

STRATEGIC MANAGEMENT OF NATURAL RESOURCES FOR SUSTAINABLE DEVELOPMENT IN NIGERIA

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Abstract

Nigeria is endowed with variety of natural resources. In comparison with countries such as Botswana, Chile and Malaysia endowed with similar or even less resources, Nigeria has not fared well in the use of natural resources for sustainable and even unsustainable development. This unfortunate development can be attributed to, among other factors, lack of strategic management of the said resources. Based on the available literature and deduction, the paper proposed a model on strategic management of natural resources for sustainable development in Nigeria. The input side of the model contains the five stages of strategic management process comprising Goal setting, Analysis of Environment, Strategy Formulation, Strategy Implementation, and Control and Evaluation. The output side of the model contains the Daly's three stages of sustainable development comprising Environment, Economy and Equity. For a smooth application of the model in Nigeria, the paper recommended among others revival of national development plans, incorporation of sustainable development as national development goal, transparency and accountability in managing revenue generated from natural resources and involvement of resource based communities in making decisions on addressing issues like conservation of natural resources, biodiversity, pollution and environmental degradation.

Key words:

Strategic Management, Natural Resources, Sustainable Development and Model

Introduction

Natural resources play an important role in the economy of nations (Barbier, 2003). However, there is no consensus on whether the contribution of natural resources to economic development is positive or negative (Sachs and Warner, 1995). The nature of contribution varies from country to country depending mainly on governance and management of the available natural resources. Countries like Botswana, Chile and Malaysia have gained enormously over long periods from their natural resources. In some other countries like Sierra Leone, Angola and Congo natural resources have brought about violent conflicts and devastating socio-economic effects for the society (Collier and Venables, 2011). This unfortunate development triggered argument among scholars, whether natural resources are source of "Blessing" or "Curse".

Nigeria is endowed with variety of natural resources (www.indexmundi) Sadly, noted Collier and Venables (2011), the said resources are yet to fully make the desired impact on the welfare of the current generation, talk less of the future generations. This unfortunate development has been attributed to, among other factors, lack of strategic management of the resources to attain sustainable development ((Shonekan, 1997). It is against this backdrop that the paper, based on available literature and deduction, will attempt to present a model on strategic management of natural resources for sustainable development in Nigeria. To achieve this objective the paper, with the introductory part, is divided into seven sections. Section two dwells on the global trends in management of natural resources.

The conceptual framework of the paper on key areas comprising natural resources, Strategic Management and Sustainable Development, will be presented in section three. In section four natural resources and sustainable development will be highlighted. Section five will focus on sustainable development Strategies in Nigeria. In section six, the proposed model on strategic management of natural resources for sustainable development in Nigeria, will be presented. Section seven contains the conclusion and recommendations of the study.

Global Trends in Management of Natural Resources

Over the years, there were three major trends with regards to management of natural resources for achievement of socio-economic development. In the first trend which spans from the late 1940s and early 1950s the major concern was the quantitative contribution of natural resources to economic development. By the late 1960s and early 1970s, which marked the second trend, it was discovered that scarce natural resources led to limits in growth and environmental degradation (Mensah and Castro, 2004). This trend brought about the argument whether natural resources are "curse" or "blessing" to nations that have them. The belief of a number of economists in 1980s and 1990s was that natural resources were more of a "curse" than "blessing". They argued that a country rich in natural resources was poised to lack development in tradable non-resource goods (due to having a too strong currency) and possibly become a nonproductive rent seeking nation (Page, 2008).

On the stock of the resources themselves and their continuous exploration, the club of Rome, in 1972, drew the world attention to the limits of resources and an inevitable collapse of life on earth if the rate of depletion of natural resources was not addressed. In line with this argument, Collier and Venables (2011) conducted a study on the impact of natural resources on socio-economic development covering seven countries comprising Cameroon, Chile, Iran, Kazakhstan, Malaysia, Nigeria and Zambia. The finding and conclusion of the study was

that in many resource rich countries, natural resources have not led to development. Instead, the resources brought about slow growth, increased inequality, environmental damage, corruption of officials and government institutions and armed conflicts and violence (Gylfason, 2004).

