

# A Correlation of Natural Resource Management and Level of Development in Developing Countries. : A Case of Nigeria.

I.I. Echeme.<sup>1</sup>, E.C. Ubani<sup>2</sup>

1. Ph.D. Candidate, Department of Project Management Technology, Federal University of Technology, Owerri.  
Nigeria, 234-8032403835. [ibeecheme@yahoo.com](mailto:ibeecheme@yahoo.com)
2. Head Of Department, Project Management Technology, Federal University of Technology, Owerri, Nigeria;  
234-8037748978.

**Abstract:** Natural resources in most developing countries need sound management for the proper development of the rural areas towards national development. The realization that more needs to be done to translate the potential benefits of natural resources into broad-based socio-economic development of the developing nations motivated this study. Despite this realization, the necessary policies and concrete actions are not integrated at present. Indeed, natural resources constitute the base for the infrastructure and energy needs of society, the industrial sector, urban development and social well being of the people. However, these contributions are contingent on the fulfillment of critical conditions, chiefly, improving governance and transparency, and eliminating corruption. This paper using various sampled data from government officials, organized private sectors, donor agencies and rural dwellers examines the correlation between natural resources management and rural development in Africa using Nigeria as a case. The data acquired were analyzed using scores percentage comparison and explanatory notes coupled with the spearman's rank order correlation coefficient (  $s$  ) and the  $t$  – test. Findings Revealed that despite the strong link between natural resource management and rural development, its exploitations are yet to impact positively on the socio-economic and infrastructural needs of the people. The paper concludes with recommendations geared toward effective management of natural resources for the effective development of the rural areas of the developing nations. [Report and Opinion 2010;2(7):24-34]. (ISSN: 1553-9873).

**Keywords:** *Natural resource; exploitation; management; development; Socio-economic wellbeing; developing countries.*

## 1. Introduction

The importance of natural resources in the development process cannot be over-emphasized. These resources have become more important than ever before as the poor developing country seek additional sources of development financing in order to progress towards the Millennium Development Goals (MDGS). Even so, the fact remains that most developing countries have failed to tap the potential for its natural resources wealth to serve as a driver for industrialization, economic growth, poverty reduction and sustainable development. Indeed, Nigeria and most other developing nations are rich in natural resources, but this has not always been a blessing. This has become a persistent challenge for sustainable development and natural resources management in the developing countries. These countries are endowed with natural resources, which they need for their own development, but which other countries also want. Furthermore, researches have

shown that the several decades of resource exploitation of these countries have not translated into economic growth or improve the livelihoods and welfare of their growing population.

Records of poor management of these natural resources have been a recurring theme in recent debates on the “natural resource curse”. Although natural resource wealth contributes to economic development in some resource-rich countries due to effective management, the story is different in Nigeria and most developing countries. Over the years, the exploitation of natural resources has been pursued without adequate regard for its impact on sustainable development. This has resulted in unacceptable levels of environmental degradation. The unsustainable natural resource use pattern is made more precarious by the fact that majority of the poor of our society depend on natural resources for their livelihood (Okonkwo, 2007).

So why is natural resources management in developing countries important, and why is it important at this time? The reasons are several: first, *the volatility of resource revenue*. The huge revenues from these countries commodity exports are volatile and are subject to price fluctuations in global markets. These revenues are often temporary and thus require sound fiscal policies to ensure good investment in human capital development and in the development of long-term production capacity. This has proved to be a challenging task. One of the key challenges is how to transform temporary resources revenues into productive capital that will induce and sustain growth over the long-term.

Second, because of the *undiversified economy*, these countries are prone to real exchange rate appreciation induced by rising resource export revenues. This hampers the prospects of non-resources export in these countries. Indeed, the sheer volume of resource revenues diverts attention from export diversification. This result in the neglect of labor-intensive manufacturing exports and the import of more goods and services using resource windfalls, at the expense of local production of import substitutes. Furthermore, the recent rise of China and India has created new challenges that make it even more difficult for most of these countries to carve a niche in labor-intensive manufacturing exports.

