

## INVESTMENT IN SOCIAL INFRASTRUCTURE FOR GLOBAL SUSTAINABLE NATIONAL DEVELOPMENT: A STUDY OF NIGERIA

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### ABSTRACT

The attainment of global sustainable development remains a paramount objective of every country. The challenges of social infrastructure in Nigeria in terms of global sustainable national development are numerous ranging from energy, transport, health, and education. It is quite clear that the level of social infrastructural development in Nigeria is nothing but poor. Therefore the study examined investment in social infrastructure for global sustainable national development. The broad objective of the study was to examine the role of infrastructure in contributing to sustainable development in Nigeria. Other specific objectives include the contribution of improved infrastructure to global sustainable development. This study adopted the qualitative method and made use of research instruments such as the interview guide which elicited responses from the respondents. In the same vein, the review of articles from the internet, relevant books, journals, newspaper to mention a few were used for the purpose of this study. The use of secondary data is therefore justified due to its intrinsic values. The study uses Nigeria as a case study and as such focused on Infrastructure and its contribution to her Sustainable development. The study delved into the concept of social infrastructure and sustainable development as well as the contribution of infrastructure to global sustainable development. The study found out that the factors responsible for the poor state of social infrastructure in Nigeria include inadequate funding, poor governance and corruption. The study recommended that adequate and modern transportation infrastructure should be provided, upgrade and establishment of hospitals and clinics should be done, more plants for energy generation should be establish, more schools and facilities should be provided at all levels of education.

**KEYWORDS:** Infrastructure, Sustainable National Development, Economic growth, GDP, Investment, Social Amenities

### 1. INTRODUCTION

Infrastructure means the basic facilities which are necessary for the development of a nation. Economic infrastructure is the combination of basic facilities which is helpful in economic development of an economy and businesses. It includes facilities such as telecommunication, electricity, transportation, energy while Social infrastructure is the combination of basic facilities which are necessary for human development. It includes such facilities as hospitals, schools, and housing. Viewed functionally, infrastructure facilitation means the production of goods and services, and also the distribution of finished products to markets, as well as basic social services such as education and healthcare services (Olaseni and Alade, 2012). The link between infrastructure investments and development outcomes is enormous as empirical studies have proof the linkage between the two such as the work of Aschauer (1989).

The importance of Infrastructure services cannot be over emphasize as they are used as final consumption items by households and as intermediate consumption item for firms. Availability of infrastructure services significantly influences development of regions and countries. It is the reason why level and quality of infrastructure have direct effect on business productivity and growth, and shortfall investments to infrastructure capital form inequality between regions and countries.

The impact of infrastructure investments on country development is an important issue as development of any kind cannot be achieved without the provision and development of adequate infrastructure. The extent to which a country developed is a function of its effort in provision of infrastructure (Nurre, 2012).

Infrastructure contribute to raising the quality of life by creating amenities, providing consumption goods (transport, energy and communication services and contributing to macroeconomic stability. Infrastructures in certain remote areas can serve as an incentive to attract certain levels of industrial activities in such places, in that wise, infrastructure provision facilitates investment in less developed areas. With electricity for example, farmers in rural areas can easily process their harvested cassava roots into gain flour. Infrastructure provision is therefore fundamental for successful rural transformation and agricultural development.

The attainment of sustainable economic growth remains a paramount objective of every country. A primary source required for achieving this objective is through increased domestic productivity. However, for this to occur, such country must be able to create sufficient domestic physical capital to stimulate such desired economic growth. In other words, fixed capital formation is a major contributor, catalyst and determinant of a country's economic growth.

The relationship between infrastructural development and economic growth has, in recent years become one of the most important economic topics in both academic and policy cycle. Economic growth implies increase in per-capita Gross Domestic Product hereafter written as GDP. The source of economic growth has therefore ranked amongst the most significant issues the economist has examined (Roller and Waverman 2009). The role of infrastructures has renewed attention over the years. According to Calderon and Serven (2004) and Estache et al. (2005), from the policy point of view, the renewed concern with infrastructure can be traced to the world-wide developments that took place over the last two decades. The first one was the retirement of the public sector since the mid-1980s in most industrial and developing countries from its sole position in the provision of infrastructure to private participation in the provision of infrastructure. This was part of the worldwide drive towards increasing reliance on markets and private sector activity (privatization of public utilities) and multiplication of concessions and other forms public-private partnership (PPP).

