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Sustainable Development in Nigeria: The Policy Gap and Action Dilemma

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Abstract
Central to sustainable development, is efficient and effective natural resource management which encapsulates economic, social and environmental components and requires societies to pursue growth paths that generate optimal flow of income built on the twin principles of justice and equity. In Nigeria, sustainable development requires an integrated and inter-disciplinary policy planning and management which transcend the parochial legal, political, environmental, economic and ethical boundaries. This policy approach has become a desideratum, given the growing global concern that human activities increasingly threaten the health of natural systems that is at the heart of sustainable development. This study which utilized valuable secondary sources of data examines the sustainable development question in Nigeria and contends that policy gaps and disconnect and the ensuing action dilemma have the potency of constraining the actualization of sustainable development efforts with the possibility of environmental crisis. The study therefore recommended among others an inter-disciplinary policy approach, action programme and governmental/private sector collaboration.
Keywords: Sustainable Development, Policy Gap and Action Dilemma.

1. Introduction

The modern conception of economic growth presents development as a vehicle driven by four wheels viz: capital, labour, resources and technology (Nordhaus 2013:360). And climate which is equated with resources has for long being accepted as the basis for differences in the wealth of nations (Adams et al 2013:360). Sustainable development which aims at the creation of sustainable improvements in the qualit5y of life for all and sundry is therefore principal goal of development policy (Jhingan 2013:22). At the heart of sustainable development is natural resource management which has become inevitable because of the conflicts between the short-term need to alleviate poverty and the long-term objectives for environmental sustainability in the third world pressures placed on natural resources to meet people's demands, in fact, presents a dilemma for policy makers concerned with sustainable development (Cahill and Fitzpatrick 2012:53). All the same, the desirability of policies which carry long-term costs to both society and the environment cannot be over-emphasized. Developing such policies which are expected to enhance public good and social welfare is a herculean task because of the exigency of accommodating long-and-short-term goals for sustainability and the political conditions which border on issues of ownership and the participation of stakeholders commonly with conflicting interests in the policy-making process. This brings into fore the efficacy of an integrated, systematic and pragmatic inter-disciplinary policy approach, for planning in the policy realm should not be seen as a passive function, separate and distinct from doing, but as an active process embodying analysis, goal definition, action programmes and monitoring results (Ejumudo 2005:81). Ordinarily, the need to take into cognizance the environmental factors in analyzing such policies are increasingly being recognized (Huby 2012:15; George and Wilding 2013:12; Cahill 2013:71). In Nigeria, the need for a pragmatic, action-based multi-dimensional approach to integrated and functional policies that will enhance rather than constrain sustainable development is even more compelling. This is largely due to the policy gaps, policy disconnection and the action dilemma typified by governmental inaction and poor commitment, weak institutional capacity in the face of the unholy alliance between the government and the oil majors, particularly Shell Petroleum Development Company and the lackadaisical attitude, poor predisposition, responses and participation by corporate bodies, communities and individuals in Nigeria.

2. Sustainable Development: A Conceptual Understanding and Explanation

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 2013: 57). 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 2014: 190).

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 2013:463). As early as 1932, Pigou (cited in Krutilla 1967: 10) 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 2014:179) 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 2014:181) 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. Winpenny (cited in Karpagam 2014:180) opined that sustainable development is that which leaves our total patrimony, including natural environmental assets, intact over a particular period, while Tietenberg (2015:17) posited that 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 (WCED 1987). 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 2014:21). 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 2013:17).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 2014:82). 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 are adopted, this outward shift would improve the potential trade-offs between marketed output and environmental quality (Field and Field 2014:411).

2.1 Components of Sustainable Development

There are three basic components of sustainable development economic, social and the environment. The three components are inter-related (Karpagam 2014:182). 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.

2.2 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 2014:183):

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 (2013:18) 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 offset 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 cannot be substituted for man-made capital. For example, ecological assets and ecosystem that perform life support services cannot be replaced. Daly (2013:14) 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.

2.3 Sustainable Development and Natural Resource Management

The responsible 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 2014:2). 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 nonrenewable to renewable resources wherever physically possible and to develop a phasing policy for the necessary use of non-renewable resources (Brookfield 2013:21).

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 provision between environmental qualities 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 (Boulding cited in Karpagam 2014: 6).

2.4 Sustainable Development and Natural Resource Management in Nigeria

Arguably, sustainable development cannot be achieved without the interface between development and environment. This is because while development is pro-people and environment pro-nature, they are both evidently interrelated (Eugine 2013:14; Tietenberg 2015). Also, while environment provides the valuable and critical inputs that are needed to produce the outputs of development through environmental resource conversion and transformation as well as technological innovation and advancement there has been a growing concern about the environmental limit to growth and development as well as the imperative of environmental quality and management. This concern has made the adoption of a middle-of the –road approach aimed at satisfying two important criteria-efficiency and sustainability a desideratum.

