The Challenges of Infrastructural Development in Nigeria: An Assessment of The Pains And The Gains

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The development of infrastructure world over is a fundamental precursor to economic growth and development. Most developing countries with infrastructural deficit can hardly create a reliable path to national development as the flow of foreign direct investment and advancement of critical and non-critical sectors of the economy are near-impossible. Nigeria is caught-up in this regrettable state. Over the years, the development of key infrastructure has not been prioritized by successive regimes. The budgeting process has often placed recurrent expenditures far and above the building of infrastructures and hence, the country suffers scornful and deplorable state of infrastructure presence. This paper is an effort geared towards the examination of the pains and gains of infrastructural development in Nigeria. Relying heavily on secondary sources of data, the paper utilizes the descriptive method and concludes that state of infrastructure in Nigeria is a function of perpetual neglect by state actors. It thus recommends that Government needs to steer economic diversification & structural changes as an alternative means of creating revenue to defray the cost of building infrastructures. The state can also dare a synergy between Public and Private sector in other to ease the speedy availability of infrastructures in the country.

Keywords: infrastructural development in Nigeria, Physical Infrastructure, Social Infrastructure, economic growth and development


INTRODUCTION

Like most academically contested themes in development studies, the provision and development of infrastructures have been the subject of much theoretical analysis and empirical studies (Fidelis, Jude & Ighata, 2014). The interest in this area is premised on the understanding that central to the progression of any state, is the possession and workability of infrastructural facilities. Infrastructures are basic fundamental services that should be put in place to enable development to occur. For Sullivan and Sheffrin, (2003), infrastructure is the basic physical and organizational structures needed for
the operation of a society like industries, buildings, roads, bridges, health services, governance and so on. It is the enterprise or the products, services and facilities necessary for an economy to function. Like in most known climes, economic development of Nigeria can only be perfected and secured by the presence of infrastructures. Generally described as the set of interconnected structural elements that provide framework for supporting an entire structure of development, if these facilities and services are not in place, development will be very difficult and in fact can be likened to a very scarce commodity that can only be secured at a very high price and cost (Oyedele, 2012).

Essentially, it is an important term for judging a country, region or state’s and individual’s developments/status. The term typically refers to the technical structures that support a society, such as roads, water supply, sewers, electrical national grids, telecommunications, and so forth, and can be defined as “the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions” (Fulmer, 2009).

This paper therefore, is an attempt at intellectually dissecting the state of infrastructural development in the Nigerian context. The paper appreciates the challenges facing infrastructural building within the structural-functional analytical framework and with a motive of suggesting useful ameliorations.

THEORETICAL FRAMEWORK

This paper adopts the Structural Functionalist Theory as developed by Emile Durkeim, Talcott Person and Robert Merton as theoretical framework of analysis. The theory is chosen because it serves as a means of explaining the functions performed by the structures in a system. The theory suggests that every system (Society) has various departmental structures that perform certain functions for the utmost survival of the whole system. It argues that every system has structures that must function to remain in balance; if one structure of the political system changes, equilibrium or balance is temporarily disrupted until other structures change to create a new equilibrium otherwise the entire system may go dysfunctional. It focuses on social integration, stability and co-operation.

According to Merton (1990) some functions are manifest functions and they are intended and recognized but latent functions are unintended and unrecognized. These social patterns that contribute to the maintenance of a political system are regarded as functional while those that have negative consequences are considered dysfunctional. Talcott person observed the structural functionalist theory as a political system made of different but interrelated parts. These parts are supposed to work harmoniously to ensure the survival of the whole system.

However, when related to society, structural functionalism can be described as a means of explaining basic functions of societal structures in the political system and it also serves as a tool of investigation. Since the society is made up of parts, structural-functional approach explains the relationship between the parts (structures) on one hand and the relationship between the parts and the whole (political system) on the other hand. The structures are many and they can take any form. It is the contribution of each part (structure) that sustains the political system (whole).

