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## URBAN INFRASTRUCTURE FINANCING AND MANAGEMENT IN NIGERIA

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### **ABSTRACT**

Urban infrastructure financing and management are two critical components that are very germane for the efficient delivery of urban infrastructure services. The paper x-rayed the issue of urban infrastructure financing and management from the perspective of the concept of urban infrastructure facilities, the sources of fund for urban infrastructural development, obstacles to mobilizing resources for urban infrastructure, management approach and problems encountered in the management of the facilities using Nigeria's case as representative of other developing nations. The paper concluded by recommending: the reorientation of public expenditures to ensure that project with high social impact and economic returns are carried out; that all public infrastructure must have annual maintenance allocation from the total budget; the underwriting of the cost of urban infrastructure through property rating; strengthening of the capital market for long term funds for urban; arranging funding based on careful feasibility and viability studies; the privatization of public utilities; encouraging public-private partnerships; promoting research focus on areas of design and engineering of infrastructural components; pursuit of planned maintenance culture as a way forward towards ensuring an effective financing and management of the nation's urban infrastructure.

**Keywords:** Finance, Infrastructure funding, Maintenance management, Maintenance planning, Urban infrastructure, Public-private partnerships.

### **1. INTRODUCTION**

The development of any nation cannot be considered in isolation of the infrastructural facilities prevalent in the country in question. The state of civilization of the citizenry and the proficiency of workers in a nation in their respective fields, reflect the extent to which their infrastructure have been developed.



The type of socio-economic services these infrastructures could render to the nation ranges from facilitating easy transportation, communication, business transaction and means of production to healthy and comfortable living within an urban area. It therefore means that the provision of reliable infrastructure is the pivot around which the success of any national development revolves.

## 1.1 Concept Of Urban Infrastructure

Urban: an urban area refers to a city or town in context, as a geographical location as distinct from a rural area, attaining such status based on certain criteria including:

- Level of infrastructural development
- Population
- Standard of living
- Presence of banks/financial institutions
- Presence of educational institutions.

Infrastructure: The English Collins Dictionary defines infrastructure as that which includes buildings, structures and apparatus by which services essential to the development and use of land are provided by developers and/or statutory authorities e.g railways, roads, bridges, gas, electricity, sewage/waste disposal, telephone installation etc.

Urban infrastructure is therefore the aggregation of all amenities, services, facilities and utilities such as water, electricity, telephones, stadia, parks, nature gardens, cinemas and theatres, sewage and drainage as well as others relating to health, education, economic and housing which are essential to and necessary for enhanced human settlements.

We therefore have various classes of infrastructures such as:

- a) Communication infrastructure, to include air fields, roads, railways, telecommunication, water ways and the posts. These assure interaction between persons in fulfillment of mutual endeavours.
- b) Health infrastructure to include hospitals, clinics and training institutions for health personnel.
- c) Technological infrastructure, including research institutes, design and fabrication studios and workshops. These must be virile for the community in question to be able to possess its own indigenous technology without depending entirely on outsiders for sustenance.
- d) Educational infrastructure, including educational institution and facilities at all levels, libraries, printing presses and bookshops. This set of infrastructure must intimately relate to and able to use all available technological infrastructure. Any educational system that is not designed to develop, maintain and use all available infrastructural facilities cannot but produce robots.
- e) Social infrastructure, including recreational facilities, playgrounds, sports facilities, parks, nature gardens, cinemas and theatres.
- f) Religious infrastructure including place of worship, shrines etc.
- g) Judicial infrastructure, including court halls, offices and libraries.
- h) Sewage and sewerage infrastructure, including facilities for the disposal of soil and solid waste and the subsequent treatment of these. How well this is handled determines how healthy the environment is. No man happily lives with his own waste.
- i) Agricultural infrastructure, including irrigation and storage facilities.



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- j) Power or Energy infrastructure, including facilities for generation, storage and distribution of various types of power.
- k) Industrial infrastructure, including industrial layouts, with adequate services and a good package of legal and tax incentives.
- l) Economic infrastructure, including banking facilities, stock exchange, labour exchange, entrepreneurial and man power development facilities etc. A strong economic base is a sine qua non for the urban centre.
- m) Housing infrastructure, including housing estates, staff quarters and all sorts of residential accommodations.