Third, natural resource management has re-emerged as critical in developing countries because of the challenges of *transparency and accountability*, which remains crucial for harnessing natural resource wealth for economic growth. Against a backdrop of inadequate checks and balances, resource revenues have induced rent seeking and corruption on a massive scale. This undermines the quality of institutions and of governance in most developing countries. Transparency in allocating exploitation rights and in controlling revenues and how they are spent are major concerns. Indeed, policy-makers and development practitioners have extractions that has not led to sustainable increase in socio-economic development of the resource-rich countries in Africa (Nigeria inclusive), contrary to rational economic expectation. Instead natural resources are being depleted faster than the rates at which other real assets are being built up (African Development Report, 2007). Lastly, natural resource management is crucial given that resource mismanagement serves as a recipe for protracted civil conflicts, which do not only debilitate economies, but also lead to state of fragility and institutional collapse.

The renewed interest in natural resources and sustainable development clearly focuses attention on two critical questions: How can developing countries use their resources to foster economic growth and poverty alleviation, given the aforementioned complexities and trade-offs? Where can natural resources take these countries-towards resource dependence or can the resources serve as a springboard for sustained economic development? The search for answers to these questions makes natural resource management a key concern in Nigeria and other developing countries development.

In the light of the above, this study has the objective of defining the contextual meaning of natural resources and how they relate to development and social outcomes. The key object is to propose concrete suggestions on how the various stakeholders involved in natural resource exploitation (at the local and national levels) can help improve public policies and governance in Nigeria and other developing countries that are witnessing mismanagement of their natural resources.

## 2.0. Natural Resources and Sustainable Development.

Conceptually, natural resources are stocks of physical assets that are not produced goods and that are valuable to humans. A resource may be considered valuable because of its sheer existence, or it produces a flow of services or benefits that can be used in production, trade, or consumption. (African Development Report, 2007). Natural resources are classified as follows:

(a) **Raw Material** (renewable, semi, renewable, and non-renewable minerals, fossil energy) we carriers, metal ores, and biomes, which are needed for most human activities. Fossil energy carriers, metal ores, and minerals such as gypsum and China clay are considered non-renewable because *their* stocks are finite (on a human time scale). In contrast, biomass, which includes quickly renewable resources such as agricultural crops and slowly renewable such as timber is, in principle, renewable within the human timeframe. However, biological resources that are used as raw materials can be exhausted if they are overexploited. This is an acute threat to commercially fish marine species, for example.

(b) **Environmental Media** – such as air, water, and soil-sustain life on Earth and produce biological resources. In contrast with raw materials, their declining quality is the main concern: the issue is not how much there is, but what state they are in. For

example, the quantities of air and water on earth do not change within human time scales, but their quality is often poor because of pollution. Moreover, the resources are of great importance.

(c) Renewable resources may have a permanent character (for example, solar and wind energy) and are then labeled flow resources. Flow resources cannot be depleted but they need other inputs or resources to be exploited. For example energy,

materials and space are needed to build wind turbines or solar cells.

(d) Physical Space is needed to produce or sustain all the above mentioned resources. Land-use, for human settlements, infrastructure, industry, mineral extraction, agriculture and forestry, is an example. Table 1.1 presents a broad classification of natural resources.

**Table 1.1: Broad Classification of Natural Resources**

Resource	Type	Description
Renewable Materials	Raw Living	Living resources that can re-stock/renew themselves, e.g. fish, forests.
	Non-Living	Resources that can renew themselves, but are non-livings e.g., soil and water.
Non-Renewable	Metals	Include, non-ferrous, base and precious metals
	Non-Metals	e.g., ferrous, non-ferrous minerals and industrial minerals as well as precious stones and uranium.
	Fossil Fuels	Coal, oil and natural gas.
Environmental Media	Air	General “biological” reproducing resources but could be polluted or degraded.
	Water	
	Soil	
Space	Land Area	Includes space for human settlement, infrastructure, industry, mineral extraction, agriculture and forestry.
Flow Resources	Geothermal	Renewable resources that do not need regeneration.
	Wind Energy	
	Tides	
	Solar Energy	

**Source: Adapted from EEA (2005).**

Natural resources are further classified according to their rate of regeneration as renewable, semi-renewable, or non-renewable. Renewable resources are resources that are regenerated on a human time scale and renewed periodically in the context of ecological cycles. Their use can only be increased to a certain extent, otherwise over exploitation will occur. However, as long as exploitation is not exhaustive, renewable resources can be used for an infinite period. Therefore, for resources use to be sustainable, the consumption rate should remain within the capacity of the natural system to regenerate (or renew) in a human relevant period. Examples of renewable resources are water, fisheries, wildlife, and forests. These types of resources are often interconnected within ecological systems; for example, water is needed for forest growth and fisheries. Semi-renewable resources are

in an intermediate stage of their possibility to renew or to deplete.

