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**THE RELEVANCE OF VIABILITY APPRAISAL IN THE PROPERTY DEVELOPMENT
PROCESS: A CASE STUDY OF RESIDENTIAL PROPERTY DEVELOPMENT
PROJECTS IN MINNA**

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ABSTRACT

Property development is a process, which involves more than the mere carrying out of building construction works. Viability appraisal is part of the property development process and is concerned with the worthwhile ness of a proposed property development scheme, project or decision. In the Nigerian construction industry, viability appraisal is yet to be fully integrated into the development process. This has resulted in the ignorant investment of funds by private and public developers into property development schemes, which are economically and financially unviable, ab initio. This paper examines the relevance of viability appraisal in the property development process. The paper is based on data obtained from some recently completed property development projects in Minna urban. Analysis of data to determine the viability of the developments, based on the Net Development Value as the viability yardstick revealed that some of the property developments already completed are unviable. The paper argues that viability appraisal is very relevant as a property development process, particularly, before the commencement of any proposed property development project. The paper advocates for mandatory viability appraisal in the National Construction Policy and concludes that such initiative would curb the current wastage of scarce financial resources by private and public investors in property development projects already infested with economic losses and undesirability.

INTRODUCTION

According to the Nigerian Urban and Regional Planning Decree (now Act) of 1992,

“development means the carrying out of any building, engineering, mining and other operations in, on, over, or under any land, or the making of any environmentally significant change in the use of any land or demolition of buildings including the felling of trees and the placing of free standing erections used for the display of advertisements on the land”.

This definition is very elaborate and extensive, including property, real estate or land development, agricultural development, mining, engineering construction, modification, redevelopment, among other forms of development. This paper is strictly limited to building projects with particular focus on viability appraisal as an aspect of property development process. Property development entails the expenditure of a certain amount of money on land or building to effect a change in the pattern of use of such land or building. Property development appraisal comprises feasibility and viability appraisal. Umeh (1977) suggests that feasibility appraisal is concerned with the fundamental question of the practicability or possibility of a proposed decision, be it development scheme, investment project and so on while viability appraisal is concerned with the equally important question of the worthwhile ness of the proposed decision or project. According to Ogbuefi (2002), viability appraisal examines the cost and benefits expected from the proposed project and attempt to answer the question of the worthwhile ness of the proposed development project.

VIABILITY APPRAISAL OF PROPERTY DEVELOPMENT PROJECTS

The residual method of valuation is the basis of all developmental valuation, including viability appraisal (Ifediora, 2005). According to Umeh (1977), residual Valuation has evolved into what has become known in modern times as developmental valuation. Lawrence, Rees and Britton (1962), Baum and Mackmin (1989), Butler and Richmond (1990), Ifediora (1993), Kalu (2001) and Ogbuefi (2002) treat residual and developmental methods of valuation as one. Also, the two approaches are regarded as one in American appraisal practice and British valuation methodologies.

Like other viability appraisal techniques, developmental valuation technique operates based on the economic principle of profitability. The Net Development Value (NDV) is the viability yardstick or performance indicator whenever this viability appraisal technique is used. The Net Development Value (NDV) is simply the excess or the surplus of the present value of the Gross Development Value (GDV) of the project or development over the present value of the total cost of carrying out the development. A positive Net Development Value indicates that the proposed investment or development can break-even and is viable. A negative Net Development Value on the other hand shows that the investment or development cannot break-even and therefore is unviable. In situations where decision on whether the development should be sold on completion or let, the NDV of the project assuming it is sold is calculated and the NDV of the project assuming it is let is also calculated. The decision with the highest NDV is the more worthwhile of the two decisions. As illustrated by Umeh (1977), developmental valuation as a viability appraisal technique combines in one stroke the salient elements of break-even valuation and viability performance indicator. The Developmental Valuation model is as follows:

$$\begin{aligned}
 \text{NDV} &= \text{GDV} - (\text{DC} + \text{DP}) \\
 \text{Where NDV} &= \text{Net Development Value} \\
 \text{GDV} &= \text{Gross Development Value} \\
 \text{DC} &= \text{Development Cost} \\
 \text{DP} &= \text{Developer's Profit}
 \end{aligned}$$

