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PRIVATE ESTATE INVESTMENT AND MAINTENANCE PROBLEM: A CASE STUDY OF BIDA, NIGERIA.

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ABSTRACT

The importance of housing sector of the Nigerian economy has declined in the recent times due to the problems of falling rate of investment and our inability to preserve the existing stock. This paper examines maintenance problem in the private housing estates in Bida, Niger State and its effects on investment returns. The Methodology employed is the direct field survey approach using personal observation and the questionnaire for data collection. Amongst others, research results reveal a backlog of maintenance works arising from inadequate and irregular maintenance schedule in most estates. This resulted to general property degradation with over 80% of the apartments having both structural and ancillary facility problems. The existing maintenance problems have therefore lowered the property and rent values in most estates a situation, which reduces the level of user satisfaction and the investment returns as well. The main cause of the observed state of affairs in the estate centers around poor management. The study therefore concludes with recommendations on a management approach which seeks the cooperation of the estate residents.

1. INTRODUCTION

Prior to industrial development, housing was a major area of capital investment most especially in the Nigerian private sector. Available facts have it that, buildings constituted the most important single sector of capital formation, accounting for an average of 40% and 35% of gross fixed investment in the 1951-1958 and 1959/60-1969/70 periods respectively (Aboyade, 1960 and Adeniyi, 1985). Amongst others, the productivity of the housing sector is recognized not only in the area of capital

formation and the creation of wealth, but also in its ability to generate and stimulate growth in other sectors of the economy. For most investors therefore, housing development, with good management and maintenance, are a life-long rewarding investment.

The Nigerian private sector witnessed much more increases in housing investment in the 1970s. Following from the increases in housing construction activities between 1975 and 1978 (Kumuyi and Onibokun, 1990), most towns and cities, including

Bida, had their fair share of housing investment. However, as the industrial and commercial sectors develop, building investment is increasingly being viewed as a long - term low profit yielding venture and has attracted low investment in recent times. This fact is confirmed by the findings of the 1995 urban and housing indicator study which shows that there is a low investment in housing as a proportion of the GDP due to financial constraints (Nigerian National Report for Habibat II, June 1996).

The problem faced by the Nigerian private housing sector goes beyond that of falling rate of investment to include the inability to preserve the existing stock. Although building investors have the primary aim of preserving the value of their assets to ensure continuous and satisfactory investment returns (Reginald Le, 1976), recent economic recession and cash constrains have resulted in property neglect. The various maintenance problems have therefore affected, to a large extent, property values and rate of their investment returns.

Arising from the different problems of housing supply and maintenance, public housing projects have attracted studies that drew up criticisms on policy and maintenance problems. However, what seems to be apparent is that little attention is often paid to the private sector which accounts for over 80% of housing investment in Nigeria. As it were, the private sector is faced with the serious problem of property maintenance. This problem is noticeable in Bida where most estate buildings have deteriorated over the years. This paper therefore examines the maintenance problems in the existing

private estates with a view to determining their effects on investment returns.

2 BASIC THEORETICAL ISSUES ON INVESTMENT AND MAINTENANCE

In simple terms, investment is defined as the laying down of money for profit in the purchase of some types of property (Lexicon Website Dictionary, 1977). The boundary of this definition has been extended by the encyclopedia of the social sciences which viewed investment as sacrifice for future benefit. It stated further that investment at any given period (I_t) is the amount by which consumption (C_t) falls short of income (Y_t), i.e. $I_t = Y_t - C_t, \dots (i)$

There are two basic views of investment. First is the idea of the classical theorists, including Karl Marx and his followers, who viewed it as a process of capital accumulation. However, other contemporary theorists like *Fishers* (1930) have introduced time dimension into the economic theory of choice by viewing investment as a means of achieving an optimal pattern of consumption over time. A synthesis of these two views configures investment as the act of saving for future consumption.