There cannot be said to be any water-tight compartments as a good number of the infrastructure listed above overlap with one another. All of them put together, of course, make up urban infrastructure.

Across the African continent, infrastructure challenges account for an average 2 per cent decline in economic growth per annum. The 48 countries in Sub-Saharan Africa with over 800 million people generate roughly the same power as Spain with only 45 million people

Better roads and rail systems can enable increased intra-continental trade and investment; increased power generation enhances the productivity of businesses and manufacturing; better communication services can facilitate financial transactions; access to clean water and sanitation improves the general health of the population, thus enabling more people to work and contribute productively to the economy. On the other hand, weak and inadequate infrastructure impacts severely on economic growth and human development. Africa needs an estimated US\$93 billion per year to develop its infrastructure, with two-thirds required for new physical infrastructure and the remainder for maintenance and operations.

Nigeria is unfortunately no exception. Although we are currently investing around 7% of GDP on infrastructure, which is above the average for sub-Saharan Africa, research has shown the need to increase this figure to at least 12% of GDP. The current level of infrastructure deficit in the country is perhaps the major constraint towards achieving the national vision of becoming one of the 20 largest economies by 2020. Approximately 70 per cent of the 193,000km of roads in the country are in a poor condition, whilst only 20 per cent are paved. According to enterprise surveys, the power outages the nation experiences amount to over 320 lost days a year, with over 60 per cent of the population lacking access to electricity. At the same time, over \$13 billion is spent annually to fuel generators. A country, which once had one of the most extensive railway systems in Africa, can barely boast of a functional route either for passengers or freight today. These conditions are unacceptable and pose a significant threat to the growth of the Nigerian economy (Sanusi, 2012).

Table 1 shows at a glance the achievements and the challenges in the Nigeria's infrastructure sectors.

**Table 1. Achievements and Challenges in Nigeria's Infrastructure Sectors**



	<b>Achievements</b>	<b>Challenges</b>
Air transport	Recent expansion of domestic market. Emergence of important regional carriers. New routes to Europe and the United State. Significant improvements in safety oversight.	Developing potential as regional air transport hub. Concessioning of airport terminal.
ICT	Extensive low-cost GSM coverage. Vibrant competitive fixed-line sector. Extensive private fiber-optic backbones.	Increasing penetration of ICT services. Reducing cost of Internet services. Addressing market-efficiency gap.
Ports	Adoption of modern landlord model. Award of numerous concessions.	Improving customs performance. Improving land and marine access. Planning for new capacity additions.
Power	High rates of electrification. Sector restructuring and tariff hikes in progress.	Investing to improve service reliability. Addressing huge sector inefficiencies.
Railways	Extensive national rail network.	Improving performance to recapture traffic.
Roads	Extensive national road network.	Increasing funding for road maintenance Improving rural access.
Water resources	Progress on institutional framework.	Developing huge high-return irrigation potential.
Water and sanitation		Reversing growth in open defecation. Addressing utilities' huge inefficiencies. Paying greater policy attention to wells and boreholes. Improving quality of traditional latrines.

Source: Forster and Pushak (2012)'s elaboration of AICD Findings.

Note: ICT = information and communications technology; GSM = global system for mobile communications.

## 2. SOURCES OF FINANCE FOR URBAN INFRASTRUCTURAL DEVELOPMENT

Urban infrastructural development requires huge financial commitment. The terms and availability of such needed funds determine the trend in urban infrastructure provision. The availability of urban finance in sufficient quantity definitely accelerates all forms of urban infrastructural development and maintenance. According to Sanusi (2012), Nigeria requires over US\$10bn annually over the next ten years to bridge on infrastructure gap. Foreign direct investment receipts outside the traditional oil and gas sector, and more recently telecoms, are far from significant for infrastructure financing needs. Existing sources of long-term financing such as multilateral loans, euro and/or dollar bonds, and private equity and so on are either grossly inadequate, expensive or unavailable based on the present global economic realities.