While this process first gained stronghold in industrial countries, particularly the United Kingdom, over the last decades, it has extended to a growing number of emerging economics, particularly Latin America and the sub-Sahara Africa region. Infrastructure investment consists of capital-intensive projects, which in most countries are largely publicly owned and regulated, and which also provides the backbone of the production and distribution system. They are often regarded as the wheel of economic activity because of the crucial role they play in providing the foundation upon which production and distribution stands (Economic Reflection Vol B. No. 4 April 2008). Nigeria is divided into six geo-political zones namely; South- South, South -West, South-East, Northwest, North-Centre and North-East, with a population of over 170million with GDP growth of 5.55%. Nigeria is richly blessed with both natural and mineral resources. In view of developing the country, the government introduced various initiatives and establishment of agencies in achieving its desired goal (Akinwale, 2010; Attai, Ogbole & Ojonemi, 2012; Enyi, 2014). Some of these initiatives and programs were to provide adequate infrastructure for the development human capital, however, it failed to yield the desired goals and objectives (Attai, Ogbole & Ojonemi, 2012; Enyi, 2014). For example, so much money was invested in these development plans (e.g. provision of adequate access and opportunity to education and health) especially when oil became the mainstay of the economy yet nothing much was achieved (FGN, 2009; Attai, Ogbole & Ojonemi, 2012; Enyi, 2014). The dilemma of infrastructure decay and deficiency leading to poor human and Sustainable development in Nigeria is very unfortunate and unacceptable conserving the huge government investment (FGN, 2009).

Against this backdrop, this study aims to examine investment in social infrastructure for Global Sustainable National development, while utilizing a case study of Nigeria.

Social Infrastructure development as it were remains a catalyst to nation building (Ishrat, 2015). Often times, infrastructure is used to measure the overall nation building. Infrastructure services contributes directly and indirectly to human development such as roads, highways, bridges, ports, and transport system that facilitates the movement of people that enhances their welfare and well-being. Previous studies have shown that despite the increasing awareness and developmental efforts geared towards achieving these basic needs, many countries across the globe still suffer from lack of access to basic and adequate infrastructure. Recognizing the significant role of infrastructure as a driving force in increasing Human Development Index (HDI) - a factor for measuring national development, countries all over the world especially in the developing countries, they have intensified efforts in investment on infrastructure. Despite the remarkable efforts globally on modern infrastructure, many countries like Nigeria still face the challenge of having inadequate and unsustainable

provision of infrastructure due to high cost, time required for new constructions and the role of government through its policies (Agbaje, 2008). Due to these circumstances, the state, implications and impacts of investment in social infrastructure, a case study of Nigeria, for global sustainable National development will therefore be analyzed in this study.

## **2. METHODOLOGY OF THE STUDY**

Data collection can be said to deal with all the activities the researcher followed in gathering all the possible information required for the research. The source of data for the purpose of this work will be secondary in nature. By the same token, the sources of the data will include the internet, relevant books, journals, newspapers. In other words, the study will involve a descriptive analysis in addition with the interview guide to elicit responses from the respondents. The data collected therefore will then go through a content analysis before a conclusion is infused.

## **3. CONCEPTUAL REVIEW**

### **3.1 Concept of Infrastructure**

Infrastructure is a set of interconnected structural elements such as roads, bridges, water supply, sewers, electrical grids, telecommunications etc., that provides framework for supporting an entire structure of development (Ahmed, 2011). It is a basic physical and organizational structure needed for the operation of a society or enterprise, or the services and facilities necessary for an organization to function (Usman, 2014). These structural elements provide commodities and services that are essential for enabling, sustaining, or enhancing societal living conditions. Infrastructure is inevitable for the socio-economic development of a nation including Nigeria. A country that lacks infrastructure (Critical, Social and Capital) will remain underdeveloped and dependent on other economies for its survival. Therefore, it is a catalyst that accelerates economic growth, reduces poverty and unemployment, empowers and makes people to be self-reliant. According to the World Bank (1994), infrastructure is the umbrella term for any activities referred to as “social overhead capital” and characterized by peculiar technical and economic features. Therefore, this discourse will focus more on the import of critical infrastructure like roads, electricity, water, basic needs, security and other enabling infrastructure and the extent they have retarded growth and sustainable development in Nigeria.

To Meier (1995), infrastructure is made up of public utilities such as: power, pipe borne water supply, telecommunications, sanitation and sewage, solid waste collection and disposal, piped gas, while public works include roads, major dams, canal works for irrigation and drainage. More infrastructures are in the transport sector, such as: urban and inter urban railways, urban transport, water ways and airports. The characteristics of infrastructural facilities are: heavy capital outlay with respect to investment, invisible, low variable cost and long gestation period. These are what Meier (1975) called “social and capital” infrastructure. The relevance of infrastructure development for economic growth is well documented in the literature, starting with the works of Aschauer (1989), Barro (1990), Munnell (1990), World Bank (1994), etc. Since the industrial revolution, infrastructure has been recognized as a catalyst for sustainable growth in both developed and underdeveloped economies as it is known to stimulate production and consumption; in addition to having the potential to reduce income inequality and poverty in less developed countries.