Whether viewed partly or as a whole investment demand is determined by certain interacting factors that affect profitability on the one hand and interest rate on the other. Although reasonable arguments have been provided for this, many economists have stressed that, rather than interest rate, the criteria factors affecting investment demand are those determining profitability most especially at the level of "marginal efficiency" of investment. This assertion has further been

concretized with the empirical works of Tinbergen (1938) and Klein (1951) which find substantial positive correlation between investment demand and profit rather than interest rate.

Given profit as the fundamental determinant of investment demand, the decision to invest at the individual level however depends on certain factors which Fisher (1930) gave as: (i) the endowment stream over time, (ii) the preference function (desirability) and (iii) the opportunity set (the productivity and financial possibilities for transforming the original endowment into other time combinations). These factors, together with the investment climate (i.e. policy frameworks), will determine the timing and level of investment in a given economy.

The profitability of any housing investment will depend on the level of property upkeep. This is because maintenance is an important aspect of the building process which arrest decay, extends building life span, delays replacement and defers expenditure on new construction (Reginald Lee, 1976). The owners desire for profit and long-term interest in the property thus leads him to place greater emphasis on structural repairs.

In their work on individual building structure and the behaviour of property owners, Davis and Winston (1961) argued that most buildings could be maintained in good state of repairs provided that their owners are willing to undertake the maintenance expenditure required. However, the investors desire for steady investment return is often matched with the desire to keep maintenance expenditure to the minimum. Hence, whenever maintenance cost imposes heavy burden on

marginal profit, the premises may not be adequately maintained (Seeley, 1985). This, together with any financial problem which the property owners may face, have therefore accounted for the backlog of property maintenance, which is characteristic of the private sector in most developing countries. Within this context, we consider the situation in Bida, Nigeria.

3. RESEARCH CONTEXT

Bida is an ancient medium sized town in Niger State, Nigeria which lies at latitude 9° 06' north of the equator and longitude 6° 01' east of the Greenwich meridian (Figure 1). It has a built up area of about 9.43 square kilometer. The National Population Commission, Minna estimated the town's population at 117, 814 in 1996. The bulk of the indigenous population lives in compact traditional compound buildings found mainly in the core area.

Today the traditional buildings form the bulk of the existing housing stock. As observed by Marx-Lock Group (1980), the entire housing environment is overcrowded, unsanitary while the traditional buildings lack basic facilities. The conditions, coupled with the owner occupancy rate necessitated the development of more modern units to cater for the emerging elite and the in-coming skilled labor. Hence the development of a significant number of private housing estates among which the Bagudu estates I, II and IV, Shehu Bida and Bamisun estate II were selected for study (Figure 2).

4. METHODOLOGY

Data used in this study were derived from both the primary and secondary sources. The primary data were collected from

existing literature while the secondary data were gathered through the use of structured questionnaire, oral interview and field observation.

The primary data collection followed a reconnaissance survey during which the existing private estates listed in Table I was identified. Amongst these, the sample population was determined using building condition in the estates as a criterion for selection. Hence, Bagudu estates I, II and IV, Shehu Bida and Bamisun estate II were

the condition of structures is deteriorating or highly deteriorated were selected for study.

In a total enumeration of occupied buildings in the selected estates, 6, 5, 42, 6 and 6 were distributed in Bagudu estate I, II, and IV; Shehu Bida and Bamisun estates respectively. Twelve of the questionnaires were administered on household heads in the estates.

