

## **The Challenges and Implications of Sustainable Development in Africa: Policy Options for Nigeria**

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The sustainable development debate is based on the assumption that societies need to manage three types of capital (economic, social and natural) which may be non-substitutable and whose consumption might be irreversible. Nonetheless, the problem of social and natural capital deterioration in Sub-Saharan Africa is quite alarming without sufficient response mechanisms. The paper examines the challenges and implications of sustainable development in Africa with a special focus on Nigeria. Using descriptive and analytical approaches, the paper posits that the prominent challenges which hamper the achievement of sustainable development in Africa include; extreme poverty, rapid population growth rate, rapid urbanization, deforestation, environmental impact of extractive industries, rate of economic growth, rural development, climatic variability and natural environmental hazard. The paper considers the implications of these challenges on post 2015 agenda in Africa and suggests plausible policy options to address social, economic and environmental sustainability. Since it was discovered that inconsistency in government policies among others things have impacted adversely on the sustainability of Nigerian development, the paper furthermore recommends the establishment of the Sustainable Development Trust Fund (SDF) saddled with the responsibility of enforcing economic, social and environmental sustainability.

### **1. Introduction**

While Africa maintained positive growth rates during the 2000, very few countries have achieved and maintained the growth rates necessary to reduce poverty. African countries still face the critical challenge of raising the rate of GDP growth and sustaining high growth rates over an extended period in order to accelerate progress towards meeting the MDGs (ECA, 2007). Indeed, annual economic growth for 1990-2000

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averaged only 2.1 per cent, compared to the population growth rate of 2.8 per cent. The economic growth rate of the continent is less than the 7 per cent growth needed to reduce by half the proportion of Africans in poverty by 2015 (ECA, 2001a). However, African economies have continued to sustain the growth momentum of the early 2000s and recorded an overall average real GDP growth rate of 5.4 percent (ECA, 2007). Moreover, despite substantial progress in macroeconomic stabilization, deregulation, privatization, trade, and exchange rates reform, structural constraints and institutional weaknesses continue to inhibit a vigorous supply response, as most economies still depend on primary products, exhibiting a high export concentration. While 60 per cent of all exports from Africa are agricultural (66 per cent of which is unprocessed); they account for only 8 per cent of the countries' GDP.

One of the major challenges facing developing countries is to provide an equitable standard of living, adequate food, clean water, safe shelter and energy, a healthy and secured environment, and educated public, and satisfying job for present and future generations (Iganigan & Unemhilin 2011). Of all these necessities, the first and most basic to human life and survival is enduring food security: which may be defined as a situation in which majority of the populace of a country have access to domestically produced food at affordable prices at all times (Akinboyo, 2008). Historically, there has been a close correlation between economic growth and environmental degradation. As communities grow, so the environment declines. Unsustained economic growth has been starkly compared to the malignant growth of a cancer, because it eats away at the earth's ecosystem services which are its life- support system (Adams & Jeanrenaud, 2008). There is concern that, unless resource use is checked, modern global civilization will follow the path of ancient civilization that collapsed through overexploitations of their resource based (Diamond, 1997).

The crave for attainment of sustainable development has led to the development of various tools and measures for structuring and conducting sustainable development policy analyses. Most of these tools and measures emphasize the importance of frameworks that synchronize the principles and dimensions of sustainable development. This approach is not new. In the field of social sciences, the pioneer work of Bauer (1966), Biderman (1966) and Sheldon and Moore (1968) focused on frameworks for social development indicators. Their main purpose

was to define and measure social progress, and establish national goals and priorities. Human Development Index (HDI) which is a composite tool that measures the average achievement of a country in three dimensions; (a) longevity, (b) educational attainment and (c) the standard of living, is an important indicator. Since 1990, the Human Development Report has been ranking countries according to their achievements in human development (UNDP, 2000). Others are Human Poverty Index, Gender – related Development Index (GDI) and Gender Empowerment Measure (GEM). Rapid population growth continues to be recognized as creating a demographic poverty trap in the poorest countries, reflecting the impact of poverty on the ability to make investments, as well as the treadmill effect of the ever-increasing levels of expenditure required for the provision of basic social services (ECA 2005b)<sup>2</sup>.

The concept of sustainable development also encompasses sustainable agriculture. This may be defined as consisting of environmentally-friendly methods of farming that allow the production of crops or livestock without damage to human or natural systems. More specifically, it might be said to include preventing adverse effects to soil, water, biodiversity, surrounding or downstream resources as well as to those working or living on the farm or in neighboring areas. Furthermore, the concept of sustainable agriculture, relates to passing on, a conserved or improved natural resource, biotic, and economic base instead of one which has been depleted or polluted. An "unsustainable situation" occurs when natural capital (the sum total of nature's resources) is used up faster than it can be replenished<sup>3</sup>. Inherently the concept of sustainable development is intertwined with the concept of carrying capacity.

Although sustainable development and urbanization are global challenges but the rapid urban expansion in Nigeria without effective environmental consciousness means that in virtually every urban center, a substantial proportion of the population is at risk from natural and human-induced environmental hazards. An assessment of the Nigeria's

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<sup>2</sup> Human beings are both the creators and consumers of wealth. Therefore, it should always be put at the center of any discussion on sustainable development.

<sup>3</sup> Sustainability requires that human activity only uses nature's resources at a rate at which they can be replenished naturally.

implementation of the United Nations Millennium Development goals showed that the goals pertaining to poverty alleviation and environmental sustainability and their application in Nigerian urban centers have not been adequately addressed. Consequently, the Nigerian City is far from achieving Sustainable Development (See Lawanson, 2006). Poverty, urban environmental hazards and urban public health, among others, are the major factors that pose enormous threats to the political stability, social cohesion and environmental balance of Nigeria's cities and until they are tackled decisively, sustainable urban development will remain a mirage. According to Danmole, (2002), many Nigerian cities are especially vulnerable to flooding, erosion and storm damage. Invariably, natural disasters in cities kill or injure members of low-income groups disproportionately because the poor often live in unsafe housing on vulnerable lands. The loss of homes, possessions, and often livelihood because of a natural disaster often leads to further impoverishment. Corruption is another major challenge to sustainable development in Nigeria. The phenomenon has continued to escalate like wildfire, and several factors which are responsible for the high profile corrupt practices in Nigeria are traceable to historical and cultural factors of the components that make up the country.