The main sources of finance in Nigeria for urban infrastructural development and maintenance include the Federal Government and its agencies, state and local governments, commercial and merchant banks, specialized financial institutions, international organizations and donor agencies operating within and outside the country.

### 2.1 The Federal Government:

National infrastructure is mainly funded through government's annual capital budget allocations. The 2016 federal budget break down for example provides for an aggregate capital expenditure of N1.8 trillion Naira. Such funding is however hardly consolidated as they are easily encroached upon where government priorities alter in the face of other competing needs. In our present depressed economic



state, infrastructural funding is hardly adequate, maintenance is neglected, leading to disuse, failure and more often total breakdown of existing infrastructure.

The first concerted effort by government in post independent Nigeria was made in 1977 in up-grading infrastructure facilities in seven newly created States of Benue, Gongola, Imo, Niger, Ogun, Bauchi and Ondo. That programme was the Nigeria States Urban Development Programme (NSUDP). It was intended to achieve the following;

1. To remedy critical deficiencies in the urban systems of major towns through the rehabilitation and extension of roads, water supply, drainage improvements, solid waste management, improvement of motor parks and markets.
2. To implement workable programmes of cost recovery through implementation of property tax measures and improvement of the present billing and revenue collection methods with a view to improving resources mobilization and financial management.
3. To provide funds for strengthening key state and local government institutions.

These interventions would be concentrated on high density low income areas and commercially active zones in towns core areas to achieve the greatest benefits in social and economic terms (IDF Status Report: 1991 P. 15).

The projects achieved limited success, probably because the problems had been too compounded before effort was made to ameliorate them. However in some states some specific infrastructural facilities that were tackled were beneficial to the residents for instance in Aba in the then Imo state, in the programme of up-grading of urban infrastructure existing bucket systems latrines were replaced with water system toilets, a mode which uses very small quantity of water to clear the soil waste.

The NSUDP was succeeded by the Infrastructure Development Fund (IDF) which was established to provide long-term financing for state and local government urban investment programme and to channel funds from the Nigerian Capital Market to state and local government areas for priority projects and reduce the need for Federal Government subventions.

Generally in the IDF, projects are expected to be funded as follows:

World Bank	100% off-shore costs
State Government	75% on-shore costs
Private Sector Financing	15% on-shore costs
Financial Institutions	10% on-shore costs.

A major innovation to the IDF was the involvement of some Merchant Banks known as Participating Financial Institutions (PFI) in the funding and management of the projects. Some of the IDF Projects include the Okpoko Urban Renewal Scheme in Onitsha, Anambra State, the water project in Lagos state and Ogunpa Channelization in Oyo state.

Other areas of government intervention in urban infrastructure financing in the past were through the establishment of the Petroleum (Special) Trust Fund (PTF), the Directorate of Foods, Roads and Rural Infrastructure (DFRFRI), Oil Minerals Producing Areas Development Commission (OMPADEC). The PTF then was a fund set up by the Federal Government to accumulate and manage the excess revenue and pre-1995 prices of refined petroleum products in the domestic market, accruable to the Government.



The PTF had interventions in the areas of road rehabilitation, provision of drugs, rehabilitation of health institutions, institutions of higher learning and the reconstruction of police barracks throughout the country. The PTF has about N40 billion to spend according to the 1998 fiscal budget. Niger Delta Development Commission (NDDC) and SURE-P are recent interventionist programmes of the Federal Government of Nigeria.

Other federal agencies such as NEPA (later PHCN and now Electricity Transmission Company of Nigeria), NIPOST that provide essential services to the nation also generate revenue which are further ploughed back to expand their infrastructure and also maintain existing ones, in order to render valuable services. However the funds generated by these agencies are not enough to provide adequately the infrastructure needed by the teeming urban population.