TABLE 1: NUMBER AND CONDITION OF PRIVATE HOUSING ESTATE IN BIDA

S/No.	Name of Estate	No. of Building	Building Types	Condition of Estate
1.	Bagudu Estate I	8	3-Bedroom Flat bungalows with boys' quarters	Deteriorating with 2 flats vacant.
2	Bagudu Estate II	5	2-Bedroom Flat bungalows with boys' quarters	Fair but deteriorating.
3.	Bagudu Estate III	3	3-Bedroom/2-bungalows with boys' quarters	Fair, one apartment vacant.
4.	Bagudu Estate IV (Ramatu Dangana)	74	3-Bedroom/2-bedroom bungalows without boys' quarters	Estate severely deteriorated with 31 obsolete buildings.
5.	Bagudu Estate V	4 builds of 24 aparts.	2-Story builds. Of 3-Bedroom Aprts. Without boys' quarters	Fair, buildings requiring maintenance and repairs
6.	Bamisun Estate I	14	2-4 bedroom bungalows	Estate in fair condition
7	Emagiti Estate	10	1-2 rooming Apartments	Good condition
8	Ramatu Estate	9	1-2 rooming Apartments 6,2-rooms self contained	Good condition (new building).
9	Nma Lonchita Estate	4	2 and 4-Bedroom bungalows quarters	Estate in fair condition.
10	Nma Usman Estate	6	3-Bedroom Flat bungalows with boys' quarters	Buildings in sound condition.
11	Shehu Bida Estate	6	2 & 3 -Bedroom Flat bungalows	Buildings in fair but deteriorating condition.
12	Alh. Yaha Seyuti Estate	4	2 Bedroom Flat bungalows without boys' quarters	Buildings in sound condition.
13	Alh. Nda Liman Estate	8	2-Bedroom Flat bungalows without boys' quarters	Buildings in sound condition.
14	Baban Kogi Estate	4	3-Bedroom Flat bungalows without boys' quarters	Buildings in fair condition.
15	Bamisun Estate II	6	2-Bedroom Flat bungalows without boys' quarters	Buildings in deteriorating condition.
16	Shitima Estate	6	2 & 3-Bedroom Flat bungalows	Buildings in sound condition.
17	Alh. Umar Estate	10	3-Bedroom Flat bungalows with boys' quarters.	Estate in fair condition.

SOURCE: FIELD SURVEY, 1998

5.0 RESEARCH RESULTS

5.1 BUILDING MAINTENANCE NEEDS AND ACTIVITIES

Building maintenance is important not only because it preserves the value of the existing stock, but also because it enhances their utility and gives the necessary housing satisfaction desired by the users. Our investigation into the building maintenance activities in the estate studied was preceded by the determination of maintenance needs in the area. Research findings on this reveals a high level of maintenance need as 41 (89%) of the respondents affirmed that their apartment require maintenance work while only 5(11%) are of the contrary opinion. This result shows a high level of maintenance need and reveals the backlog of maintenance work existing in the estates. To ascertain this, 79.2% of the residents confirmed that the landlords do not often carry out the necessary maintenance work in their estates. Where and when maintenance work is done, our findings, as shown in table 1, reveal that it is done on irregular basis. On examining the frequency of maintenance activities in the estates, it was found that, in a few cases, maintenance is done once 3-4 years while in most cases, it is done occasionally, say once in 5-10 years.

Aside from the irregularities observed in the schedule of maintenance activities, the quality and quantity of work done was also investigated. Here, results show that the work done, in most cases, falls short of expectation. In the rating of the level of maintenance work often carried out on their apartments, only one respondent

Table 2: RATING OF MAINETNANCE ACTIVITIES

RATING	NO.	%
Regular	4	10
Irregular	36	90
Total	40	100

Source: Field Survev. 1998

rated it as adequate, 13(31%) rated it as fair while 28(67%) rated it as inadequate (Table 3). The combine problem of irregularity and inadequacy work in the estate has resulted into the problems of decay in the area. In the assessment of the general maintenance of their estate therefore, none of the residents rated it as adequate, 12(27%) rated it as fair while 33(73%) rated it as inadequate.