Non-renewable resources have a regeneration rate of zero or regenerate over a very long period (Lujala, 2003). Non-renewable resources can be recyclable (for example, minerals, and oils used in plastics) or non-recyclable (for example, oils used as fossil fuel). They are less likely to participate in the circular flows of the ecosystem, and exploitation of one resource usually does not affect the availability of other resources (as long as extraction does not destroy the other resources). The use of these resources to provide material and energy leads to depletion of the Earth’s reserves since these resources do not renew in human relevant periods. Table 1.2 presents a summary of resources based on their regeneration rates (Steiner et al 2000).

Natural resources may also be classified in terms of their use values based on whether they are extractive (natural services). Extractive resources are subject to some process of physical removal from

their natural surroundings and extractive resources are resources that yield services without being removed from their natural setting.

**Table 1.2 : Classification of Natural Resources Based on Regeneration Rate**

	<b>Time for Regeneration</b>	<b>Environmental Resources</b>	<b>Energy Resources</b>	<b>Mineral Resources</b>
<b>Renewable</b>	<1 year, controllable by humans	Agricultural products (non permanent) pollution of water and air.	Solar energy, water, ethanol	Salt
<b>Semi-renewable</b>	1-20 years, on human influence	Fish, forests, ground water, (permanent) pollution of water and air	Geothermal energy, water, firewood	Soil
<b>Non-renewable</b>	No economic relevance	Ozone, endangered fauna and flora	Oil, gas, coal, uranium	Minerals.

**Source: Steiner et al (2000) in African Development Report (2007).**

Another strand of literature defines natural resources according to their geographical concentration and “lootability” (Lujala, 2003). In this context, natural resources are defined according to their geographic concentration when the question relates to whether they are *diffuse* or *point*. In other words, is the availability of the resources restricted to geographically small areas or does it span larger areas? For example, forests cover wide areas and are therefore considered to be diffuse resources. Point resources are highly concentrated and do not cover a significant area on a map. For example, many minerals occur in small areas, and these deposits are represented as points on a map. Point resources are commonly associated with higher rents than diffuse resources and thus provide incentives for rent seeking. In literature, abundant point resources are often associated with higher risk of conflict (Addison et al, 2001).

Ross (2002) defines natural resources according to their “lootability”, “obstructability” and “legality” and forms hypotheses on how these three resources

characteristics affect civil war. Ross defines lootability in terms of the ease of resource extraction and transportation. As such, lootable resources include alluvial gemstones, agricultural products and timber, gas are not. Ross also differentiates between the case of transporting the natural resources product and the case of blocking the available mode of transportation (that is, its obstructability). For example, diamonds or drugs that are flown from a production area are not obstructable, while resources that are transported by trains or trucks are moderately obstructable. Resources transported by pipe lines (such as oil and gas) are the most obstructable.

Natural resources are natural capital assets and are not provided by human activity, but their quality and capacity to yield goods and services, and therefore their value as productive inputs, are affected by human activity. In many cases, for example, agricultural land, the relevant input into production, can best be viewed as a combination of natural elements (soil and water) and man-made components (irrigation and transport infrastructure, and so on).

Renewable capital produces a flow of goods and services. Goods produced from renewable natural capital include timber and non-timber forest products and wild caught fish. Goods produced from non-renewable natural resources are mainly oils and minerals. Some of these goods are traded in formal markets and are therefore accounted for in national economic statistics, including timber and fish harvested by formal-sector operators as well as by local inhabitants, including wild fruits, mushrooms or herbs, wild fish caught by small-scale fishermen, “bush meat ,palm, timber, and non-timber forest products. Services produced from natural capital include water filtration and purification services provided by watersheds. These services are generally not marketed and are invisible in standard economic statistics.