## **2.2 States And Local Government:**

There are two main sources of funds for urban infrastructure development for state and local governments in Nigeria namely external and internal sources. External sources include the statutory allocations and grants from the federal government and external loans. The internal sources include taxes, earnings and sales from commercial undertakings, earning from industrial undertakings, land allocations and other land charges, contractors registration fees, tender fees etc. Investigations revealed that about 33% of the states and local governments' revenue are internally generated while 67% come directly from federal government statutory allocations. States and local governments can be said to be established for political, administrative, service oriented and economic purposes. The states provide such urban infrastructure like roads, water (through their Water Boards), rural electrification, construction and maintenance of schools and health institutions, provision of housing estates and residential quarters etc. The local governments on the other hand construct and maintain mainly feeder roads, streets, street lighting, drains, parks, provision and maintenance of public conveniences, sewage and refuse disposal, slaughter slabs etc.

The problem is that the states and local governments over-depend on the federal allocations for funds and have too many over-head costs and cannot therefore effectively embark on the provision and maintenance of urban infrastructure.

## **2.3 Banks And Specialized Institutions:**

Commercial and Merchant banks provide loans to states, local governments and some federal agencies for the provision and maintenance of urban infrastructure like markets, stadia and other commercial and industrial projects. The default rate in the repayment of the loans are however quite high. Many of the distressed state owned banks in the past like Co-operative and Commerce Bank (CCB), Pan-African Bank, Progress Bank, Lobi Bank, and Mercantile Bank are being owed heavily by their respective state governments.

Development Finance institutions in developing countries exist traditionally to address market failures and as a complement to government resources and market financing. The dual roles of these institutions involve financing development projects and acting as facilitator of finance in the broader industrialization and economic development strategies of countries.



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In addressing infrastructural challenges, DFI's in addition to their existing mandates, seek to enable expansion of already existing poor infrastructure and act as catalysts for accelerated industrialization, economic growth and human resource development. Nigeria has the following Development Finance Institutions in existence, which by and large have these objectives as well;

- i) Bank of Industry (BOI);
- ii) Federal Mortgage Bank of Nigeria (FMBN);
- iii) Nigerian Export-Import Bank (NEXIM);
- iv) Bank of Agriculture (BOA);
- v) Infrastructure Bank (formerly Urban Development Bank of Nigeria Plc.; and
- vi) National Economic Re-construction Fund (NERFUND)

The DFIs are largely owned by the CBN and Ministry of Finance (which acts on behalf of the Federal Government) and are to a large extent mandated to provide financial services to sectors and projects that would contribute to the growth of the economy and promote real sector activity. Some of the major challenges faced by these institutions include poor corporate governance, low capitalization, inadequate skilled manpower, and poor business models. In order to be repositioned to perform the role envisioned for them, the DFIs need to be granted operational autonomy.

They are specialized financial institutions that provide money for the development of urban infrastructure. They provide medium and long-term credits for the expansion or creation of agricultural, commercial and industrial enterprises in Nigeria. The Urban Development Bank of Nigeria PLC for example, was specifically set up under Decree No. 51 of 1992 "to arrest the rapid and wasteful deterioration of infrastructure and other essential facilities in most of our large cities and towns". Just like in the commercial and merchant banks, there are high rate of default in loan repayments and many loan beneficiaries see these specialized financial institutions as "Father-Christmas".

## 2.4 International Organizations And Donor Agencies:

The World Bank, African Development Bank (ADB) and other international agencies like UNDP, UNIDO, UNICEF, USAID, AFRICARE participate actively in the provision of urban infrastructure in Nigeria. The World Bank had embarked on a national water rehabilitation scheme, urban renewal schemes in various states of the federation (eg. Okpoko-Onitsha urban renewal scheme), provision of infrastructure like electricity, water and tarred roads in many housing estates all over the country like the Udoka Housing Estate in Awka, Anambra State and sponsored many developments in the urban areas through the Infrastructure Development Fund (IDF). The World Bank and other international agencies are however foot-dragging on the further provision of money due to the fact that most of the loans are never repaid by the federal and state governments who always depend on debt rescheduling measures. Most of the donor agencies are also suffering from donor fatigue.

