

**INFRASTRUCTURE DEVELOPMENT IN GLOBAL ECONOMIC MELTDOWN: A FRAMEWORK FOR  
THE REAL ESTATE PROFESSIONAL'S RESPONSE**

**Authors**

<sup>1)</sup> **A. C. Ogbonna,**

B.Tech. (Est.Man.), M.Sc., Ph.D. (Project Mgt.), ANIVS, RSV,MNIM

Department of Project Management Technology, Federal University of Technology, P.M.B. 1526, Owerri, Nigeria

<sup>2)</sup> **V.A.Akujuru**

B.Sc., M.Sc., FNIVS

Dean, Faculty of Environmental Sciences, RSUST, Port Harcourt, Rivers State, Nigeria

## **INFRASTRUCTURE DEVELOPMENT IN ECONOMIC MELTDOWN: A RESPONSE FRAMEWORK FOR DEVELOPING COUNTRIES' REAL ESTATE PROFESSIONALS**

### **Abstract**

*The current global economic meltdown has major roots in real estate with the construction subsector being a very important economic indicator but also reacting faster to a recession arising from the usual resultant credit squeeze. As a response to recession, economic theorists recommend, among other things, investment in public goods such as infrastructure which itself is part of real estate. In agreement and to cope with the meltdown, this paper reviews the peculiarities of developing infrastructure and recommends the appropriate role for the built environment, and especially, real estate, professional from a developing country perspective.*

**Key words:** Infrastructure, real estate, economic meltdown, development, real estate professional.

### **Introduction**

The nature and state of health of an economy is important for the success of any real estate investment since different labels describe different economic forms, and states of health of an economy. The 'meltdown' economy or recession is one way in which the above referenced state of health can be described and this forms the context of this discourse.

Generally, speaking, a recession is recognized at least, when the gross domestic product (GDP) growth rate falls for two consecutive quarters, and there is significant loss of jobs.

In the absence of up to date official statistics, it is safe to assume that Nigeria is in a recession since the current economic meltdown is global in nature and Nigeria is part and parcel of the world as a global village. In addition, and in consequence, we agree that countries like Nigeria that are physically far removed from the epicenter of the financial crisis (or not operating similarly) are now suffering the 'second-round effects' as the crisis becomes more fundamentally economic. It needs to be noted however that some endogenous factors such as militancy/insecurity, a mono-product economy, corruption, dwindling foreign reserves and poor infrastructure provision have contributed to the case of Nigeria.

The current global economic meltdown has manifested in severe credit, banking, currency, and trade crisis. The crisis which brewed for about two years became full blown by 2008-2009 especially in the United States of America (US), with the worst hit including corporate giants like Lehman Brothers, Merrill Lynch, Bear Stearns, Goldman Sachs, Freddie Mac, and Morgan Stanley. The case of AIG, the biggest insurance company in the world remains remarkable.

A number of factors have been canvassed as being causative to the meltdown. A closer scrutiny however reveals that some of these factors are merely manifestations or symptoms of the real causes. These symptoms include real estate and commodity boom and bust, with sub-prime, and adjustable rate mortgage (ARM) default as the most culprits, in addition to fiscal squeeze. Among the most popular explanations of the real causes of the meltdown are monetary policy mistakes, and failure of financial regulation, government policies, rise in the use of risky instruments, rising inequality and cartelization of industry. Others are greed, and irrational exuberance, housing speculation, and predatory lending.

In particular, the introduction, and profuse securitization exemplified by mortgage backed securities (MBSs), credit default swaps (CDSs), collateralized debt obligations (CDOs), and automated loan approvals (loan approval without appropriate review and documentation) seem to have aggravated the situation.

In terms of policy mistakes in the U.S for instance, the Finance Modernization Act 1999, Commodities Futures Act 2000 which aided the Enron fiasco, and the Employee Retirement Income Security Act 2000, are prominent. It can be seen from the foregoing that the current meltdown seems to have taken greater purchase on housing mortgage – an essential and significant aspect of real estate management practice especially in the countries mentioned earlier, hence the relevance of this discourse to the real estate management practitioner.

In addition, the real estate economic sector, and its development (construction) sub sector is not only a very important indicator in the economy of nations, it also tends to react faster to recessions arising from the usual resultant cash/credit squeeze. The above situation is often coupled with higher input costs with the consequence of reduced industry activity, worth and income loss on the part of real estate investments, and professionals.