TABLE 3: RATING OF ESTATE MAINTAINANCE WORK

RATING	QUALITY OF WORK		General Maintenance	
	No	%	No	%
Adequate	1	02	-	-
Fairly adequate	13	31	12	27
Inadequate	28	67	33	73
Total	42	100	45	100

Source: Field Survey 1998

The observed poor state of estate maintenance results from property neglect on the part of the estate owners who do not inspect or renovate their properties for years. Also when and where maintenance work is done, residents often complain of the use of second - hand or substandard materials for building maintenance

The observable property neglect by the estate owners imposes heavy maintenance responsibility on individual tenants most of whom confirmed that they carry out minor routine renovation works on their apartments to make them fairly habitable. On the average, the annual maintenance cost incurred by residents is estimated at ₦2,625.00. In few cases, this cost is deducted from the tenant rent while in most cases, such costs are not recovered at all.

At Ramatu Dangana estate, the practice is that prospective renters carry out the necessary repairs before moving into the apartments. Findings reveal that such initial works could amount to between ₦10, 000.00 and ₦30, 000.00, depending on the level of disrepair. However, irrespective of the amount spent on renovation, the renters only enjoy one year rent free accommodation after which they commence full rent payment. Also, any subsequent maintenance cost is usually borne by the tenants. The maintenance problems, as identified above, have negative implications on property values as well as investment returns in the estates surveyed.

5.2 GENERAL HOUSING CONDITION AND PROBLEMS

The existing backlog of building maintenance works has resulted into general poor condition of structures in the five estates studied. Research investigation reveals that over 80% of the apartments examined have structural and ancillary facility problems and are in their various stages of dilapidation. At Ramatu Dangana estate for instance, thirty one of the existing seventy four flat apartments were obsolete and vacant at the time of the survey while at the Bagudu Waziri estates, 1, 2 of the 8 flat

apartments were vacant. All other apartments in the estate have such general problems as broken window and door fittings, damaged and leaking roofs, rough floors, broken toilets and bathroom fittings, damaged water pipes, blocked sewers and poor drains etc. Other services such as water supply and lighting are also considered inadequate. Arising from these inadequacies, only 14.3% of the residents rated their apartments as good, 79% rated theirs as fair while 6.1% rated as completely poor (Table 4).

Aside from the poor structural and service condition of the apartments, the entire housing environment in the estates is also inadequate. The residents have, for instance, complained of poor lighting, inadequate road network (most especially at the Ramatu Dangana estate), poor security services and bushy environment.

Table 4: RATING OF CONDITION OF APARTMENTS

Rating	No	%
Good	7	14.3
Fair	39	76.6
Poor	3	6.1
Total	49	100.0

Source: Field Survey, 1998

The combined problems of structural deterioration, poor services and environmental condition in the estate have significantly reduced the utility and the serviceability of the existing housing stock. Hence, rather than availability of good housing facilities, residents occupy and continue to stay in their respective apartments for various other reasons amongst which the desire to enjoy privacy

is prime most (Table5). The current poor and deteriorating condition of the estates have therefore reduced the property value and has great implication for investment returns as discussed below.

Table 5: REASONS FOR LIVING IN THE ESTATES

Reasons	No	%
Availability of good housing facilities	3	6.1
Privacy	36	73.5
Adequate security	-	-
All of the above	3	6.1
Proximity to place of work	5	10.2
Lack of alternative suitable houses	2	4.1
Total	49	100.0

Source: Field Survey. 1998

5.3 EFFECTS OF POOR HOUSING MAINTENANCE/CONDITION ON INVESTMENT RETURNS

Building investors preserve the value of their asset to ensure long term trouble – free investment capable of yielding continuous and satisfaction returns (Reginald Lee, 1976). However, where properties are allowed to deteriorate, the subsequent reduction in value affects the prices of rents they command at the housing market. Oral evidence from the caretakers of Ramatu Dangana and Bamisun estates confirm this assertion. At the Ramatu Dangana estate for instance, 31 flat apartments were completely obsolete and unoccupied at the time of our survey. The estate caretaker estimated that each of the 31 obsolete flats could have attracted a minimum of ₦6000.00 annual rent at ₦500.00 per month. The annual revenue loss for the 31 uninhabitable

apartments therefore amounts to ₦186,000.00. According to the residents adequate investment return is hindered due to persistent vacancies and low chargeable rent in some occupied, but deteriorated buildings. Not only this, residents confirmed that many other prospective tenants are not attracted to the estate and thus, the entire property, if offered for sale, commands low price.