Consequently, several studies have been conducted on sustainable development in Africa (See Edward 1987, Pezzy, 1989, Pearce and Markandya 1989, Asheim, 1999, Hamilton 1999, and Dasgupta 2007). Most of these previous studies did not focus on the challenges and implications of sustainable development in Nigeria. But Nigeria being a country with the largest concentration of black race not only in Africa but also in the globe, presents a unique character. With a population of over 160 million people, anything that affects the Nigeria economy will surely affect the Africa continent because of the size and foreign policy objectives of the country. It becomes pertinent therefore to analyze the challenges and implications of sustainable development in Africa with special focus in Nigeria with a view to recommending policy options for Nigeria. This paper contributes to the debate on sustainable development by investigating the challenges and implications as well as recommend policy options for sustainable development in Nigeria. The paper is divided into five sections. The first section introduces the paper while section two reviews the theoretical and empirical literature. Section three analyzes the challenges of sustainable development in Africa, while the stylized facts about Nigeria in relation to sustainable

development are the discussions in section four. The final section of the paper contains the policy implications and options for Nigeria.

## **2. Brief Review of Literature**

There have been several research studies on sustainable development. Edward (1987) used a Venn diagram to show that sustainable development has many versions such as economic, environmental and social sustainability. However, Pearce and Markandya (1989) criticized the Venn diagram approach due to the intractability of operationalizing separate indices of economic, environmental and social sustainability. They noted that the Venn approach was inconsistent with the Brundtland Commission Report which emphasized the interlinkages between economic development, environmental degradation, and population pressure instead of three objectives. Economists have since focused on viewing the economy and the environment as a single interlinked system with a unified valuation methodology (Hamilton 1999, Dasgupta 2007). Intergenerational equity can be incorporated into this approach, as has become common in economic valuation of climate change economics (Heal, 2009). Ruling out discrimination against future generations and allowing for the possibility of renewable alternatives to petro-chemicals and other non-renewable resources, efficient policies are compatible with increasing human welfare. Arrow et al (2004) and other economists (e.g. Asheim, 1999 and Pezzy, 1989 and 1997) have advocated a form of the weak criterion for sustainable development, the requirement that the wealth of a society, including human-capital, knowledge-capital and natural-capital (as well as produced capital) not decline over time. Others, like Barbier (2007) continue to contend that strong sustainability (non-depletion) of essential forms of natural capital may be appropriate. For many environmentalists, the idea of sustainable development is an oxymoron as development seems to entail environmental degradation. Ecological economist Daly (1991) has asked 'what use is a Sawmill without a forest?' From this perspective, the economy is a subsystem of human society, which is itself a subsystem of the biosphere and a gain in one sector is a loss from another.

Sustainable development is tripartite in nature. For sustainable development to occur it must reflect on the environmental, social and economic aspects of the country's life. Social, environmental and economic sustainability are discussed in detail below.

### **2.1 Social Sustainability:**

This is one aspect of sustainable development. Social sustainability encompasses human rights, labor rights, and corporate governance. In common with environmental sustainability, social sustainability is the idea that future generations should have the same or greater access to social resources as the current generation ("inter-generational equity"), while there should also be equal access to social resources *within* the current generation ("intra-generational equity"). Social resources include ideas as broad as other cultures and basic human rights. Also we can speak of Sustainable Human Development that can be seen as development that promotes the capabilities of present people without compromising capabilities of future generations (Sen, 2000). In the human development paradigm, environment and natural resources should constitute a means of achieving better standards of living just as income represents a means of increasing social expenditure and, in the end, well-being (Anand, and Sen, 1996). The different aspects of social sustainability are often considered in socially responsible investing (SRI)<sup>4</sup>.

Social sustainability entails continuous improvement in the social well-being and quality of life. It focuses on social and human development indicators. The indicators examined include infant and child mortality, life expectancy at birth, maternal mortality, HIV prevalence rate, malaria prevalence rate, TB prevalence rate, population growth rate, total fertility rate, and rate of urbanization. Under social indicators, the following are examined - the percentage of a population living below the poverty line, adult literacy rate, primary and secondary school enrolments, percentage of population with access to improved sanitation, and percentage of population with access to safe water.

### **2.2 Economic Sustainability:**

Economists have since focused on viewing the economy and the environment as a single interlinked system with a unified valuation methodology (Hamilton 1999, Dasgupta, 2007). Intergenerational equity

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<sup>4</sup> Social sustainability criteria that are commonly used by SRI funds and indexes to rate publicly-traded companies include: community, diversity, employee relations, human rights, product safety, reporting, and governance structure.

can be incorporated into this approach, as has become common in economic valuations of climate change economics (Heal, 2009). Ruling out discrimination against future generations and allowing for the possibility of renewable alternatives to petro-chemicals and other non-renewable resources, efficient policies are compatible with increasing human welfare, eventually reaching a golden-rule steady state (Ayong, 2001 and Endress et al 2005). Thus the three pillars of sustainable development are interlinkages, intergenerational equity, and dynamic efficiency (Stavins, et al. 2003). Economic Sustainability: Agenda 21 of UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005) clearly identified information, integration, and participation as key building blocks to help countries achieve development that recognizes these interdependent pillars. It emphasizes that in sustainable development everyone is a user and provider of information. It stresses the need to change from old sector-centered ways of doing business to new approaches that involve cross-sectoral co-ordination and the integration of environmental and social concerns into all development processes<sup>5</sup>.

### **2.3 Environmental Sustainability:**

Environmental sustainability is the process of making sure current processes of interaction with the environment are pursued with the idea of keeping the environment as pristine as naturally possible based on ideal-seeking behavior. It refers to the maintenance of the integrity of different environmental media and systems to ensure that their functions and beneficial uses are upheld for present and future generations. Indicator of environmental sustainability include; CO<sub>2</sub> (Carbon dioxide) per capita emissions; methane emission in million metric tons; emissions of common anthropogenic pollutants; proportion of degraded land, forest area as a percentage of total land area; percentage of threatened species; percentage of water use; water stress and scarcity; and total fishery production. Assessment is done in an integrated manner in order to bring out the linkages between the different environmental themes on the one hand, and between the environment dimension and the social and economic dimensions of sustainable development. The themes cover

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<sup>5</sup> Furthermore, Agenda 21 emphasizes that broad public participation in decision making is a fundamental prerequisite for achieving sustainable development (Will, 2007)

the three environmental media namely: atmosphere, land and water. Also, the heavy dependence on natural resources led to resource depletion and environmental degradation and worsened the exposure of weaker economies to external shocks, thereby increasing poverty and reversing social development (World Bank, 2003)<sup>6</sup>.

