Full paper

International Journal of Real Estate Studies

INTREST

Identifying Current User-Characteristics Influencing Housing Preferences in a Proposed Low-Income Estate Redevelopment in Lagos, Nigeria

Akintade Samuel Afolayan*, Ibiyemi Saidat Yussuff

Department of Estate Management, Faculty of Environmental Sciences, University of Lagos, Akoka, Yaba, Lagos State, Nigeria

*Corresponding author's email: aafolayan@unilag.edu.ng

Article history: Received: *29 June 2022* Received in revised form: *24 January 2023*
Accepted: *23 March 2023* Published online: *30 June 2023*

Abstract

Having fallen into disrepair, the Lagos State Development and Property and Property Corporation (LSDPC), Nigeria was to redevelop the studied low-income housing estate, which it built in early 1980s. This study highlights current users' characteristics which exhibit relationship with their housing preferences in the eventual redevelopment, for enhanced satisfaction. To achieve this aim, the study identified current users' characteristics and examined the degree of their correlation in satisfaction with some established domains of the housing environment, with a view to assessing those, which determine current dissatisfaction ratings and by implication shape housing preferences in the envisaged redevelopment programme. The research is correlational. The survey utilised structured Likert-scale questionnaires to collect data from systematically sampled 142 of the 714 households. Housing environment research variables were established in three domains; 'infrastructures, 'building features', and 'management'. Pearson Correlation Analysis was utilised, due to the nature of data, to test the relationship between selected user characteristics and level of satisfaction/dissatisfaction with selected elements of the domains. The resultant correlation coefficients were further corroborated with crosstabulations of selected user characteristics against the domain factors. The study revealed residents' assessment of current state of infrastructure, building features and management services as poor, in parts. The factors which exhibited relationship with users' preferences were found to include 'tenure status' and 'length of stay' in the estate. The others were 'family size/structure' and 'age' of household heads. With building features constituting prime and rigid attributes of the housing environment, an appreciation of these factors would guide public policy on user needs and perceptions for enhanced satisfaction and pre-emption of user activism attributable to user-group dynamics, hereafter. Broadly, the study recommended amelioration of identified areas of user dissatisfaction with Infrastructures in ensuing redevelopment. For building features, the study recommended improvement, in addition to proactive home-ownership allotee profiling system to embrace identified user characteristics in future projects.

Keywords: Housing redevelopment, low-income estate, user characteristics, user satisfaction, user preferences

1.0 INTRODUCTION

Housing preference is an intellectual discourse, which has continued to attract researchers' attention in several fields (Zinas & Jusan, 2012). This is usually focused on the dynamic choice process involved in user reactions to, and expectations about their housing environment. Zinas and Jusan (2012) recalled from literature, how the discourse dwells in the realms of framework of preferences and choices regarding housing attributes. It is thus, on the front burner whenever issues regarding development or re-development expectations in public housing arise. It is trite, that erstwhile houses in user environments normally depreciate as a result of wear and tear as well as other factors of human and non-human nature over the years. Global studies in life-cycle management of properties admit that the point at which continuous maintenance appears to elicit diminishing marginal impacts, calls for redevelopment as an option for asset holding. At this stage, houses may be regarded as distressed or/and sub-optimally performing, having reached a critical state of obsolescence. In some cases, this deterioration is exacerbated by environmental, locational and particularly site factors. The Lagos State Urban Renewal Agency (LASURA) considered the developments at Dolphin-Anikantamo Low Income Housing Estate, Lagos, the subject of this study, as having reached such a state of deterioration as to warrant redevelopment.

According to LSDPC (2000), the housing estate was one of the achievements of Lagos State Development and Property Corporation (LSDPC) in the early 1980's to partly ease the pressure on housing the teeming population. It was constructed between 1981 and 1983 and subsequently handed over to Lagos Building Investment Company (LBIC) to hold and manage, like other such developments, as an asset. The development consists of 714 units of mixtures of two-bedroom and three-bedroom household residential flats. The estate which was occupied since its completion in 1983 had been in use for nearly four decades in an environment characterised by usual paucity of adequate maintenance efforts and poor site soil conditions.

The estate was developed on low lying, partly reclaimed floodable plain by the lagoon on Lagos Island. Thus, ground water level was considered high, thereby making the area prone to flooding which gets worse during rainy seasons. This is not unexpected as Lagos State has the smallest land area among the others in the federation but has to cope with gargantuan influx of persons. Thus, with continuous rise in population and corresponding increase in housing demand, many coastal locations and wetlands have had to be reclaimed for housing development (Idowu & Zhou, 2021).

The dwelling units too, as would be seen later in the paper, are plagued with problems of insufficient service points, especially in the areas of toilet and bathroom facilities, for the use of large households. Each two- or three-bedroom accommodation was fitted with only one water closet (WC) and one shower to serve, even a household of more than seven persons. With this, physical observation within the estate revealed that some households opted for the construction of make-shift toilets outside the blocks to augment the insufficient provisions in-house. Meanwhile, Afolayan (2015) as well as other researchers including Jiboye (2010) had decried the dearth of professional management of low-income housing estates in Lagos. In most cases, residents' associations were found to understudy initial management process from LBIC following which, they take over such responsibilities. Therefore, the absence of follow-up maintenance by LBIC had led to the disintegration of basic environmental infrastructure in the estate. Visual inspection of the premises revealed that many of the roads, with poor drainage had experienced numerous bumps and potholes while blockage of the drainage canals also resulted in flooding thus, impeding easy access into the estate especially at peak rainy seasons. Generally, the state of overall decay was profoundly manifest. The housing situations were so progressively adding to the stock of slum-related concerns in the state that simple upgrade was not an option especially resulting from the low-lying floodable topography of site. Thus, spontaneous interview with the residents during data collection for this paper elicited a welcomed response by the residents to redevelopment proposals by the Government through Lagos State Urban Renewal Agency (LASURA).

The question then became apposite about whether the current user dissatisfaction and complaint issues would be carried over into the new project or new preferences would emerge for enhanced user satisfaction and subjective well-being therein. In this regard, bearing in mind the impacts of housing on the socio-psychological well-being of man, improvements became a necessity in the proposed redevelopment. It is, however, pertinent while planning for re-development to take into cognisance the opinion of need and preference of erstwhile users as well as understand the factors which are responsible for user activism and yearnings for redevelopment. User preference here entails stated (rather than revealed) expectations of improvements in housing services in the eventual re-development of the estate. This understanding, would equip the developing authority (LASURA) and public policy towards planning for the redevelopment. Jiboye (2009) attested to the identification and use of relevant factors which determine users' satisfaction with their housing, as one of the major tasks confronting housing delivery authorities in Nigeria.

One of the common grounds in user-oriented research is the researchers' insistence in the participation of the end-user in the redevelopment exercise of a habitation environment. This is consistent with the principle of inclusive planning and participatory budgeting. The involvement of intending users in the redevelopment also constitutes an empowerment-right for the determination of preferred environment with prospective possibility of reduced friction with public policy, at least resulting from part acquiescence in the consultations. Meanwhile, the United Nations Rio Declaration of June 1992 (updated in January 2000) on Environment and Development had canvassed in its 'Principle 10', the best approach to handling environmental issues (including housing) as that involving the concerned citizens (users). The prospective users' involvement in housing redevelopment usually injects ideas and suggestions, which would make them more satisfied with their community without having to restructure properties or engage in post-occupancy modifications. That way, the planners would avoid current errors which could have been detrimental to attainment of aim of the new project. Such involvement too, would boost users' trust in public policy and result in tempered housing activism.