Thus, water, energy, transport, communications, waste disposal facilities, etc. are essential to the functioning of a modern society. Nevertheless, investments in infrastructure projects that are inefficiently large could yield low marginal returns and constitute a disincentive to further investment. There is a clear consensus amongst scholars that infrastructure plays a critical and positive role in economic growth of any economy. Almost all development economic theories (W.W Rostow (1960), Solow (1956), Roy F. Harrod (1939) and Evsey Domar (1946), directly or indirectly consider infrastructure as a key determinant of sustainable growth and development. Infrastructure interacts with the economy through a web of complex economic relationships that is captured by aggregate production, employment and wellbeing. Generally, infrastructure increase productivity and expand economic activities through the resultant decline in transport, production and transaction costs, in addition to the facilitation of market access.

#### **3.1.1 Concept of Sustainable Development**

Sustainable development has been the subject of diverse definitions from a number of commentators (Pearce, Markandya and Barbier, 1989). As a result, it has come to mean very different things to ecologists, economists, planners and politicians. In its favor is the positive connotation implicit in the term. It is unlikely that any sane person or organization would willingly endorse unsustainable development or sustainable improvement if that is not an oxymoron. Therefore, sustainable development means improvement that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development ensures the well-being of the human person by integrating

social development, economic development and environmental conservation and protection. Social development includes basic needs of human beings, such as: access to education, health services, food, housing, employment, fairly distribution of income. While economic development includes industry, sustainable agriculture, integration and full participation in the global economy. In a nutshell, human beings are at the centre of concern for sustainable development. This paper focuses on the importance and effects of improving critical infrastructure for sustainable development in Nigeria towards the realization of Vision 20:2020.

### ***3.1.2 The link between Social Infrastructure and Global Sustainable National development***

The implications for the poor of limited access or low-quality infrastructure are substantial (Fay et al. 2005). It affects their health, with unsafe water and sanitation responsible for some 1.6 million deaths in 2003, 90% of which were children under 5 mostly in developing countries (Hutton and Haller 2004). Richer people can also be affected, but the impacts are much greater for individuals already suffering from malnutrition or less likely to receive quality medical attention. Similarly, long-term exposure to indoor air-pollution associated with the use of biomass for cooking by those who do not have access to modern sources of energy causes 2 million premature deaths every year. Limited infrastructure access also affects the poor's productivity. Electricity access is associated with improved educational outcome, while access to reliable transportation determines access to job and markets to sell goods.

Also, with inadequate pollution control measures, emissions from large power plants and factories as well as small scale diesel generators will have negative effects on local air quality, leading to the adverse effects on human health noted above as well as damage to the natural environment. These effects can be severe at high levels of concentrations. Infrastructure improvements, both large and small-scale, also can provide significant economic development benefits. Access to even limited electricity for lighting can have profound livelihood benefits, particularly for the more than 1.5 billion people worldwide still lacking such energy access. Transportation infrastructure improvements can lower costs of production and improve market access; improved surface water management infrastructure can help mitigate costly shortages (CBN 2016). While the direct effects of these improvements are economic, they also can help facilitate more sustainable development (e.g., less depletion of land and water resources). Management and upkeep of infrastructure affect not only the quality of services but also the environmental consequences of its use.

The benefits of expanded electricity transmission grids that can provide greater system-wide energy efficiency and potentially improve access to renewable sources will not be realized if the grid is poorly maintained or if regulations limit access by cost-effective and lower-emitting generators. Likewise, substantial investments in improved water management and congestion-reducing road capacity will not produce economic or environmental benefits without proper maintenance. Climate change adds new complexity to infrastructure planning and implementation. Globally, CO<sub>2</sub> emissions from coal combustion in 2008 were about 43%, much of this attributable to electricity generation. Emissions from oil constitute another 37% of the total, reflecting both electricity generation and transportation. Both types of infrastructure have long economic lives. They also have strong indirect (induced) impacts on other long-lived factors such as settlement patterns and investment in energy-using equipment, as well as consumption habits. The induced effects of infrastructure choices are a substantial part of the total carbon footprint (Lecocq and Shalizi 2009). While such investment at present usually is more cost-effective considering only investment and operating costs, the "lock-in" effects imply a potentially very large cost in moving later to lower-carbon patterns of production and consumption.

### ***3.1.3 The Link between Infrastructure and Human Development***

The need for infrastructure in human development cannot be undermined due to the significant role it plays not just in economic growth but also in accelerating human development. For example, infrastructures are the tools used for developing human capital development. In other words, good roads, good health facilities, interrupted electric supply etc. boast the quality of human development that can be achieved by a nation. The study by Brenneman & Kerf (2002) has acknowledged the link between infrastructure and human development, noting that increased access to infrastructure services in four sectors (energy, water and sanitation, information and communication technologies, and transportation) would impact on the human development and consequently impact on the economic growth.

Foster & Briceño-Garmendia, (2010) stated infrastructures in the form of integrated regional information and communication networks would result to human development. Similar studies by Akinwale (2010); Akeem & Akinwale (2010); Ocheni (2012); Uzoh (2013); Olatinwo (2013); Ikechuwu (2015) in the recent time have linked infrastructures development to human development. They agreed that a common link exist between infrastructures and human development.