### 3.0. Natural Resources Management (NRM)

This is a broad concept that involves integrating efficient resources use and preventing adverse environmental impacts. It also concerns the use and distribution of resources for the sustainable economic development of all levels of government and for the benefit of the citizenry. NRM also involves the management of resource extraction or imports, production and consumption, and the resultant financial resources, wastes and emissions (African Development Report, 2007).

#### 3.1. The key objectives of such NRM include;

- \* ensuring adequate supply of, and efficient use of, natural resources for the creation of wealth and well-being in industry and society;
- \* avoiding overloading or destroying nature’s capacities for reproduction and regeneration of resources and absorption of residuals;
- \* securing the co-existence of society and nature;
- \* minimizing risks related to national and international insecurity and economic turmoil due to dependence on natural resources;
- \* driving technological and institutional change in a way and towards a direction that provides economic and social benefits to all stakeholders.

The concept “sustainable development” was first introduced in 1987 in the Brundtland Report as “development that meets the need of the present generation without compromising the ability of future generations to meet their own need”. This definition implies two equally important specific concepts:

intra-generational equity (the requirement to meet the needs of the present) and inter-generational equity (the requirement not to compromise the satisfaction of the needs of the future generations. Ideally, sustainable development should be development that generates optimal economic and social returns without impairing the long-term life-supporting capacities of ecosystems or reducing the chances of future generations to satisfy their own needs (Eurowatch, 2002).

This definition can be broken down into four conditions for sustainable development:

- (1) Materials need, and other needs, for a better quality of life have to be fulfilled for people of this generation,
- (2) As equitable as possible,
- (3) While respecting ecosystem limits and
- (4) Building the basis on which future generations can meet their own needs.

Furthermore, sustainable development has four pillars: the economic, environmental, social, and governance pillars, with the fourth pillar fostering the integration of the first three. Therefore if the natural resources sector is to contribute positively to sustainable development, it needs to demonstrate continuous improvement of its social, economic and environmental contribution, with new and evolving governance systems.

Sustainable development also relates to the notion that boosting economic growth, protecting natural resources, and ensuring social justice can be complementary goals. Its key purpose is to help the poor live healthier lives on their own terms. Sustainable development also means development that combines economic growth with poverty reduction and protection of the environment. In other words, it involves achieving “economic growth and social development without degrading the potential of it conditionally renewable natural resources “(Young and Ryan, 1995). The role of natural resources in ensuring sustainable development in Nigeria is critical given that economic growth and social progress depend on the natural resource base. This natural resource base cannot be conserved in light of the pervasive poverty in rural Nigeria (Paul, 2007). In addition, Nigeria is a country where the population is growing faster than the economy. Thus, people (especially the rural poor) over-exploit

some natural resources in order to survive while many governments mismanage natural resources wealth-this complicates the issue of development in Nigeria. Efficient and effective natural resource management is therefore an imperative way that will lay the foundation for sustainable development in Nigeria and other developing countries by producing maximum sustainable wealth that can generate an investible surplus for economy-wide growth as well as adequate resources to combat poverty and under-development.

**4.0. Research Methodology**

Data were collected from reconnaissance survey, interview and administration of questionnaires. Also from sources like, textbooks, journals and internet search.

The questionnaires designed to address the problems identified in the study. A total of 15 questions were designed to assess the response of the various stakeholders in the issue under discussion.

**Data Analysis Techniques**

**Decision Rule:**  $H_0$  is accepted at the 5% and 1% significant level if

$|t| \leq t_{/2} (n - 2)$ . Otherwise,  $H_A$  is accepted while  $H_0$  is rejected.

**Results and Discussions**

**Table 1.3:** Respondents' Scores and Determination of Spearman's Rank Correlation Coefficient for the Level of Natural Resource Management and Sustainable Development.