Notable works on low-income housing in Nigeria including Ilesanmi (2010), Jiboye (2010), Ibem and Amole (2013) as well as Afolayan (2015) had assessed user satisfaction in these housing environments for various policy implementation or financial viability purposes. None of them, however, had construed the outcomes for housing redevelopment implications. Thus, the focus of this work is on redevelopment rather than slum upgrade. The research work utilised data from only the user-side of the redevelopment project without a corresponding input from the side of public policy. However, with the research conducted as an input into redevelopment proposal, the developing authority is in a position to convert the stated preferences and the factors responsible for these into concrete action plans and financial proposals which could be weighed against specified feasibility or/and viability criteria to enhance project replication and enhanced user satisfaction and quality of life. Furthermore, the usual problems of redevelopment including process options, displacement or transitional accommodation of in situ residents as well as methods of alleviating these, which could form the subject of follow-up discussions (in the expected fulfilment of developer-side equation of framework as given in Figure 1), are not covered in this paper.

This research provides an opportunity for current users to indicate their preference in the standards required in certain components of housing environment for enhanced satisfaction. This will impact positively on quality assurance and improved asset pricing for users and the holding authority. The outcome of this research would lead to enhanced housing adequacy on the part of users while aiding housing planners to recognise specific user characteristics which could not be consistently taken for granted in low-income home-ownership developments in future projects. It is against this backdrop that this study attempts to examine the strength of relationship between identified users' characteristics in the estate and their assessed preferences in the proposed scheme.

The paper is presented in sections. The introductory part highlights the background of the research, tracing the inception of developments in the estate to the efforts of LSDPC, the inhabitation of the estate and subsequent acquiescence coupled with environmental factors, which led to dilapidations and obsolescence and as such necessitated a redevelopment. The section on literature review underpins the redevelopment process and conceptual issues while that on research method identified the instrument and variables of research as well as procedures for data collection, collation and analysis. These were followed by a segment on data analysis as supported with tables as outcomes of data processing efforts. The outcomes of analysed data were subsequently discussed following which conclusion was drawn regarding the aim of the paper. Possible areas of future research were also given in the paper.

2.0 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This section offers a review of extant literature on the subject of study as well as specified a conceptual framework to underpin the potential redevelopment process.

2.1 Literature Review

Housing constitutes among other things, a basic need of man (Chionuma, 2002; Jiboye, 2009). While many authors had defined housing from varying perspectives, Okon and Ikelegu (2021) summed its totality as denoting a measure of, just as it impacts, the standard of households' health, productivity and personal wellbeing. The source further spelt out its influence on national economies as huge, thereby directing financial markets and impacting national growth. Chisumbe et al. (2022) saw it as encompassing diverse concepts in the encapsulation of essential ingredients of users' wellbeing with its attendant socio-economic implications. The authors identified the influence of socio-economic and political climate within global economic divides as responsible for the variations in housing challenges in the nations of the world.

As a unit of the environment, housing goes beyond mere shelter, to include the physical, socio-cultural and infrastructural setting within which it exists. The housing environment represents the rest zone to where households ultimately retire and settle at their most vulnerable moments. Thus, its state exerts psychological as well as physiological influences on human existence, his performance and productivity. James (2007) emphasised housing state as significant for daily living and modelling of human behaviour as well as development of personality. Bad housing, in the words of Agbola and Olatubara (2003), could be more visible than bad health. Thus, housing becomes a psycho-social issue, the satisfaction with which entails complex user perceptions that transcends the physical shell into the totality of its environmental quality (Sam et al., 2012). The achievement of this housing satisfaction goal, according to Fakere et al. (2020) is much hinged on the understanding of the how households' residential preferences relate with the required dwellings. Pagani and Binder (2023) also pointed out a global imperative in the provision of housing as that which is not only environmentally sustainable but also acceptable to, and desirable for the users.

Ordinarily, LSDPC as public property development agency, parades its official prototype design and construction in low-income housing in the state in accordance with its in-house criteria for service to the low-income earners (Jagun et al., 2020). Meanwhile, these users who, Jiboye (2014) had earlier canvassed should have a stake in the determination of the nature of their residence, were still usually side-lined. Jiboye (2014) had considered them relevant, especially, in the provision of information necessary to determine prospective asset value and the next level of desired satisfaction. Consequently, various degrees of dissatisfaction with public housing environment had been recorded in the state. According to Ilesanmi (2010) and Afolayan (2015) among others, a careful post-occupancy evaluation of users' satisfaction in public, and especially low-income estates across Lagos State Nigeria, revealed various degrees of dissatisfaction with the different domains of housing environment.

The measurement of satisfaction (or dissatisfaction) and preferences had been very topical in housing literature. This, as representing the overall perception of the housing environment, is influenced by a complexity of objective and subjective user attributes (Grum, 2019). In this respect, Amole (2009) had earlier referred to those attributes which shape residents' satisfaction and preference in housing as the domains of the environment. From literature, the grouping and numbers of these domains in housing research appeared based on respective researcher's discretion as a product of the socio-cultural environment of the research. Djebarni and Al-Abed (2000) had utilised three domains of dwelling unit, neighbourhood and community variables in the analysis of their housing 'effectiveness model'. The study by Salleh and Yusof (2006) employed the use of dwelling units, housing services, neighbourhood facilities and the environment while Jiboye (2009) utilised environmental component, dwelling component and management component. From similar perspectives, Mohit et al. (2010) factored their housing domain variables into five components. These are dwelling unit features, dwelling unit supportive services, public services, social environment and neighbourhood facilities. In their own study, Mohit and Nazyddah (2011) worked on the basis of five components namely the dwelling unit features; housing unit support services; public facilities; social environment and neighbourhood facilities. Furthermore, however, Ibem and Amole (2013) focused on three domains namely housing unit characteristics, neighbourhood facilities and housing management in their study of some estates in Ogun State, Nigeria. Information had been obtained in respective cases with Likert-scale instruments.

This study adopted the choice of three domains as 'infrastructures', 'building features' and housing 'management'. Here, the selected independent variables under 'infrastructures' domain were those of general estate layout, width of roads, drainage facilities, provision of central shopping facility, water supply and street lighting. The focus of 'building features' domain includes size and number of bedrooms, size of sitting room, kitchen size and fittings, number and size as well as standards of fittings in bathroom/toilets. The others were size and arrangement of bedrooms and orientation as well as height of buildings in terms of floors. In respect of 'housing management', the research highlighted speed of response to complaints, general estate supervision, provision of central services including green areas, waste disposal and management and provision of security.

Researchers including Misra (2002) canvassed the need for user involvement in the design of housing schemes. This inclusion would ensure that the developers' values and preferences are not forced on the users who would invariably bear the brunt of effects of the environment as long as habitation is secured there. Meanwhile, Silverman (2009) saw user participation in housing development as a vital ingredient in the promotion of sustainable and equitable urban development. He argued further in support of the process as advantageous in reduction of associated externalities, especially bordering on possible mass displacement of low-income residents, in urban renewal exercise. This was corroborated by Afolayan (2015) that users' involvement in housing design and delivery process would increase their tolerance to perceived deficiencies in housing environment. Furthermore, Glumac et al. (2015) consented that the outcome of users' involvement will enhance environmental quality and reduce pressure on urban setting which ordinarily could push users into especially peri-urban green field locations in search of housing satisfaction. According to Ochunga and Awiti (2017), a significant positive

correlation was identified as existing between optimum participation of stakeholders and sustainability of housing development. The authors maintained that, with the engagement of end users in negotiations for their housing needs, a realistic estimate could be discerned of expected housing comfort level. In the same vein, Aigbavboa and Thwala (2011) were of the opinion that the participation of beneficiaries and stakeholders goes a long way in the accentuation of success rating for development projects.