Environmental preservation is an essential foundation for sustainable development and poverty alleviation. Failure to achieve biodiversity stability for instance will undermine social and economic development efforts. In this line, forests play critical roles in sustaining the health of the environment by mitigating climate change, conserving biological diversity, maintaining clean and reliable water resources, controlling erosion, protecting agricultural soils, providing low-cost and renewable energy and enhancing the urban environment (ECA-WA, 2010). Unfortunately uncontrolled exploitation of natural resources such as forests, land, water, and fisheries-often by the powerful few-have has caused alarming changes in our natural world in recent decades, thus harming the most vulnerable people in the world who depend on natural resources for their livelihood (Nyong, 2005).

### **3. The Challenges of Sustainable Development in Sub-Saharan Africa**

The term sustainability reflects the need for careful balance between economic growth and environmental preservation. It generally means “meeting the needs of the present generation without compromising the needs of the future generations”. In its classic definition a development path is sustainable “if and only if the stock of overall capital assets remains constant or rises over time”. There are several challenges to sustainable development in Africa. They include:

**(i) Poverty:** Most developing countries across the globe are poor especially countries in Sub-Sahara Africa, Latin America and some parts of Asia. According to the 2007 African Economic Outlook (AEO), a publication of the African Development Bank (AFDB), African countries have been able to sustain GDP growth of 5.4 per cent over the

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<sup>6</sup> Many countries experienced reduced economic growth in the latter part of the 1970s and early 1980s and until recently the global economic recession had a devastating impact on world economies.



past five years<sup>7</sup>. However, political stability, good economic management policies and an improved institutional environment, have catalyzed the growth process in some countries. In spite of these economic trends, the scourge of poverty is still having a major impact on the Africa continent. The prospect of achieving the Millennium Development Goals (MDGs) in Sub-Sahara Africa by the target year 2015 remains bleak. Sub-Saharan African is by far the poorest region of the world. More than half of the population of Africa who live below two dollars per day is expected to rise to over 600 million by 2015. (Africare, 2008). Poverty is the foremost development challenge confronting Africa. It is linked to the environment in complex ways, particularly in natural resource- based African economies. About two-thirds of the population in Africa countries lives in rural areas, deriving their main income from agriculture. The poor strive to pursue livelihoods with few options outside what the natural resources available can offer. Trees are cut for fuel wood, land degrading farming system have been adopted, wildlife are being hunted to extinction, all in an effort to satisfy today's pressing livelihood needs. Unfortunately, these activities have not only worsened the situation of the poor living in Africa today, but they will also have implications for future generation to come (Africare, 2008).

Africa's desire to achieve its development objectives through heavy reliance on natural resources and the implications this might have on the environment could potentially leave adverse footprints for future generations. Environmental destruction and high fertility go hand in hand, and they are both direct outgrowth of absolute poverty. For environmental policies to succeed in Africa countries, they must first address the issue of landlessness, poverty and lack of access to institutional resources. Insecure land tenure rights, lack of credit and inputs and absence of information often prevent the poor from making resource augmenting investments that would help preserve the environmental assets from which they derive their livelihoods. Hence preventing environmental degradation is more often a matter of providing institutional support to the poor than fighting an inevitable process of decay. (Todaro & Smith 2009). The need to prevent this situation is more critical than ever. That is why the time is ripe to renew

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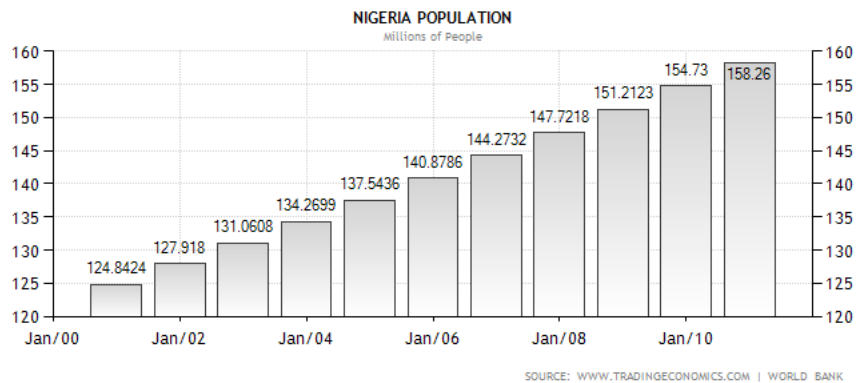
<sup>7</sup>This growth has been largely driven by a surge in prices of extractive resources especially Aluminium, Copper, Gold and Crude Oil.

the call for development that is both sustainable and ecologically – friendly for the African Continent as a whole in order to reverse some of the negative environmental and social trends

**(ii) Rapid Population Growth:** With a population growth rate of 2.5 per cent in Africa compared to 1.2 percent in Latin America and Asia according to the World Bank (2009), Africa’s population may double in less than 30 years. This rapid population growth has put a lot of stress on Africa’s ecosystem. Problems such as food security, land tenure, environmental degradation and lack of water supply are often related to high rates of population growth. Continuing on our present path of acceleratory environmental degradation would severely compromise the ability of present and future generations to meet their needs<sup>8</sup>. However the rate and timing of fertility declines, and thus the eventual size of world population, will largely depend on the commitment of governments to create economic and institutional conditions that are conducive to limiting fertility. Rapidly growing population has led to land, water and fuel wood shortages in rural areas and to urban health crises stemming from lack of sanitation and clear water. In many of the poorest regions in the globe it is clear that increasing population density has contributed to severe and accelerating degradation of the very resources that these growing populations depend for survival. To meet expanding LDC needs, environmental devastation must be halted and productivity of existing resources stretched further so as to benefit more people. If increases in GNI and food production are slower than population growth, per capital levels of production and food self sufficiency will fall. Ironically, the resulting persistence of poverty would be likely to perpetuate high fertility rates given that the poor are often dependent on large families for survival (Todaro and Smith 2009). Figure 1 shows the population of Nigeria between 2000 and 2011. The graph shows that Nigeria population has been experiencing astronomically growth since the last decade and this has great consequences on sustainable development in the country.

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<sup>8</sup>A slowdown of population growth rates would help ease the intensification of many environmental problems.