The concerns of scholars, especially economists, and developments in the second trend brought about the emergence of the third and current trend which was about implications of natural resources on environmental quality, food production, and more importantly human health for this and next generations (Mensah and Castro, 2004). The concern for human health for this and next generation brought about the issue of "Sustainability" in the management of natural resources. Since its introduction in to the World stage by the United Nations World Commission on Environment and Development (WCED) in 1987, there have been two opposing schools of thought on definition and application of "Sustainability" in respect of natural resources. The Pessimists School of Thought, dominated by ecologists and other scientists, is of the view that the earth cannot forever continue to support the world's demand for renewable and non renewable resources. On the other hand the optimists School of thought dominated by economists, is of the belief that the earth, with appropriate market incentives, appropriate public policies, material substitution, recycling, and new technology, can satisfy the needs and improve the quality of human welfare of this and next generations, indefinitely. This assertion by economists can be interpreted to mean that with strategic management, natural resources can be turned to be a "blessing" rather than a "curse" and can also be used to improve the welfare of the present and future generations. This paper subscribes to this view, hence its attempt to propose a model on strategic management of natural resources for sustainable development in Nigeria.

Conceptual framework

Natural Resources

Resource refers to a stock or supply of materials, men, money, machinery and method (often referred to as 5ms) that can be drawn on

by an individual, organization or country in order to function effectively (www.indexmundi.com) Natural resources are materials that are considered valuable in their relatively unmodified (natural) form. A common classification of natural resources was given by the European Commission (EC, 2002) as Non renewable and recyclable such as fossil fuels; Non renewable but recyclable such as minerals; Quickly renewable such as fish; Slowly renewable such as forests; Environmental such as air, water and soil; and finally flow resources such as solar and wind energy. Nigeria is endowed with all the aforementioned categories of natural resources. Therefore, natural resources in the study comprise all the classifications stated above.

which individuals, working together in groups, efficiently accomplish selected aims (Koontz and Weihrich, 1990). From this definition, it can be noted that management is all about carrying out the managerial functions of planning, organizing, staffing, leading and controlling; efficiently and effectively. Accordingly, strategic management is defined as the set of decisions and actions that result in the formulation and implementation of strategies designed to achieve goals and objectives of an organization (Dess and Lumpkin, 2003). Clayton (2014) identified five steps of strategic management process as follows; setting goals, analysis of environment, and formulation of strategies, implementation of strategies and finally, control and evaluation of implementation of strategies. The stages are graphically depicted as follows;

Strategic Management

More broadly, management is the process of designing and maintaining an environment in