The hype about user participation had also been justified by Fakere et al. (2020) and Sharmin and Khalid (2022) on the grounds of its contribution to eventual user satisfaction in the estates. Governments across the globe, as identified by this source, favour such participations towards improving project acceptability by, and the improvement in subjective well-being of the end-users. Özen and Aksoy (2021) had advocated user participation, especially in design or/and construction as a panacea for achieving efficiency, as well as activating response to multi-faceted social needs, in low-income housing. Research attention, essentially began to be focused on the importance and potential of end-user participation in the housing architectural and design process in the early 1960s. In this regard, Özen and Aksoy (2021) recollected the 1971 International Conference organised in Manchester, UK by the Design Research Society as the first research and academic approach at addressing user participation in housing process. It was, according to the authors, in this conference that the term 'design participation' as a specific faculty evolved. Several expansions and developments of the concept had taken place subsequently, especially from British and Dutch protagonists.

User participation in housing redevelopment comes in various models, each with its strong as well as weak leverages (Daly & Brassard, 2011; Sharmin & Khalid, 2022). These models, as catalogued by Daly and Brassard (2011), include those effected through passive approach, through information supply, through consultation and through material incentives among others. On their own part, Sharmin and Khalid (2022) asserted that the major difference, in practice, between the models is the perception of the stakeholders in seeing participation either as a means or an end in such programmes. Participation in the current project took the form of information supply. In this approach, the affected user-population provided information as response to questions analysed to access satisfaction levels and prospective preferences. While the strength of this approach lies in the fact that the development authority (LASURA) is kept informed of users' new requirements, the outcome of the approach is just advisory and may not be enforceable, as the users would not participate in the funding.

2.2 Development of Conceptual Framework

A framework was specified for the developer/user joint participation in proposed redevelopment. The suggested framework is as contained in Figure 1 below. From the framework, the redevelopment process is seen as a product of experience from both user and developer sides. On the user's side, the experience involves cognitive efforts (perception and beliefs), affective (emotional and evaluative) and conative (behavioural) intentions, according to Amole (2009), which are now put into evaluation of requirements for improved habitation environment. It is the collective experience of the tenants who were commonly referred to as housing activists by March and Moore (2020), regarding housing precarity, which crystallise in the form of housing norm. Housing activism is usually rooted in users' cognitive experience of lived realities in housing environment. It is a worldwide phenomenon. March and Moore (2020) further acknowledged it as a 'human-infrastructure' which arise from users' collective experience of housing precarity and geared towards the quest for a more liveable housing environment. Afolayan (2020) had also confirmed the importance of housing experience in erstwhile environments as a major influence on user satisfaction which now informs the yearning for improvements. The housing norm, so created from user experience, determines satisfaction or dissatisfaction headings as inputs into design/redesign proposals for the impending exercise.

On the side of the developing public authority, however, the experience takes the form of extant formal or reserved design for replication (Jagun et al., 2020). This is because housing in this environment had hitherto been subject of seller-market indices. The presentation of user needs in the impending redevelopment, coupled with evaluation of achievement of estate management goals (by LBIC) in the old setting would constitute a pedestal for redevelopment consideration.

The importance of user features in built environment cannot be overemphasised. From a very novel perspective, Siu (2003) had canvassed a '*user-fitness'* principle in propagating the strength of the user in the design process. Having borrowed from what he styled reader-response-theory as commonly applied in literary studies, he postulated that (*building*) design as usually forced on users is not sacrosanct by itself because it does not offer the same satisfaction to all users at the same time. Thus, each user has 'subjectivity of individual interpretation' so much that he should form the arrow-head of design instead of the usual assumption of one-size fitting all in the built environment. He underscored the importance of the user by seeing his (user's) preference and participation (in development) as giving design its real meaning.

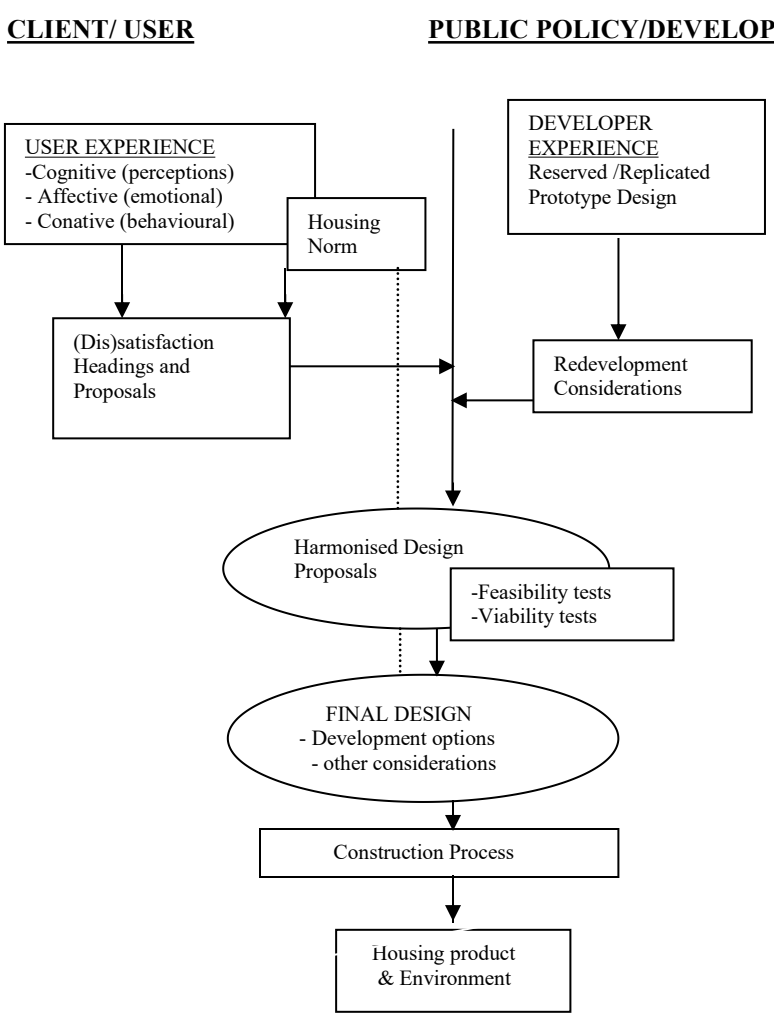

Figure 1 Authors' conceptual framework for the redevelopment
(Adapted and built from literature)

Therefore, the harmonisation of both user and public policy proposals builds a base for new development proposal. This could be subjected to various feasibility and viability criteria. These criteria would encompass considerations of physical, cultural, financial and socio-political dimensions before the final design and execution policy could be arrived at. The final design which paves the way for construction detailing (Misra, 2002), would weigh development options and other related issues as would lead to the construction process and invariable achievement of the housing product.

3.0 RESEARCH METHOD

The research design is correlational. In the survey, structured self-administered questionnaires were used for primary data collection. However, spontaneous interviews became inevitable along the line to fill any perceived gap in the questionnaire requests and information supplied by respondents. Data regarding the development history, capacity and housing details of the estate were obtained from records of LASURA, the developing authority. The housing estate comprises a total of 714 household units. Systematic random sampling was considered ideal for the estate with seemingly homogeneous setting of low-income residents. With this sampling approach, 142 household accommodations representing 20% were selected for the survey. This was considered adequate for the study. Jiboye (2009), like some other researchers, had consistently chosen about 10% of the households as study samples in low-income estates. The questionnaire design, in addition to espousing the research variables, also accommodated socio-demographic details of respondents as basis for proper grounding of the respective responses. Research variables as related to the housing environment were adapted from literature to encapsulate satisfaction or dissatisfaction with selected three domains identified as estate infrastructure (i.e. environmental facilities), building features, (i.e., structure and design), and housing management. The implications of users' satisfaction or dissatisfaction built up their disposition to redevelopment considerations given in Table 3 hereafter.