Therefore, infrastructure development should be in consonant with the human development. In a situation whereby infrastructure fails to reflect in the well-beings of the citizens, it means that human development has not be achieve.

### ***3.1.4 Contribution of Infrastructure to Human development and economic growth: A Case study of Nigeria***

Accordingly, the World Bank report (2013), noted that Nigeria government has made so much commitments in its developmental initiatives especially in the area of human development yet no significant impact has been made in the living conditions of the people and therefore calls for more attention in sustainable infrastructural development to be able to meet up with the global infrastructure trend. Uzoh (2013) further emphasized that there is need for government to indulge in sustainable infrastructural development that will boost not only economic growth but also sustainable human development (OECD 2015d). The issue of infrastructure and how it affects human capital seems to be more predominant in the South-South region of Nigeria and this region contributes greater %age of the nation entire wealth. Thus, there is need for Nigerian government re-examine its infrastructure development in line the human development in the South-South region of Nigeria.

In recent years, Nigeria has recorded impressive strides towards the development of her physical infrastructure. The sea port concession and airport terminal concessions that commenced in 2006 has turned around these facilities at the country's gateways significantly with unprecedented scale of private investments. In addition, the country is in the process of a comprehensive power sector reform which encompasses the privatization of the country's power assets and the liberalization of electricity generation and distribution in the country. The most successful initiative in recent years has been the liberalization of telecommunication sector which has resulted in the emergence of a relatively more efficient telecommunication networks, widespread low-cost mobile telephony services and huge private investments in fiber-optics infrastructure. In addition, the recently created Nigerian Sovereign Wealth Fund has an infrastructure component (the Nigerian Infrastructure Fund which accounts for 40 percent of the entire fund) which focuses on the investment in selected infrastructure projects across agriculture, power, real estate, healthcare and motorways. Current project portfolio of the fund includes the USD754million Second Niger Bridge.

### ***3.1.5 Green Economy***

UNRISD (2012) explained that contemporary efforts to promote sustainable development and deal with climate change have centered to a large extent on green economy. Viewing green economy through a social lens highlights a number of issues that often receive scant attention in policy circles. Research in this field suggests that win-win assumptions about green economy need to be seriously questioned (OECD, 2015a). Green economy initiatives and strategies impact social groups differently and can produce both winners and losers. Schemes and incentives associated with payments for environmental services (PES), monetary pricing and market-based allocation of environmental assets and biofuels often benefit or target the better-off, redistribute assets upwards and favour people and places with the greatest purchasing power. Concerns about land grabbing have now extended to "green grabbing" where land and natural resources are appropriated for environmental ends. Such findings suggest the need to focus not only on green economy transitions that address tensions between economic development and the environment, but also the issue of green and fair economy. Key in this regard are social drivers associated with social policy and community-based development (UNRISD, 2012).

## **3.2 Theoretical Framework**

### ***3.3 Sustainable development and social care***

Inclusive and sustainable development requires greater recognition of the rights and needs of both care-givers and care-receivers. Policy priorities include greater investment in infrastructure and basic social services, including preschool facilities and school feeding programmes; ensuring adequate incomes for care-givers and care-receivers through paid work and social transfers; maternity and paternity leave; shifting from reliance on market and informal provision of care to nurturing professional, decently paid and compassionate forms of care; and making care more visible in statistics and public debates. Although specialized social care services (such as early childhood care, elderly care and care for these with disabilities) tend to be underdeveloped in many low-income countries, policies that are good for care are not a luxury that only high-income countries can afford. Research has shown that while explicit care policies may be rudimentary in many developing countries, a wider range of policies influence the supply of care, from social provisioning and social protection programs to employment, infrastructure development, and education and health services (Saturnino et al 2010).

### **3.3.1 W.W. Rostow – Growth Theory**

Walt Whitman Rostow published his Theory of Stages of Growth in 1960. The theory opines that every economy passes through five stages of growth viz: the traditional society, the precondition for take-off, the take-off stage, the drive to maturity, and the age of high mass consumption. The pre-condition for take-off stage emphasizes the role of infrastructure, particularly the investment of above 5 percent of the national income. Rostow opined that this stage is usually characterized by a slow structural shift from an agrarian to an industrial society, spatial expansion of the markets, and the utilization of surplus for the development of industries, infrastructure (particularly transport, communications, and in raw materials) and in preparation for self-sustained growth. Further, Rostow affirmed that capital formation at this stage is dependent on the productivity of agriculture and the social overhead capital creation (If). Rostow is of the opinion that If can only be undertaken by the government, arguing that such investment is rarely profitable, and has long gestation period (OECD 2015b).