Relating the structural functional theory to this paper, an infrastructure is the structural, functional and basic element needed for economic development of the State to take place. For a political system to be effective, every facility including the social and physical must be made available and functional. Hence, it is important to recognize the fact that infrastructural facilities like roads, power, transport, telecommunication, healthcare system, educational system, governance process amongst several others must be put in place and adequately developed to suit the societal need of the people. When not made available, a society may suffer incomprehensible level of institutional decay and backwardness as the above instances of infrastructures are necessary condiments for the survival of the society. Therefore, the theory provides basic tool for understanding the nature and character of the Nigeria status when infrastructural development forms a discourse.

Drawing from the above, Clinton (1993) apparently relating infrastructure from the point of view of the structural-functional perspective, submitted that it is the framework of interrelated and interdependent networks and systems comprising identifiable industries, and institutions including people and procedures, cap distribution abilities that provide reliable flow of product and services essential to the economy, and the defense of United State. Hence, the interrelated and interdependent functioning of the various institutional compartment of any society, rest solely on the viability of infrastructural facilities.

CONSTRUCTING THE CONCEPT OF INFRASTRUCTURE

As a concept, the term infrastructure does not leave a vague meaning in the most literally obscured text. It is generally considered as the physical and social components of a structurally progressive state of modern States. Considered from functional perspective, infrastructure facilitates the production of goods and services, and also the distribution of finished products to end-users (markets), as well as basic social services such as schools and hospitals; for example, roads enable
the transport of raw materials to a factory (American Heritage Dictionary, 2009). In military parlance, the term refers to the buildings and permanent installations necessary for the support, redeployment, and operation of military forces (Department of Defense Dictionary, 2005).

For Ogbuozobe (1997), infrastructure is an umbrella term for many activities usually referred to as “social overhead capital” by development economists. Precisely, infrastructure refers to a network of transport, communication and public (social) services – all functioning as a system or as a set of interrelated and mutually beneficial services provided for the improvement of the general well-being of the population. They refer to those services or facilities meant for the common goods of the people. They include water supply, health care delivery, education, postal and telecommunication facilities, electricity, etc.

There is no doubt that sufficient infrastructural services are indispensable for economic development (Olaseni and Alade, 2012). The adequacy of infrastructure helps to determine a country’s success or failure in diversifying production, coping with population growth, reducing poverty, improving environmental conditions, etc. Indeed, socio-economic development can be facilitated and accelerated by the presence of infrastructure. If these facilities and services are not in place, development will be very difficult and in fact can be likened to a very scarce commodity that can only be secured at a very high price and cost.

Adequate access to social and welfare services, such as medical services, education, potable water supply, roads, electricity, employment opportunities etc. are strong indices of development (Adeyemo, 1989). In any discourse on infrastructure, it is important to note that infrastructure can be broadly classified in two: physical (roads, electricity, telecommunication, etc) and social (education, health, recreation, housing etc.). In some clime, physical infrastructure is often referred to as economic infrastructure (Olaseni and Alade, 2012). Therefore, it is highly instructive to dissect the role of infrastructure in relation to economic development.

FORMS OF DEVELOPMENT INFRASTRUCTURE

Extant literature indicates that the concept of infrastructure assumes two major common dimensions - they can be physical as well as social. The extent to which they take this dimension depends on how much relevance they impact on the advancement of the economic growth and development of the State on one side and on human resources and capacity of the individual within the State on the other hand. Hence, the quality of physical infrastructures like roads, pipe-borne water and electricity may help explain the economic progression of the State as much as the capacity of the individuals in a State may be strengthened by their ability to secure worthy basic and tertiary education as well as sustainable and affordable health-care services. Recognizing this, Olaseni and Alade, (2012) submitted that education and health are the two dominant social infrastructures which can have profound effect on economic development of any nation.