## 3. OBSTACLES TO MOBILIZING RESOURCES FOR URBAN INFRASTRUCTURE

The various obstacles militating against the effective mobilizing of resources for urban infrastructural development and management can be traceable to the governments and individuals in the country. On the part of the government, inadequate planning and the resultant unguided development often leads to over loaded infrastructure with incessant break down. Politicization of priorities lead to some urban areas being neglected while others are over served. Instability of government, results to inconsistency and reordering of priorities by the new government in power as regards national policy on infrastructural development. Lack of funds and co-ordination of policies and execution of infrastructural projects usually lead to conflicts for instance, it is not uncommon for pipe





line for the distribution of water to be uprooted and burst by road construction workers who cared less to repair them thereby causing avoidable wastage.

The facts that the public sees nothing of the efficient services expected of the tax they pay, makes them indifferent to the need of the government and cause them to develop an attitude of total disregard for government infrastructural facilities. Some even express their frustration openly and vent their angers through willful destruction of these amenities with impunity.

It is a common phenomenon in Nigeria to see electric cables belonging Power Distribution Agencies being carted away by unscrupulous elements in the society. The non commissioning of various infrastructure projects in the urban areas of the federation is not unconnected with the removal of relevant cables, spare parts, machines and transformers by thieves and vandals.

### 3.1 OBSTACLES:

The following are the main obstacles to mobilizing resources for urban infrastructure in Nigeria;

- a) Vicious Cycle:- Due to the poor quality of services rendered by most public utility corporations, most urban dwellers are reluctant to pay for these services thereby denying these corporations the necessary funds needed for expansion and maintenance of the infrastructure.
- b) Inability of states and local governments to easily borrow funds from the banks due to their past unenviable records of loan defaults.
- c) Non-functioning and inefficient capital market where long term funds can be mobilized for development of urban infrastructure.
- d) Over-dependence on Federation Account transfers by both states and local governments. This has a disincentive effect since large size and unconditional nature of transfers discourage state and local government revenue efforts. The unpredictability of the amounts of transfers also have serious implications on planning.
- e) Increasing numbers of states and local governments which had resulted in smaller economic base and overhead costs. The number of states and local governments in Nigeria for example rose from 19 and 113 in 1975 to 36 and 774 in 1996 respectively.
- f) Weakness of the public sector evidenced in poor plan execution, inadequate budgets, low remuneration, poor management practices and political interference.
- g) Persistence of idea that government should provide all services.

## 4. MANAGEMENT OF URBAN INFRASTRUCTURE

Management is the harnessing, directing, supervising and organizing of resources and factors of production for efficient and greater returns.

Urban Infrastructure management, therefore, pertains to the efficient and prudent use and maintenance of essential services and structures in the towns and cities, for the enhancement and sustenance of living standards in such cities and towns.





## 4.1 Maintenance Management:

Maintenance has a very important bearing on both the physical and economic lives and performance of urban infrastructure. From the beginning of their lives, infrastructure undergo a continual process of decay and obsolescence which result from the process of time, usage, climate and environmental factors. For efficient performances, impact of decay and obsolescence require to be kept in control continually throughout the life of the infrastructure. It is through maintenance that this could be achieved.

Maintenance is only one function in management. Its main purposes as stated by Anderson are:

- i) Retaining value of investment.
- ii) Maintaining the facility in a condition in which it continues to fulfill its function.
- iii) Presenting a good appearance (Seeley) 1976: p.6).

Effective maintenance management embraces skills like technical knowledge and experience necessary to identify needs and to specify remedies, an understanding of modern techniques of business management; knowledge of property and contract law; and an appreciation of sociology. Nobody who is not versed in all those areas can rightly regard himself as a good infrastructure manager. Maintenance aims at servicing the facilities during routine maintenance; rectifying defective portions due to damages resulting from faulty design or construction; and replacement due to normal wear and tear or accidental damage. It is important that provision is made for all the three forms of maintenance.

## 4.2 Constraints to Maintenance Planning In Nigeria:

### 4.2.1 *Attitude:*

We have a wrong attitude to maintenance. There is complete absence of maintenance culture. No one plans for what he does not believe in. The Governments and the individuals in the country are to blame for the wanton destruction of urban infrastructure. On the part of government inadequate planning and the resultant unguided development often leads to overloaded infrastructure with incessant break down.

