and outright underdevelopment of the Niger Delta region have surfaced and constituted unending sources of conflict.

2.2 Environmental Management Policies in Nigeria

Nigerian legislation on petroleum predated exploration activities or efforts in Nigeria. The first piece of legislation was the Petroleum Ordinance of 1889 which was followed by the Mineral Regulation (Oil) Ordinance of 1907, both of which provided the basic legal framework for the development of petroleum and its natural resources (Omorogbe, 2001:16). To a very significant degree, the nature of the colonial and post-colonial Nigerian state are largely structurally the same, for the broad spectrum of laws and accompanying actions of the Nigerian state on the country's oil industry have been no less an extension of the 1914 Mineral Act which vested all powers over resources (solid and liquid) on the state as Omoweh (2006:111-112) rightly stressed. For instance, the post-colonial state like its predecessor has the exclusive right to issue mineral prospecting and mining licenses and the sole power to collect royalties, rents and fees from the oil companies.

The Land Use Decree of 1978 is another environmental related policy that has not only enhanced oil exploration and production activities in the Niger Delta Region of Nigeria, it has also empowered the state and disempowered the Niger Delta Region to the benefit of the oil conglomerates. The origin of the law in Nigeria is traceable to a similar law enacted by the British in northern Nigeria, inspired by English tradition which vested all land on the English Crown (CRP, 1999:2). The law can therefore be described as one of colonial inspiration and feudal inclination. Arguably, nowhere else in Nigeria has the impact of the Land Use Decree manifested, in

alt its ramifications and inequities as in the Niger Delta, Nigeria's main oil-producing region. The Land Use Decree also sought accommodation for the oil companies who need land for virtually all its operations. In fact, the oil giants need land for exploration, production, transportation of crude oil by pipeline, construction of oil terminal stations, flare sites, airstrips, offices and staff quarters. This partly explains the logic behind the content of the Land Use Decree which also provided a buffer for the oil giants to be more reckless in their operations. This may also be a part explanation for why Shell, for instance, can afford to flare gas on a daily basis since 1956 when it discovered oil in the Niger Delta and yet be shielded by the state over litigations on land where oil is explored or produced (Omoweh, 2006:115). Land protection in the light of sustainability was, as a result, and is still not of any significant interest to the state that has gradually rendered the Niger Delta people into paupers through successive legislation including the Petroleum and Land Use and squatters in their own land.

Another environmental policy introduced by the Nigerian state is the Harmful Waste Decree 42 of 1988, which facilitated the establishment of the Federal Environmental Protection Agency (FEPA).The Federal Environmental Protection Agency (FEPA) came into effect through Decree 58 of 1988 and 59 (amended) of 1992. FEPA was charged with the overall responsibility for the environmental management and protection, biodiversity and natural resources conservation. The objectives of FEPA include securing for all Nigerians a quality environment adequate for their health and well-being, conservation and use the environment and natural resources for the benefit of mankind, restore, maintain and enhance ecosystem and ecological process essential for the functioning of biosphere and biological diversity, raise public awareness and promote understanding of essential linkage between environment and development and co-operate with other countries, international organizations and agencies to achieve optimal use of natural resources and effective prevention of trans-boundary environmental pollution. It is however instructive to assert that the Federal Environmental Protection Agency (FEPA) has performed abysmally if benchmarked with the above mentioned objectives. In fact FEPA's efficiency and effectiveness in the discharge of its functions has been constrained sundry factors, particularly the low level of commitment by the federal government, institutional weakness and alliance dilemma. The level of environmental degradation in the Niger Delta and the lack-lustre attitude of FEPA to environmental degradation issues are testimonial to the ineptitude and failure of the agency.