In Nigeria, the exigency of the efficient use and management of natural resources cannot be over-emphasized. This assertion derives from the fact that it is the only way to pursue a development path and, as a consequence, ensure sustainable development. Ordinarily, without responsible resource use and management in Nigeria, environmental utilization space, which is the total space provided by the environment for use by the present and future generations will be grossly depleted. Moreover, the capacity of the environment to supply both renewable and non-renewable resources, to assimilate wastes by either absorption or dispersal and to provide life support services by maintaining ecological balance and genetic diversity will be constrained with the grave consequence of environmental crisis. Despite the critical role that natural resource management is expected to play in the attainment of sustainable development in Nigeria, it is sad to note that there is a threat to the long-term development in Nigeria. Worse still, is that the natural resources in Nigeria are being over-exploited in a fashion that appears wasteful.

One of the obstacles to natural resource management in Nigeria is the fact that the Third World is not just worried about the quality of life, it is more importantly worried about life itself and it is life in the developing world like Nigeria is constantly threatened by poor water, poor sanitation, crowded housing, sickness, diseases and natural disasters. Natural resource management in Nigeria is therefore constrained by poor technology and the direct dependence on natural resource exploitation to sustain economic livelihoods. The problem of poverty, unequal distribution of land and other resources and demographic pressures have also exacerbated the exploitation of natural resources.

Another problem affecting natural resource management in Nigeria is the inevitable choice between a

high rate of growth in national production and greater protection of the environment and conservation of resources. Developing countries like Nigeria faced with marginal environmental conditions are somehow compelled to opt for immediate economic benefits at the expense of their long-term sustainability (Karpagam 2014:3427). This choice is further compounded by the fact that Nigerian export earnings are dominated by a primary product (Ibanga and Obi 2012:35) making the economy a mono-product type and dependent largely on this natural resource stock for its current and future development needs and aspirations.

Yet another obstacle to natural resource management is the pattern and style of development which encourages the destruction of the environment. The premise of this assertion is the inefficient use of oil revenue in the promotion of growth and development of the Nigerian economy (Adewuyi 2013:139). At the heart of the above problem is corruption, ineffective governmental institutions and mis-governance. Corruption and mis-governance does not only explain why the revenue derived from the natural capital stock has not been significantly utilized to create, develop and expand man made and human capital, in the context of infrastructural and human development; it is also one of the root causes for the ultimate dependence on the natural environment and the accompanying over-exploitation of its resources in Nigeria and near stunted development. And sustainable development must not only take cognizance of over dependence on the natural environment (Maler 2013; Lopez 2014), the strategy for achieving economic development must include economic growth, poverty alleviation and sound environmental management as mutually consistent objectives (World Bank 2014).

On the whole, it will be ironical to attempt any fruitful and practical discussion of sustainable development in Nigeria. This is because despite the abundance of natural, financial and human capital, Nigeria is still groping in the dark in its quest for true development; talk less of sustaining it by pursuing the path of sustainable development.

2.5 Sustainable Development in Nigeria: The Policy Gap and Action Dilemma

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 2014:203). 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 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 bedeviled 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 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.

Besides, 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 2005: 114) 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 analyzed 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 2005:139-141).

Again, 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. Ordinarily, it is now obvious that most of the development challenges the world faces are not amendable to solutions from any single agency or group. One of the strengths of the World Agenda 21 is the insistence on the role of all groups in society in promoting 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 the economy and the environment is of great concern (World Bank 2014:11). 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's ineptitude, deliberate inaction and lack-lustre attitude is however constraining the creation of a climate that will encourage valuable partnerships which will drive sustainable development efforts and plans in Nigeria. After all, in broad terms, four general methods have been recognized for the control of activities that damage the environment (Karpagam 2014:206). These four methods 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 planning and management and sustainable development.

In sum, 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.

2.6 Concluding Remarks and Recommendations

It has been clearly recognized and accepted that in the absence of global control, man's so called peaceful constructive activity is turning into global aggression against the very foundation of life on earth. One of the prominent issues that have engaged the attention of stakeholders at the global, regional, national and local levels is sustainable development. It is also evident that zero pollution can only be attained through zero production for

no production activity is perfect in terms of technology, hence with zero population growth, pollution is inevitable. What is desirable therefore is a package of policies and measures that will identify and monitor pollutants, identify their economic, environmental, political and social effects and to combine them within levels that are not only safe for survival but appropriate for sustainability across generations. Governmental and private sector collaboration that will accommodate communities, non-governmental organizations and individuals is equally necessary to engender economic expansion that will satisfy the rising demands of a growing population and relate it to environmental and resource capacity.

