

Urban Infrastructure Provision in Nigeria: A Critique of the Funding Strategy

Francis P. Udoudo¹, John O. Udoidem²

¹Department of Estate Management, University of Uyo, Uyo, Nigeria

²Department of Banking and Finance, University of Uyo, Uyo, Nigeria

*Corresponding Author:

John O. Udoidem

Email: judooidem@yahoo.com

Abstract: Urban infrastructure includes physical structures and facilities that are developed or services provided by the public or private institutions to enhance the efficient functioning of an urban centre. In Nigeria, urban infrastructure are largely financed, owned and managed by government at the various tiers through established public agencies. This research is aimed at critically examining the funding strategy of urban infrastructure provision in Nigeria. The objectives included to examine the current state of urban infrastructure in Nigeria, to review the funding policy of urban infrastructure provision in Nigeria and to assess the impact of the funding strategy on urban infrastructure provision. Data for this study were collected from mostly secondary source. The research concluded that the Nigerian government has been guilty of neglecting or under-funding infrastructure development due to either poor budgeting, estimation of acquisition, maintenance cost or sheer mismanagement of funds allocated for such projects. The paper recommended that funding of urban infrastructure provision and maintenance should be embodied in the national budget while monitoring of the executed projects should be performed by the statutory government agencies. This will ensure that the value for money spent is realized.

Keywords: Urban Infrastructure, funding strategy, national budget, infrastructure provision and maintenance

INTRODUCTION

According to World Bank Reports (1994), infrastructure embodies all necessary services, facilities, equipment and devices needed or desired for the physical and mental health, and social wellbeing of the family and individual. Idachaba [1] looks at infrastructure as durable stocks of capital that yield future income streams and which therefore require regular maintenance since they vary substantially in structures, materials and equipment. Kessides [2] in his discussion on 'Infrastructure Impact on Economic Development' defines infrastructure as the long-lived engineered structures, equipment and facilities; and notes that the services they provide are used both in economic production and by households. Crump [3] defines infrastructure as goods and services which, while in themselves are not normally directly productive, but are essential to the functioning of a sound economy, while Nubi [4] describes infrastructure as aggregate of all facilities that allow a city to function effectively. Differences in definitions occur where some authors lay emphasis on the physical fabric or hardware of the infrastructure, while others emphasis on the services rendered by the infrastructure. From the above definitions, infrastructure represents a wide range of economic and social amenities which are crucial to create an enabling environment for sustainable urban growth. It includes physical structures and facilities that are developed or services provided by the public or

private institutions to enhance the efficient functioning of an urban centre. It constitutes the main fabric of urban physical systems; what may be described as the bedrock on which development stands.

The performance of urban infrastructures constitutes a major determinant of economic benefits which require efficient and continuous allocation of resources in response to the demand for such services. Poor functioning of our urban infrastructure portrays Nigeria as being more interested in initiating and embarking on projects, without making provision for effective operation of such equipment and facilities to perform the functions they were established for. There are indications that many existing infrastructure requires refurbishment and additional capacity is needed to match urban demand. In Nigeria, infrastructural provision, like developments in other sectors of the economy, is decided on the spur of the moment without conviction that their future expansion and sustainability are guaranteed. This is because maintenance projects get little or no matching grants, while new construction gets generous treatment with substantive grants [5]. Routine infrastructure maintenance is not reflected in the budgetary or revenue allocation process in Nigeria, although it is by far the most cost effective spending strategy. Infrastructure plays an important role in the development of urban society to an extent that the level and standard of the

society can be inferred from the performance of existing infrastructure. The challenges remained how to provide and maintain the urban infrastructure in the least expensive manner possible, in order to revitalize and grow the Nigerian economy. Achieving this is through adopting appropriate funding strategy to sustain and improve the sector.

AIM AND OBJECTIVES OF THE STUDY

This research is aimed at critically examining the funding strategy of urban infrastructure provision in Nigeria. The objectives included:

- i) To examine the current state of urban infrastructure in Nigeria;
- ii) To review the funding policy of urban infrastructure provision in Nigeria;
- iii) To assess the impact of the funding strategy on urban infrastructure provision.