Level of Natural Resource Management (X)	Sustainable Development (Y)	Rank (Rx)	Rank (Ry)	Rx-Ry (D)	D <sup>2</sup>	Respondents
3	4	18	39	-21	441	1
3	5	18	58	-40	1600	2
4	5	37	58	-21	441	3
5	4	56	39	17	289	4
5	3	56	15	41	1681	5
5	3	56	15	41	1681	6
5	3	56	15	41	1681	7
3	4	18	39	-21	441	8
4	4	37	39	-2	4	9
4	4	37	39	-2	2	10
4	5	37	58	-21	441	11
3	5	18	58	-40	1600	12

The questionnaire items were analyzed using scores percentage comparison and explanatory notes. Spearman's Rank Order Coefficient of correlation was used to test the relationship between natural resource management and sustainable development.

Hence, the formula is given as: 
$$r_s = 1 - \frac{6 \sum d^2}{n(n^2-1)}$$

Where,  $r_s$  is the spearman's rank order correlation coefficient

$\sum d^2$  is the sum of the squared differences in the ranking of the two variables

$n$  is the sampled population.

**Test of Significance;** the  $t$  – test will be used to test the significance of the relationship.

Thus, the t- statistic; 
$$t = \frac{r_s}{\sqrt{\frac{1-r_s^2}{n-2}}}$$
 with  $n - 2$  degrees of freedom.

3	3	18	15	3	9	13
3	4	18	39	-21	441	14
3	3	18	15	3	9	15
5	5	56	58	-2	4	16
5	5	56	58	-2	4	17
5	4	56	39	17	289	18
5	3	56	15	41	1681	19
3	4	18	39	-21	441	20
4	4	37	39	-2	4	21
3	5	18	58	-40	1600	22
5	5	56	58	-2	4	23
5	3	56	15	41	1681	24
3	4	18	39	-21	441	25
3	3	18	15	3	9	26
4	4	37	39	-2	4	27
5	4	56	39	17	289	28
4	5	37	58	-21	441	29
4	3	37	15	22	484	30
4	5	37	58	-21	441	31
5	3	56	15	41	1681	32
4	5	37	58	-21	441	33
3	4	18	39	-21	441	34
3	4	18	39	-21	441	35
4	4	37	39	-2	4	36
5	4	56	39	17	289	37
5	4	56	39	17	289	38
4	4	37	39	-2	4	39
3	3	18	15	3	9	40
3	5	18	58	40	1600	41
4	3	37	15	22	484	42
3	5	18	58	-40	1600	43
5	5	56	58	-2	4	44
4	5	37	58	-21	441	45
5	4	56	39	17	289	46
4	5	37	58	-21	441	47
5	4	56	39	17	289	48
4	5	37	58	-21	441	49
5	5	56	58	-2	4	50
4	5	37	58	-21	441	51
4	4	37	39	-2	4	52
3	3	18	15	3	9	53
3	3	18	15	3	9	54
3	4	18	39	-21	441	55
4	5	37	58	-21	441	56
5	4	56	39	17	289	57
4	3	37	15	22	484	58
4	4	37	39	-2	4	59
5	5	56	58	-2	4	60
5	4	56	39	17	289	61
4	4	37	39	-2	4	62
5	5	56	58	-2	4	63
5	5	56	58	-2	4	64
5	3	56	15	41	1681	65

5	3	56	15	41	1681	66
3	4	18	39	-21	441	67
4	4	37	39	-2	4	68
4	4	37	39	-2	4	69
5	3	56	15	41	1681	70
3	5	18	58	-40	1600	71
3	5	18	58	-40	1600	72
3	4	18	39	-21	441	73
4	3	37	15	22	484	74
5	4	56	39	17	289	75
4	4	37	39	-2	4	76
4	4	37	39	-2	4	77
4	3	37	15	22	484	78
4	3	37	15	22	484	79
4	5	37	58	-21	441	80
5	5	56	58	-2	4	81
3	3	18	15	3	9	82
3	4	18	39	-21	441	83
3	5	18	58	-40	1600	84
5	4	56	39	17	289	85
5	4	56	39	17	289	86
5	4	56	39	17	289	87
3	4	18	39	-21	441	88
4	4	37	39	-2	4	89
4	5	37	58	-21	441	90
5	5	56	58	-2	4	91
3	4	18	39	-21	441	92
4	3	37	15	22	484	93
3	5	18	58	-40	1600	94
4	5	37	58	-21	441	95
3	4	18	39	-21	441	96
5	5	56	58	-2	4	97
5	3	56	15	41	1681	98
3	5	18	58	-40	1600	99
4	4	37	39	-2	4	100
4	3	37	15	22	484	101
4	3	37	15	22	484	102
5	5	56	58	-2	4	103
3	4	18	39	-21	441	104
3	4	18	39	-21	441	105
4	5	37	58	-21	441	106
5	3	56	15	41	1681	107
5	3	56	15	41	1681	108
3	3	18	15	3	9	109
4	4	37	39	-2	4	110
4	4	37	39	-2	4	111
3	5	18	58	-40	1600	112
5	5	56	58	-2	4	113
<b>Total</b>					<b>=58581</b>	