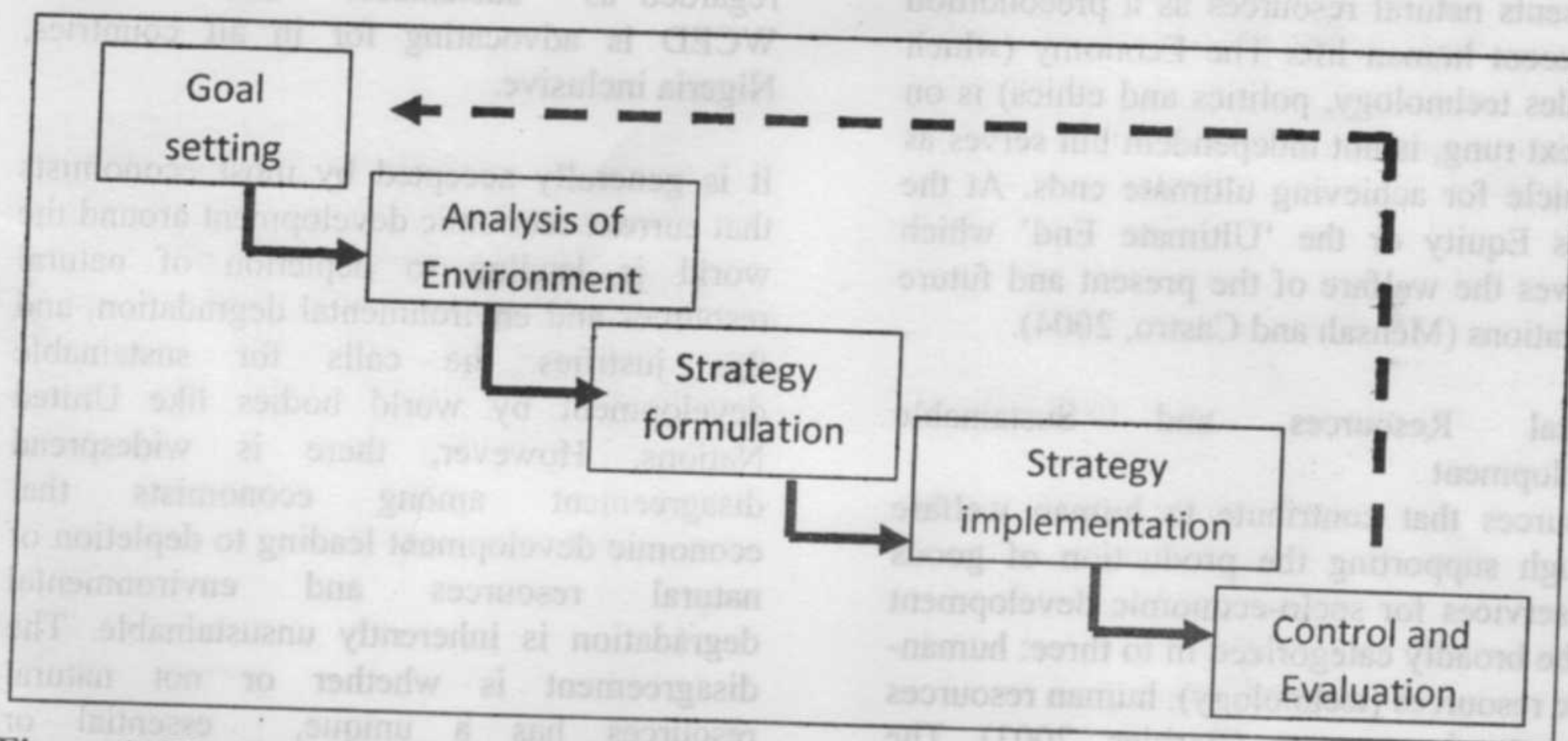


Figure 1: The stages of Strategic Management

(Source: Adapted from <https://www.boundless.com/management/strategic-management/creat>, 2014).

Though strategic management process is applied mostly in business outfits and natural resources in Nigeria are being managed by non business government agencies, the study will adopt the five steps in the process in proposing a model for strategic management of natural resources in Nigeria for sustainable development.

The increasing concern over exploitation of natural resources and economic development at the expense of environmental quality brought about the idea of "Sustainable Development". The issue was brought to the world stage by the report of the United Nations World Commission on Environment and Development (WCED). The Commission in its 1987 report titled "Our Common Future" defines sustainable development as

Sustainable Development

“Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs”. From that time to date, scholars have provided various interpretations, definitions and frameworks of sustainable development.

This study will be guided by the framework proposed by Daly (1990). He re-arranged the issues involving sustainable development in to triangular set up of what he referred to as 3Es- Environment, Economy and Equity.