Moreover, economic theorists are all agreed that one sure way to ameliorate economic meltdown such as currently exists globally, is to increase government spending in social/public goods such as infrastructure and such a course of action must of necessity involve real estate development, and professionals if the objectives are to be optimized. Other macroeconomic remedies include increasing borrowing and reducing interest rates, and taxes. The main aim in public infrastructure development in this circumstance is to attempt to stimulate demand, taking advantage of the high intersectional linkage value inherent in real estate development.

It is against the above milieu that this paper deems it necessary that professionals in the built environment of developing countries be acquainted with the most direct policy imperatives in a meltdown situation as a basis for an informed professional response.

### **Infrastructure as Real Estate**

It goes without saying that there are different options in real estate development. It is also true that finance, and actual development of real estate can be sourced, and organized respectively, in different ways.

A simple classification of real estate investment presents business, residential, and social, as the main classes that can be undertaken by private, and public client-groups, hence providing yet another classification model. It is noteworthy to immediately state that real estate investment and/or development is capital intensive. The attributes, especially of capital insufficiency, usually associated with economic meltdown, as already presented earlier in this work, therefore drastically reduce prospects of real estate development project, and investment success.

Talking about project, and investment success, this paper thinks that one way of guaranteeing success or minimizing failure in real estate investment is by minimizing or eliminating failure in the development phase.

Given that macroeconomic theorists recommend public infrastructure development during economic meltdown, we consider it expedient to avoid the pitfall of encyclopedic listing of real estate finance and development options and rather concentrate on the finance and development of infrastructure. A further consideration is that not only is the government the lender of the last resort in a meltdown, as is practically evident in the ongoing billion dollar bailouts in western economies like U.S., UK, etcetera, governments remain the biggest clients of infrastructure projects.

Estate surveyors and valuers in Nigeria are usually involved in infrastructure development especially in terms of determining appropriate compensation for land acquired for infrastructure developments. However, infrastructure investment in these contemporary times tend to involve more complex procurement, and management arrangements,

such as public private partnerships (PPP), outsourcing, alliancing, foreign direct investment (FDI), the requirement of government/statutory guarantees, especially in developing countries like Nigeria, plus a coterie of risks peculiar to infrastructure investment.

It is against the above background that this paper considers an understanding of the peculiar nature of infrastructure development, and investment, a necessary piece of knowledge if the men of the land profession must compete effectively with other professionals in this economic meltdown period.

### **The Concept of Infrastructure**

To most people, the idea of, infrastructure conjures up images of “stock of fixed capital assets”, “infrastructural facilities” or what most contributors refer to as “infrastructural services”. The word infrastructure derives from two roots ‘infra’ and ‘structure’. While the first means forming a basis, the latter refers to a framework or essential parts of a thing. It is important at this point to say that the physical assets mean little or nothing if they are not involved in an on-going process of efficiently and economically delivering services of the right type, quantity, quality and at the right time.

In general, the test of the usefulness of a definition of the term infrastructure lies in showing that a group of activity sectors present significant commonality of characteristics and problems to justify their being lumped together for analytical purposes.

Although several classifications of infrastructure exist, this paper defers to the ‘service’ or ‘function’ perspective which names five sectors: electric power, irrigation, telecommunications, transport, and water supply and sanitation. It can be assumed that power, and sanitation above includes all power types and waste management, respectively.

The following further characterize infrastructure: traditional provision mainly by the public sector, considerable lumpiness in its investments; economies of scale, resulting in quasi or full monopolies; high level of externalities (positive or negative); intermediate input characteristics; important network effects; and difficulties in recovering costs.

Infrastructure can also be characterized, in the main, by the nature of the environment it serves – urban, rural, and inter-urban; by its relation to the overall services structure/network – trunk and feeders; by the relative degree of attachment to the earth’s crust – fixed and moving facilities; and by type of operators – public or private, among others.

Similarly the classification perspective using the nature of function suggests that there are simply two types of infrastructure – physical, and social, both of which this paper considers as ‘hard’ and ‘soft’ infrastructure, respectively. It needs to be further said that most people are unconscious of the social infrastructure since this is usually relatively unseen even while the services are being enjoyed. This type is exemplified by the legal code, with the regulation of relationships and transactions based on the law, as the relevant service.