Level of impact	Respondents rank	Frequency	Correlation coefficient
High	16	14.5	0.7498
Moderate	36	32.1	
Low	80	53.4	

The rank order correlation coefficient of 0.75 indicates a strong correlation between natural resource management and sustainable development.

Testing for the Significance of this positive correlation using the t – test (t)

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = 11.895$$

so, t-calculated /t/ = **11.895**

Degrees of freedom = n – 2 = 113 – 2 = 111

The critical value of t for α = 0.05 and 110 degrees of freedom is **1.96**.

Also, the critical value of t for α = 0.01 at 111 degrees of freedom is **2.576**

**Decision Rule:** H<sub>0</sub> is accepted at the 5% and 1% significant level if:

t/ t < /2 (n – 2). Otherwise, H<sub>A</sub> is accepted while H<sub>0</sub> is rejected.

Based on the above analysis, the t/ is greater than t /2 (n-2) implying that H<sub>0</sub> is rejected while H<sub>A</sub> is accepted. We therefore conclude that there exist a correlation between natural resources management and development.

A total 125 questionnaires were administered in 4 states in Nigeria namely; Imo, Rivers, Ogun, and Niger. A total of 50 questionnaires were administered to the government officials, 20 to the private sector organizations, 15 to donor agencies and 40 to the rural dwellers. A total of 113 questionnaires were retrieved, and representing a percentage of 82%.

(a) Resources Exploitation and its impact on the economic welfare of the people is one of the areas investigated. The result of the survey is shown in table 1.3 below.

**Table 1.3: Impact of Resource Exploitation on the economic welfare of the people**

**Source: Field Survey, 2010**

Across the sampled states, the level of impact of exploitation of natural resources is low (53.4%). The implication is that plans should be put in place by the various players in natural resource management to enhance the economic welfare of the people through employment and provision of infrastructure to ease the suffering faced due resource exploitation.

(b) Another area investigated was the level of exploitation with regards to its sustainability. A fairly worrisome discovery in the course of the study reveals that government and private sector organizations who are supposed to be knowledgeable in resource exploitation and its sustainability shows that 74% of this group never really considered sustainability of these resources they exploit. This accounts for the high level of environmental degradation witnessed in most parts of the country.

(c) Also when the study researched into the level of labour –intensive manufacturing exports, it was observed that the level is high (68%) with its attendant dependence on the importation of goods and services. This high dependence on foreign countries (like China and India recently) for goods and services, which are suppose to be manufactured in Nigeria, accounts for the high level of capital flight and low level of industrialization seen in the country. This hampers sustainable development and affects the Gross Domestic Product (GDP) of Nigeria.

(d) The study also tried to investigate whether there is proper accountability and transparency of natural resource wealth for sustainable growth. The result of the people investigated is revealed in Table 1.4 below;

**Table 1.4: Whether or not there is proper accountability and transparency of natural resource wealth for sustainable development.**

Question	Respondents	Percentage (%)
Yes	20	18
No	92	82

**Source: Field Survey, 2010**

82% of the population sampled responded “No “to proper accountability and transparency of natural resources wealth for long-term development. This is not divorced from the fact that corruption has denied and is still denying Nigeria of its sustainable growth in the midst of abundant wealth from her natural resources.