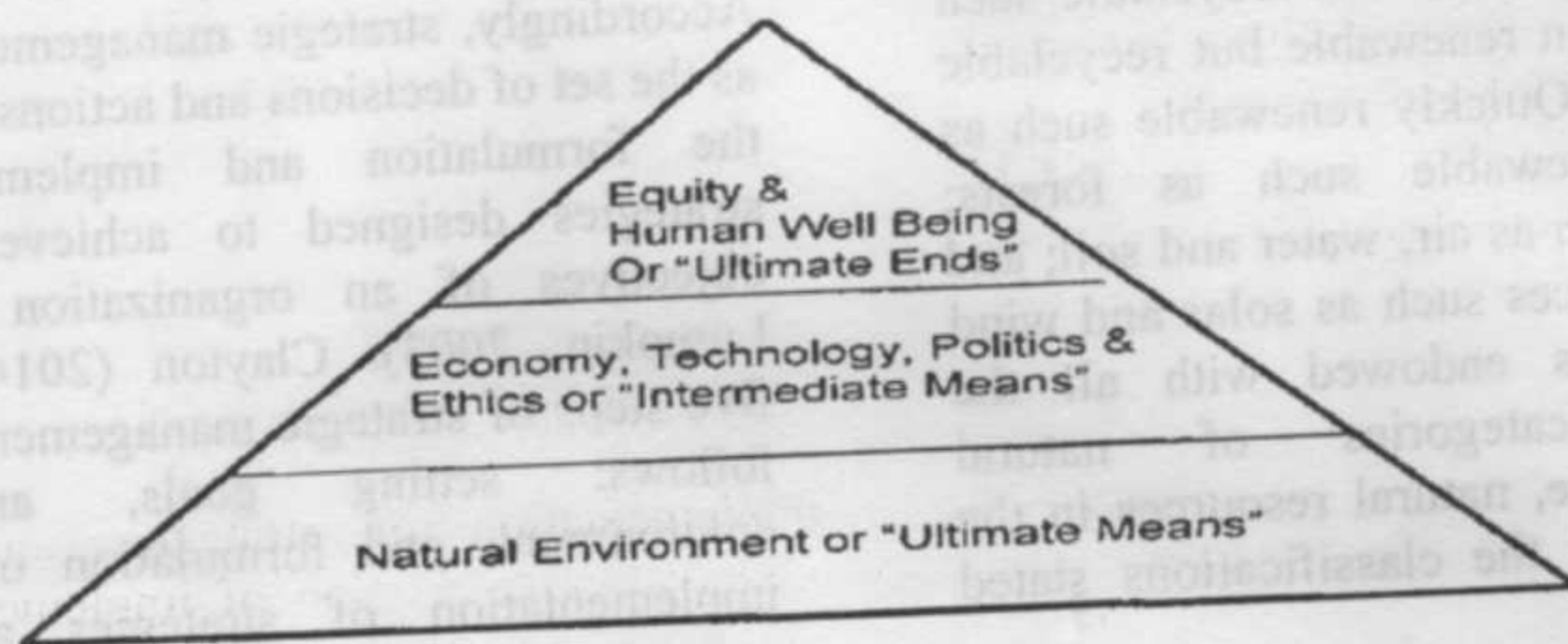


Figure 2: Daly's Triangle of Equity, Economy and Environment
 Source: www.sustainablesonoma.org/keyconcepts/dalystriangle.html in Mensah and Castro, 2004).

At the bottom of the triangle is the Environment or the 'Ultimate Means' which represents natural resources as a precondition for decent human life. The Economy (which includes technology, politics and ethics) is on the next rung, is not independent but serves as a vehicle for achieving ultimate ends. At the top is Equity or the 'Ultimate End' which involves the welfare of the present and future generations (Mensah and Castro, 2004).

consideration the interests of future generation, that kind of development is regarded as "sustainable" and is the one WCED is advocating for in all countries, Nigeria inclusive.

Natural Resources and Sustainable Development
 Resources that contribute to human welfare through supporting the production of goods and services for socio-economic development can be broadly categorized in to three: human-made resources (technology), human resources and natural resources (Barbier, 2003). The issue of depletion and environmental degradation play an important role in the use of natural resources. The way and manner the resources are currently extracted or exploited determines the extent of sustainability of the current level of development. If the current economic development lead to excessive depletion and environmental degradation without due consideration of the interests of generations yet unborn, that kind of development is essentially "unsustainable" (Neary and Wijnbergen, 1986). If on the other hand the use of natural resources for current economic development takes into

It is generally accepted by most economists that current economic development around the world is leading to depletion of natural resources and environmental degradation, and this justifies the calls for sustainable development by world bodies like United Nations. However, there is widespread disagreement among economists that economic development leading to depletion of natural resources and environmental degradation is inherently unsustainable. The disagreement is whether or not natural resources has a unique, essential or unsubstitutable role in sustaining human welfare, and thus whether special "compensation rules" are required to ensure that future generations are not made worse off by natural resource depletion today (Barbier, 2003). The disagreement has led to emergence of two contrasting views generally referred to as "strong sustainability" and "weak sustainability"

According to the strong sustainability view, the role of natural resources in economic development is unique, essential and cannot all be substituted with human-made and

human resources (Folke et al, 1994 in Erekson 1999). Based on this belief, there is a limit to which current generation can adequately compensate future generations for depletion of natural resources and environmental degradation. Accordingly, the proponents of the view suggest that natural resources that are essential for human welfare and cannot be easily substituted by other forms of resources should be protected and not depleted.

