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DETERMINANTS OF HOUSING TRANSFORMATIONS IN PUBLIC HOUSING ESTATES IN OWERRI CAPITAL TERRITORY IMO STATE, NIGERIA

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Abstract

The extant literature has shown that there has been an increase in housing transformations in public housing estates in developing countries like Nigeria. it is therefore important to understand what factors drive this phenomenon. This study investigated the relationship between the occurrence of physical changes in houses and multiple variables which influence housing transformation, in public housing estates in Owerri Capital Territory Imo State, Nigeria with the view to identifying the predictors of housing transformations in the study area. The study draws on data gathered through a questionnaire survey of 309 residents in the study population. The variable in focus is 'Any physical changes to the building'. Binary Probit multiple regression analysis tool was used for analysis because the dependent variable was a binary categorical variable. The results showed that the model containing the predictors represents a significant improvement in fit over an unconditional model with no predictors (df=22, Sig.= 0.000). The following independent variables were found to have significant positive correlation with physical changes to the building: (i) Name of housing estate, (ii)Cost of monthly rentage, (iii) Number of persons in household, (iv) Perception of current design of the building, (v) Purpose for the physical changes to the building and environment, (vi) Present number of bathrooms, (vii) Availability of space for expansion in the compound, (viii) Time taken to respond to complaints, (ix) Frequency of Estate managers visits, (x) Plan approval before physical changes. The identification of these predictors provide clarity for stakeholders and policymakers as they implement strategies that would enhance transformations and improve housing quality.

Keywords: Housing estates, Housing transformation, Housing quality

INTRODUCTION

The impressive evidence of growth and quality in public housing estates is often overshadowed by rapid unplanned transformations. Housing transformation has become a prioritized issue of discourse amongst scholars in housing studies concerning the roles of occupants in engaging in physical changes to their buildings. Public housing estates are not generally transformed because of structural failure but as a result of social problems often experienced by the users (Calzado, 2022). Transformation of houses and physical environment are done to improve the

quality of life of occupants. Most mass housing problems could be attributed as both a design and management issues as argued by Calzado (2022). Transformation of houses and the physical environment are done in stages (Tipple, 2000) as some occupants would choose to transform the living areas of their houses and subsequently engage in another aspect of the house to transform. Occupants, in a bid to improve the wellbeing and housing needs, require a previous analysis of the effects of the housing from a smaller scale to a larger scale prior to transformations. The expectation of the occupants of public mass housing estates would include a healthier living condition that is in tune with their socio-economic characteristics and housing needs.

As observed in the literature, housing transformations done by occupants are characterized by internal and external, lateral and vertical alterations of physical elements of the building submission and addition of spaces. Housing transformation can take place whether the house is completely completed or still under-transformation. According to (Muliibi & Machyo, 2021), housing transformations many times start during the construction phase of building projects as many of the houses do not have properly developed designs. Nalubwama, (2018) as cited by Mukiibi and Machyo, (2021), was of the view that most of the housing transformations take place at night, public holidays and on weekends when the personnel of the management systems of the housing estates may not be on duty for monitoring. Furthermore, transformations, also take place on all house types, with either simple or complex composition of building elements.

The extant literature on housing transformations shows that most of the occupants transform their houses so as to create spaces for home-based enterprises, rental of spaces for commercial purposes. This study was part of a wider research on the impact of housing transformation on housing quality in public housing estates in Owerri Capital Territory Imo State, Nigeria, with a view to developing a framework for improvement of housing quality. The specific objective of this part of the study was to investigate the relationship between the occurrence of physical changes in houses and multiple variables which influence housing transformation in public housing estates in Owerri Capital Territory Imo State, Nigeria with a view to identifying the predictors of housing transformations of the study area. A null hypothesis was adopted at the outset, which stated that no significant relationship existed between the variable 'Occurrence of Physical Changes' and the multiple variables being investigated.

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LITERATURE REVIEW

Housing transformation has been defined variously. The process of physical extensions, alterations, additions and modifications of the house and the physical environment by the occupants could be described as housing transformation (Adegbebingbe, 2015; Aduwo, 2013). Mukiibi and Machyo (2021), as well as Sani (2013) stated that most housing transformation was done without the engagement of professionals of the building industry. These non-professionals lacked sufficient knowledge and professional competence to engage in housing transformations in a satisfactorily acceptable manner. They also noted that housing transformations were carried out on buildings that have been approved by the relevant planning

authority within the locality of the buildings, as well as on buildings whose designs had not been approved.