PROVISION OF URBAN INFRASTRUCTURE IN NIGERIA

In Nigeria, urban infrastructure are largely owned and managed by government at the various tiers through established public agencies. Roads construction is the responsibility of the Ministry of Works and Transport; water supply is the responsibility of State Water Corporations or Boards while power supply is handled nationally by the Power Holding Company of Nigeria (PHCN). In many countries of the world, the role of the state in providing infrastructure has been the subject of detailed debate. Offem and Atser [6] agree that there is a considerable argument as to whether infrastructure investment should be solely the responsibility of government or whether it should attract private participation. This position has left consumers with the dilemma of not being sure of who to blame for poor infrastructure performance which has plagued Nigeria for decades now. The question that freely comes to investors' minds is: "whether the Nigerian

economy can grow without significant investment in infrastructure?" The answer is obviously No!

Transportation Infrastructure

The transport system in all economics of the world is usually given a very high priority in recognition of the important role it plays in stimulating both socio-economic and industrial development. According to Delaney [7], as the economy develops, more goods need to be transported, more people will travel and more products produced. Transportation facilities in Nigeria do not increase at the same rate as urban population growth rate. This disequilibrium between the supply and demand of urban transportation has posed a great challenge to planners, policy makers and the economy. Transport infrastructure constitutes a major landscape in urban areas, and as much as 20 – 30% of the total built-up areas of the city is usually devoted to transportation [8].

Several studies have been carried out on the trend in road transport sector in Nigeria in the last one decade with the results showing the total road coverage of 192,500 km [9], 194,000 km (CBN, 2004), and 200,000 km [10]. The survey revealed that most of the roads constructed over 30 years ago had not been rehabilitated even once, resulting in major cracks (longitudinal and transverse), depressions, broken down bridges, and numerous potholes that make road transport slow and unsafe. Our intra and inter-city road network which expanded rapidly during the oil boom era has suffered terrible set back, such that many of them have become death traps. A breakdown of the roads categories indicates that the Federal Government has the responsibility for 34,000 km (17%) of the nation's road, the state governments 32,000 km (16%), while local governments have the highest share of 134,000 km (67%). This is shown on Table 2.

Table 1: Administration of Urban Roads in Nigeria

Authority	Area in km (2000)	Percentage (2000)	Area in Km (2006)	Percentage (2006)
Local government	130,000	67.5	134,000	67
State government	30,500	15.8	32,000	16
Federal government	32,000	16.6	34,000	17
Total	192,500	100	200,000	100

Source: Buhari (2000), Okoko (2006).

This table showed an improvement of 0.96% between 2000 and 2006, with the federal government recording only 0.4% and state government 0.2%. This is contrary to Obot and Umoh (2007) argument that the planning, development and maintenance of infrastructure for various modes of transportation including road transport system are the primary responsibility of the three tiers of government, with the federal government having the greatest share of the responsibility. The Forth Schedule, Section 7(f) of the

1999 Constitution of the Federal Republic of Nigeria stipulates that the construction and maintenance of roads, streets, streets lightings, drains and other public highways, parks are the functions of Local Government Councils. Yamihinmi (2006) and Adele [11] frowned at this policy noting that the local governments are least able to response to these functions because they are grossly underfunded, lack fund generating drive, technical expertise and other resources to provide for

efficient urban transportation infrastructure and service delivery.

The institution of urban governance which vests the provision, management and administration of urban transport heavily on the Local Government has been the bane in the conscious effort to develop good and sustainable urban transportation facilities in Nigeria [12]. Consequently, the capacity, coverage and design of most urban road networks are inadequate for the volume of traffic using them. Available records indicate that in 2003, only about 30% of Nigerian roads were paved (NISER, 2003), but by 2008, only 15% of these paved roads were motorable [7]. The percentage of urban roads that is motorable has continually been decreasing because of poor maintenance. This led to the establishment of the Federal Road Maintenance Agency (FERMA) by the Federal Government of Nigeria in 2003 to handle the maintenance of federal roads across the country. Her duties included to identify federal roads that are in bad condition and carry out repairs. The agency in 2009 carried out a study and graded the nation's roads accordingly. The study indicated that 15% of the federal roads was very good, 20% good, 30% poor and 35% in a very bad condition. The poor state of roads became so terrifying that it was brought to the floor of the National Assembly. The Assembly agreed that FERMA has failed the nation but linked their poor performance to the fact that the Agency is being charged with something more than its ability amidst poor funding.