**Figure 1: Nigeria Population (in millions of people)**

Sources: *www.tradingeconomics.com, World Bank*

**(iii) Rapid Urbanization/ Urban Development:** The majority of Africa's population growth is expected to take place in urban areas largely due to rural-urban migration. Rapid urbanization in Africa has been accompanied by new and challenging environmental problems. A sizeable proportion of urban dwellers in Sub-Saharan Africa live in slum conditions, without durable housing or legal rights to their land. At least one-quarter of African city dwellers do not have access to electricity. The World Health Organization (2002) reported that an estimated 43 percent of urban dwellers had access to piped water. After a decade, not much has changed. Waste disposal presents a tremendous health hazard in many urban areas. Clearly current patterns of urbanization are not consistent with the desire to have ecologically friendly sustainable development in Africa (Africare, 2008)

It is important to note that the rapid population increases accompanied by heavy rural-urban migration is leading to unprecedented rates of urban population growth, sometimes at twice the rate of national growth. Consequently, few governments are prepared to cope with the vastly increased strain on existing urban water supplies and sanitation facilities. The resulting environmental ills pose extreme health hazards for growing numbers of people exposed to them. Such conditions threaten to precipitate the collapse of the existing urban infrastructure and create circumstances ripe for epidemics and natural health crises. Congestion, vehicular and industrial emissions, and poorly ventilated household stoves also inflate the tremendously high environmental cost

of urban crowding. Lost productivity of ill or diseased workers, contamination of existing water source and destruction of infrastructure, in addition to increased fuel expenses incurred by people's having to boil unsafe water are just a few of the costs associated with poor urban conditions. Research reveals that the urban environment appears to worsen at a faster rate than urban population size increases, with the result that the marginal environmental cost of additional residents rises over time (Todaro and Smith, 2009)

**(iv) Deforestation:** There is a high degree of deforestation in Sub-Saharan Africa. This brings about loss of tree cover which has two potentially devastating environmental implications for predominantly poor rural populations. Deforestation can lead to a number of environmental maladies that over time can greatly lower agricultural yields and increase rural hardships. Clearing of vegetation at high elevations may increase the exposure of cultivated lands at lower altitudes. Soil that has been carried away by heavy rains may silt rivers and pollute drinking water. Plants help to retain rainfall, which percolates down through the soil into underground reserves of groundwater. The water in turn tapped by a variety of plants during dry seasons in arid regions<sup>9</sup>. The subsequent drop in the water level also leads to the death of plants with shallow root systems, including young trees (Todaro & Smith, 2009). According to the African Forest Forum (AFF) Africa has about 650 million hectares of forests and woodlands, covering 28 per cent of its total land area (FAO, 2001). The Congo Basin, which covers 45 per cent of Central Africa, is the world largest area of contiguous forest. Sadly the legacy of vast forest resources that could have been passed to future generation is being rapidly lost through deforestation and degradation. According to Africare, (2008), between 1990 and 2000, Africa lost about 53 million hectares of its forests, which is about 56 percent of the global forest loss in that period. This is translated to a 0.8 percent annual loss of forest cover -- the highest in the world<sup>10</sup>. A recent Africare study in Tanzania confirms that water catchment functions of the Kilimanjaro Mountains are being threatened by severe deforestation and land clearing for economic purposes to

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<sup>9</sup>A loss of vegetation leads to a decrease in the rate at which groundwater is replenished.

<sup>10</sup> As the forest disappears, so too its contribution to the protection of soils, recycling of nutrients and the regulation of the quality and flow of water.

support the growing population on the Kilimanjaro Highlands (Africare, 2008).

**(v) Environmental Impact of Extractive Industries:** For a continent that is dependent on its natural resources to achieve growth, the challenge of ecologically-friendly sustainable development is daunting. Current patterns of extraction of non-renewable resources such as gold, diamonds and crude oil have had an untold impact on the environment. In Nigeria, oil spills and gas flares have polluted the environment significantly for more than 50 years. The 2008 target set to eliminate gas flaring was not achieved. In Southern Africa, abandoned mine sites have constituted an environmental menace. The loss of productive land, surface and groundwater pollution, and soil contamination are part of the legacies of oil and mineral exploration. Africa cannot afford the current approach to resource extraction. If the trend of unsustainable oil and mineral extraction is allowed to continue, environmentally sustainable development in Africa will continue to be a great challenge (Africare, 2008)

**(vi) Climatic Variability and Natural Environmental Hazards:** The Inter-governmental Panel on Climate Change (IPCC) study suggests that Africa will suffer greater effects of climate change than any other region of the world. Projections include the decrease in rainfall in the already arid areas of Eastern and Southern Africa, and increasing drought and desertification in the north of Central Africa. In West Africa, the countries of Benin, Burkina Faso, Ghana, Mauritania, Niger and Nigeria all shall face water scarcity by 2025 . Africa needs to step up its anti-climate change actions, as a legacy to future generations. However, not many African countries have this as a top priority in view of the pressing development challenges being confronted by the African continent such as HIV/AIDS, malaria and low agricultural production (Africare, 2008). The Report released by IPCC in 2007 shows that Sub-Sahara African can expect major consequences from Global warming involving larger and more severe heat waves, hurricanes, floods from heavy rains, prolonged droughts, losses of valuable species of crops and fishes losses. Sub-Sahara Africa is vulnerable to and will be hit particularly hard, by greenhouse gas-induced climate change. The IPCC report concluded that by 2020, agricultural production, including access to food, in many countries and regions in Africa is projected to be severely compromised by climate variability and change. The area

suitable for agriculture, the length of growing seasons and yield potential, particularly along the margins of semi-arid and arid areas, are expected to decrease. This would further adversely affect food security, and exacerbate malnutrition in the continent. In some countries, yields from rain-fed agriculture could be reduced by up to 50% by 2020. The study projected that 75 to 250 million people in Africa will be exposed to increased ‘water stress due to climate change’ by 2020. Coastal fisheries, mangroves, and coral reefs will be further degraded and threatened by projected rises in sea level and storms. Fresh water lakes will also be negatively affected (Todaro & Smith, 2009).

**(vii) Rate of Economic Growth:** Evidence indicates that the very poor cause considerable environmental destruction as a direct result of their poverty. It follows that increasing the economic status of the poorest group would provide an environmental windfall. However as income and consumption levels of everyone else in the economy also rise, there is likely to be a net increase in environmental destruction. Meeting increasing consumption demand while keeping environmental degradation at a minimum is not a small task (Todaro & Smith, 2009). The GDP growth rate in Nigeria has grave impact on sustainable development in the country. The growth rate is shown in figure 2 below.

**Figure 2:** Nigeria Gross Domestic Product (GDP) Quarterly Growth Rate (in Percentage).



SOURCE: WWW.TRADINGECONOMICS.COM | NATIONAL BUREAU OF STATISTICS

Sources: *www.tradingeconomics.com*, *National Bureau of Statistics (NBS)*

#### **4. Stylized Facts about Nigeria**

Nigeria is an agrarian country with about 70% of her over 140 million people engaged in agricultural production. The country is also generally endowed with abundant natural resources and the livelihood of more than half of the economically active population in Nigeria directly depend on the environment through agriculture, as well as animal husbandry ,hunting, fishing, forestry, and foraging. This alone underscores the importance of the seventh Millennium Development goal: to ensure environmental sustainability (Todaro & Smith). However, several challenges threaten progress towards sustainable development goals in Africa especially Nigeria. The spike in food and energy prices in 2008 led to a severe food crises. The subsequent fall of energy prices has eased some of the pressure on energy importing countries. Yet, food prices remain high. The global financial and economic crisis in 2009 has exacerbated the situation. Growth rates are falling, unemployment is rising, poverty is deepening, hunger and malnutrition are on the increase again, and the achievement of the millennium Development goals are in jeopardy.