### **3.3.2 Adam Smith's Theory on Growth**

Adam Smith viewed economic growth process as purely endogenous with particular emphasis on the impacts of capital accumulation on labour productivity as documented in his *Wealth of Nations*, first published in 1776. He focused on the growth in per capita income and the determinants of growth in labour productivity. In this regard, Smith appears convinced that the determinant of labour productivity was division of labour which depends on the extent of the market and capital accumulation. He further explained that the growth in labour productivity depends on marked improvement of the dexterity of workers, the saving upside and most importantly, the invention of specific machinery. The submission of Smith lays a foundation for the place of technical progress on growth. He accepted the notion that the accumulation of capital opens up new market and enlarges the existing one.

## **3.4 Gap in Literature Review**

The review of this study has shown that globally the responsibility of the government is the promotion of the welfare and well being of its people. Social infrastructure is seen as a critical driver or agent of achieving sustainable national development. Government in partnership with the private sector is required to invest in social infrastructural sectors such as health, education, employment, social security for its citizens. The inadequate availability of funds and other resources for investment in the provision of social infrastructure is a major challenge globally and in Nigeria. In addition, the process of decision making in allocating resources, maintenance of culture in the social infrastructural sectors is a major problem. This study identifies the processes, dynamics and challenges faced in investment in social infrastructure. The study identifies and strengthens policies and strategies for effective implementation in the relevant sectors. It will also assist the key stakeholders in Nigeria in putting in place, a legal framework, legislation, laws and monitoring and evaluation of investment so as to improve the well being of citizens on a sustainable basis.

## **3.5 FINDINGS**

### **3.5.1 What is the link between infrastructure and National development?**

1. Transportation is an indispensable infrastructure and a catalyst for activating and stimulating the tempo of economic, social, political and strategic development in any Nation. This implies that transport infrastructure has to be rationally developed to ensure that movement of people and goods takes place speedily, economically, safely, comfortably and in an environmentally-friendly manner.
2. Electricity is the hub of economic, social and technological development as it is the engine room of development which facilitates the provision of power for socioeconomic activities to take place, electricity supply is a very sensitive issue with several political and economic sophistications in many countries which most of the time define the industry's effectiveness.
3. Investment in health infrastructure such as provision of good access to water and proper sanitation drives labor productivity and labor productivity, itself, drives growth
4. Investment in communication will mean more access to the internet and improved access to communicate via network providers. Telecommunication aids economic growth as it improves the line of connection between buyers and sellers thus fostering economic growth

### **3.5.2 From a global perspective, what is the role of Social infrastructure for global development?**

#### **3.5.2.1 Increases likelihood of foreign investment**

FDI may allow a country to bring in technologies and knowledge that are not readily available to domestic investors and in this way increases productivity growth throughout the economy. FDI may also bring in expertise that the country does not possess and foreign investor may have access to global markets.

#### **3.5.2.2 Better environment for productivity**

Infrastructure is a crucial enabler of development and economic growth, for example through the provision of safe drinking water and sanitation, the development of agriculture and rural livelihoods and access to basic social services such as healthcare and education. Infrastructure also facilitates the flow of goods, services, people and market information, and lowers costs for business.

#### **3.5.2.3 Sustainable economy and social growth**

In the current global world, infrastructure plays a vital role in the sustainable economic growth and human development (Ishrat, 2015). At present, there is a rapid global infrastructure transition across all countries of the world which has renewed the interest of scholars and researchers even policy makers on the need for infrastructure as a pivot for human development (Oswald, Li, McNeil & Trimbath, 2011). While infrastructure serves as the very core of economic and social development, it also contributes to raising the standard of living and quality of life. Social Infrastructure is at the very core of economic and social development which serves as the bed rock practically in contemporary activities. It also contributes in raising the living conditions and quality of life which comprises of education, health, medical care, industry and agriculture. In fact, it acts as both an engine and a product of economic and social development.

### **3.6 What is the role of investment in infrastructure and the benefit to sustainable development in Nigeria?**

According to the World Bank report (2013), Nigeria government has made so much commitments in its developmental initiatives especially in the area of human development yet no significant impact has been made in the living conditions of the people and therefore calls for more attention in sustainable infrastructural development to be able to meet up with the global infrastructure trend. Sustainable infrastructural development will boost not only economic growth but also sustainable human development.

There are however some factors that have hindered the role of infrastructure for sustainable development in Nigeria. These include:

#### **3.6.1 Funding**

Funding has become a major challenge to infrastructural development in Nigeria for decades. As the country's population soars, demand for additional infrastructure in all sectors also increases. Unfortunately, the government resources can hardly meet the increasing demand. Consequently, government has relied on foreign loans to complement budgetary allocations in the provision of infrastructure. This situation has led to the country's indebtedness over the years. At the inception of the fourth republic in 1999, Nigeria's foreign debt profile was over \$40bn. Although, the country received debt pardon from her creditors and recorded a zero-debt profile about five years ago, again, the country has been plunged into debt largely because of need to develop infrastructure in critical sectors of the economy.