Yewande [13] observes that the business of road development and maintenance is extremely capital intensive, and the funding process in Nigeria has been subjected to a lot of political debate. It has persistently been difficult to secure an adequate and stable flow of funds for road development and maintenance through general government budget financial procedures. The traditional long process of getting a reimbursement from the federal government on the rehabilitation of federal roads in the state had dampened the enthusiasm and cooperation of state governments to rehabilitate such federal roads. This policy inconsistency had also dampened the cooperation of the states in rehabilitating federal roads [14]. Above all, the federal government policy that state governments should steer clear of fixing federal roads without due approvals is a major

setback, particularly when considering the bureaucratic processes and politics of getting the expected due approvals from appropriate authorities. However, the Senate Ad Hoc Committee on Transportation had in 2009 recommended that

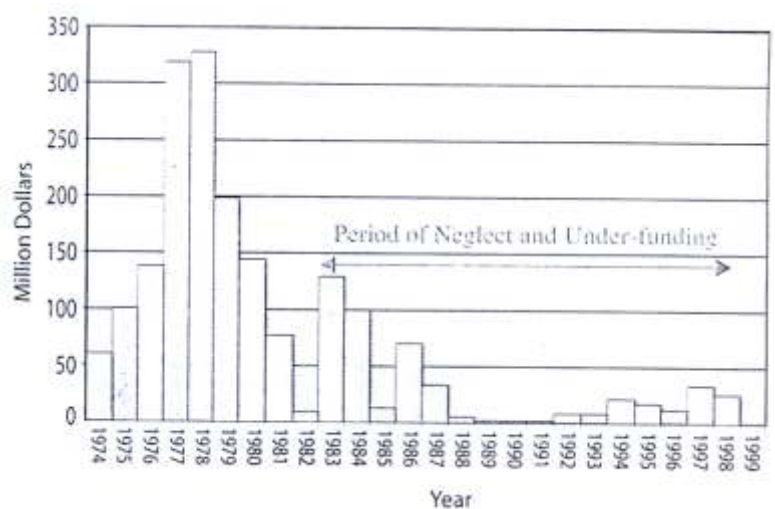
“For the State Government to be reimbursed on any federal road constructed, the Federal Ministry of Works must be fully involved in the design, costing, valuation and supervision of work done. Such award must undergo due process to guarantee value for money”.

Without proper urban transport planning and funding, urban transportation infrastructure in Nigeria will continue to be in a state of comatose.

Electricity Infrastructure

The growth rate of electricity generation in Nigeria is far less than the population of its consumers. From the analyses carried out by Oluba [15], Lado [16] and Mohammed [17], the energy generation availability in Nigeria declined from installed capacity of 5906 mw to 1600 mw in 1999 with only 19 functioning generating units out of 79. Nigeria operates at one-third of its installed capacity due to aging equipment. Why? There has not been any Turn Around Maintenance on electricity generation, transmission and distribution installations for several years running into decades in Nigeria. Consequently, the existing rader transmission lines have been completely run down while many transformers and circuit breakers had become unuseable for years. The remaining facilities are not only overloaded but had become vulnerable and susceptible to regular breakdown. These problems are traced to the fluctuating decline in investments in the power sector between 1980 and 2000.

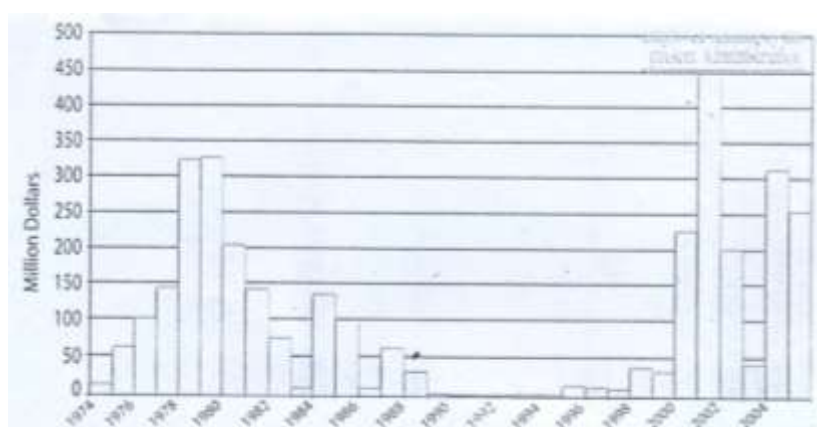
The graph below (Fig.1) illustrates the total neglect of the power sector by successive governments since 1974. Between 1974 and 1999, government had devoted less than \$350 million annually to the sector. Apart from 1977 and 1978 when government spent about \$330 million annually on the sector, the remaining years saw government devoting less than \$150 million annually to the power sector.