User satisfaction responses were sought on 4-point Likert-scale to the identified variables within each of the domains. The choice of 4-point scale was deliberate. This was intended to explicitly identify respondents' expression of 'satisfaction' and 'dissatisfaction' while

eliminating the 'undecided' (central) status in a possible 5-point scale. This becomes necessary in expression of opinions which will determine the request for change and improvement in a new development. The 'undecided' or neutral position, which will render uncertain the decision whether to improve or not, could have been more relevant in going-concern cases than in redevelopment studies. Even in such going concern environments, the neutral Likert-position could return alarming results, large enough to render research outcome rather hazy, where such was intended as input to policy framework. For instance, Maina et al. (2021), in their study of user satisfaction levels in selected estates in northern Nigeria, recorded 75 of 125 (representing 60%) of respondents as neutral, indicating the central point in a 5-point Likert scale. Meanwhile, extant literature had supported that the number of Likert response points is at the researcher's discretion depending on the line of argument. Lozano et al. (2008), in fact, had a research conclusion upholding the 4-point Likert scale as the threshold number of response categories necessary for validity and reliability of research instruments. However, while five- or seven-point scale appear more prevalent in research studies, Chakrabartty (2014) confirmed the absence of any hard and fast rule regarding the width of response options.

The collated data were edited centrally and analysed with the use of Statistical Package for Social Sciences (SPSS) version 20. Factor analysis could have been used to identify the factors which determine redevelopment preferences but for the size of sample. In this regard, Tabachnick and Fidell (2007) suggested a threshold sample size of about 300 cases for factor analysis to be comfortably reliable. Furthermore, Pallant (2010) was unsure if subjecting sample sizes of less than 150 to factor analysis would produce reliable results. The sample utilised in the study was 104, as less than the barest minimum of 150 suggested for meaningful Factor Analysis results. Recourse was then made to the use of Pearson correlation analysis (2-tailed) to show the strength of the relationship between the selected user characteristics and the level of satisfaction/dissatisfaction with the domains of the housing environment. The corollary was that, the more dissatisfied the users were about any feature of the housing domain, the more was the wish and request to have such changed or improved upon, with a redevelopment opportunity.

The resultant correlation coefficients were further corroborated or checked with descriptive crosstabulations of the user characteristics (of age of respondents, household size, education level, duration of stay in the estate, and tenure status) against the selected domains of the housing environment namely Infrastructures and Building Features. There are explanations later in the work on the suppression of Management services (another domain of the housing environment) in this respect, in the final analysis. The outcomes of the crosstabs are attached to the work as Appendix A (Building Features) and Appendix B (Infrastructures).

4.0 FINDINGS

Table 1 Socio-demographic details of respondents

Characteristics	N	%
A: Response rate and gender of respondents		
Male	68	65.4
Female	36	34.6
Total	**104**	**100**
B: Age of respondents		
Below 30 years	40	38.5
Between 30 and 40 years	36	34.6
Between 41 and 50 years	18	17.3
Above 50 years	10	9.6
Total	**104**	**100**
C: Marital status of respondents		
Married	51	49.0
Single	43	41.4
Divorced	3	2.9
(missing items)	7	6.7
Total	**104**	**100**
D: Education level of respondents		
Below HND/BSc	56	53.8
HND/BSc (college degree)	28	26.9
Above HND/BSc	20	19.3
Total	**104**	**100**
E: Employment sector of respondents		
Organised private sector	62	59.6
Public sector	16	15.4
Self-employment	20	19.2
Others	6	5.8
Total	**104**	**100**

Out of the 142 copies of the questionnaire administered on participant-households in the estate, 104 copies were properly filled and returned on schedule. This accounts for a 73.2% response rate. The socio-demographic data of respondents are portrayed in Table 1 above. From the table, responses are seen as skewing more on the side of males. Then, the largest age group among the respondents (38.5%) were youths of below 30 years of age while 34.6% fell within the 30-40 years age bracket. Only 17.3% of the respondents were between age brackets 41-50 years as 9.6% were above 50 years of age. Thus, majority of respondents were of below 50 years of age. By societal

standards, the bulk of the resident population are seen as upcoming and still aggressive about housing pursuits. Most of the residents were married and in active family stage whereby housing improvements may be desirable forthwith.

Furthermore, while a total of 46.2% (i.e. 26.9% and 19.3%) of the respondents have attained educational qualifications of HND/BSc (college degree) and above, 53.8% have qualifications below college degree in various fields. With this, a sizeable number of them are deemed educated enough to be able to provide informed response on the study. Also, with the employment of 59.6% of the respondents in the organised private sector, 15.4% in public sector while 19.2% are self-employed, their incomes could reasonably sustain improved accommodation in low-income estate setting as studied here.

Table 2 below shows the respondents' duration of occupation in the estate, tenancy status and their household sizes.

Table 2 Respondents' household size and residency issues

Characteristics	N	%
A: Duration of occupation in the estate		
Below 5 years	22	21.2
Between 5 and 10 years	18	17.3
Between 11 and 15 years	30	28.8
Between 16 and 20 years	26	25.0
Above 20 years	8	7.7
Total	**104**	**100**
B: Tenancy status		
Owner occupier	69	66.3
Renter & others	35	33.7
Total	**104**	**100**
C: Size of household		
Only 2 persons	14	13.5
Between 3 and 5	63	60.5
Between 6 and 7	20	19.3
Above 7 persons	7	6.7
Total	**104**	**100**

From Table 2 above, 28.8% of the respondents had lived in the estate for between 11 and 15 years, while 25% had lived there for about 16 to 20 years. With this, majority of them had lived long enough in the estate to be conversant with the problems there and the areas in which improvements were required in a redevelopment exercise. While 69 (representing 66.3%) of them were owner occupiers, 35 (33.7%) were either renters or enjoyed other categories of tenure including possible complimentary staff housing. Table 2 also shows, among other things, that 60.5% of the households have between 3-5 persons while 13.5% have 2 persons as 19.3% have between 6 and 7 persons. That as much as 6.7% have more than 7 members in mixtures of two- and three-bedroom flats suggests congestion with imaginable adverse consequences. Arku (2006) had drawn attention to how the level of household crowding and congestion could exacerbate the ease at which illness is transmitted in homes. The impact of this on agitation for better housing cannot be overemphasised.

The quest for redevelopment standard is usually influenced by users' experience. As clarified by Potter and Cantarero (2006) as well as Amole (2009), user experience is determined by cognitive, affective as well as *conative* faculties. Thus, users in the estate developed satisfaction or dissatisfaction perceptions which formed the basis of redevelopment proposals as contained in Table 3 below. The table shows a summary of the users' response to possible improvements in the current state of the domains of housing environment highlighted for this study. The first column shows the domains and the listed variables. The subsequent columns indicate the number (and equivalent percentage) of respondents who respectively felt either that the variables were satisfactory as presented or required to be improved on.

Next, from the following Table 3, all variables of the estate/environmental 'infrastructure' recorded the current state as poor. In this category are included 'estate layout', 'width of roads' and 'central shopping facilities'. The others are 'street lighting' and 'water supply'. Specifically, 'drainage facilities' recorded the poorest satisfaction rating (9.6%) as the clamour for its improvement occasioned by dissatisfaction level recorded 90.4%. In respect of building features, however, many of the components (including bedrooms) especially in their numbers, size and finishing were seen as adequate. However, the number of bathroom /toilet and their finishing recorded low-satisfaction level. All variables listed under housing 'management' were scored poorly. This is representative of most public low-income housing estates in the state as studied by Oladapo (2006) and Jiboye (2009) among others. Whatever management machinery was initially put in place by LBIC in the estates usually yielded to self-help by the various Residents' Associations (RAs) subsequently.