The overall research findings therefore show that the generally poor housing conditions in the estates have to some extent, lowered the property and rent values in the areas. The different levels of maintenance problems in the estate studied and their implications for housing satisfaction and investment returns therefore call for proper attention.

6.0 CONCLUSION AND RECOMMENDATION

Whereas it is true that adequate housing management (in terms of the provision of necessary facilities, services and good house keeping) ensures optimum benefits to both the Landlord and the Tenants, our research results show that the backlog of maintenance work in the estates studied has negative outcomes for the property owners and the users. As revealed by our data analysis, most tenants expressed dissatisfaction with the poor condition of their apartments as well as the desire for urgent and adequate maintenance of all the structures and services in the estates.

Viewed from the perspective of the contractual responsibility of the property owners, every Landlord has the obligation to undertake proper repairs of structural and facility wear and tear. There are

evidences that the owners of the estates studied are wary of this fact as efforts are sometimes made to maintain the properties. However, the problem is that most maintenance works are over-delayed and entrusted on the caretakers who poorly execute the work or refuse to do the work in some cases. Hence, the major management lapses identified are the lack of constant inspection of estate properties, inadequate maintenance of estate buildings and the use of unskilled personnel as estate managers. From all indications, there is the urgent need to arrest the on-going property decay to ensure adequate user satisfaction as well as optimum investment return. While calling for quick renovation of the estate buildings and services, adequate environmental upkeep and security are highly desirable. Above all, a landlord-tenant forum for regular meeting is recommended to ensure adequate information flow and mutual understanding among the lessors and the lessees. As rightly observed by Lawal (1997), 'it is a good management policy to adopt measures which encourage in tenants, a responsible attitude to the dwelling he lives in. Enlisting the cooperation of the tenants and their involvement in the management of the estates will therefore go a long way in improving the service condition of the private estates in the area.

Good estate management entails a planned maintenance policy which, according to Hutchinson et. al. (1978), is defined as 'the necessary work organized and carried out with forethought, control and records'. It is therefore recommended that the estate owners in the area establish a planned maintenance policy which sets out standards for maintenance work, specifies a regular maintenance circle (e.g. five-year cycle) and devises a method of maintenance control

through adequate property record keeping and update.

REFERENCES

- Adeniyi E.O. (1985)**
 "Housing and the Construction Industry in Nigeria" in Onibokun Poju (ed) *Housing in Nigeria*. NISER, Ibadan. Pp 239-241.
- David, O.A. and Wilson, A.B. (1961),**
 "The Economics of Urban Renewal", *Law and Contemporary Problems*, Vol. 26, pp 105-117
- Fisher, Irving (1930)**
The Theory of Interest. New York; 1930.
- Hutchinson, B.D et. al. 1978)**
Maintenance and Repair of Buildings. Butterworth & Co. (Publishers) Ltd., London - Boston. Pp. 3-4, 347-355.
- Klein, L.R. (1951)**
Studies in Investment Behavior. A Paper Delivered at the Conference on Business Circles, New York. Pp 233-377.
- Kumuyi A.J. ad Onibokun Poju (1990)**
 "Housing Provision and Finance. The Private/Individual (Non Formal) Sector". In Onibokun Poju (ed) *Urban Housing in Nigeria*. NISER, Ibadan. Pp. 301-303.
- Lawal, M.I. (1997)**
Principles and Practice of Housing Management Environment Design and management Series. ILCO Books and Publishers Taofik (Nig.) Ltd., Lagos. P86-91.