**Fig-1: Funding of Electricity I**

Source: Makoju [18]

According to Makoju [18], when the government inherited this situation in 1999, it took a major decision to adopt a two-prong approach to tackling the problem. The first approach by the government was to start funding the sector in order to arrest the rot that was apparent. The funding was channeled towards the rehabilitation and expansion of the generation capacity as well as the expansion and reinforcement of transmission and distribution infrastructure. The effect was that by May 1999, out of the 79 generating units, only 37 units were functioning,

while the remaining 42 units were completely broken down as a result of improper maintenance in line with laid down engineering practice [17]. Investigations show that the core power sector infrastructure takes time to put right. It takes about 3 – 4 years to build a power station and 4 – 5 years to build a transmission line. This means that the gestation period is long. Makoju [18] also revealed that about 70% of all the funding through the government into the sector since 1999 has been in building transmission lines. Since then, only one transmission line has been completed.

**Fig-2: Funding of Electricity II**

Source: Makoju [18]

This approach was to restore integrity into the system and at least try to stabilize the power supply in the short to medium term. Thus, funding of the sector received significant boost between 2000 and 2001. This was as a result of public outcry against government poor funding of the sector. Again, there was a dip in 2002 and 2003 (See Fig. 2) when government funding of the sector dropped significantly. The resulted in the National Assembly, among other interest and pressure groups, decision on an immediate privatization of the sector. As a measure to improve the performance in the

sector, the Federal Government in her 2012 Budget Broadcast announced the implementation of the Power Roadmap aimed at creating a robust power sector through the privatization of generation and distribution of power, as well as an enabling environment for private investment. The Budget also mentioned establishing institutional arrangements for a Bulk Trading Company to intermediate between power producers and distributors in a market setting. The government also promised that importation of equipment and machinery in the power sector will

attract zero duty with effect from January, 2012. This is hoped to give Independent Power Producers (IPPs) the confidence to invest in generation capacity.

Water Infrastructure

Traditionally, the provision of water supply and services in Nigeria has remained a social responsibility of the various tiers of government. Unlike the constitutions of other African countries such as those of Ethiopia, Uganda, Gambia and South Africa, Nigeria's 1999 constitution does not establish any express entitlement or right to water. Section 20 of the constitution grants powers to states of the federation to protect and improve the environment and safeguard the water. Prior to this, domestic water management had no position in the political decision-making process. Water management practices before 1999 were more disjointed in approach (responding to emergencies) with a number of vague and unrealistic assumptions [19].

The National Water supply and Sanitation Policy (NWSSP) which was introduced in January 2000, currently provides the institutional arrangements

for the operation and funding of potable water supply for both urban and rural areas. One of such institutions is the establishment of State Water Boards. It is expected that the State Water Boards would generate enough money through rates collection at least to facilitate the operation and maintenance of water facilities [20]. Unfortunately, the State Water Boards could not perform due to obsolete facilities in the face of increased demand. Besides, government subventions have been too meager to keep the operation of water facilities smooth. The NWSSP (2000) observes that the existing water works for urban and semi-urban centres are confronted with problems associated with their designs, operation and maintenance, and lack of integrated management. This has resulted in many existing water works supplying less water than they were designed for. To cushion this situation, the National Policy on Water supply came out with a financing strategy that entails a cost sharing approach involving the federal, state, local government and individual communities concerned as shown on Table 3 below.

Table 2: Cost Sharing for Capital Investment in Water Provision

Level of Government	Urban (%)	Semi-urban (%)	Rural (%)
Federal	30	50	50
State	60	30	25
Local	10	15	20
Communities	-	5	5
Total	100	100	100

Source: National Water Policy (2000)

Table 2 indicated that it is the responsibility of the state government to provide 60% of the financial cost for water provision in urban centres. Though, the state governments set up the Water Companies to handle this responsibility, experience has shown that, these agencies are unable to live up to this task. The policy emphasizes the development of water resources potentials of the country in order to ensure the availability, equitable distribution and conservation of water for domestic and industrial uses, food production, navigation, hydro-power, recreational activities and so on. Udoudoh [12] observes that the extend of water supply coverage in urban areas depends on the level which all the stakeholders adhered to the cost sharing formula in water supply management.