Table 3 Users' satisfaction schedule

FEATURE	SATISFACTION LEVELS				% SATISFIED	% DISSATISFIED
	1	2	3	4		
A. ESTATE INFRASTRUCTURE						
(i) Estate Layout	31	36	37	-	35.6	64.4
(ii) Width of road	41	46	17	-	16.3	83.7
(iii) Street lighting	34	57	13	-	12.5	87.5
(iv) Water Supply	40	46	18	-	17.3	82.7
(v) Drainage facilities	40	54	10	-	9.6	90.4
(vi) Central shopping facilities	36	50	18	-	17.3	82.7
B. BUILDING FEATURES						
(i) Size of bedrooms	18	12	74	-	71.2	28.8
(ii) Number of bedrooms	15	14	75	-	72.1	27.9
(iii) Kitchen size	11	46	47	-	45.2	54.8
(iv) Bathroom/toilet size	38	24	42	-	40.4	59.6
(v) Number of bathroom/toilets	35	44	16	9	24.0	76.0
(vi) Kitchen fittings	-	53	51	-	51.0	49.0
(vii) Bathroom/toilet finishing	20	48	36	-	34.6	65.4
(viii) Arrangement of bedrooms	28	41	-	35	33.7	66.3
(ix) Size of sitting room	1	27	51	25	74.1	26.9
(x) Orientation of building	24	24	34	22	53.8	46.2
(xi) Building height (floors)	23	21	41	19	57.7	42.3
C. MANAGEMENT						
(i) Response to complaints	40	51	7	6	12.5	87.5
(ii) Security provision	38	49	10	7	16.3	83.7
(iii) Estate supervision	31	57	9	7	15.4	84.6
(iv) Provision of central facilities	31	66	4	3	6.7	93.3
(v) Waste/Refuse disposal	32	66	4	2	5.8	94.2

4.1 Assessment of the Factors

In the bid to assess the factors which determine the users' preferences in the redevelopment programme, the Pearson correlations chart presented as Table 4 below, provides a useful guide. The correlation table attempts to determine the bivariate relationships among some key variables in the research. The general direction was to see the strength of relationship between some selected user features and perceived satisfaction levels. In this process, the study would have explored user factors which affect the preferences in the redevelopment of the estate subject of this study.

The initial attempt at correlating all the user features with individual combined features of Infrastructure, Building Features and Management services domains resulted in over 30 pages of analysis. With closer looks, however, certain less critical user features (as well as independent variables) under the identified housing domains were screened off. The study was then left with key user characteristics and the weighted means of satisfaction levels on dependent domains as contained in the correlation chart.

While many marginal adjustments had been canvassed by authors regarding interpretation of correlation coefficients, Schober et al. (2018) rationalised the following as recommended interpretational limits contained between 0 and 1:

0.00 – 0.19 Negligible correlation
0.10 – 0.39 Weak correlation
0.40 – 0.69 Moderate correlation
0.70 – 0.89 Strong correlation
0.90 – 1.00 Very strong correlation

The independent variables subsumed under satisfaction with 'Infrastructure' include perceived levels of same with estate layout, width of roads and street lighting. The others are the levels of satisfaction with water supply, drainage facilities and central shopping facilities. Similarly, the independent variables under 'Building Features' are those of size of bedroom, kitchen size, bathroom/toilet size among others as contained in Table 3. On the other hand, 'Management' was conceived to cover response to complaints, security provision, estate supervision, provision of central facilities (aside from shopping which was treated under estate infrastructures) and waste/refuse disposal. The correlation coefficients were calculated as significant at the 0.01 level (2-tailed).

Table 4 Correlation analysis

		Age of Respondent	Household Size	Education Level	Duration in the Estate	Tenure Status	Overall Satisfaction with Infrastructure	Overall Satisfaction with Building Features	Overall Satisfaction with Management Services	Overall Satisfaction with the Estate
Age of Respondent	Pearson Correlation	1	0.866**	0.245*	0.923**	0.720**	-0.022	-0.757**	-0.407**	-0.436**
	Sig. (2-tailed)		0.000	0.012	0.000	0.000	0.822	0.000	0.000	0.000
	N	104	104	104	104	104	104	104	104	104
Household Size	Pearson Correlation	0.866**	1	0.065	0.838**	0.564**	-0.258**	-0.686**	-0.415**	-0.633**
	Sig. (2-tailed)	0.000		0.515	0.000	0.000	0.008	0.000	0.000	0.000
	N	104	104	104	104	104	104	104	104	104
Education Level	Pearson Correlation	0.245*	0.065	1	0.268**	0.335**	0.212*	-0.174	-0.390**	-0.047
	Sig. (2-tailed)	0.012	0.515		0.006	0.000	0.031	0.077	0.000	0.637
	N	104	104	104	104	104	104	104	104	104
Duration in the Estate	Pearson Correlation	0.923**	0.838**	0.268**	1	0.824**	-0.198*	-0.730**	-0.566**	-0.576**
	Sig. (2-tailed)	0.000	0.000	0.006		0.000	0.044	0.000	0.000	0.000
	N	104	104	104	104	104	104	104	104	104
Tenure Status	Pearson Correlation	0.720**	0.564**	0.335**	0.824**	1	-0.260**	-0.513**	-0.607**	-0.535**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.008	0.000	0.000	0.000
	N	104	104	104	104	104	104	104	104	104
Overall Satisfaction with Infrastructure	Pearson Correlation	-0.022	-0.258**	0.212*	-0.198*	-0.260**	1	0.033	0.383**	0.701**
	Sig. (2-tailed)	0.822	0.008	0.031	0.044	.008		0.740	0.000	0.000
	N	104	104	104	104	104	104	104	104	104
Overall Satisfaction with Building Features	Pearson Correlation	-0.757**	-0.686**	-0.174	-0.730**	-0.513**	0.033	1	0.267**	0.418**
	Sig. (2-tailed)	0.000	0.000	0.077	0.000	0.000	0.740		0.006	0.000
	N	104	104	104	104	104	104	104	104	104
Overall Satisfaction with Management Services	Pearson Correlation	-0.407**	-0.415**	-0.390**	-0.566**	-0.607**	0.383**	0.267**	1	0.676**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.006		0.000
	N	104	104	104	104	104	104	104	104	104
Overall Satisfaction with the Estate	Pearson Correlation	-0.436**	-0.633**	-0.047	-0.576**	-0.535**	0.701**	0.418**	0.676**	1
	Sig. (2-tailed)	0.000	0.000	0.637	0.000	0.000	0.000	0.000	0.000	
	N	104	104	104	104	104	104	104	104	104

*Correlation is significant at the 0.05 level (2-tailed)

**Correlation is significant at the 0.01 level (2-tailed)

5.0 DISCUSSION

Generally, in coordinating the expositions of the tables above, the following are considered visible:

5.1 Management Services

The residents' characteristics (as determinants) overwhelmingly supported expression of dissatisfaction with Management Services. The management-service acts cover perceptions on 'response to management complaints', 'security provision', 'estate supervision', and waste/refuse disposal among others. From Table 3 above (Users' Satisfaction Schedule), the expression of dissatisfaction ranges from 83.7% (security provision) to 94.2% (waste/ refuse disposal). This is corroborated in the correlation chart above as all the user characteristics highlighted in the study correlated negatively with Management Services. The coefficients range from -0.607 (tenure status) considered on the above scale as 'moderately negative to -0.390 (education level). This implies negative perception of the users'

characteristics towards Management Services. Thus, the tabled user characteristics of respondents age, household size, education level, duration of habitation and tenure status act as determinants in user preference against Management Services. Broadly, Auchterlounie and Hinks (2001) had referred to 'housing management' as the 'software' aspect of housing and subsequently styled it "*humanware*", as distinct from other physical components of the housing environment. They agreed that these 'soft issues' constituted a key factor based on which customers make their decisions about the overall quality of a product. In the same vein, Jiboye (2009) found that the 'housing management' component was a major source of dissatisfaction in most housing estates in Nigeria.