The proponents of the weak sustainability view argue that the role of natural resources in economic development is not unique, essential and can reasonably be substituted with human-

made and human resources (Rodgers, 2004). This view is based on the fact that during the stages of early exploration or exploitation of natural resources, the environment is degraded and per capita income increases (Mensah and Castro, 2004). At a critical point however, the scholars pointed out, environmental quality begins to improve as the now higher-per capita income society restores the environmental impacts of the early stages of exploration or exploitation of natural resources. This relationship has been aptly captured by what is popularly referred to as Environmental Kuznet Curve (EKC) as follows:

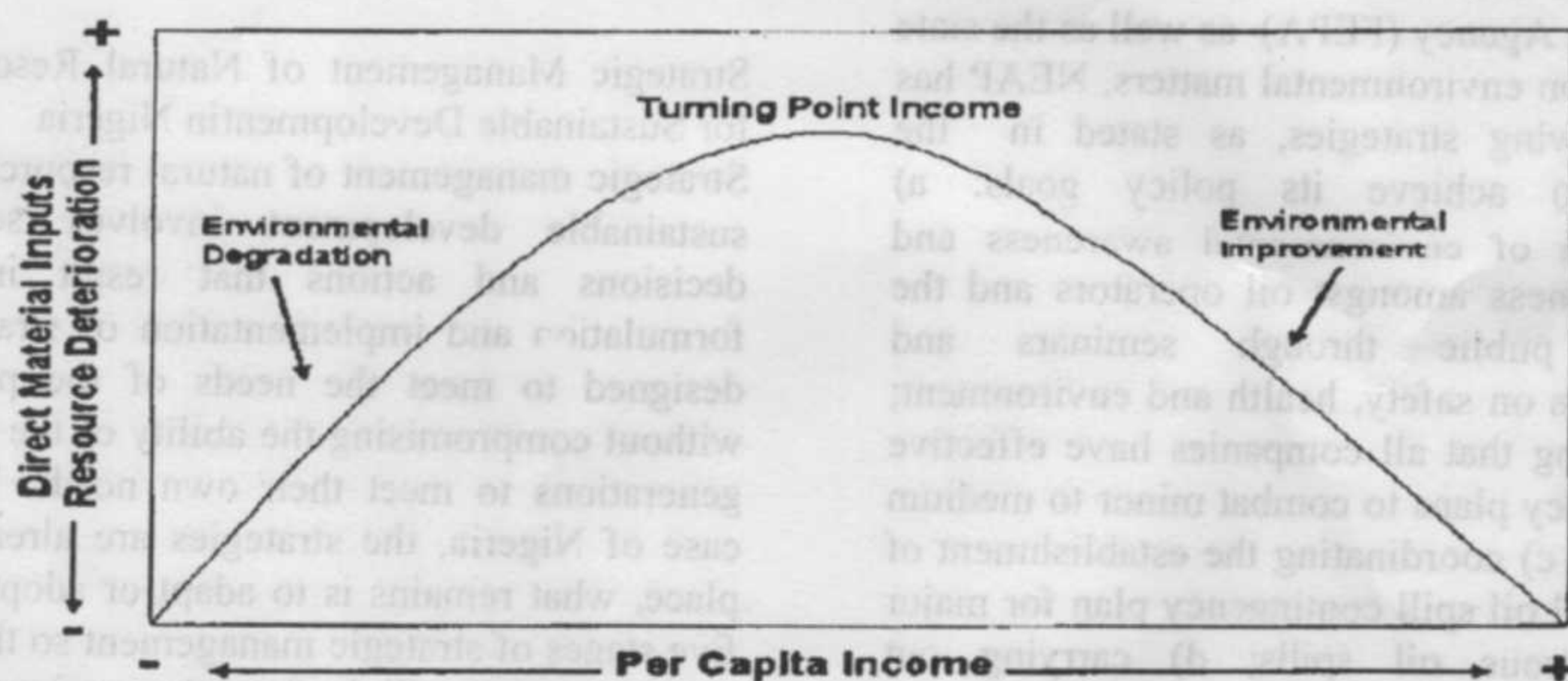


Figure 3: Environmental Kuznet's Curve
(Source: Rodgers, 2004)