(e) The level of civil conflicts as a result of mismanagement of natural resources wealth. The result is revealed in **table 1.5** below;

Level of Conflict	Respondents	Percentage (%)
High	96	86
Low	16	14

**Source: Field Survey, 2010.**

The result indicated that there is a very high level of conflicts (86%) in many parts of the country resulting from mismanagement of natural resources wealth. It is believed that this is the reason why there are restiveness, kidnapping, destruction of properties and incessant strikes and lock-outs witnessed in many parts of the country today.

**(f) The Relationship between Natural Resource Management and Sustainable Development:**

In assessing if there is any relationship between natural resource Management and sustainable development, the following hypothesis were set and subjected to paired sample test.

**Null hypothesis (Ho):** There is no relationship between natural resource management and sustainable development.

With the data collected, the hypothesis was put to test in table 1.3 above, and the results show a strong positive relationship of 75%. Testing for the significance of the relationship using the t- test at 0.05 and 0.01. The calculated t- value is 11.895 while the tabulated t –values at  $t_{0.975}$  and  $t_{0.995}$  are 1.96 and 2.576, meaning that the null hypothesis (Ho) is rejected and the alternative ( $H_A$ ) accepted. This proves that there is statistical relationship between natural resource management and sustainable development at both 95% and 99% confidence level. This result was confirmed by Okonkwo, (2007). “The unsustainable natural resource use pattern is made more precarious by the fact that majority of the poor of our society depend on natural resources for their livelihood. There is, therefore, a very strong linkage between the level of development and natural resource management in developing countries”.

**Conclusion:**

Based on current evidence, Nigeria and other developing countries have not managed their natural resources in ways that have benefited the majority of

their population. In most cases, however, natural resource wealth seems to end up in the hands of a few, with limited visible benefits for the poor. This has been resulting in instability and state fragility in these countries. Rekindled attention to natural resource management in Nigeria (developing countries) is imperative, given the discovery by many African countries of new and extractable resources and the pervasive experience of what is now termed the *natural resource curse*.

In the light of the above analysis, it is clear that careful use and management of resources is the basis for sustainable development. This conclusion has gained international recognition, for example, at the recent World Summit on Sustainable Development (WSSD) in Johannesburg, it was agreed that “Protecting and managing the natural resource base of economic and social development are overarching objectives of, and essential requirements for, sustainable development”. Good management of natural resources is therefore important for economic, social-political, and environmental sustainability. For these developing nation’s natural resources to serve as a springboard for sustained economic development, the following recommendations are made.

**Recommendations:**

Based on the observations and analysis made, the study recommends the following:

That, certain initiatives should be put in place to promote transparency in natural resource management. These include the Extractive Industries Transparency Initiative (EITI), the Publish-What-You-Pay Initiative, Open Society Initiative and Local Content Initiative, all aimed at addressing problems limiting the contribution of the natural resources sector to economic growth and poverty reduction. In the past, African countries like Botswana, Namibia and South Africa have implemented such solid economic reforms successfully. They were aimed at managing the proceeds and utilizing the resources accruing from the extractive industries.

That, local industries should be established and old ones revived to produce such goods imported from foreign countries. This will reduce the massive importation of goods and services from Asian countries and minimize the problem of capital flight experienced in the country, thus promoting sustainable development through proper income redistribution. This will also solve the problem of civil conflicts witnessed today.

Since better natural resource management is one of the most direct routes to reversing poverty and economic malaise. This report posits that better management must translate into more inclusive processes for making decision about natural resources, and institutions must adequately integrate natural resource issues and concern into their policies and decisions. It also advocate that the ‘‘Local Content Management Bill’’ recently passed in Nigeria should be adopted by many other developing countries for enhanced productivity and rapid national development. So in the light of ‘‘Vision 20-20-20’’ and Millennium Development Goals, developing countries should urgently implement, the recommendations made above for improved development through proper natural resource management.

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Prof. Godwin E. Nworuh, Dean, School of Management Technology, Federal University of Technology, Owerri, Imo State. Nigeria.

234-8037088745

#### **Correspondence to:**

Echeme, I.I., Ubani, E.C.

Department of Project Management Technology,

Federal University of Technology, Owerri,

Imo State 234, Nigeria

Cellular Phone: 234-8032403835;

234-8037748978

E-mail: ibeecheme@yahoo.com

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