Other perspectives from which infrastructure may be characterized include maintenance which considers infrastructure as a spectrum of fixed facilities with fixed machinery which suffer wear and tear of usage over time. The other is demand, which relates to the size of the network of sectors which interplay to determine the demand for the service. Related to demand is yet another perspective – competitive markets. Competitive markets considers lumpiness of investments, economies of scale, demand structure, users – suppliers linkages, and the complexity of the required institutional and managerial structures. At one extreme are those activities which can operate competitively and in the private sector such as urban transport, and those for which a private sector environment cannot be created, just as there can be metred, and non-metred infrastructure.

Another characteristic of infrastructure is its linkages with the rest of the economy. This concerns macro-economic linkages, pricing and cost recovery, effects on poverty and on the environment, all of which require proper planning.

It follows then that for an investment in infrastructure capacity to achieve its full potential contribution to economic output depends on operational performance, and demand for the service. To achieve both implies that the infrastructure must be so funded and operated to ensure reliability of services. This will in turn encourage consumers' willingness to pay and the ability of the supplying institutions to cover costs. Reliability, which is generally poor in developing countries, measures the probability that a service will be available in the quantity, quality, and at the time required.

However, before all the above can take place, the infrastructure must first come to life or be developed. This is a cardinal concern of this paper. In Nigeria, infrastructure unreliability, and deficiencies generate extra costs estimated to add between 10-25% to the total machinery and equipment budgets of firms, and this estimate has no doubt increased with the current meltdown. In this paper, infrastructure is understood as the system of land-based physical assets and technologies which collectively provide the enabling environment and deliver the services required to enhance economic growth and the quality of human life in society.

### **Infrastructure Development Disincentives**

The verb "develop" may mean different things, depending on the perspective. Whatever the perspective, one thing is implied – advancement or change of state which must involve a measurable increment (quantitative, qualitative or both).

To most people however, development should be associated with advancement in terms of socio-economic change that touches all spheres of society. In terms of real estate it relates more to the contribution of any building or rebuilding operation and any change in the use of land for a purpose, which is different from its former purpose.

In terms of infrastructure, development should be seen to relate to putting together or bringing into active or visible state those physical assets, which facilitate the efficient functioning of society. Infrastructure development has however been associated with some problems. In the developing countries especially, the problems seem to continue to increase due mainly to the lack of funds, inadequate institutional framework, and lack of appropriate management tools to put them in check.

The problem of finance in particular has been viewed as occupying the top of the list, and as propelling the spate of infrastructure privatization and regulation reforms in developing countries since the 1990s.

That developing countries still lack adequate infrastructure services notwithstanding an estimated allocation, on the average, of  $\frac{1}{3}$  to  $\frac{1}{2}$  of public investment to this sector is a pointer to the sorry state of affairs with the tendency to worsen under the current meltdown.

The funding problem manifests in two forms. The first is sheer inadequacy of funds for the initial development or project phase, as it were, while the second is the insufficiency of the price of the service to meet running costs and recoup the investment within the life of the infrastructure. This second aspect is very important considering that infrastructure costs are usually recovered only over a long period of time, 10-20 years or more.

The next two major problems of inadequate institutional framework, and lack of appropriate management tools, to this paper, seem interwoven in their impact on infrastructure development and the management of the relevant service. The impacts can be felt in the need for better and properly planned development in terms of such things as use of "imported" concepts, and changes of priorities and project scope (especially construction) midway into implementation. The above situations are usually more rampant where governments or their agencies play the role of client, funder or developer. At

other times the choice of infrastructure procurement model brings the two problems above to the fore, when risk allocation is the issue.

Another problem of infrastructure development manifests as wrong investment perception, especially where grandiose project concepts such as metro-lines and satellite-based communications systems, preponderate in government infrastructure philosophy. The Domsat, and TRACON projects are typical examples in Nigeria. Under the problem of perception, infrastructure investment tends to be wrongly viewed in the short term. This view in turn tends to restrict planning to the project phase leaving developers unprepared for the service management phase with all its implications. The use of the wrong procurement model can also be implicated under this problem considering, as stated earlier, that each procurement model demands an appropriate financing structure.