The argument of weak sustainability as depicted by EKC is totally applicable and practicable in some countries endowed with natural resources like Chile, Botswana and Malaysia (Shankleman, 2011). These countries are regarded as success stories in the use of natural resources for sustainable development. The factors behind the success stories are essentially strategic management of the natural resources leading to formulation and implementation of sustainable development strategies. The thesis of this paper is that Nigeria can equally attain this position with strategic management of its variety of natural resources.

Sustainable Development Strategies in Nigeria
The Nigerian government recognizes and reaffirms the 1987 WCED report and the

1992 Rio de Janeiro Agenda 21, which all aimed at addressing the pressing needs of today without compromising the ability of future generations to meet their own needs. Sustainable development strategies in Nigeria are mostly contained in two independently-developed initiatives-the National Conservation Strategy (NCS) and the National Environmental Action plan (NEAP). NCS focused on the conservation of natural resources and biodiversity. The policy goal of NCS is sustainable use of forest resources and preservation of the many benefits accruing from soil, water, and wildlife conservation for economic development. The strategies put in place to achieve this goal as contained in Nigeria's report to the fifth and seventh sessions of the United Nations Commission on Sustainable Development include: a) taking

the inventory and rehabilitation of all threatened and endangered animal species; b) increasing the network of protected areas to include all ecosystem types consistent with internationally accepted classification; c) increasing the nation's biodiversity management capability (human, infrastructural, institutional and technological); d) protection and promotion of policy guidance for bio-prospecting and indigenous knowledge (intellectual property rights); and e) rehabilitation of the degraded ecosystems (www.un.org)

NEAP focused on control of pollution and land degradation. The main policy thrust of NEAP is protection of environment for present and future economic development. In addition to liaison with the Federal Environmental Protection Agency (FEPA) as well as the state agencies on environmental matters, NEAP has the following strategies, as stated in the report, to achieve its policy goals: a) promotion of environmental awareness and consciousness amongst oil operators and the general public through seminars and workshops on safety, health and environment; b) ensuring that all companies have effective contingency plans to combat minor to medium oil spills; c) coordinating the establishment of a National oil spill contingency plan for major or disastrous oil spills; d) carrying out environmental baseline studies and establishing oil pollution monitoring stations in high risk areas; e) establishing guidelines and standards for environmental monitoring and control in the petroleum industry; f) encouraging the remediation of polluted or contaminated sites through the use of safe and

environmental sound technologies; g) promotion of the utilization of associated gas through the implementation of various projects such as the OSO Condensate Project, the OSO Natural Liquefaction (NGL) Project, Natural liquefied Natural Gas (NLNG) Project, etc; and h) promoting the use of clean fuels by encouraging a shift from kerosene and wood stoves to gas-fired stoves, gradual introduction of Compressed Natural Gas (CNG) for vehicles as a substitute for petrol etc (www.un.org).

It is one thing to devise strategies and entirely another thing to achieve sustainable development through them. However, sustainable development can be achieved with effective implementation, control and evaluation of the strategies put in place.

Strategic Management of Natural Resources for Sustainable Development in Nigeria
 Strategic management of natural resources for sustainable development involves set of decisions and actions that result in the formulation and implementation of strategies designed to meet the needs of the present without compromising the ability of the future generations to meet their own needs. In the case of Nigeria, the strategies are already in place, what remains is to adapt or adopt the five stages of strategic management so that the said strategies will lead to the attainment of development for the present and future generations mainly in areas of environment, economy and equity. This scenario, which constitutes the model the paper is proposing, is graphically depicted as follow