##### **3.6.1.1 Population Explosion**

Nigeria's population is now 167million and growing at 3.2% per annum. The physical and social infrastructure required to support this huge population is enormous and requires huge funding. The huge population which is more than 50% urban has placed undue pressure on existing infrastructure and on governments' budgets over the years. Thus, the infrastructure base is grossly inadequate and suffered from deferred maintenance. Besides, Nigerian government has failed over time to integrate population policy with overall development planning. The short-fall in infrastructural provision affects the economy negatively and lowers productivity in every sector and aggravates the poverty profile of the country.

##### **3.6.1.2 Poor Governance**

Apart from poor funding, poor system of governance in the country is largely responsible for the poor state of infrastructure in all sectors. To realize the 2020 vision, the country's economy was expected to grow at 14% per annum; but current data show that the economy is growing at 7%. The low GDP growth is largely due to inefficient allocation and poor management of the country's human and natural resources (The Punch, 2011). Also, the current system of governance in Nigeria has truncated infrastructural development at the grassroots. Section 7 of the 1999 constitution empowers states House of Assemblies to make laws for the operations of the Local Government Councils. Consequently, this provision gave the

state governments opportunities to control the finance of the local governments, therefore, many local governments across the country today lacks freedom and financial strength to embark on any infrastructural development project that can serve as catalyst for economic growth and propel economic empowerment among the people in the grassroots.

### **3.6.1.3 Corruption and Economic Sabotage**

Corruption has become a major socio-economic problem in Nigeria with negative effects on infrastructural development. Embezzlement of funds allocated for infrastructural development is a common feature in public offices. Also, many projects for which funds have been allocated and released were never completed while inflation of project costs is a common experience. The case of abandoned projects is common because civil servants in charge of such projects collect bribe from contractors and this either results in sub-standard jobs or abandonment.

According Transparency International Report on Bribe Tax Payers Index for 2011, Nigerian civil servants received \$3bn bribes in 2010. Indeed, the private companies were also said to be involved in such economic crimes (Saturday Punch, 2011). Besides corruption, economic sabotage through vandalization of public facilities has impacted negatively on the nation's economy. Vandals' activities are regularly observed with oil pipelines and power transmission lines. In the same vein, the plundering of the country's gas resources due to the failure of foreign oil companies to invest in infrastructure to utilize natural gas is an act of economic sabotage and needs to be checked. Gas flaring not only wastes a potentially valuable source of energy; it also adds significant carbon emissions to the atmosphere. As long as the country intends to be among the 20 top economies in the next nine years, the country cannot afford to be wasteful.

### **3.7 Highlight of Infrastructure situation in Nigeria**

Transportation is an indispensable infrastructure and a catalyst for activating and stimulating the tempo of economic, social, political and strategic development in any society. This implies that transport infrastructure has to be rationally developed to ensure that movement of people and goods takes place speedily, economically, safely, comfortably and in an environmentally-friendly manner (Sumaila, 2012). In spite of the fact that transport infrastructure is an important factor in integrating the rural and urban communities into the overall national development process, its development has not been taken seriously. The physical condition of most of the existing air, water, rail and road infrastructure in Nigeria is a worrisome and disheartening as most of these facilities are in a dilapidated condition. For example, the rail transport network in the country stands at 3,557 kilometers with 3,505 kilometers still on the narrow gauge. Statistical figures on the Nigerian corporation passenger and freight traffic showed that while in 1964 the corporation carried an average of 11, 28 8,000 passengers and 2,960,000 tons of freight, by 1974 these figures had dropped to only 4, 342, 00 passengers and a dismal 1,098,000 tons of freight and the passenger traffic again grew from 7 million in 1978 to 15.5 million in 1984, but then declined again to 3.0 million in 2003 due to neglect of the sector by the government. South Africa has rail network of (km) 20,872, whereas Nigeria has only 3,505 km. Nigeria needs a decentralize Transport network of 40000 km to move a major part of its estimated 50-60 million tons of freight per annum.

On air transportation still there is much to be done as when compare with South Africa who has 85 airports whereas Nigeria has 22 despite the population of Nigeria which almost double that of South Africa, yet Nigeria is lagging behind in infrastructure development. In terms of seaport Nigeria has 13 seaports which is relatively adequate when compare with South Africa who 8 seaports, but the facilities at the Nigerian seaport are obsolete and inadequate to cater for the influx of cargo and passengers, modern equipment need to be installed at the seaport to facilitate quick service delivery at the port. Road transport has experience setbacks as most road in the country are in a dilapidated condition which makes transportation of goods and passengers somehow difficult this is because apart from hours spent in traffic, Nigeria loses between N133.8 billion and N175 billion because of increase vehicle operating cost, delayed turn-around, increased travel time, as well as reduction in asset value (Sumaila, 2012). There is also human cost as about 80% of injuries in Nigeria are traffic accident related, making it the country with the second highest road traffic accident fatalities among 193 countries of the world. (Ayo, 2013 & Ariyomo, 2014).