Economic sustainability in Nigeria is maintaining and sustaining a high real growth rate of the economy to achieve the Millennium Development Goals (MDGs). Nigeria's economy performed reasonably well in the 1960s and early 1970s but did poorly in the following two decades. However, since the late1990s, the economy has picked up. But the recovery's sustainability is fragile for two reasons. First, strong domestic savings do not underpin it. Second, Nigeria's economy remains vulnerable to outside shocks (ECA 2001a).

In this section, the status of Nigeria's economic sustainability (as an important component of sustainable development) is reviewed by examining key indicators. These indicators include growth rates of GDP, balance of payments, exports and imports; savings and investments; agriculture, manufacturing, debt and the structure of the economy

**Table 1:** Nigeria – National Statistical Data 2011

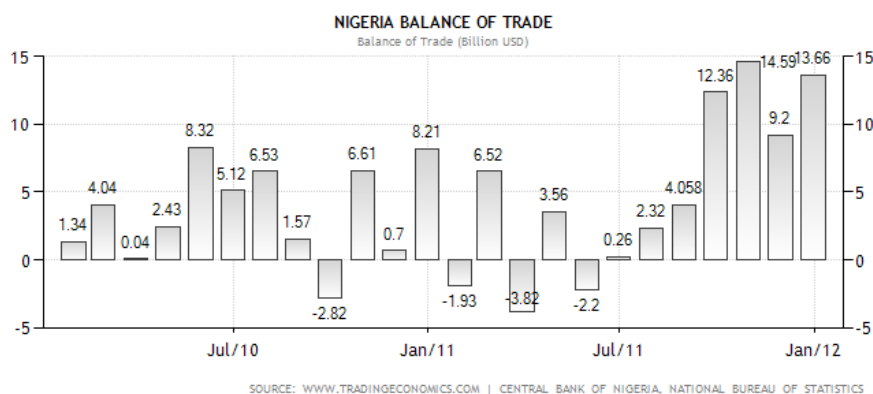
	2011	2010	Unit
Balance of Trade	13.66	9.20	Billion USD
USDNGN- Naira Exchange rate	151.48	154.57	
Current Account	8140.00	4737.00	Million USD
Current Account to GDP	13.30	13.00	Percent
USDNGN Exchange Rate	162.91	163.05	
Exports	17.01	12.10	Billion USD
GDP	193.67	186.57	Billion USD
GDP Annual Growth Rate	7.68	7.40	Percent
GDP Growth Rate	7.68	7.40	Percent
GDP Per capita	540.34	513.77	USD
GDP Per capita PPP	2380.62	2245.38	USD
Government Budget	-2.96	-6.80	Percent of GDP
Government Debt to GDP	17.90	18.00	Percent
Imports	3.35	2.89	Billion USD
Inflation Rate	12.90	12.10	Percent
Interest Rate	12.00	12.00	Percent
Population	158.26	154.73	Million
Unemployment Rate	23.90	21.10	Percent

Source: Trading Economics, (<http://www.tradingeconomics.com/nigeria/indicators>)

Nigeria reported a trade surplus equivalent to 9.2 Billion USD in December of 2011. Historically, from 2002 until 2011, Nigeria Balance of Trade averaged 2.5800 Billion USD reaching an all time high of 14.5900 Billion USD in October of 2011 and a record low of 3.8200 Billion USD in March of 2011. Exports of commodities (oil and natural gas) are the main factor behind Nigeria's growth and accounts for more than 95% of total exports. Nigeria's main exports partners are: USA (30% of total in 2009), Equatorial Guinea (8%), Brazil (6.6%), France (6%) and India (6%). Nigeria imports mainly: industrial supplies (32% of total), transport equipment and parts (23%), capital goods (24%), food and beverage (11%) and consumer goods. Main import partners are: China (17% of total), Albania (11.3%), United States (7.5%), France and Belgium. Figures 3 and 4 show the Nigeria Balance of trade and inflation rate, respectively.



**Figure 3: Nigeria Balance of Trade (in Billion USD)**



Sources: *tradingeconomics.com*, *Central Bank of Nigeria (CBN)*, *National Bureau of Statistics (NBS)*

**Figure 4: Inflation Rate in Nigeria (Annual Change on Consumer Price Index)**



Sources: *tradingeconomics.com*, *Central Bank of Nigeria (CBN)*,  
 According to the National Bureau of Statistics the table below presents the percentage of non-poor, moderately poor and extremely poor Nigerians, as it were in the 1980s, through 1990s to 2010. On Monday, February 13th, 2012, the National Bureau of Statistics opined that 112.519 million Nigerians which are 71.5% of the nation’s population live in relative poverty conditions (Punch, Tuesday, February 14th, 2012; Nigerian Tribune, Monday, February 13th, 2012).

**Table 2:** Relative Poverty: Non-Poor, Moderate poor and the Extremely Poor (%), 1980-2010

<b>Year</b>	<b>Non-poor</b>	<b>Moderately poor</b>	<b>Extremely poor</b>
1980	72.8	21.0	6.2
1985	53.7	34.2	12.1
1992	57.3	28.9	13.9
1996	34.4	36.3	29.3
2004	43.3	32.4	22.0
2010	31.0	30.3	38.7

*Source: NBS, Harmonized Nigeria Living Standard Survey, 2010*

According to the National Bureau of Statistics data, the above captures the results of living standards of Nigerians. About 100 million Nigerians now live on less than one dollar a day. For a country to lay claim to sustainable development, its economic growth and infrastructural development must have positive impact on the well being or the livability of the majority of its population. On the contrary, environmental degradation emanating from harmful industrial emissions, unemployment and poverty has steadily been on the rise in the face of the supposed economic growth.