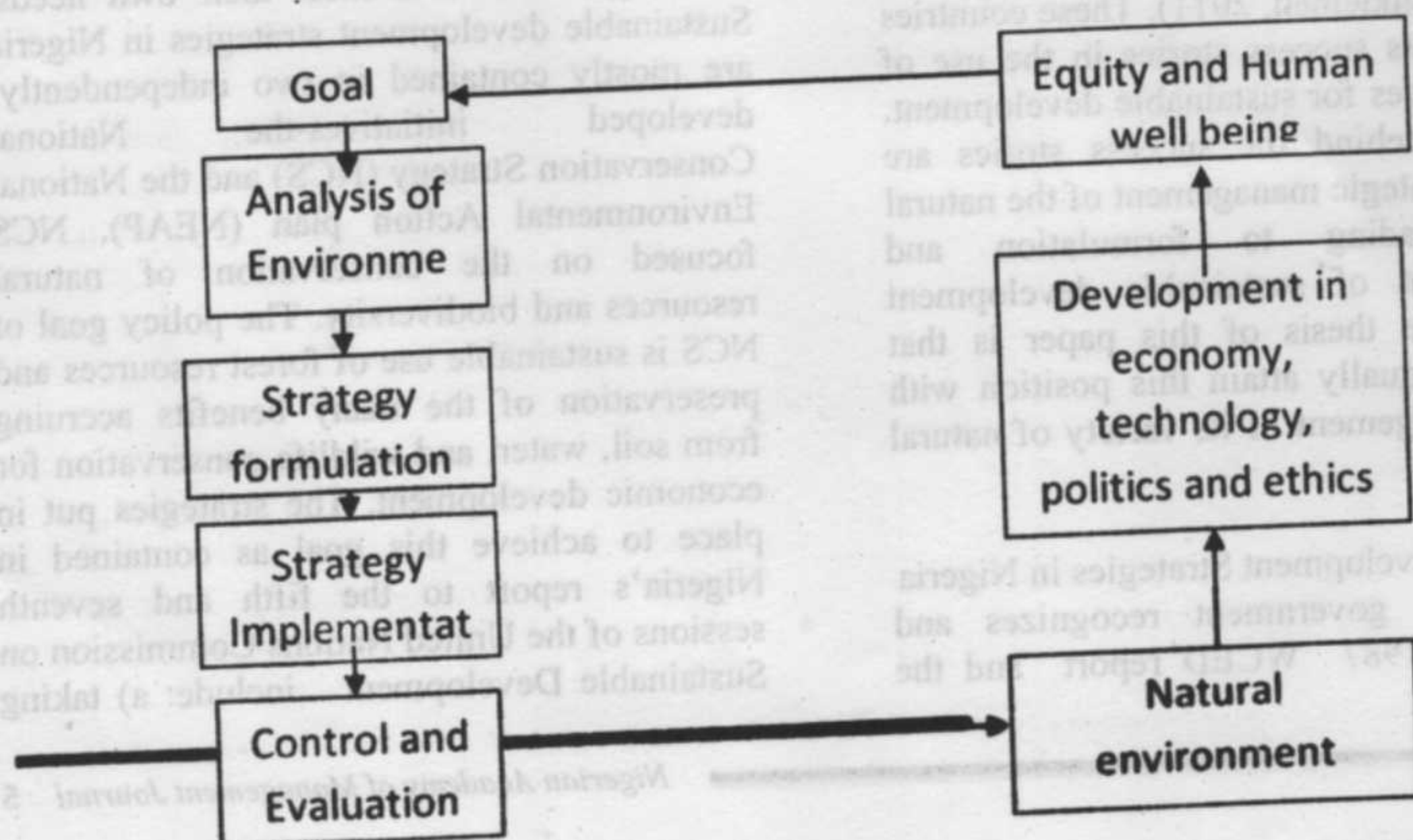


Figure 4: Proposed model on Strategic Management of Natural Resources for Sustainable Development in Nigeria

(Source: Adapted from <https://www.boundless.com/management/strategic-management/creat,2014> and www.sustainablesonoma.org/keyconcepts/dalystriangle.html in Mensah and Castro, 2004).