Challenges associated with developing and maintaining water resources are becoming more acute. The problems are due mainly to poor funding which culminated into lack of maintenance and inability on the part of the authorities to expand facilities. The high cost of construction and operation associated with the establishment of large water corporations led to the adoption of low cost technology in providing potable water. The United Nation's Population Information Network (1994) emphasizes the important of

technology for achieving urban water needs. Technologies that were suitable to developed countries are unable to work in Nigeria and other developing African countries. This calls for need to develop other system that are self-reliant; thus the emergence of boreholes and hand pumps as strategies to meet urban water need in Nigeria. Lack of adequate facilities by such schemes resulted in low productivity, low coverage and inefficient service delivery [21]. As observed by Adejemilua [22], the Nigerian water supply situation is not different from that of Somalia where the rich people invests in boreholes or wells, the middle class have theirs delivered to private water tanks by water merchants, while the poor buys water from roadside water dealers. At the 4th Earthwatch Conference on Water held in 2005, it was discovered that 95% of these wells and boreholes were poorly constructed and maintained, resulting in contaminating these sources of water supply. The conference also noted that most urban water infrastructure in Nigeria is experiencing operational and management problems such as neglected and leaked pipelines, and inability of the water agencies to finance the rising cost of water production and supply.

INFRASTRUCTURE PROVISION AND FUNDING POLICY

Throughout the world, the role of state in the provision of urban physical infrastructure has remained a subject of debate. In Nigeria, urban physical infrastructures are solely financed and owned by government, where the three tiers of government (federal, state and local) are involved. However, the role of the various tiers of government has been a conflicting one. For instance, the 1999 Constitution of the Federal Republic of Nigeria provides in its 4th Schedule, 7(f) that it is the responsibility of local government authority to provide and maintain infrastructure such as roads, streets and street lights, among other facilities. The World Bank (1997) also posits that Local Government should be responsible for intercity roads, highways and public transport, water supply, among other duties. In South Africa, Local Governments are responsible for roads and street lightings, water supply and other services (Rynereid & Parker, 2002 as reported in Yawehinmi, 2006). From the above, the Local governments have been legally associated with the provision and maintenance of basic urban physical infrastructure, though the expectation from this source has suffered sheer neglect in Nigeria.

Access to finance constitutes a significant challenge to the development of infrastructure. The government uses public funds to provide and maintain all forms of infrastructure. In 1985, the Federal Government of Nigeria in collaboration with the World Bank established the Infrastructure Development Fund (IDF) project with a responsibility to tackle the problem of infrastructure deficiencies in urban centres across the country. At inception, the IDF was granted a loan of \$69.5 million by the World Bank for on-lending to states to finance some priority projects such as urban water supply, road rehabilitation, channelization and electrification works among others. To achieve this, IDF had to establish a finance mechanism that would assist states of the federation to manage, maintain and consolidate existing urban infrastructure and services, improve their financial management capacity and resources mobilization [23]. A major innovation to the IDF programme was the involvement of some Merchant Banks known as Participating Financial Institutions (PFI) in the funding and managing of the project.

On realization that the state of urban infrastructure in Nigeria was still in a deplorable situation, the Federal Government established the Urban Development Bank of Nigeria (UDBN) in 1992. The cardinal aim of the bank was to provide financial credit for construction, rehabilitation and maintenance of essential urban infrastructure and services. On that premise, the bank was to foster the rapid development of urban infrastructure throughout the federation through the provision of concessionary loans and banking services to the state and Local Governments

(National Housing Policy Council Annual Report, 1993).

Despite this, investment on infrastructure development continued to decline drastically leading to cumulative backlog of unmet urban needs. Government poor funding of urban infrastructure from 1980 to 2000 led to the collapse of virtually all major component parts of the sector particularly in areas of roads, electricity and water supply schemes. When the decay became so pronounced, the Federal Government decided to invest the extra revenue generated from excess crude oil to a special fund – the Petroleum Trust Fund (PTF) for the maintenance and expansion of urban infrastructure. This became necessary as efficient provision of urban infrastructure is compounded by poor public funding. The PTF really gave some succor in addressing the poor state of urban infrastructure in Nigeria.

The funding process for road construction in Nigeria has been subjected to a lot of political debate. This made it difficult to secure an adequate and stable flow of funds for road development and maintenance through general government budget financial procedures. More so, the policy inconsistency of getting approvals from relevant Federal Government Departments and traditional long process of getting any reimbursement from the federal government on the rehabilitated federal roads in the states has dampened enthusiasm of most states to rehabilitate such federal government roads in their states.