#### **4.1 Effects of Unsustainable Development in Nigeria**

Despite the contributions of international multinational, bilateral and non- governmental organizations to the development strides in Nigeria, it appears that the more assistance the country gets the higher the poverty, unemployment and conflict levels. The country's population is growing at geometrical progression without corresponding growth in basic infrastructure and social amenities such as electricity, good roads, potable water, health, educational facilities. The real sector of the economy is comatose with low capacity utilization in the industrial sector, underdevelopment agricultural sector and ailing transport sector. The cities are congested due to high rural-urban migration and poor urban planning and most citizens who could no longer bear the congestion associated discomforts had either legally migrated to developed countries or sought asylum. Analysts have been asking what

had happened to resources generated from oil and gas productions as well as the financial assistance from many international organizations to Nigeria. With external and domestic debt profile as at March, 2013 put at \$6.670 billion and N6.493 trillion, respectively, (by the Debt Management Office, 2013) the future of the country is seen by many as uncertain. Furthermore, the dependence on petroleum as the major source of government revenue and its attendant effects on the economy pose more concern for many analysts. This is so, especially with the declining world demand for crude oil in the face of increasing supply due to the discovering of crude oil by many countries in recent times. In addition, the country is characterized by widespread corruption in public offices, mismanagement/misapplication of project funds, low execution capacity, lack of political will, insecurity and insincerity on the part of both the govern and the governed. The pervasiveness and spontaneity of the global urbanization process has been an issue of concern in recent time because this essentially constitutes serious challenge to the attainment of sustainable development and effective urban governance. The implications of sustainable developmental challenge in many African nations, including Nigeria are diverse socio-economic, cultural and environmental problems. Addressing these urban developmental challenges in Nigeria requires effective and good governance. There is the need to examine these developmental issues in order to provide a rationale for good governance in the management and utilization of existing resources for sustainable urban growth in Nigeria. Nigeria is blessed with natural resources especially hydrocarbons. Managing proceeds of resources to develop rural communities had created several conflicts. The effects of unsustainable development in Nigeria include:

**(i) Extreme poverty and hunger:** Indeed, Nigeria presents a paradox. The country is rich with both human and material resources, yet the people are poor. Per capital income today is still almost the same level as in 1970. Poverty in Nigeria encompasses a very complex society: regional climatic and ethnic differences are reinforced by different historical and socio-economic legacies (World Bank 1996). The country has had a complex political history. Political instability has led to sharp changes in economic and social policies, which have impacted adversely on the population and have worsened income distribution. To achieve sustainable development, “continuity in government” tradition must be in place. However, this is lacking in Nigeria. The challenge for Nigeria

is not one of improving one sector or region at the expense of another or of introducing policy distortions and inefficiencies in resource allocation to benefit one sector/ class which in the past has led to increased poverty for others, but to adopt growth and social service oriented policies that will avail the Nigerians the opportunity to improve their welfare.

In the early 1960s, the basis of the country's economy was a well-diversified agricultural sector that absolved 75 percent of the nation's population, accounted for over 68 percent of GDP, 78 percent of exports and 94 percent of the nation's food supply. Within the period, per capita income stood at US \$90 and GDP growth was rapid at an annual rate of nearly 5 percent (see World Bank, 1996; Nwaobi, 2003). However, a new development pattern gradually emerged (over the years) as agriculture began to stagnate due to the growing burden of taxation. Rapidly growing industries later started to exert enormous influence on the economy, in the form of demands for special protection from imports. The foregoing resulted in the pattern of industrialisation, from processing of agricultural products for export, towards import substitution and the emergence of petroleum extraction as the mainstay of the economy (i.e. the leading growth sector). But in the mid-1960s growing regional tensions and the identification of the political parties with rent seeking, ethnic interests and patronage created a climate of unrest and political uncertainty that was compounded by the stagnating GDP growth (Nwaobi, 2003). Other events such as the civil war, military interregnums, institutionalization of corruption etc. caused major loss of production. There was an unprecedented drop in foreign exchange earnings and government revenue traceable to the decline in on-shore oil production. The poverty reduction programme of government is a progressive step towards economic and social sustainability. However, the success of the programme in addressing poverty is still questionable; more so as the incidence of poverty continues to rise.

Poverty is very real in Nigeria, over the last ten years; the quality of life of the average Nigerian citizen has progressively nose-dived. It is so endemic that people have started seeing it as part of their lot in life (Barnes, 2010). In fact, scores of research studies have exposed the dimensions and the extent of poverty in Nigeria. For example Obadan and Odusola (2001), reveal how sharply the per capita income of Nigerians slipped from a high of over 1,280 dollars in 1980 to a low

dollar in 1995. Nonetheless, this is still below 2 dollars by 2010 reports of the NBS. This and other studies generally paint a grim picture of a nation trapped in a vortex of abject and abnormal poverty and declining productivity. Available statistics indicate how precarious life has become for the average Nigerian over the years in the face of suffocating levels of poverty. The Nigeria poverty level is further compounded by the ratio of debt to GDP in the country as show in figure 5 below

**Figure 5** Nigeria Government Debt to GDP from 2000 to 2012



Sources: *www.tradingeconomics.com*, *International Monetary Fund*

**(ii) Fall in Quality of Education:** The standard of education in the country is falling by the day despite all the efforts being made by successive governments and administrations. Experts are of the opinion that policy inconsistency is the root cause of this phenomenon. Howbeit, Further, Sheikh Ahmed Lemu argued;

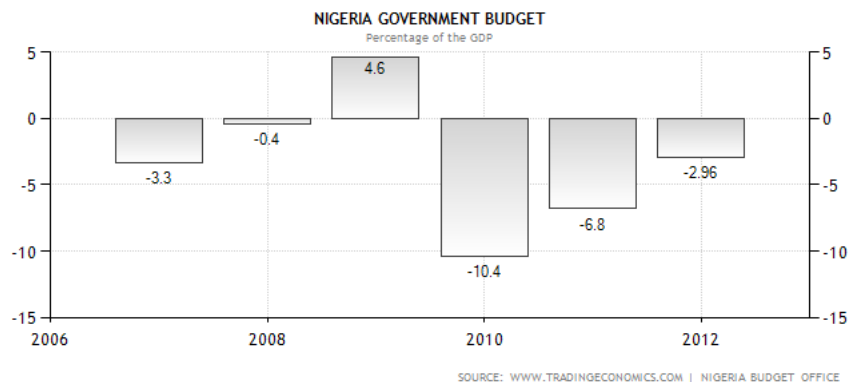
*But the major problem of the sector is that of policy inconsistency. Every government wants to introduce its own policies. Though these policies sometimes are beautiful and fantastic and if well implemented would have been able to move the sector forward (Lemu, 2012).*

But one of the major problems is that of lack of effective preparation and necessary components that will make such policies work. As long as there is dearth of qualified manpower and learning facilities and also poor teaching, it will be difficult for any policy on education no matter how good and laudable it is to achieve significant result. It will only end up as a wishful thinking. Lemu further posited that;

*What brought about the bad and ugly in the education sector up till today cannot be divulged from political terrain. Many politicians have no love for the nation at hearts. They are only after money they will use the position to make for themselves. They are also after people who will be running after them irrespective of whatsoever they do with their positions. So, those at the helm of education affairs of the country are also not left out from the blame.*

Besides, the state of education in Nigeria is not unconnected to other issues such as the government budget as a ratio of GDP as shown in figure 6 below.