5.2 Building Features

The selected user features (of respondents' age, household size, education level, duration of stay in the estate and tenure status) exhibited consistently negative correlation with the means of satisfaction with Building Features. The variable 'age of respondents' recorded -0.757 coefficient which, by above classification is negatively strong. 'Household size' recorded -0.686 (moderately negative), while the 'duration of stay in the estate' had -0.730 (negatively strong) correlation coefficient. In the same vein, 'tenure Status' recorded -0.513 (moderately negative) correlation. It was only 'education level' of the respondents which had -0.174 (weak but negative) correlation.

Taking a recourse to crosstabs in Appendix A (i, ii, iii, iv, v), it can be seen here that the older the respondents were, the more dissatisfied they were with building features. From the 'age/overall satisfaction with building features' crosstab (Appendix A. i), it is clear that those from age 40 years and below were more satisfied with building features. Meanwhile, the intention of development of the estate was primarily that of owner occupation, many of the older respondents (as owner occupiers) are deemed to have stayed in the estate for longer period of time than the younger ones and had experienced various deficiencies/inadequacies about the properties. There were 69/104 of the respondents as owner occupiers who were dissatisfied with building features (see tenure status/building features cross tab attached as in Appendix A. v). This category of user respondents would also have built up larger family sizes than the younger ones. For instance, 'household size/building features' crosstabs (Appendix A. ii) revealed that those with smaller families (5 persons and below) were more satisfied with building features than those with larger family members. The two/three-bedroom structure of the flats will definitely curtail satisfaction levels for large families with their varying family structures. The lower levels of satisfaction (higher dissatisfaction) recorded by those of higher age bracket was in agreement with the findings of Sahin and Tereci (2021). In their study on user satisfaction with the mass housing projects in Karatay (in the district of Konya) Turkey, they discovered that residents of lower age bracket recorded higher level of satisfaction with overall comfort conditions of the housing environment than those of higher age brackets.

However, the disparity in education levels did not seem to have had corresponding relationship on residents' satisfaction with building features (Appendix A. iii). In fact, those with education level of HND/BSc level (college degrees) and those above displayed almost identical number of respondents experiencing similar levels of satisfaction as well as dissatisfaction with this feature. This indicates that other factors outside strict education level could be more related to levels of satisfaction experienced by respondents and thus, the yearnings for building-features redevelopment impetus. There is thus, a possibility that either the housing-appreciation content of their education is deficient, or that education level plays a major role only at the pre-housing search stage. An implicit allusion was made to this sort of discovery when Sharmin and Khalid (2022) opined that limited environmental awareness, contrary to expectations, could be experienced among some homeowners in low-income communities.

5.3 Infrastructures

It is discerned that from Table 3 earlier on, the bulk of the respondent residents expressed dissatisfaction with Estate Infrastructures. These ranged from 64.4% with 'estate layout' through 82.7% with 'water supply' to 90.4% with 'drainage facilities'. In terms of age factor among the respondents, the correlation chart above recorded coefficients of means of overall satisfaction with infrastructure as -0.022. This connotes very negligible but negative level of correlation. Household size too correlates with overall satisfaction with infrastructure at -0.258. This falls within a zone of weak but negative correlation. Similarly, the 'duration of stay' in the estate recorded a weak but negative correlation with overall correlation coefficients of overall satisfaction with infrastructural provision at -0.198. The correlation with 'tenure status' which stands at -0.260 also showed weak but negative correlation on the scale. However, 'education level' of the respondents, paints a different perspective, recording 0.212 classed as weak but positive correlation with overall satisfaction with infrastructure. From the earlier crosstabs, it will be recalled that no clear pattern emerged in terms of education level of the respondents.

Appendix B, as attached to this report, exhibits cross tabs of the highlighted user-features with overall satisfaction with infrastructures in the estate. From the respondents' age cross tab (Appendix B. i), a total of 27/40 of residents of age below 30 years expressed dissatisfaction with level and standard of infrastructure provided in the estate as against 13 who were just satisfied. Even at that, the 13 respondents were probably part of the households at pre- or early-family stage (Appendix B. ii), either enjoying private accommodation for the first time or could just fit into the provisions in the estate without stress exerted on the size or structure of the family. Subsequently, respondents in other age groups (up to 'above 60 years') expressed dissatisfaction with the level and standard of infrastructure therein.

For the cross tabs (Appendix B. iii) on level of education, another 13/104 expressed satisfaction with the standard of infrastructure provided on site. It would be seen from the correlation coefficients above, that depict the level of correlation was weak. The cross tab still shows that the number of respondents reacting to the state of infrastructure supply were not significantly different among the broad dichotomy of below BSc/HND and the other segments. This again points to the possibility of factors outside strict education, as relating more to satisfaction level as well as the yearnings for redevelopment activisms.

When the 'duration of stay' in the estate was put into cross tab (Appendix B. iv), only 13 (perhaps the same group hitherto under age 30) who claimed to have lived in the estate for a period of below 5 years expressed satisfaction with infrastructural state of the estate. Elsewhere, a total of 84 respondents who had lived in the estate for from above 5 years to 'above 20 years' were not satisfied with the state of infrastructural provision in the estate. While Adewale et al. (2020) had reported the possibility that residents who had lived for a long

period in a housing environment would experience higher level of satisfaction, it was not so in the studied estate here. The disparity came because of the respective nature of the case studies. Since Adewale et al. (2020) carried out their study on a going-concern environment, the estate subject of this current study was in a winding-up estate in anticipation of redevelopment. Thus, the difference between the impacts of long-term experience is that accumulated experience in going-concern estate is appreciative of the environment whereas that, in a winding-up estate is terminal and apprehensive of supersession activities. This way, having stayed in the estate for considerable length of time, in addition to other acquired user-features along the line, the residents had become so experienced about state of infrastructure that they could reasonably be influenced to demand an upgrade in eventual estate redevelopment.

When household size is viewed vis-à-vis satisfaction with the level and state of infrastructure in the estate (Appendix B. ii), 13 households with family size of only 2 persons, expressed satisfaction with the state of infrastructure. All others with family size from 3 and above were not satisfied. Mohit et al. (2010) agreed that 'household size' is related to the level of satisfaction derivable in the housing environment. This source, in a study on public low-cost housing in Kuala Lumpur, Malaysia, found that household size is negatively associated with residential satisfaction. This corroborates the finding here too. From the 'tenure status' crosstabs (Appendix B. v), it appears that the same set of respondents who were of about 30 years of age and below, with very small families who had lived in the estate for not more than 5 years and were not owner occupiers of their premises were among the small group which expressed any level of positive satisfaction with the state and level of infrastructure in the estate. A bulk of 69 respondents as owner occupiers, who had probably developed tenurial attachment to the estate expressed dissatisfaction with the standard of infrastructure provided. Sahin and Tereci (2021) confirmed a significant disparity in the level of housing satisfaction between homeowners and tenants. Here, there is a deeper understanding of the environment by the homeowners than (casual) tenants who the source claimed could have other alternatives beyond residence in the estate.