The five stages of strategic management can be adapted or adopted in the implementation of the current strategies and formulation of the future ones for sustainable development. This can be achieved in the following manner: a) Goal-Setting; at this stage the mission, vision, and goals of sustainable development should be considered and it is simply "Development that meets the needs of the present without compromising the ability of future generations to meet their own need". Objectives can equally be determined at the stage and they should be Specific, Measurable, Achievable, Realistic and Time bound. The objectives can be mainly in areas of conservation of natural resources, biodiversity, environmental degradation, pollution control etc; b) Analysis of Environment; this involves scanning of internal and external environment in respect of exploitation or exploration of natural resources. The scanning will reveal the country's strengths and weaknesses within its immediate environment and opportunities and threats at the global level; c) Strategy Formulation; strategies should address areas of weaknesses and threats, improve on areas of strengths and take good advantages of areas of opportunities. Presently, the Nigeria's strategies on sustainable development are contained in the NCS and NEAP; d) Strategy Implementation; this is the action stage and it involves specification and assigning of responsibilities as well as allocation of required resources to adequately and promptly implement the formulated strategies; e) Control and Evaluation; this entails measuring actual results against the set standards or targets (in stage one of the strategic management process), with a view to ensuring high performance in the implementation of the formulated strategies.

Proper implementation, control and evaluation of strategies will lead to the first stage of

development (Natural Environment or "Ultimate Means"), then to the second stage (Development in Economy, Technology, Politics & Ethics or "Intermediate Means") and finally to the third and ultimate stage of Equity & Human Well Being (Ultimate Ends). The outcome of the review of equity and human wellbeing at the peak of the development pyramid forms the basis for determination of further goals and objectives of the country's sustainable development programme and this makes the process continuous and cyclical as depicted in the model.

Conclusion and Recommendations

Scholars have continuously argued on whether natural resources are source of "Blessing" or "Curse". This paper strongly believes that with good governance and strategic management, natural resources are source of blessing rather than curse. The resources can be use to attain sustainable development by meeting the needs of the present generation without compromising the ability of future generations to meet their own. To achieve this in Nigeria, the following are recommended:

- i. National Development Planning should be revived and exploitation/exploration of natural resources should be incorporated in such planning. The strategy to accomplish this is inclusion of sustainable development as a National goal. Botswana has taken this measure and is succeeding in managing natural resources for sustainable development. The measure in Nigeria can be initiated and pursued by the National Planning Commission;
- ii. There should be effective implementation of National Economic Plans especially as it affects management of natural resources. This can be achieved by specification of

- duties and responsibilities, allocation of required resources and effective supervision at all levels of administration;
- iii. There should be effective coordination of all agencies and bodies involved in the implementation of sustainable development strategies. This can be attained by holding consultative/stakeholders meetings to resolve areas of duplication and conflicts of interests;
- iv. Natural resource based communities should be adequately involved in determining objectives and strategies to address issues of conservation of natural resources, biodiversity, pollution and environmental degradation. This can be achieved by involvement of traditional and opinion leaders of the said communities in making decisions and taking action on the aforementioned issues. For the leaders to make meaningful contribution, they should have access to all relevant information on environment and development issues. Chile and Indonesia adopted this measure and are succeeding in managing their natural resources for sustainable development;
- v. There should be accountability and transparency in handling all proceeds or revenue generated from natural resources. This can be accomplished through measures like publication of contracts on natural resources and revenues on disaggregated, company-by company basis. Niger has adopted this measure and is yielding good result;
- vi. Illicit financial flows through bribery, theft, embezzlement, tax evasion etc should be avoided in handling revenue accruing from natural resources. This can be accomplished through proper implementation of measures such as declaration or disclosure of assets by public officers before assumption and leaving of office
- vii. The citizenry should be empowered to understand and claim benefits accruing from natural resources through enactment and proper implementation of laws such as freedom of information, human rights on safety, health etc
- viii. The country's ability to add value in production chains linked to natural resources should be improved by involvement of more Nigerians and local materials in the technology being use in the exploitation/exploration of the resources;
- ix. The partnership and collaboration with relevant international organizations like United Nations Development Programme (UNDP), World Commission on Environment and Development (WCED) etc, should be enhanced so as to share and gain experiences from other countries. For instance with the support of UNDP, Kenya is using crowd-sourcing technology to report bribery cases anonymously and the measure is yielding good result.
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Introduction

Ask many of today's CEOs in Nigeria and they are likely to tell you that the ability to develop new ideas and innovations is one of the top priorities of their organizations. The