### 4.2.2 *Lack of Funds:*

Since maintenance is not a priority, sufficient funds are not made available for it. Besides, resources are generally limited. Most urban infrastructure are public assets and like other public properties, maintenance decisions are based on expediency and over a period of time represent a series of ad-hoc and unrelated compromises between the immediate physical need of the infrastructure and the availability of finance. When a budget is made, the provision is far from adequate and is not done within the framework of any relational criteria. The system is corrective and the procedure is to allow serious deterioration to set in and series of complaints from the user-public before funds are made available to remedy the situation. Such a system is not only damaging to the infrastructure but also detrimental to development.

### 4.2.3 *Lack of Expertise:*



Sometimes the expertise required for the maintenance of an infrastructure is not available locally. The process of importing the expertise could be long, cumbersome and expensive.

#### 4.2.4 *Lack of Materials*

The parts, equipment and materials required for maintenance works may not be available locally when they are required. Some of the locally fabricated equipment and parts may not be as efficient as the imported ones due to lack of technical knowhow.

### 4.3 **Approaches To Maintenance Planning:**

Maintenance planning involves having a pre-defined and systematic course of action for dealing with the inevitable consequences of wear on infrastructure. It sets out the scheme for accomplishing the purpose of maintenance, dealing with the issue at both strategic and tactical levels. The object is to ensure the work is carried out with maximum economy that is, that work satisfies the criteria for effectiveness and efficiency. To achieve the purpose of maintenance it should be properly planned.

The approach to maintenance planning is somewhat different as between existing infrastructure and proposed development. In the case of existing infrastructure, the maintenance planner is working on what has already been provided and is therefore restricted. In proposed development, maintenance is planned at the same time with the designing of the proposal. There is a better room for flexibility. Maintenance planning is therefore more difficult with existing infrastructure.

The processes involved in maintenance planning include:

- A. **Maintenance Policy:** Effective maintenance is dependent upon making corrective decisions and efficiently implementing them and these are done within the framework of the maintenance policy. It is therefore important that a good maintenance policy is formulated.
- B. **Design and Construction:** The main characteristics of infrastructure are built in at the design stage. Designs should be done not only within the context of the maintenance policy but also in consideration of the function and use of the infrastructure and its environment. The construction and quality of materials used are equally important. Over-design, poor workmanship and inferior materials are some of the major factors that often lead to high maintenance and running costs.
- C. **Maintenance Manual:** It is very essential, for effective maintenance, that the maintenance requirements of the infrastructure be communicated to the manager by the design team. This is done through the maintenance manual. This will take care of maintenance complications which frequently arise as result of lack of adequate information on the operation, features, and maintenance requirement of the infrastructure.
- D. **Data Base:** Planning cannot be done without adequate information. Market based information such as construction cost indices, prices of construction materials, labor and plant hiring costs should be compiled periodically and stored. All these information will be required in the preparation of budget, forecasting future maintenance costs, vetting contractors' tenders and estimating labour resources requirement.
- E. **Planned Inspection:** Planned inspections constitute the main ingredient for maintenance programming. The inspections are planned for specific periods but the approach varies from ad-hoc to annual and different inspection frequencies for different elements.



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- F. Maintenance Programming: The maintenance planner has the aim to match available resources with the workload. So, he needs to prepare maintenance programmes which are formulated at different levels-long term, annual, monthly/weekly. The programmes are revised continually as new information emerges.
- G. Work Scheduling: The work input to be planned and budgeted for usually comes from two sources such as work initiated by the authorities'
- a) The schedule system which involves scheduling inspections and works at predetermined time, and
  - b) The contingency system which entails a policy of waiting until a complaint is received from the user before action is taken. However, no one system can effectively operate exclusively. So, the maintenance plan must strike an economic and socially acceptable balance between the two systems of work scheduling which are complementary.
- H. Methods of Executing Project: A major aspect of maintenance planning is the execution of works. The end result of the plan is efficient and economic execution of works. So, the plan has to specify the method by which works will be executed as between contract and direct labour.