To the above end, the conservation and sustainable use of biodiversity and the equitable sharing of the benefits arising from its use are germane for socio-economic development and poverty alleviation. Also, science and technology in an integrated fashion is also central to any sustainable development path because it enhances understanding of how human activities affect the environment and the imperative of a balanced and responsible natural resource management. Although development can assist the process of alleviating environmental problems, it is not automatic. This is because there is the appropriate public policy nexus which should be systematic, integrated and inter-disciplinary in approach so as to efficaciously provide the premise for the analysis of the benefits and costs of the different courses of action.

Since policy outcomes are affected by the vagaries of the political struggle, the product of this process must advance the welfare of society in the light of sustainability by ensuring that environmental policies posses well stated objectives, well designed means and transparent ways of assessing results. Fundamental changes in attitude by all stakeholders in Nigeria that will engender a paradigm shift from activities and processes that abuse the environment to alternatives that respect its limitation and facilitate innovation and best practices which are environmentally beneficial is equally exigent. Thus sustainable development as a practical guide and road map to the survival of humanity must encapsulate all the dimensions in an inter-dependent reality so as to bring man, nature and development for both now and the future.

References

Adams, R., Bruce, A. M., Daniel D. and Glyer, R. (2013): "Implications of Global Climate Change for Western Agriculture". *Western Journal of Agricultural Economics,* 13 (2) 348-56.

Adewuyi, A. (2013): *The Implications of Crude Oil Exploitation and Export on the Environment and Level of Economic Growth and Development in Nigeria.* Ibadan: NES.

Ashein, G.B. (2014): *Defining Sustainability When Resource Management Does Not Have Deterministic Consequences* Mimeo. Department of Economics, University of Oslo.

Brookfield, H. (2013): Environmental Sustainability with Development: What Prospects for a Research Agenda? *The European Journal of Development Research* 3 (1) 22-31.

Cahill, M. (2013): *The Environment and Social Policy*. London: Routledge.

Daly, E. H. (2013): *Economics, Ecology and Ethics: Essays Towards a Steady State Economy*. New York: Freeman and Company.

Ejumudo, K.B. O. (2005): *Management Training and Development in the Nigerian National Petroleum Corporation*. An unpublished Ph.D Thesis. Ile-Ife: Obafemi Awolowo University.

Eugine, T. (2013): *Environmental Economics*. Delhi: Vrinda Publications.

Field, B and Field, M. (2014): *Environmental Economics: An Introduction*. New York: McGraw-Hill.

Field, B. (2014): *Natural Resource Economics: An Introduction*. New York: McGraw-Hill.

Cahill, M. Fitzpatrick, T. C. (2012): *Governing the Welfare State*. London: Palgrave.

George, V. and Wilding, P. (2013): *British Society*. Basingstoke: Macmillan.

Hanley, N., Jason, F. S. and Ben, W. (2013): *Environmental Economics in Theory and Practice.* Oxford: University Press.

Huby, M. (2012): *Social Policy and the Environment*. Buckingham: Open University Press.

Ibanga, I. and Obi, B. (2012): *Sustainability and Depletibility of Resource Use in Nigeria*: *The Case of Crude Oil*. Ibadan: NES.

Jhingan, M. L. (2013): *The Economics of Development and Planning*. Delhi: Vrinda Publications.

Karpagam, M. (2014): *Environmental Economics*. New Delhi: Sterling Publications.

Krutilla, H. (1967): *Sustainable Development and Resource Management.* New-York : Free Press.

Lopez, R.E. (2013): "Where Development Can or Cannot Go: The Role of Poverty-Environment Linkages", in B. Pleskovic and J.E. Stiglitz (eds.):*.Annual World Bank Conference on Development Economics*. Washington D.C.: World Bank.

Narayanan, P. (2014): *Environmental Pollution: Principles, Analysis and Control*. New-Delhi: CBS Publishers.

Nordhaus, W.D. (2013): "Climates Past and Climate Change Future". in Michael Bruno and Boris Pleskovic (eds.) *Proceedings of the World Bank Annual Conference on Development Economics.* Washington: World Bank.

Olaniyan, O. and Oyeranti, O. A. and Bankole, A.S. (2013): *Sustainable Development in Nigeria*. Ibadan: NES.

Omoweh, D .O. (2005): *Shell Petroleum Development Company, the State and Underdevelopment of Nigeria's Niger Delta: A Study in Environmental Degradation*. Lagos: Africa World Press Inc.

Pearce, D. W. (2013): *Environmental Economics*. London: Longman.

Pearson, C.S. (2013): *Economics and the Global Environment*. Cambridge: University Press.

Tietenberg, T. (2015): *Environmental and Natural Resource Economics*. London: Pearson Education Inc.

Maler, K.G. (2013): "Environment, Poverty and Economic Growth", in B. Pleskovic and J. E. Stiglitz (eds.).*Annual World Bank Conference on Development Economics*. Washington D.C.: World Bank.

WCED (1987): *Sustainable Development: Process and Indicators.* New-York: WCED.

World Bank, (2014): *Towards the Development of an Environmental Action Plan for Nigeria.* Washington D.C.: World Bank.