Resonating with the above, albeit in a complex manner, Kumar (2005) submitted also, that infrastructure can be “Hard and Soft”. For him, Hard refers to the large physical networks necessary for the functioning of a modern industrial nation, whereas “soft” infrastructure refers to all the institutions which are required to maintain the economic, health, and cultural and social standards of a country, such as the financial system, the education system, the health system, the governance system, and judiciary system, as well as security (Kumar, 2005). Even though the forms of development infrastructure are not exhaustive, this paper will briefly expatiate some examples of both social and physical infrastructure as follows:

Social Infrastructure

Beginning with the healthcare infrastructure, social infrastructure in Nigeria is bedeviled with a myriad of challenges that results from inadequate capital spending, outdated technologies, poor infrastructure such as laboratory equipment and specialist in medical matters. In spite of media propaganda and the successive 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 maternity and/or paediatric 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 centres were estimated to total slightly less than 600; general clinics 2,740; maternity homes 930; and maternal health centres 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).

On the other hand, education is highly undeveloped in Nigeria. Accordingly, 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 stand 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 1 of 0.35% recorded in 2010 again, this implies a short fall off 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 gap 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 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 JAMB 2016 examination and the available space can only accommodate 400,000 thousand candidate which implies that for the 1.5 to gain entry into these schools an increase of about 492 additional institutions is needed (FME,2016).

Deficit in infrastructural facilities is another area where there is challenge, in adequate infrastructures manifest in obsolete laboratories, and overcrowded class rooms. Many of the laboratories and workshop are 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).

Arising from above, the role education and health play in repositioning the individual for societal growth and development cannot be overestimated. Education for one has been considered as a very important source of economic growth. This is the reason Denison (1962) opined that even though education may be a social investment, it is also an economic investment since it enhances the stock of human capital. Again, the role of education as a social infrastructure and as a stimulant of growth and development can be enhanced only if it is qualitatively provided. Qualitative education is a major determinant of the stock of human capital. It has proved to be the vehicle for national transformation in human history and no nation ever rises above her investment in education (Oyedepo, 2011).
The above classroom picture (Figure 1) of a primary school in Nigeria for example can hardly be a harbinger of development resulting from lesson and knowledge learnt therein. This all-encompassing picture reflects the nature of public expenditure on Nigeria’s institution and one wonders how useful the quality of education taught here can help in the transformation of the Nigerian State.

Thus, the more a nation invests in her social capital viz: education, the more development it is bound to achieve. This is the justification for UNESCO recommending a minimum of fifteen percent of national expenditures on education. Some advanced countries spend more than 15% of their GDPs on education and yet, education still remains in the front burner of national debate on their development priorities.

Additionally, health is a very significant condiment in the socio-economic transformation of a country. No wonder an ancient cliché upholds that a sound mind usually resides in a healthy body. Health is one of the major determinants of labour productivity and efficiency. Public health deals with the environment in which economic activities take place. In fact a conducive environment would be permissive of accelerated growth and development. Aigbokhan (1999) found that human capital components of infrastructure appear to have impact on growth. For example, he observed that expenditure on health care and education record statistically insignificant impact on growth and suggests that if efficiently applied, public spending on the services is capable of impacting positively and strongly on growth.

**Physical Infrastructure**

Physical infrastructures are those facilities that have a tangible and material impact on the people and the economy of any nation. Also known as economic infrastructure, it is defined as the infrastructure that promotes economic activity, such as roads, highways, market, airports, sea ports, electricity etc.

While emphasizing the depth of the mess in physical infrastructure, Kabiru (2016) argued that the physical condition of most of the existing air, water, rail and road infrastructure in Nigeria is a worrisomely dilapidating and disheartening. 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 (Figure 2) on the Nigerian corporation passenger and freight traffic showed that while in 1964 the corporation carried an average of 11,288,000 passengers and 2,960,000 tons of freight, by 1974 these figures had dropped to only 4,342,000 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 decent rail transport network of 40,00km 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 compared with South Africa who has 85 Airport whereas Nigeria has 22 despite the population of Nigeria which almost double that of South Africa. In terms of seaport Nigeria has 13 seaports which is relatively adequate when compare with South Africa who 8 seaport, 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 (kabiru, 2016).