Management of urban infrastructure responsible, comprising mostly major works; and work arising from users' complaint which in most cases comprise minor works. There are thus two systems of work scheduling namely, is therefore paramount for the well being of any nation. Decline in infrastructure affects whole areas negatively including the decline in standard of living. It adversely affects social and economic lives. In the planning therefore, the owners, the users, the managers, and of course the infrastructure itself, its use and environment should be taken into consideration. There is a strong need therefore to seriously consider the long term implications of the maintenance of urban infrastructure by adopting effective management strategies.

## 5. RECOMMENDATIONS

Having x-rayed the various types of urban infrastructure, the sources of finance for urban infrastructure, the obstacles to mobilizing resources for urban infrastructure and the problems inherent in the management of urban infrastructure in Nigeria, the paper concludes by making the following recommendation as a way forward towards ensuring an effective financing and management of the nation's urban infrastructure.

- A. Reorienting Public Expenditures:- The most important component in any development and provision of services is finance. Without money the best thought out ideas will never fly or materialize. The resources of governments that have been the major provider of the nation's infrastructure have been dwindling in alarming proportion in the face of national economic depression and world inflation. There is therefore the need for public expenditures, to be orientated in order to ensure that project with high social impact and economic returns are carried out and waste and abuse reduced. Public funds should be used for public series and not for public ventures.
- B. It is also advocated that all public infrastructure must have annual maintenance allocation from the total budget of each organization. This fund should be raised internally using appropriate but non-exploitative mode depending on the nature of the respective public outfit.
- C. A veritable source of underwriting the cost of urban infrastructure which has not been fully exploited is property rating. Income from rating will greatly complement the resource of governments in paying back the heavy cost of provision of urban infrastructure.
- D. The Capital Market should be strengthened and made more functional by the regulatory authorities and participants in order to enable the various government and public corporations and corporate organizations to source for long term funds for urban infrastructural development.



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- E. It is recommended that government funding arrangement should shift from the traditional annual budgeting to a more viable funding based on careful feasibility and viability studies. It will then be possible for governments to fund infrastructure through institutional lenders such as the Urban Development Banks, the World Bank and the Capital Market.
- F. Privatization of public utilities: The public utilities that are currently enjoying monopoly have proved to be grossly inefficient. There is need to pursue with vigour the privatization of the public organs and allowing private sector participation in the various industries, without compromising national security and social responsibility of government. The privatization of toll collection on some selected highways in Nigeria in the past can be extended to other areas of our urban infrastructure for example government could embark on full privatization of our highways to the extent that private enterprises and concerns are made to develop highways on contractor finance basis, after which they underwrite their capital expenses from tolls collection. Privatization will thus ensure competition and promote efficient services. Governments should sell off loss-making public enterprises and ensure the professionalization and commercialization of utilities
- G. 7. Government should encourage Public-Private Partnerships in order to raise finance for urban infrastructure. Public-Private Partnerships (PPP) refers to an arrangement between the public and private sector for the delivery of public infrastructure or services. Both parties function as partners in project development and implementation, and share the responsibilities, resources, risks and returns.
- H. Research: The paramount reason why our urban infrastructures go into decay through lack of maintenance and neglect is principally because the components are not in consonance with our level of technology. They are import oriented which make them very expensive in the face of the falling value of the naira vis-à-vis other foreign currencies especially the Dollar and British pound. The Federal Government should as a matter of policy encourage research through funding and incentives. The research will focus on areas of design and engineering of infrastructural components.
- I. 9. In view of the fact that management of urban infrastructure are dependent on adequate information and data, which must be accurate and relevant to aid policy-making and decision taking at all levels of management, Government should as a matter of urgency pay more attention to data gathering and information dissemination.
- J. 10. An effective maintenance culture for all urban infrastructural facilities should be pursued, by placing emphasis on planned maintenance as against corrective maintenance to ensure cost-effectiveness as well as to prolong their useful and economic lives.

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