In addressing the need for an enforcement agency, the Federal Government in line with section 20 of the 1999 constitution of the Nigeria, established the National Environmental Standards and Regulations Enforcement Agency (NESREA). The National Environmental Standard and Regulations Enforcement Agency (NESREA) of the Ministry of Environment, Housing and Urban Development is charged with the responsibility of enforcing environmental laws, regulations and standards in deterring people, industries and organizations from polluting and degrading the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology including coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of policies and guidelines. All the same, oil operating companies are polluting and degrading the Niger Delta environment with sense of recklessness and the federal government is paying lip service and endangering the Niger Delta environment and its inhabitants. For instance, the oil companies are expected to carry out environmental impact assessment of their own oil exploration and production devastating operations and submit same to the relevant environmental authorities. The environmental agencies that are disadvantaged are further handicapped by a federal government that is trapped in a web of politics of accommodation and alliance lack the requisite technological expertise and operate with inferior technology.

2.3 Environmental Management and Sustainable in the Niger Delta: The Existing Gap

It has become a recognized fact that the civilized world is still intensively working on transforming our planet into a desert, annihilating life. Everyone understands that it is time to stop this disruptive process, yet there is no hurry to take a decisive initiative (Markov cited in Karpagam, 2007). To defend and improve the environment for sustainability purpose has become an imperative for mankind. This growing global concern for the preservation and conservation of the environment underscores the realization that every human being has the right to environmental protection and survival which is the basis of livelihood. The concept of environmental law in Nigeria is dynamic considering that its policy and judicial basis has progressed over the years beyond necessity for the mere control and management of environmental health hazards to the need for prevention of environmental pollution generally through legal policing. Before 1988, there was no legislation in Nigeria specifically addressed to cater for environmental problems; the available laws are Factories Act, Oil in Navigable Waters Act of 1968; Petroleum Act of 1969, Petroleum Refining Regulation of 1974 and the Oil Pipelines Act of 1956. The most comprehensive legislation on environmental issues in Nigeria was the Federal Environmental Protection Agency (FEPA) Decree promulgated in 1988 shortly after the Harmful Wastes (Special Criminal Provision).In 1992, for the first time In Nigeria, Decree 86 on Environmental Impact Assessment was promulgated. The scope of environmental law is very wide considering the fact that apart from the preservation and conservation of the natural environment, resource use, resolution of dispute among different categories of users, human health and safety are captured.

Apart from the delay in the promulgation of law on environmental pollution which might not be unconnected with the belief that preserving the environment is a luxury rather than a necessity, there is the problem of policy gaps, policy disconnection and more vexatious, action dilemma on the part of the Nigerian government. Accepted that there is a natural tendency to think that enacting a law automatically leads to the rectification of the problem to which it is addressed, the environmental status in Nigeria is clearly bedevilled with inadequacy in policy formulation, disconnection between the intent of policies and the actual attainment, lack-lustre attitude by government toward environmental issues, particularly enforcement and the weak institutional capacity in the face of the unholy alliance between the Nigeria government and the oil majors, particularly Shell Petroleum Development Company and the poor predisposition,/responses and participation by corporate bodies, communities and individuals.

In the context of policy formulation, the establishment of the Federal Environmental Protection Agency (FEPA) whose functions include: the protection and development of the environment, biodiversity conservation, sustainable development of the nation's natural resources in general and environmental technology including the initiation of policy on environmental research and technology and cooperation with government, government and private agencies on matters and facilities relating to environmental protection and other environmental laws, particularly those that border on oil exploitation and production in Nigeria are commendable. To a large extent, however, the broad spectrum of laws and actions of the Nigerian state does not guarantee the protection of the oil-bearing Niger Delta region which is the treasure base of the country and the larger environment. Also worrisome is the fact that the Nigerian state is so much concerned with how much revenue it can generate, that there are patent policy gaps when it comes to the protection and development of the Niger Delta environment. This policy gap is further compounded by the policy disconnection between the intent of the existing environmental policies and the actual attainment.