6.0 CONCLUSION

The paper had highlighted the various components of the domains of the housing environment which enlisted dissatisfaction from the users, and translate into redevelopment activism, as well as analysed the various users' characteristics which engender the noted dissatisfaction. From the analysis and discussions heretofore, and with the extrication of Management Services into 'software' post-construction class, the other (physical) components of the housing environment as enlisted in the study remain two, i.e. 'Infrastructures' and 'Building Features'. The Infrastructural provisions in the estate suffered dissatisfaction majorly in the areas of drainage facilities, street lighting, and width of road among others. In terms of Building Features, dissatisfaction was deeply expressed in areas including number of bathroom/toilets, bathroom/toilet size as well as kitchen size. The recorded dissatisfaction and eventual preferences for upgrade of these (physical components) in redevelopment were related to user-features including age of respondents and their tenure status. The others which progress from these and stood up clearly as relating to respondents' preference for improvement in a redevelopment of the estate were 'length of stay in the estate' as well as 'size of the family'. The size of the family becomes especially important in the use of conveniences especially bathrooms and toilets. The two/three-bedroom mix in the housing estate were provided with single toilet and shower facilities. Naturally, the older segment of the resident populace were predominantly owner occupiers who, having been in occupation for a long period of time had built up fairly large families yearning for expanded conveniences and common in-house spaces. While three main domains (Estate Infrastructures, Building Features and Management component) were studied, it was noted that Management is a post-construction issue and was treated as such. The remaining domains of Infrastructure and Building Features were seen as primarily more topical in a redevelopment programme.

With the outcome of analysis of the correlation chart, crosstabulation and other auxiliary tables, it is recommended that the various areas of dissatisfaction in infrastructure, as already highlighted, deserve to be looked into for improvement in the eventual redevelopment. Building features constitute prime and perhaps rigid attributes of the housing environment. In terms of these features, the major in-house inconvenience faced by the residents was the inadequacy of the number and size of toilet facilities. The consideration of home ownership-based developments or re-development should put into consideration, the age of allottees as well as the existing size and structure of the family while making adequate strategic arrangement for future expansions where possible. Otherwise, the upcoming and fecund families, especially of the young age may find the housing provision inadequate in the ensuing long period of habitation. The aim of such public home-ownership programme could thus, be defeated bearing in mind the several influences which housing could have on socio-psychological well-being of man. Unfortunately, at this part of the world, home owners scarcely move house outside their environment for reasons bothering on place attachment among others.

A major limitation of this study was that data were collected from only the users' side of the redevelopment equation. At best, the outcome could be a proposal which would still require the cooperation and political will on the side of LASURA, as redevelopment agency to implement. Again, stated preferences from the users had been analysed in this work. This could additionally have been impacted by several socio-economic circumstances of the respondent users. A more rigorous account of their revealed preferences, which would entail comprehensive detailing of their housing consumption behaviour over time, can be a subject of further research.

Acknowledgement

I acknowledge the cooperation, thoroughness and patience of the Chief Editor of INTREST and the eagle-eyed reviewers, without which this paper would not have progressed to this stage for publication. It was indeed, a long and rigorous journey. Thank you all.

References

Adewale, B. A., Ibem, E. O., Amole, S. A., & Adeboye, A. B. (2020). Place attachment in Nigerian urban slums: Evidence from inner-city Ibadan. *Cities, 107*, Article 102902.

Afolayan, A. S. (2015). *Assessment of user satisfaction for enhanced housing quality and investment viability in selected estates in Lagos State, Nigeria* (Unpublished doctoral dissertation). University of Lagos, Lagos, Nigeria.

Afolayan, A. S. (2020). Impacts of households' prior experience on current housing satisfaction: A study of selected estates in Lagos, Nigeria. *International Journal of Real Estate Studies*, *14*(1), 67-77.

Agbola, T., & Olatubara, C. O. (2003, July 30-31). *Private sector driven housing delivery (in Nigeria): Issues, constraints, challenges and prospects*. Paper presented at the 2nd Annual National Workshop on Private Sector Driven Housing Delivery in Nigeria, Lagos, Nigeria.

Aigbavboa, C. O., & Thwala, W. D. (2011, August). Community participation for housing development. In *Proceedings of the 6th Building Environment Conference* (pp. 418-428). Johannesburg: Association of Schools of Construction of Southern Africa.

Amole, D. (2009). Residential satisfaction in students' housing. *Journal of Environmental Psychology, 29*(1), 76-85.

Arku, G. (2006). The housing and economic development debate revisited: Economic significance of housing in developing countries. *Journal of Housing and the Built Environment, 21*(4), 377-395.

Auchterlounie, T., & Hinks, J. (2001, September 3-5). The measurement of customer satisfaction in the private house building sector. In J. Kelly & K. Hunter (Eds.), *Proceedings of the RICS Construction and Building Research Conference (COBRA 2001)*. Glasgow: RICS and Glasgow Caledonian University.

Chakrabartty, S. N. (2014). Scoring and analysis of Likert scale: Few approaches. *Journal of Knowledge Management and Information Technology, 1*(2), 31-44.

Chionuma, O. N. (2002, October 9-10). *Modalities for a secondary mortgage market in Nigeria*. Paper presented at National Workshop on Sustainable Housing Finance in Nigeria, Lagos, Nigeria.

Chisumbe, S., Aigbavboa, C., Mwanaumo, E., & Thwala. W. (2022). A measurement model for stakeholders' participation in urban housing development for Lusaka: A neo-liberal perspective. *Urban Science, 6*(2), Article 34.

Daly, P., & Brassard, C. (2011). Aid accountability and participatory approaches in post-disaster housing reconstruction. *Asian Journal of Social Science, 39*(4), 508-533.

Djebarni, R., & Al-Abed, A. (2000). Satisfaction level with neighbourhoods in low-Income public housing in Yemen. *Property Management, 18*(4), 230-242.

Fakere, A. A., Folorunso, C. O., Arayela, O., & Omole, F. K. (2020). Strategic framework for resident's participation in housing provision in Akure, Southwest Nigeria. *Zeitschrift für Immobilienökonomie, 6*(2), 137-160.

Glumac, B., Han, Q., & Schaefer, W. F. (2015). Actors' preferences in the redevelopment of brownfield: Latent class model. *Journal of Urban Planning and Development, 141*(2), Article 04014017.

Grum, B. (2019). Differences in perceptions of the living environment by respondent age. *Urbani Izziv, 30*(2), 85-94.

Ibem, E. O., & Amole, D. (2013). Residential satisfaction in public core housing in Abeokuta, Ogun State, Nigeria. *Social Indicators Research, 113*(1), 563-581.

Ilesanmi, A. O. (2010). Post-occupancy evaluation and residents' satisfaction with public housing in Lagos, Nigeria. *Journal of Building Appraisal, 6*(2), 153-169.

Jagun, Z. T., Daud, D., Samsudin, S., Adediran, A. O., & Olugbenga, A. (2020). Sustainable housing delivery in cities by private developer: A case of Lagos, Nigeria. *International Journal of Scientific & Technology Research, 9*(04), 2460-2467.

James, R. N., III. (2007). Multifamily housing characteristics and tenant satisfaction. *Journal of Performance of Constructed Facilities, 21*(6), 472-480.

Jiboye, A. D. (2009). Evaluating tenants' satisfaction with public housing in Lagos. *Town Planning and Architecture, 33*(4), 239-247.

Jiboye, A. D. (2010). The correlates of public housing satisfaction in Lagos, Nigeria. *Journal of Geography and Regional Planning, 3*(2), 017-028.

Jiboye, A. D. (2014). Socioeconomic characteristics and satisfaction of tenants in public housing in Lagos, Nigeria. *Africa Development,39*(3), 31-50.

Lagos State Development and Property Corporation (LSDPC). (2000). *LSDPC at a glance*. Ikeja: LSDPC Publication.

Lozano, L. M., García-Cueto, E., & Muñiz, J. (2008). Effect of the number of response categories on the reliability and validity of rating scales. *Methodology, 4*(2), 73-79.