Road transport has experienced 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 increased 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).

Furthermore, 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. 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 4000MW now being generated for Nigeria's population of 180 million, is still far too low (Kabiru, 2016).

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 has been short-lived as the current generation has decreased drastically to below 2000MW and the supply kept on fluctuating every now and then. According to Nigerian Electricity Regulatory Commission (NERC) reported that only five of the country’s 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. Some of the causes of this downturn is located in activities of vandals and the over perennial problem of fuel shortages.
Arguably, infrastructural facilities are in deplorable state in Nigeria. The basis for bad governance is explained from this understanding. This is one of the reasons Oyedele (2012) posited that, infrastructure development is one of the foundations for assessing the achievements of democratic leaders and it is the foundation of good democratic governance. Experience in Nigeria shows that agitation for infrastructural development is higher in democratic government than in military dictatorship. This is because the resources for provision of infrastructure are always scarce. This lack has opened unquantifiable loopholes for infrastructural deficits.

In fact, the Infrastructural report of Nigeria just like any third world country is nothing to write home about. The housing situation is in a sorry state both quantitatively and qualitatively (Agbola, 1998; Ajanleko, 2001; Nubi, 2000; Onibokun, 1996; Oyedele, 2006). Most infrastructures are now decayed and need repair, rehabilitation or replacement. The governance needed to provide this is glaringly absent. Government is the system that plans, organizes, controls and supervises the people who are resident in an area in other for all to have conducive-environment for living and a sense of belonging. Governments have the power to put in place all measures that it deem fit will make an environment beneficial for living for everybody.

Additionally, infrastructure development in developing countries like Nigeria is more challenging because of the accessibility of people to government and involves identifying the right project, carrying out feasibility and viability studies and embarking out physical development of the project. The challenges are numerous and include finance, technology for development, maintenance and design. The challenges also include quality requirements of projects to meet international standard and to be sustainably developed. Projects must meet the carbon emission standard set by international organizations like International Standard Organisation. Air capture and analysis are done in communities to ensure that they emit as little greenhouse gases (GHGs) as possible, human settlements must be bio-diversified with co-habitation of other animals and plants and natural environment must be conserved for sustainable development and so on (Oyedele, 2012). (see Figure 3)

![Figure 3](image-url)

**Figure 3**

The numerous challenges have not been tackled as they should. Nigeria's lack of basic infrastructure to facilitate sustainable development and trade – both regionally and globally – and to ensure competitiveness is already known by all. In particular, for the large number of local governments, especially the rural ones, the

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dwellers produce have no access to markets and are not stored, hampered by weak transport and energy infrastructure (Oyedele, 2012).

The trickle-down effects of the above are numerous. For instance, tradesmen and other technical human resources needed for infrastructural development are scarce because of lack of training and motivation. “As a result many professional people, tradesmen and senior managers are migrating to other countries” (Robbins et al, 2009). Because of fast money, most youths that are supposed to learn a trade are now “commercial motorcycle riders”.

CONCLUSION AND RECOMMENDATIONS

Given all of the above, it is apt to conclude that the challenges of infrastructure development in Nigeria are many. The demand for these facilities far surpasses the supply and the requisite financial wherewithal that will stimulate rapid provision is not there. This is undoubtedly due to wide gap between provision and needs. Several factors contribute to this in no small measure. They range from lack of political will, poor leadership commitment, challenges of infrastructure financing, dearth of public-private-partnership synergy, bribery and corruption, inarticulate legislation, mismanagement of Resources, the challenge of insecurity, political instability to economic Recession. Etc. Hence, it is recommended that there is a need to:

i. Ensure efficiencies and reductions in costs
ii. Stimulate competitiveness in the international market
iii. Encourage domestic market development
iv. Steer economic Diversification & Structural Changes
v. Boost improvement in welfare and living conditions and
vi. Strike a viable Public Private Partnership

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