More pathetic, is the lack-lustre attitude of the Nigerian government toward environmental protection, control and enforcement issues and the weak institutional capacity by government agencies to operate largely due to the alliance of the state with the oil majors, particularly Shell. In this direction, Shell, in spite of the Navigable Waters Act of 1968 which prohibits the oil companies operating in Nigeria from discharging oil or any mixture containing oil into the territorial navigable waters from land, (Omoweh, 2006) Shell still dumps harmful and untreated drilling wastes into the environment and spills crude oil at the terminal from busted hose. The governmental agency, the Department of Petroleum Resources responsible for such issues does not have the equipment to monitor the activities of erring oil companies thereby making it easy for them to be reckless. Even peradventure the Department decides to enforce the Act; it would have to depend on Shell and other companies to obtain the volume of oil spilled and the extent of pollution. The bureaucratic procedure that defaulters are expected to go through also worsen the chances of the enforcement of the Act. There is no known instance, for example, where the Nigerian state instituted any case against any of the oil companies, in spite of the glaring violation of the Act as evidenced in the pollution of the Niger Delta. Also FEPA was almost handicapped as far as environmental issues including impact assessment is concerned before its recent merger with the Federal Ministry of Environment.

An associated problem is gas flaring and oil spillage by Shell and the other oil companies in their host communities with reckless abandon because of the backing and unholy alliance with the Nigerian state after over forty years of oil exploitation and production in Nigeria. Meanwhile, Shell and the other oil companies operating in their home countries in Europe and America hardly flare gas. The Nigerian State that is against gas flaring on paper cannot even enforce its Gas Re-injection Decree of 1979. And the impact of gas flaring on the Nigerian economy and environment is grave. In fact, the magnitude can be better appreciated if gas flaring and its debilitating effects are analysed in conjunction with the endless dumping of harmful drilling wastes on land and into swamps. These nefarious activities of the oil companies kill plants and animals in the affected environment and desecrate the soil and turns the hitherto rain and mangrove forests into derived savannah (Omoweh, 2007).

It is no distortion of historical facts and available evidence to assert that there exists a poor regime of environmental management in the Niger Delta Region of Nigeria. In fact, the relevant facts generated through secondary sources of data indicate that there is poor commitment to the execution of environmental management policies, apart from the environmental policy inadequacy. This dysfunctional reality is counter-productive as far as a sustainable development path in the Niger Delta Region of Nigeria. The secondary data also revealed the near absence of genuine development agenda in the Niger Delta Region.

2.4 Analysis of the Focus Group Discussions in this Study

The central aim and objective of the focus group discussions was to identify the key areas of consensus or disagreement among the discussants. The out- come of the six focus group discussions on different aspects of the central theme "Environmental Management and Sustainable Development in the Niger Delta" shows that the environmental management practices are largely a deviation from acceptable environmental management principles. All the discussants agreed that there is a very low level of commitment by the Nigerian State and its environment-related institutions to the existing environmental laws and policies in Nigeria. There was also a

commonality of opinion among the discussants on the inadequacy of environmental laws and policies as it affect the Niger Delta Region. The issue of enforcement of the existing environmental laws and policies in the region was more vexatious, especially as the discussants indicted the federal government and it relevant environmental law enforcement agencies for shirking their responsibilities by not taking action steps to ensure a reasonable measure of environmental preservation and conservation in the Niger Delta.

In a similar vein, there was convergence of opinion by the discussants on the poor sustainable development mentality and action plan by the Nigerian state and the oil conglomerates. The major reason advanced by them for their assertion is the largely lack of intra-generational and inter-generational sustainable development approach by and culture in the Nigerian state. In sum, the consensus in the opinions and the commonality in the ideas expressed and presented during the focus group discussion sessions constituted the basis for answering the research questions raised in this study. This process corroborated and modestly re-enforced the qualitative data generated in the study through in-depth content analysis of cognate text books and journals premised on the thematic discourse "Environmental Management and Sustainable Development in the Niger Delta Region of Nigeria".

Thus, the action dilemma of the Nigerian government typified by the nonsensical sit-on-the-fence attitude, passive implementation of existing environmental policies which are mostly dormant awaiting activation by government and its agencies is suggestive of a cross-road situation. No wonder, policies are scarcely translated into concrete reality by the Nigerian government with grave implications for both development and sustainable development in Nigeria, for flawed policies needlessly waste material wealth.

5.0 SUMMARY OF FINDINGS

This study came up with some valuable findings. Such findings became possible through the use of selective utilization of in-depth library and documentary sources of information.

First and foremost, the study revealed the existence of poor environmental management of natural resources with consequential implications for and on the near absence of genuine development agenda in the Niger Delta region and the largely absent sustainable development process in Nigeria.