Maina, J., Dagoli, M., Abdulkadir, A., Muhammad, N., Muhammed, I., Yusuf, B., … Abdulrazaq, M. (2021). Satisfaction with dwelling unit attributes and infrastructure within selected public housing estates in northern Nigeria. *CSID Journal of Infrastructure Development, 4*(1), 96-111.

March, L., & Moore, S. (2020). Community, activism and engagement: A commentary. In S. Bunce, N. Livingstone, L. March, S. Moore & A. Walks (Eds.), *Critical dialogues of urban governance, development and activism* (pp. 289-296). London: UCL Press.

Misra, K. (2002). Whose house is it? Exploring user participation in the design process of residences. *Systems Research and Behavioral Science, 19*(4), 301-311.

Mohit, M. A., & Nazyddah, N. (2011). Social housing programme of Selangor Zakat Board of Malaysia and housing satisfaction. *Journal of Housing and the Built Environment, 26*(2), 143-164.

Mohit, M. A., Ibrahim, M., & Rashid, Y. R. (2010). Assessment of residential satisfaction in newly designed public low-cost housing in Kuala Lumpur, Malaysia. *Habitat International, 34*(1), 18-27.

Ochunga, F.O., & Awiti, L.H. (2017). Influence of stakeholder participation on sustainability community development projects implemented by Plan International in Homa Bay Town Sub-County, Kenya. *International Journal of Academic Research in Business and Social Sciences, 7*(4), 375-400.

Okon, I. E., & Ikelegu, M. E. (2021). Assessment of residential housing choices, quality, and affordability in Calabar Metropolis, Southern Nigeria. *Humanities & Social Sciences Reviews*, *9*(5), 35-46.

Oladapo, A. A. (2006). A study of tenants' maintenance awareness, responsibility and satisfaction in institutional housing in Nigeria. *International Journal of Strategic Property Management, 10*(4), 217-231.

Özen, G. A., & Aksoy, M. (2021). User participation in social housing practices in Turkey. *Journal of Architectural Engineering, 27*(4), Article 05021010.

Pagani, A., & Binder, C. R. (2023). A systems perspective for residential preferences and dwellings: Housing functions and their role in Swiss residential mobility. *Housing Studies, 38*(4), 682-706.

Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed.). Maidenhead: Open University Press/McGraw-Hill.

Potter, J., & Cantarero, R. (2006). How does increasing population and diversity affect resident satisfaction? A small community case study. *Environment and Behavior, 38*(5), 605-625.

Sahin, B. H., & Tereci, A. (2021). Survey on the user satisfaction with the mass housing projects led by district municipality: Konya-Karatay example. *Gazi University Journal of Science, 34*(3), 679-693.

Salleh, A. G., & Yusof, N. A. (2006). *Residential satisfaction in low-cost housing in Malaysia*. Unpublished research report, School of Housing, Building and Planning, Universiti Sains Malaysia, Penang, Malaysia.

Sam, M., Zain, M. F. M., & Saadatian, O. (2012). Residential satisfaction and construction. *Scientific Research and Essays, 7*(15), 1556-1563.

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. *Anesthesia & Analgesia,* 126(5), 1763-1768.

Sharmin, T., & Khalid, R. (2022). Post occupancy and participatory design evaluation of a marginalized low-income settlement in Ahmedabad, India. *Building Research & Information, 50*(5), 574-594.

Silverman, R. M. (2009). Sandwiched between patronage and bureaucracy: The plight of citizen participation in community-based housing organisations in the US. *Urban Studies,* 46(1), 3-25.

Siu, K. W. M. (2003). Users' creative responses and designers' roles. *Design Issues, 19*(2), 64-73.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon.

Zinas, B. Z., & Jusan, M. B. M. (2012). Housing choice and preference: Theory and measurement. *Procedia - Social and Behavioral Sciences, 49*, 282-292.

APPENDIX A
Cross tabs: BUILDING FEATURES

(i) Age of respondent * overall satisfaction with building features Crosstabulation

Count

		Overall Satisfaction with Building Features			Total
		Very Dissatisfied	Dissatisfied	Satisfied	
Age of Respondent	Below 30 years	0	1	39	40
	30 to 40 years	0	11	25	36
	41 to 50 years	1	17	0	18
	Above 60 years	0	10	0	10
Total		1	39	64	104

(ii) Household size * overall satisfaction with building features Crosstabulation

Count

		Overall Satisfaction with Building Features			Total
		Very Dissatisfied	Dissatisfied	Satisfied	
Household Size	Only 2 persons	0	0	14	14
	Between 3 and 5	0	13	50	63
	Between 6 and 7	1	19	0	20
	Above 7 persons	0	7	0	7
Total		1	39	64	104

(iii) Education level * overall satisfaction with building features Crosstabulation

Count

		Overall Satisfaction with Building Features			Total
		Very Dissatisfied	Dissatisfied	Satisfied	
Education Level	Below HND/BSc	0	17	39	56
	HND/BSc	1	12	15	28
	Above HND/BSc	0	10	10	20
Total		1	39	64	104

(iv) Duration in the estate * overall satisfaction with building features Crosstabulation

Count

		Overall Satisfaction with Building Features			Total
		Very Dissatisfied	Dissatisfied	Satisfied	
Duration in the Estate	Below 5 years	0	0	22	22
	Between 5 and 10 years	0	1	17	18
	Between 11 & 15 years	0	7	23	30
	Between 16 and 20 years	1	23	2	26
	Above 20 years	0	8	0	8
Total		1	39	64	104

(v) Tenure status * overall satisfaction with building features Crosstabulation

Count

		Overall Satisfaction with Building Features			Total
		Very Dissatisfied	Dissatisfied	Satisfied	
Tenure Status	Renters and others	0	1	34	35
	Owner occupier	1	38	30	69
Total		1	39	64	104

APPENDIX B
Cross tabs: INFRASTRUCTURES

(i) **Age of respondent * overall satisfaction with infrastructure Crosstabulation**

Count

		Overall Satisfaction with Infrastructure			
		Very Dissatisfied	Dissatisfied	Satisfied	Total
Age of Respondent	Below 30 years	17	10	13	40
	30 to 40 years	16	20	0	36
	41 to 50 years	5	13	0	18
	Above 60 years	0	10	0	10
Total		38	53	13	104

(ii) **Household size * overall satisfaction with infrastructure Crosstabulation**

Count

		Overall Satisfaction with Infrastructure			
		Very Dissatisfied	Dissatisfied	Satisfied	Total
Household Size	Only 2 persons	0	1	13	14
	Between 3 and 5 persons	33	30	0	63
	Between 6 and 7 persons	5	15	0	20
	Above 7 persons	0	7	0	7
Total		38	53	13	104

(iii) **Education level * overall satisfaction with infrastructure Crosstabulation**

Count

		Overall Satisfaction with Infrastructure			
		Very Dissatisfied	Dissatisfied	Satisfied	Total
Education Level	Below HND/BSc	27	26	3	56
	HND/BSc	7	11	10	28
	Above HND/BSc	4	16	0	20
Total		38	53	13	104

(iv) **Duration in the estate * overall satisfaction with infrastructure Crosstabulation**

Count

		Overall Satisfaction with Infrastructure			
		Very Dissatisfied	Dissatisfied	Satisfied	Total
Duration in the Estate	Below 5years	3	6	13	22
	Between 5 and 10 years	14	4	0	18
	Between 11 and 15 years	15	15	0	30
	Between 16 and 20 years	6	20	0	26
	Above 20 years	0	8	0	8
Total		38	53	13	104

(v) **Tenure status * overall satisfaction with infrastructure Crosstabulation**

Count

		Overall Satisfaction with Infrastructure			
		Very Dissatisfied	Dissatisfied	Satisfied	Total
Tenure Status	Renters and others	13	9	13	35
	Owner occupier	25	44	0	69
Total		38	53	13	104