**Figure 6:** Nigeria Government Budget as a percentage of the Gross Domestic Product (GDP)



Sources: [www.tradingeconomics.com](http://www.tradingeconomics.com), Nigeria Budget Office

**(iii) High Maternal and Child Mortality:** Nigeria’s maternal mortality rate is at an unacceptably high level. It is estimated that one in eight women die yearly of pregnancy-related complications. Nigeria has the second highest rate of maternal death in the world (Terence McCulley, 2012). The same is applicable to children. Despite Nigeria GDP per capita which has been on the increase since 2000, this trend still continue. Figure 7 shows the Nigeria GDP per Capita in USD at Constant prices since 2000.

**Figure 7: Nigeria GDP per capita (in USD at Constant prices since 2000)**

Sources: [www.tradingeconomics.com](http://www.tradingeconomics.com), World Bank

**(iv) High Prevalence of HIV/AIDs, Malaria and other diseases:** The major contributors to the disease burden of the country are malaria, tuberculosis (TB), and HIV/AIDs. Unarguably, Nigeria has taken various progressive steps to contain these diseases. They include among others, the National Agency for the Control of AIDS (NACA), National Health Insurance Scheme (NHIS), yet the incidences of these have been so rampant. Malaria is a major health and developmental problem in Nigeria, with a prevalence of 919 per 100,000 populations (WHO 2002). The HIV/AIDs epidemic has unfolded on a large scale in Nigeria: adult prevalence is 3.9 percent and nearly 2.9 million people are living with the virus (UNAIDS 2006). Tuberculosis cases have increased dramatically with the onset of HIV/AIDs in the country, with an estimated prevalence of 546 cases per 100,000 populations in 2004 (National Human Resources for Health Strategic Plan, 2008 to 2012, July, 2007)

**(v) Environmental Unsustainability:** Nigeria gradually degenerated into a mono-cultural economy heavily dependent on petro-dollar. The implication of the environment became enormous, as ecosystems and biodiversities were destroyed by the activities of extractive industries. These industrial activities, with their potentials for environmental degradation and pollution were carried out in an uncontrolled manner, leaving a legacy of:

- ✓ Deterioration of health quality and generation of health hazards

- ✓ Destruction of flora and fauna
- ✓ Pollution of water resources
- ✓ Air and noise pollution
- ✓ Destruction of traditional economic infrastructures within communities hosting some of these high powered investments (Ifeanyi, 2012).

Policies aimed at integrating development programmes with environmental issues at planning stage were non-existent. Governments focus was maximum exploitation of natural resources for rapid development with scant regard for resource conservation and sustainability.

**(vi) Gender Inequality:** Gender inequalities within the overall society, and across all sectors, reflect the wide disparities between women and men which, in turn, contribute to uneven development and the feminization of poverty. Among the 70 percent of the Nigerian population estimated to be living below poverty line, over 65% are projected to be women. Income and purchasing power is estimated to be US\$1,495 for men as compared to US\$614 for women and men have greater access to high-paying, secure employment. For example, 76% of Federal Civil Service workers are men, whereas women make up 24% of the workforce and occupy less than 14% of the overall management positions, despite the appointment of women to the position of permanent secretaries (beginning in 2000 and in line with affirmative action initiatives). Additionally, approximately 17.5% of medical doctors are women whereas 82.5% are men. These disparities have a significant impact on the capacity of women and men to contribute to the economic growth of the country, the reform agenda, and efforts to reduce dependency ratios within family units and achieve the desired value-re-orientation goal of government. Other indications of gender inequalities include disparities in participation within the formal sector which stands at 87% men with 11% women compared to 30% men engaged in the industrial sector. The extractive industry with annual business volume of over US\$42m has almost zero level participation of women. (CIDA Nig. GSAA 2006).



## **5. Policy Implications and Options for Nigeria**

The Nigeria's government has never been in short supply of policies, programmes or reforms aimed at alleviating the challenges confronting the economy and the livelihood of its citizens. But what is usually in short supply is the political will to successfully implement these policies and programmes to tackle these challenges. It has been argued that commitment to sustainable development both for the present and future generations will be meaningless if collaborative approach is not employed. This is where Nigeria differs from other countries in Africa in the approaches of addressing the challenges of sustainable development. For instance, several policies put in place to address the challenges of sustainable development in Nigeria since the 1980s include; Structural Adjustment Programme (SAP), Poverty Reduction Programme, the National Economic Empowerment and Development Strategy (NEEDS), State Economic Empowerment and Development Strategy (SEEDS), National Directorate of Employment (NDE), etc. These policies fell short of expected standard needed for sustainable development that will substantially ameliorate the impact of poverty, unemployment and income inequality on the citizens.

The central focus of the strategy is on poverty reduction, alongside sectoral policies on environmental management, sanitation, water, health and population. Issues of good governance and improved popular participation in governance and partnership with national and international development partners are also being mainstreamed into national agenda for development (Oladunjoye, 2005). Onakuse & Eamon, (2007) argued that the major causes of the failure of these programmes and reforms hinge on corruption, political divide, lack of continuity, a weak private sector, dearth or absence of due process, and ethnicity. Other pitfalls that usually confront government policies include absence of consistent enabling framework on finance, funding and infrastructure on small and medium enterprises: inadequate transportation networks and power supply that support development effort and delivers multiplier effects on other sector within the country. Weak institutional/market infrastructure to guide business activities and enforce contract and commercial transactions: lack of transparency and good corporate governance related matters: non-adherence to accountability, and perennial misappropriation of public funds: and unpredictability of the political and social environment are other factors

militating against the success of government policies on poverty reduction and sustainable development. (Onakuse & Eamon, 2007).

The above arguments portend important policy implications for the country, especially when understood that Nigeria has been struggling to attain sustainable development, by ensuring economic, social and environmental sustainability. There has been growing concerns over the growing rate of environmental threats of desertification in the North, devastating hydraulic coastal erosion in the East, Environmental pollution and degradation emanating from oil exploration in the South – South and high level of flooding in the West. And if serious and urgent steps are not taken by the Federal Government, the country stands the risk of being choked by these environmental hazards. Environmental conditions in cities have deteriorated greatly due to the rapid growth of the cities and the attendance lack of capacity of existing social services and infrastructures to adjust to the rate of growth. Inadequate storm drains, dumping of refuse in drainage lines and construction of houses close to and even on the natural water channels have been shown to be responsible in that order for the increasing cases of flood in the urban centers. Environment problems associated with the increasing growth of urban slums including overcrowding in squalid housing conditions, poor quality or unavailability of basic infrastructures and social services, such as water and sewage facilities and even lack of access routes (NEST, 1992). Under such stressful situation, it will be easy for people to become so exigent worrying only about what to get out of the environment for their own immediate needs and uses, without caring very much for the consequence, especially for succeeding generations (Mabogunje, 1985).