The ownership of infrastructure is yet another problem in developing countries since infrastructure is usually either monopolized, public sector operated or both. In such circumstances, it is difficult to adequately consider the efficiency indices of investment quality, safety, and service obligations all of which constitute an absolute necessity, as a collective.

Every infrastructure development and hence investment is prone to risk which can simply be seen as the variance around a statistically, expected outcome or mean return on investment. The relevant risks include currency, political/regulatory, and sovereign/transfer risks. Other risks are those related to construction, economic viability, off-take, cash flow, demand and payment, interest rate, etcetera, all of which can be compounded in a meltdown situation as now exists. It is to be noted that it may not be easy to completely separate, one from the other, the impact of the risks.

To this study, viability in particular should depend on the quality of demand which itself is directly related to the quantity and quality of service and which service usually has close or real alternatives (no matter how rudimentary or primitive) in line with simple economic logic. Similarly, construction risk should include the risk of the choice of infrastructure development not matching the priorities of recipients in terms of type, quality, quantity and actual need (demand) considering that infrastructure as construction is postpone able. This risk is also directly related to the procurement model chosen to deliver the physical asset, as earlier stated.

Lastly, and related to the problem of ownership discussed above, is the problem of a supply-driven economic orientation. This problem is based on the wrong emphasis on construction and/or expansion of physical assets rather than on service delivery especially in developing countries where infrastructure is mostly public owned/operated.

This discourse believes that the supply orientation serves, as it were, as a socio-political base from which the other infrastructure problems spring, hence the need for a change. The direction of change has tended towards a demand strategy. Although this work shares the idea and direction of change as mentioned above, it also thinks that more needs to be done to modify the classical demand strategy but this attempt requires an understanding of the implications of the demand strategy as it relates to its fundamental reliance on the 'free market' and deregulation philosophy, which the current meltdown seems to negate in emphasis. One major reason is the demonstration, over time, that the normal interplay of private action and market forces often results in situations which most societies are unwilling to tolerate. There are other situations that create risk: lending directly to projects; ownership share in the long run; and government bailing out an infrastructure entity – a position that is currently relevant. The investment disincentives discussed above need to be well understood by the real estate professional in order to provide sound investment and management advice.

### **Infrastructure Finance and Development Options**

Finance or financing, to most people, simply means money. Towing this line of simplicity, and the functional perspective, financing here shall be seen as the system of sourcing and using money or credit for an investment.

To cope with infrastructure risks which can broadly be allocated to governments, firms and consumers, infrastructure financing takes several forms especially where private investors are expected to participate.

Given that infrastructure costs can be recouped only over 10 – 20 years or more, it is only logical to contemplate what a financier or investor would require in order to finance infrastructure development. It is obvious that the investor's interest lies in being repaid the principal. This in our view sounds too simplistic, and may not always be the only case. This paper rather inclines towards the view that the promise that investors receive in exchange for their resources foregone includes specific terms and broader understanding about how future contingencies will be resolved, and with a meltdown seen as one of such contingencies. In other words, they await a promised return which goes beyond just the 'principal'. The above position supposes that infrastructure commitments should, at least, consider investment quality, safety, and service obligations.

However, investors should consider security and liquidity of capital, plus its appreciation prospects; ease of purchase and sale, and costs of same; divisibility of holdings, security in real terms, security and regularity of income.

The main financing options can be summarized to include the following:-

**State/Force Account:** Funds are provided by government through taxes and other earnings as allowed for in fiscal plans, particularly for "Greenfield" or new projects.

**Build-Operate Transfer (BOT) and Variants:** A private company, usually a consortium, that finances, builds, and operates an infrastructure system for a fixed time during which the government has a regulatory and oversight role. The variants include develop-build-operate (DBO); refurbish-operate-transfer (ROT); build-rent-operate-transfer (BROT); build-own-operate (BOO); design-build-finance-operate (DBFO), etcetera.

**Concessions:** An older form of BOT, where an investor contracts to pay government a fee to build or expand and operate infrastructure for a period during which the investor bears full commercial risks and maintenance responsibilities.

**Development Gain:** Now popular in OECD countries, the investor in infrastructure also acquires the right to develop adjoining property to his benefit.

**Voluntarism/Self-Help:** This is the situation where labour and capital are mobilized to construct small-scale local infrastructure with varying degrees of organization and state support or opposition.