Electricity, on the other hand is the hub of economic, social and technological development as it is the engine room of development which facilitates the provision of power for socioeconomic activities to take place; electricity supply is a very sensitive issue with several political and economic sophistications in many countries which most of the time define the industry's effectiveness. But this important facilitator of development is grossly inadequate when compare with other countries like Brazil for instance generates 100,000MW of grid-based power for 201 million and South Africa generates 40,000MW for 50 million (Chika,2015). The 3000 to 4,000MW which is now being generated for the Nigeria's population of 180 million is still far too low. From the inception of Buhari administration there was an increase of approximately 35% of the electricity generation from 1,500MW to 4,000MW but this increase was short live as the current generation has decreased drastically to be low 2000MW and the supply kept on fluctuating every now and then.

Electricity generation had reached all-time peak of 5,074 megawatts on February 2, 2016, but recent attacks on crude oil and gas pipelines have signaled the end of the relative steady supply of electricity as vandalization of gas pipelines disrupted supply of feedstock to gas-fired power generating plants, which account for over 78 per cent of power supply in the country. The situation had worsened on 15 of April 2016 when the whole country was plunged into darkness due to a nationwide system collapse. According to Nigerian Electricity Regulatory Commission (NERC) reported that only five of the country' 23 power plants are currently functional which resulted to country's dwindling electricity supply that took a further nosedive to unprecedented all-time low level of 1,327 megawatts (MW) from the 4,800 MW level attained recently.

Nigeria will need about 25,000MW to 40,000MW from now to 2020 for the country to stabilize the electricity problem (Utazi,2014).Another factor within the energy sector that poses a great challenge to Nigerian's development effort is scarcity of fuel perennial fuel crisis that has defied all solutions by successive governments is a big problem that retard development. The four refineries in Port Harcourt, Warri and Kaduna were inadequate to meet up the fuel demand of Nigeria of 45 to 60 million of liters even when functioning optimally, their total products yield cannot be more than about 10 to 12 million liters' which is only 50 percent of what is required. In 2008 18 refineries were issues licenses by government to private investors rescue the situation but this had not led to any new facility on ground to help solve the fuel crisis. Also vandalization is a challenge to fuel supply it has been recorded that over the past decades a total of 16,083 pipelines breaks in different locations in the country were recorded, with ruptures accounting for 398 pipeline breaks, while 15,685 breaks were due to the activities of vandals. The persistent up and down in electricity generation and fuel supply in Nigeria is a challenge that has to be tackle in order to achieve the desire development.

Healthcare infrastructure is yet another infrastructure in Nigeria which is bedeviled by a myriad of challenges that resulted from inadequate capital spending, outdated technologies, poor infrastructure such as laboratory equipment and specialist in medical matters. In spite of media propaganda and the current health sector reforms by the government, the public health care system in Nigeria is still inefficient in all ramifications (Adeyinka 2014). In 1979, Nigeria had 562 general hospitals, supplemented by 16 maternities and/orpaediatric hospitals, 11 Armed Forces hospitals, six teaching hospitals, and three prison hospitals. Altogether, they accounted for about 44,600 hospital beds. In addition, general healthcare centers were estimated to total slightly less than 600; general clinics 2,740; maternity homes 930; and maternal health centers 1,240.

The hospitals were distributed among federal, state, and local governments, while some are privately owned. In 1985, there were 84 federal health establishments accounting for 13 per cent of hospital beds, 3,023 owned by state governments 47 per cent of hospital beds 6,331 owned by local governments 11 per cent of hospital beds, and 1,436 privately owned medical establishments providing 14 per cent of hospital beds. Overall life expectancy at birth is 52 years; infant mortality rate is 86 per 1000 live, while maternal mortality ratio is 840 per 100,000 live births, (WHO, 2011). Bilateral and multilateral assistance, and government spending on health account for about 26.40 billion Naira or 26% of total annual budget for 2011 have not translated into enhanced health status of average Nigerians. A total of N30 billion annually is spent by private individuals, the Federal Government and the 36 states of the federation on foreign medical services. This amount of money if properly utilized at home is enough to fix all the dilapidated infrastructure in all the hospital in Nigeria as well as establishing new ones (Benjamin, 2013).

The educational system in Nigeria in addition to the trajectory, is faced with numerous challenges as of its population of 180 million people30millionofwhich are students only 20 % passed the SSCE examination with credit in English, Mathematics and 3 other subject (United States Embassy, 2012).The in-ability of the students to pass their prescribed examination is attributed to the lack of infrastructure. For example, in primary and secondary school classrooms are usually overcrowded, with up to sixty or more students receiving instructions in classrooms designed for only thirty or, forty students. Nigeria has a total of 87,941 primary schools with a population of 24,422,918 pupils in all the primary schools, and about 7,129 public junior secondary schools respectively. At the primary school level 59,007 (65.04%) schools were constructed in 2010 as against 11,295, and at the junior secondary school, the rate of the construction stands at 36.6%.This implies that there is a short fall of 64% in school construction which means that for the country to move forward additional 64% of schools have to be constructed (EFA, 2014). Relatedly, in 2011, the percentage of classrooms constructed at the primary school level stood at 72.25% of the required number, this represented an increase in the figure of 60.35% recorded in 2010 again, this implies a short falloff 28%, while for the junior secondary school, there was an increase of about 10% from 69,610 (67.87%) in 2010 to 77.51% in 2011, this also implies a gab of 23%. According to the EFA Country Report (2012), there was a shortfall of 252,312 classrooms at the JSS level, and 130,755 at the Senior Secondary level, making a total of 383,067 shortfalls of classrooms respectively (NBS, 2016).