The need to ensure sustainability in Nigeria calls for the formulation and implementation of new policies and programmes that will reinforce the old ones which largely apply the principle of sustainable development advocated by the Commission on Environment and Development – whereby, developmental efforts are not only concentrated on solving present problems but also consider future challenges and needs (Ajiboye, 2011). The policy options available for Nigeria to tackle the challenges of sustainable development based on the policy implications explained above are numerous. Firstly, and central to the issue of achieving sustainable development is the need for good governance. This should be in accordance with the principles entrenched in the

United Nations global Agenda 21 which seek to employ sustainable development strategies to integrate all aspects of development socially, economically, culturally and environmentally in achieving distributional equity and providing adequate social services including health, education, housing as well as functional and liveable environment among many others (Ajiboye. 2011).

Secondly, policies and programmes designed to address the challenges of sustainable development should be comprehensive by integrating all stakeholders. There should be greater involvement and participation of Non-Governmental Organizations (NGOs), Civil Society organizations (CSOs) and community groups in local governance, greater transparency and accountability in both planning and implementation of local policy and the devolution of responsibility for urban affairs from state or national level to the local level are inevitable, as the challenges of sustainable development can only be dealt with in an atmosphere of peace, better leadership (devoid of corruption) and freedom, especially in a politically frayed and frazzled continent as Africa. Similarly, there is a need for improved collaborative efforts by all governmental Agencies at regional, national and local levels towards ensuring good governance and sustainable development. The New Partnership for Africa's Development (NEPAD) is an initiative for speeding up sustainable development in Africa. Other counterpart initiatives which operate at the national state and local government levels in Nigeria should collaborate to ensure speedy actualization of the UN Global Agenda 21 and Goal 7 of the MDGs Agenda on the sustainability of the environment.

Thirdly, Nigeria could go the way of Europe by establishing the Sustainable Development Trust Fund; the policy trust could be to establish a national body/ agency with a management tool and point of reference that will help it assess the progress that is being made in mainstreaming sustainable development in the three-partite aspects of Nigeria's national life. The wisdom behind the establishment of the Sovereign Wealth Fund is laudable as it strives to retain some funds for the nation's future generation, but it did not make provisions for social and environmental sustainability. The aims and objectives of the plan could be patterned in a manner to help ensure that the Nigeria sustainable development programmes comply with structural fund

regulatory requirements concerning sustainable development and the environment.

Fourthly, there is also the need for urban regeneration and enhanced infrastructural development. As the population of an urban centre increases, its need for infrastructure such as transportation, water, sewage and facilities such as housing, commerce, health, schools, recreation and others increases (Ujoh et al., 2010); therefore, increasing the environmental carrying capacity of the urban areas is necessary for enhancing the liveability of cities in Nigeria. Massive rehabilitation and expansion of urban infrastructure in the country should be taken more seriously. This should be done to address the challenges of urbanization, urban governance, land management and shelter in Nigeria. The issues of poverty (rural and urban) and sustainable urban cities should continue to receive the attention of the government, just as the political will and commitment to formulate and implement programmes and policies for development planning, housing, infrastructural development and urban management should be accelerated.

Furthermore, the government can fulfill its commitments to promoting sustainable development through a dual approach to mainstreaming. Ultimately, the mainstreaming approach should help ensure certain key strategic priorities such as promoting work and skills which are delivered in a way which minimizes any negative impacts on the economy, social and environment by Sustainable Development Trust Fund (SDF). This should also maximize positive impacts. In addition, the mainstreaming approach should help to support a number of environmental projects which promote jobs or skills. In the operational context of SDF, sustainable development could be seen as development which provides opportunities to allow everyone fulfill their potentials, social justice, environmental protection and the skills that businesses demand and require – now and in the future. (European Social Fund Sustainable Development Mainstreaming Plan for England and Gibraltar 2007-2013).

Finally, the proposed SDF with strategic aims should promote jobs and skills and target those with greatest need. These aims help to ensure that two of the three strands of sustainable development described above are at the forefront of the programme (with employment as a route out of poverty and the provision of skills training to support and sustain

business). Legal and regulatory requirements concerning the promotion of equality and human rights also help to reinforce the social justice strand. Given that two of the three strands of sustainable development are inherent to the focus and delivery of the sustainable development programme, the main focus for sustainable development mainstreaming work in the proposed programme should be on promoting the third strand of environmental protection and enhancement. There should also be environmental sustainability providers who are required to consider how they deliver their services in terms of trying to reduce negative impacts and increase positive impacts on the environment. The body should as well prepare environmental sustainable development policies; and prepare and deliver sustainable development implementation plans which turn the sustainable development policy commitments into action.

### **5.1 Conclusion and Recommendation**

The crux of these concluding remark is the implicit proposal that the responsibility for social, economic and environmental sustainability lies with federal governments (and Nigerians), which would enable development to be adapted more readily to the Nigeria's economic and social conditions. The implication of the absence of this political will and support all too often opens up Nigeria's social, economic and ecological heritage to external conditions - leading to system's vulnerability. Experts are of the opinion that environment is key to sustainable development; Brookfield (1991: 62) further opined that;

*“Undoing unsustainable and building sustainability in its place will be an enormous task, against great opposition, and made much worse by uncertainties, aggravated by human action, with which we have to live in forceable future. It is further made worse by the widespread distrust of government. We need to pay attention to the past and to the immense fund of knowledge possessed by resource managers on the ground... the political economy within which resource management takes place is of fundamental importance, and if that continues to be based on the license to exploitation and greed, nothing improves”*

Far reaching reforms at the state and federal levels are indispensable in achieving sustainable development and, in Nigerian context; a significant measure of intervention cannot be avoided. Rather than be informed by misguided economic and ecological idealism, as well as

policy inconsistency, Nigeria's political economy needs to be dictated by what is necessary, what is possible and its financial implications, required institutional frameworks, and in terms of shared social responsibility, to achieve a sustainable future. The implication is multifaceted/ interdisciplinary and collective approach which is essential to any social action, no less the sustainability of Nigeria's development efforts.

The sustainable development trust fund proposed in this work is a progressive attempt towards achieving sustainable development in the country. This institution framework, if established will oversee and enforce policy consistency, and judicious spending of the public fund. It will also ensure human capital development, diversification of the economy and enforce environmental laws.

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