METHODOLOGY AND DATA

Data for the study were collected from some newly completed properties in Minna Urban. A total of 25 newly developed residential flats and maisonettes were randomly selected for the study. Out of these, only 7 properties were accessed for data collection, representing about 28% of the properties selected. This sample size is small, but results obtained from data analysis are very interesting. The small size of the sample is due to the refusal of most of the property owners and developers to release data on the development cost of the properties, apparently for fear of the unknown and other personal reasons. Data collected comprise data on property investment variables and includes data on net floor area, current rental value, location, present use of the property, yields and comparable sale prices in the property market as presented in Table 1. Data on development cost variables comprise data on gross floor area, building cost per square metre, site acquisition and planning, development finance cost and developer's profit level as presented in Table 2.

TABLE 1: Property Investment Variables of the Properties under Study

Property	Present Use	Location	Net Floor Area (M ²)	Rental Value (N)	Yield (%)	Comparable Sale Price (N)
P ₁	Residential	F - Layout	225.0	120,000	4.6	2,500,000
P ₂	Residential	F - Layout	235.8	140,000	4.5	3,500,000
P ₃	Residential	F - Layout	219.2	185,000	5.2	5,600,000
P ₄	Residential	F - Layout	273.1	180,000	4.5	4,500,000
P ₅	Residential	Bosso	98.4	65,000	4.2	1,500,000
P ₆	Residential	Tunga	101.5	65,000	4.2	1,500,000
P ₇	Residential	F - Layout	248.4	120,000	4.6	2,500,000

Source: Field Data (2006)

TABLE 2: DEVELOPMENT COST VARIABLES OF THE PROPERTIES UNDER STUDY.

Property	Gross Floor Area (M ²)	Building Cost Per M ² (₹)	Site Acquisition (₹)	Development Finance Cost (₹)	Developer's Profit Level (%)
P ₁	250.0	7,250	226,563	88,450	9
P ₂	262.0	8,300	271,825	106,120	10
P ₃	243.6	12,500	380,625	148,623	12.5
P ₄	303.4	12,000	455,100	177,671	13
P ₅	109.3	5,320	222,685	28,376	9.5
P ₆	112.8	5,320	235,012	29,285	9
P ₇	276.0	7,250	250,125	97,649	10

Source: Field Data (2006)

RESULTS AND DISCUSSION

Properties accessed for the study and from which data in Table 1 and Table 2 were collected were designated P₁ - P₇. The Gross Development Value of the properties was determined based on current letting as presented in Table 3. The Gross Development Value is the capital Value of the development and is determined by capitalising the rental value by the years' purchase, also known as the multiplier or capitalisation factor. The plot sizes are not equal. Viability appraisal of property development projects are based on the net floor area and gross floor area of properties and not on the sizes of plots upon which these properties are developed. The developer is the entrepreneur or decision-maker who brings together factors of production and puts them into action to develop the properties. In this case, the developer is the building contractor. Also, the yields obtained from the property market (see Table 1) are growth -implicit yields and as such rental growth are implied in these yields. The Total Development Cost of the properties was calculated as presented in Table 4. The Gross Development Value (GDV) and the Total Development cost were extracted from Tables 3 and 4 respectively as presented in Table 5 to compute the Net Development Value (NDV) of the properties based on current letting. Properties P₃, P₄, and P₇ produced negative NDV, implying that they are unable to break-even and are economically and financially unviable as they are let. The NDV based on sales was also computed as presented in Table 6. However, properties P₄ and P₇ continued to maintain a negative NDV status. This implies that whether they are continued to be let or sold, they remain unviable developments. The NDV of current letting and NDV of sales were extracted from Tables 5 and 6 as presented in Table 7. Thus, in the final viability appraisal, properties P₁ P₅ and P₆ must continue to be let for them to remain viable, all things being equal, while properties P₂ and P₃ must be sold to attain a higher viability or worthwhileness. Also, the present uses of properties P₄ and P₇ must be changed completely, since they are not the highest and best uses for the properties at the moment.