**Bonds and Infrastructure Banks:** In the case of bonds, public utilities/infrastructure issue government backed bonds to raise private capital. The infrastructure bank on the other hand is a public-targeted on-lending facility financed through a combination of bond issues, government funds, and external donor support such as was envisaged for the Nigerian Urban Development Bank as initiated in 1992.

It can be said that profit and cost recovery/recouping, and the maintenance of physical assets are logical expectations of every investment. To achieve these objectives, a number of approaches exist. The choice of an approach will however depend to a large extent on what the literature generally calls the ‘political situation’.

Beyond the traditional practice of subsidization in most developing countries, the main methods that can be employed, depending again on the nature of the infrastructure service, are as follows:

**Taxes:** Public charges that are generally unrelated to the costs of production of a particular transaction. The revenue is collected by one set of government departments and spent by another through the budgetary process.

**Tolls:** Direct charges for services that function like prices and are retained by the collecting authority or entity. This mode of retention has not been exactly the case in Nigeria.

**Earmarking:** Pre-commitment of taxes to support or fully fund prescribed infrastructure expenditure with responsibility for revenue and expenditure vested in a representative body/board. This method is also called “off-budget financing” with its similarity to the creation of specialized taxing districts for infrastructure funds.

**Leases/Concession/Franchises:** Usually contracts of 10 – 30 years where the investor acquires the responsibility for operation and maintenance as well as assumes investment and service obligations; similar to shorter 2-5 year, operate and maintain (O & M) service contracts. Whereas leases may involve a payment to a public owner, concessions may also involve extension and asset replacement responsibilities.

**User Charges:** Sometimes called quasi-prices, are indirect charges for infrastructure services that are often levied as fees on proxy transactions and for which, this paper prefers a market-determined direct transaction-based user charge concept that approximates the current practice obtainable in informal private sector transactions as can be observed in most cities.

**Levies:** Surcharges designed as user charges and identified separately from general taxation and paid directly into fund managed by a designated body.

**Management and Service Contracting:** In the former, the responsibilities of the private sector encompasses a broad scope of operations and maintenance for longer periods of time while the latter occurs when specific operations and maintenance are contracted out to the private sector.

### Summary and Conclusion

The current global economic meltdown has its conceptual vortex in sub-prime, and housing mortgage default in the major economies of the world and many corporate giants have become casualties prompting huge financial bailouts by governments. Macroeconomic theory prescribes government investment in physical infrastructure as one way of alleviating the resultant problems. In the above direction, and avoiding the pitfall of an encyclopedic presentation of real estate development options which abound in the literature, this paper presents the case, and concept of infrastructure, its development disincentives as well as the different financing and cost recovery options. This has been done in order to provide the real estate professional with an informed basis for full and in-depth practice in this area of real estate management in a developing economy context.

Noting that the economic meltdown in Nigeria is mixed-up with some endogenous problems like militancy/insecurity, corruption, a mono-product economy, falling foreign reserves, etcetera, this paper is premised on the fact that real estate (infrastructure) investment failure can be avoided by properly husbanding its project or development phase. Another



premise is that one of the remote causes of the current meltdown is unbridled greed, and corruption, bred by the 'free market' with its adversarial tendencies.

This paper therefore concludes as follows: real estate finance will remain scarce for some time to come. If macroeconomic theory is followed, infrastructure investment is one of the real estate developments to target; there is need to minimize the adversarial traits inherent in private enterprise as epitomized by the dual concepts of free market and deregulation especially considering that most of the conditions taken for granted in developed economies do not have exact/ adequate equivalents in most developing economies like Nigeria.

It is also concluded that there is need for full and proper regulation of real estate management practice by professionals themselves, statutory authorities, and professional bodies as well as via the use of appropriate procurement models.

In general, the real estate professional in Nigeria must begin to move away from the preponderant 'agency' into the next level – real estate development; from only determining the value of compensation for land acquired for infrastructure development into becoming project managers, sponsors, proposers, and developers of infrastructure. Similarly, the pure project management, and alliancing approaches are recommended as procurement options since these provide a combination of a single-point-of- responsibility for success or failure, and non-adversarial interaction of project stakeholders, a combination that can help weather the current meltdown.

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