The National Electricity Power Policy, National Energy Policy and National Electricity Power Reform Bill set the framework for developing the power sector. They spelt out the role of the regulators from that of service providers, while creating opportunities for private sector participation. However, the National Electricity Regulatory Commission is poised to streamline and contain the excesses of PHCN which hitherto has remained unchallenged. This is because the position of PHCN on grid-tie is unclear to date, making investment in power sector very unattractive to private investors.

Although there is no overall national water policy dealing with management of water infrastructure in Nigeria, the National Water Supply and Sanitation Policy (NWSSP) introduced in January 2000 provides the institutional framework for the operation and funding of potable water supply for both urban and rural areas. The upheaval performance of Water Corporations in Nigeria has forced many urban residents to resort to alternative sources of water, particularly borehole water. In the circumstances, therefore, government should adequately fund water provision to enhance human consumption, distribution and industrial activities. .

RECOMMENDATIONS AND CONCLUSION

Budgeting and financing control are rather limited forms of planning. For urban infrastructure to be reliable, an operation must be financially viable. This means that the financing of such a project cannot be separated from the investment decision. In terms of financial patterns, the foundation of urban infrastructure could be user charges. However, this may be stifled by the fact that public utilities have difficulties getting approval for increasing their charges to levels that are financially and economically adequate. Where this happens, utility institutions can access resources from the capital market to finance urban infrastructure, which would be serviced by user charges in due course. This approach makes it possible to have a massive increase in capital expenditure on urban infrastructure without worsening the fiscal problem. According to Delaney [7], since bridging the immense infrastructure funding gap that stifles Nigeria's infrastructural development cannot be met by public resources alone, and user charges appears inadequate and unreliable; infrastructure investors should resort to global capital flows which are beginning to veer towards infrastructure project in emerging market. In India, funding of infrastructure projects has typically been through a combination of equity and limited recourse to debt which is tied to the project itself and not the sponsor. This is against Nigeria where infrastructure provisions are undertaken through budgetary support. The ability to attract such debt is fundamental to the success of infrastructure projects. The recent recapitalization exercise of the Nigerian banking system, the re-emerging FGN bond programme and deepening equity market are acting as catalyst to improve the prospects of project finance.

As a way of closing the financial gap in the sector, Shonekon (2000) as the Chairman, Infrastructure Concession Regulatory Commission (ICRC) challenges the Nigerian banking and financial sector to strive to be more innovative in developing long term capacities in order to promote and support investment in infrastructure financing, while the commission moderates the activities of players working towards the development of new infrastructure. The banks are expected to provide the critical funding to execute new projects and rehabilitate decaying infrastructure in the country. The recent recapitalization exercise of the Nigerian banking system, the re-emerging FGN bond programme and deepening equity market are acting as catalyst to improve the prospects of project finance. A few banks have actually committed their resources by partnering with various state government and government agencies to fund, build and install infrastructure for urban development. In this regards, Zenith Bank PLC, Access Bank PLC, Eco- Bank PLC and First Bank PLC have been quite outstanding in financing Nigeria's infrastructure or partnering with other institutions to execute infrastructural projects in the last one decade.

The Nigerian government has been guilty of under-funding infrastructure development due to either poor budgeting, estimation of acquisition, maintenance cost or sheer mismanagement of funds allocated for such projects. Several other factors combine to make Nigeria unattractive as destinations for international finance. High level of corruption, political uncertainty and crime are some of the factors that reduce the appetite of foreign investors. Investors, international and domestic, are also wary of policy inconsistency and commitment by governments to sustain reforms. Reliance on external funding for infrastructure provision is not a prescription for sustainable infrastructure development. We should look inward to achieve efficient means of generating adequate revenue through user charges.

This research is of the opinion that states and local governments willing and capable of intervening in infrastructure provision should be encouraged to do so and not pilloried by the federal authority. After all, the users of these facilities are Nigerians and this adds to the economic development of the country. However, such projects should be executed under agreed rules and engagement between the federal agency responsible for granting such approval, the affected state and local governments.

The government of Nigeria has over the years refused to acknowledge that there is need to put in place a sustainable funding and maintenance policy for our urban physical infrastructure. This is on recognition that the major constraint to sustainable infrastructural development is poor funding which is not reflected in budgetary or resource allocation process. This is in spite of the immense contributions of the physical assets to the achievement of the nation's economic objectives.

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