TABLE 3: Gross Development Value (GDV) of the Properties Based on Current Letting

Property	Rental Value (₹)	Yield (%)	Yp In Perp*	Gross Development Value (₹)
P ₁	120,000	4.6	21.7391	2,608,692
P ₂	140,000	4.5	22.2222	3,111,108
P ₃	185,000	5.2	19.2308	3,557,698
P ₄	180,000	4.5	22.2222	3,999,996
P ₅	65,000	4.2	23.8095	1,547,618
P ₆	65,000	4.2	23.8095	1,547,618
P ₇	120,000	4.6	21.7391	2,608,692

Source: Field Data (2006)

* Year's purchase in perpetuity

TABLE 4: TOTAL DEVELOPMENT COST OF THE PROPERTIES BASED ON DATA IN TABLE 2

Property	Building Cost (₦)	Site Acquisition (₦)	Development Finance Cost (₦)	Developer's Profit (₦)	Total Development Cost (₦)
P ₁	1,812,500	226,563	88,450	234,783	2,362,296
P ₂	2,174,600	271,825	106,120	311,080	2,863,625
P ₃	3,045,000	380,625	148,623	444,694	4,018,942
P ₄	3,640,800	455,100	177,671	519,948	4,793,519
P ₅	581,476	222,685	28,376	147,027	979,564
P ₆	600,096	235,012	29,285	139,289	1,003,682
P ₇	2,001,000	250,125	97,649	260,880	2,609,654

Source: Field Data (2006)

TABLE 5: NET DEVELOPMENT VALUE (NDV) BASED ON CURRENT LETTING

Property	Gross Development Value (Letting) (₦)	Total Development Cost (₦)	Net Development Value (₦)
P ₁	2,608,692	2,362,296	246,396
P ₂	3,111,108	2,863,625	247,483
P ₃	3,557,698	4,018,942	- 461,244
P ₄	3,999,996	4,793,519	- 793,523
P ₅	1,547,618	979,564	568,054
P ₆	1,547,618	1,003,682	543,936
P ₇	2,608,692	2,609,654	- 962

Source: Field Data (2006)

TABLE 6: NET DEVELOPMENT VALUE (NDV) BASED ON SALES

Property	Gross Development Value (Sales) (₦)	Total Development Cost (₦) As Before	Net Development Value (₦)
P ₁	2,500,000	2,362,296	137,704
P ₂	3,500,000	2,863,625	636,375
P ₃	5,600,000	4,018,942	1,581,058
P ₄	4,500,000	4,793,519	- 293,519
P ₅	1,500,000	979,564	520,436
P ₆	1,500,000	1,003,682	496,318
P ₇	2,500,000	2,609,654	- 109,654

Source: Field Data (2006)

TABLE 7: RATIONAL DECISIONS FOR THE DEVELOPMENTS BASED ON NET DEVELOPMENT VALUE (NDV) AS THE VIABILITY YARDSTICK.

Property	Net Development Value (Letting) (₦)	Net Development Value (Sales) (₦)	Right Decision
P ₁	246,396	137,704	Continue Letting
P ₂	247,483	636,375	Sell
P ₃	- 461,244	1,581,058	Sell
P ₄	- 793,523	- 293,519	Change use
P ₅	568,054	520,436	Continue letting
P ₆	543,936	496,318	Continue letting
P ₇	- 962	- 109,654	Change use

Source: Field Data (2006)

FINDINGS

The findings of this study give a picture of the colossal losses made by ignorant property investors and developers in the Nigerian construction industry. If there was viability appraisal before the commencement of development, owners of properties P₂ and P₃ would have been advised ab initio to sell the properties immediately after completion instead of letting them as they are now. As shown in Table 7, selling them realises higher Net Development Value than letting and as such makes the investments more viable and worthwhile. Also, owners of properties P₄ and P₇ would have known from the beginning that the development are unviable under their current uses and would have changed the uses from their present residential use to highest and best uses. Such advice would have helped the owners of properties P₄ and P₇ in rescinding their decision of investing in such unviable property development projects.

CONCLUSION

Viability appraisal is inevitable if prudent investments in property development in Nigeria must be achieved. It should be fully integrated into the property development process in the Nigerian Construction industry. Property development professionals such as architects, builders, estate surveyors and valuers, quantity surveyors and town planners should enlighten their clients on the need to carry out viability appraisal of their proposed property development projects before embarking on them. Besides, viability appraisal of proposed property development schemes should be made mandatory for property developers, whether private or public, particularly where such development is purely for the purpose of investment.

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