Another important factor influencing learning is the provision of utilities, particularly water, electricity, both of which make the school environment child-friendly. However, according to SER (2013), provision of water in most schools is not good enough, while only 21 states had more than 60% provision of water supply in schools. There is need, therefore, for improvement in the provision of both electricity and water in public, private and pre-primary schools. In terms of teachers, there are 426,132 teachers in both private and public primary representing 45% which implies a short fall of 55% of teachers in Nigeria schools. Similarly, in JSS there are 170,628 teachers across the nation representing 43% at a ratio of 1:26 students which is grossly inadequate (NBS 2016). Another challenge facing the educational sector is the provision of utilities, particularly water, and electricity, both of which are grossly inadequate. According to SER (2013), provision of water in most schools is not good enough. While 21 states had more than 60% provision, only 5 States had 60% provision of water supply in schools. The tertiary institutions in Nigeria comprises of 123 universities (36 Federal, 36 State, 51 Private), 71 polytechnics, 47 monotechnics and 79 colleges of education.

Despite the tremendous increase in the number of tertiary institutions and particularly universities, their capacity is not enough to accommodate half of the number of qualified candidate seeking admission into higher institution of learning. For instance, 1.5 million sat for the JABM 2016 examination and the available space can only accommodate 400,000 thousand candidates which implies that for the 1.5 to gain entry into these schools an increase of about 492 additional institutions is needed (FME, 2016). Infrastructure is another area where there is challenge, in-adequate infrastructures manifest in obsolete laboratories, and overcrowded class rooms. Many of the laboratories and workshop were obsolete, they suffer from overcrowd, scarcity, and broken furniture. The total available bed space in all the universities was put at 109,509 which only is 10% of what is required. The average ratio of toilet users is 1:20 forcing some students to the bush or surrounding compound of the hostel as open toilets (FME, 2016).

#### **4. CONCLUSION**

The challenges of social infrastructure in Nigeria in terms of global sustainable national development are numerous ranging from energy, transport, health, and education. It is quite clear that the level of social infrastructural development in Nigeria is nothing but poor. Stable and cost-efficient power availability has been widely acknowledged as pivotal to the successful economic development of any country. Yet, the power sector remains one of Nigeria's greatest infrastructure challenges, with extremely limited electricity access across the country. Nigeria currently generates about 3,879MW of electricity in a country with a population of about 177million compared to South Africa's 45,645MW with a population of 54million. It has been a couple of years since the national power utility was unbundled and partly privatized, but the gap to be filled is still huge and continues to grow with the country's increasing population. This is despite an abundant availability of energy resources in the form of coal, oil, gas, hydro and other renewable sources, most of which remain under-exploited as a result of low investments, limited institutional capacity, limited technical capabilities, and emerging regulatory frameworks.

Other infrastructure sectors such as transportation (roads, rail, seaports and airports) have equally significant gaps and similar challenges. For example, road transport is the predominant mode of transportation and accounts for 80% of goods' traffic in Nigeria, but only 20% of the road network in the country is paved. There are also significant gaps in both rural and urban ecosystems across Nigeria ranging from availability of basic social infrastructure such as housing, healthcare, water, and waste management, to other enabler infrastructure like ICT, hospitality, and industrial / commercial real estate.

For the country to achieve the desire national development as well as meeting the 2020 target in terms of sustainable development in the world. Infrastructure should be given priority in terms of budgeting. Adequate funding of the capital budget in any economy whether developed or underdeveloped has the greatest potential of helping to expand and develop infrastructure which in turn will stimulate socio-economic development. Infrastructure services are used as final consumption items by households and as intermediate consumption item for firms. Availability of infrastructure services significantly influences sustainable development of regions and countries.

#### **5. RECOMMENDATION**

1. To achieve a sustainable energy supply that will ensure national development and economic growth target towards vision 2020, more refineries need to be established to complement the existing ones, more plants for energy generation should be establish in at least six locations.
2. Adequate and modern transportation infrastructure should be provided, more rails and road should be constructed and airport and seaport should be provided with modern facilities.

3. In order to meet up the require infrastructure in the healthcare sector government should partner with private sector to upgrade and establish more hospitals and clinics as well as employ sufficient and qualified personnel.
4. There should be an overhaul of the educational system in Nigeria; this will allow a holistic approach to solving the educational problem that bedevils the nation for long. More schools and facilities as well as teachers should be provided at all levels of education.

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