The study also showed that there exists a poor regime of environmental management and poor commitment to the execution of environmental management policies in the Niger Delta Region of Nigeria, apart from the environmental policy inadequacy in Nigeria. This dysfunctional reality, according to this study, is counter-productive as far as a sustainable development path in the Niger Delta Region of Nigeria

5.1 CONCLUSION

The importance of environmental management in the sustainable development of both developed and development societies cannot be over-emphasized. This is because environment management has the utilitarian value of creating the conditions that are germane and critical to intra-generational and inter-generational principles and underlie sustainable development globally. The fact that environmental management in Nigeria is arguably poor is a possible explanation for the serious sustainable development problem and challenge that exist in the country.

5.2 RECOMMENDATIONS

To actualize the facilitating role of environmental management in the sustainable development process in Nigeria, there is a need for the recognition and acceptance of adequate planning an appropriate and judicious management of available resources. This has become a desideratum because of the critical input that environmental resources provide in the sustainable development (output) of any society. .

Besides, since the limited environmental protection efforts of the Nigerian government is impaired by the poor predisposition, responses and participation by the oil companies, other corporate bodies, communities and individuals and it is now obvious that most of the development challenges the world faces are not amendable to solutions from any single agency or group, there is the need for collaborative efforts by all stakeholders in the Nigerian society toward the promotion of sustainable development. The relative success of various policy reforms in developing countries particularly the win-win policy that eliminates subsidies which damage both the economy and the environment is of great concern. The above underscores the imperative of investing in effective partnerships by all environmental stakeholders in Nigeria. After all, a key element in lowering the cost of environmental improvement is to allow the private sector, communities and individuals to make the valuable decision as to how to reduce environmental damage. The Nigerian government has to change its ineptitude, deliberate inaction and lack-lustre attitude that has constrained the creation of a climate that will encourage valuable partnerships which will drive sustainable development efforts and plans in Nigeria through environmental management.

Essentially too, the genuine adoption and holistic application of a multi-dimensional approach that will embody the four general methods have been recognized for the control of activities that damage the environment is an imperative. The four methods are: moral suasion which is an appeal to reduce pollution in the broader interests of the society, regulations that requires polluters to cut back their emissions to maintain a

certain level of environmental quality or to install a specified treatment of procedures, market processes or pricing or fiscal techniques that include effluent change or pollution tax, subsidies, refundable deposits, pollution permits and allocation of property rights as well as government investment programmes. It therefore follows that a blend of all the above methods rather than a stereotype focus on government regulation has the potency of achieving the desired results in terms of environmental management and sustainable development hypothesis.

There is equally the need for appropriate conservation and preservation policies that will enhance sustainability. This will involve educating the people and encouraging them to alter their destructive attitudes and disposition toward the environment. This desirable attitudinal change will require complementary and supportive pro-poor policies and programmes that acknowledge the fact that increasing population and poverty are largely related to the over-utilization and depletion of environmental resources and mitigate the effects of an envisaged new environmental culture and consciousness. Equally too, the need for deliberate efforts aimed at prolonging the life span of environmental resources through the preservation, re-use and recycling of resources as well as material substitution cannot be over-emphasized. To this end, government at various levels as the supreme manager of the environment should enhance their budgetary provision and expenditure on environmental protection and management that are both germane to the goal of sustainable development.

Finally, strict enforcement of environmental laws regardless of whose ox is gored is both necessary and mandatory in engendering a new regime of environmental management and sustainable development in Nigeria's Niger Delta region. Appropriately strict enforcement will demand effective monitoring of the activities of polluters, measuring their performance in comparison with the requirements set out in the relevant laws and sanctioning of defaulters. Although polluters have the penchant for seeking ways of frustrating the monitoring process, the essence is to get individuals, groups, institutions and organizations to comply with the applicable laws. Emissions reduction, for instance, cannot be realized except resources are devoted to its enforcement. Enforceability is absolutely necessary because environmental devastation must be halted and the productivity of existing resources stretched further so as to benefit the present and future generations.

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