Atalia, Doris and Cornlie, (2022), were of the view that housing transformations were not always positive and may affect residents' well-being through losses in environmental comfort. Similarly, Olubi and Ayoola (2020), affirmed that the quality of the residential environments was grossly reduced due to poor housing transformations. It therefore recommended that housing transformations should only be for the purposes of upgrading, rehabilitation and maintenance of residential buildings. Concurring with this, Oluwasola and Famutimi, (2022) advised that residents should not contradict physical planning regulations during transformations, and should equally engage the services of qualified building industry professionals prior to housing transformations. Doing so would assist the curbing of unsatisfactory transformations that impact negatively on their quality of life.

Housing transformation has been found to be determined by several factors, among which was the spatial accommodation needs of the occupants. This need arises because of household demographic change (increase in the number of members of a household). Also, it has been found that occupants added of extra spaces to the existing building to make up for deficiencies of spaces when they acquired the accommodation (Lewis, 2020). Equally, the desire to improve upon the aesthetics of the building, in order to meet modern standards and their preferences has been found to be a factor for transformation. It is noteworthy that architectural designs of most public housing estates are done without the input of the eventual occupants. Personal preferences are therefore not captured. When they take occupation of the buildings, those who have the means, and the desire may therefore be drawn to transform their buildings.

Another factor that could trigger housing transformation is the need to provide privacy within the housing unit. This is often done by building barriers and fences for protection and privacy. It has been observed in the literature (Barbara, 2020) that the need to provide barriers for privacy enhancement of housing is symbolic. Also, equally, cultural identity has driven occupants of both public and private housing estates to engage in housing transformation. This has encouraged the need to secure the physical environment with the adoption of physical barricades, whether temporary as in the use of timber, or with permanent building materials such as sandcrete block, steel pan, expanded metal and reinforced concrete. Furthermore, the cultural background of the occupants also influences housing transformation in other ways. It causes the occupants to showcase their cultural heritage architecturally in the choice of design and paintings on the facades of their buildings. Most house forms were orchestrated from various cultural backgrounds of the occupants and tribes. Cultural values, as seen in various housing transformation literature could be attributed not only in the perception of people, beliefs, values, norms and customs but also in the design of their buildings. Similarly, culture and identity of occupants can as well be lost when housing transformations occurs. This is a situation when the architectural features of houses are changed during housing transformation done with the design.

Mohit, Ibrahim and Rashid (2010) identified economic reasons as another driver of housing transformation. This is observed mostly in public housing estates with the construction of make shift overhangs from the walls of their buildings and fence; conversion of an existing living

space for commercial ventures; construction of permanent structures at the fence lines so as the create space for home – based enterprises. Adegbehingbe (2015) observed that most of these transformations for the creation of extra spaces for commercial ventures were done without the input of professionals in the building industry. Also, as observed in housing transformation literature, the housing needs of occupants vary from time to time. Household has a tolerance level of endurance if the housing features are no longer in tandem with their socio – economic characteristics Hence, with this development, the occupants may engage in housing transformations.

Mark, Susan and Martha (2005) averred that, most times, housing transformations in public housing affect the lives of very vulnerable families. To describe this, it reported that the United States of America Department of Housing and Urban Development once promoted mixed-income housing to prevent concentration of troubled low-cost households. Some of the objectives of the housing department was to improve the living environment of the residents of distressed public housing as well to provide housing that will decrease the concentration of very low-income families. However, in spite of the efforts of the housing department, public housing transformation largely failed to address the need of a category it called "hard to house" residents (Mark, Susan & Martha, 2005). Some of the residents it categorized as the "Hard to House" in public housing transformation that have displaced their original residence are as follows:

Multiple-barrier residents: These residents have lived in public housing for more than a decade. They are of working age, but not gainfully employed. This group of households may have some health challenges or other challenges that may not enable them to fit into the society effectively.

Disabled residents: This group of residents are physically challenged or visually impaired members of the society. They may require more intensive relocation services, which require different types of accessible units, which may not be available in mixed-income housing developments. The group of physically challenged and visually impaired residents may require special disabled enhanced housing scheme, which may require accessible units with multiple bedrooms.

Elderly residents: The elderly residents range from the age of 65 years and above. These groups of residents require special supportive services such as ramp grab bars, zero spot heights.

Grand families residents: This group of residents consists of single elderly adults older than 65 years. They may need special supportive living environments that are not available in traditional public or private housing market.

Large household: This group of residents will require above four bedrooms to meet housing development standards for adequate housing. Most times large households are usually comfortable in public housing with affordable large apartments. These highlight some of the complexities associated with the different forms of housing transformation.

Whereas not all the stated categories exist in the study area, all housing transformation, by their inherent disruptive nature, have the potential to affect not only the visual quality of the cityscape, and degrade the quality of residential dwellings, but also to deeply affect the poor, weak, and vulnerable in the society. Care must therefore be taken to understand their impact, and proper guidance given to ensure beneficial results.

Study Area

The study area is Owerri Capital Territory in Imo State, Nigeria. Imo State is one of the 36 states of Nigeria and is in the South-Eastern region. It lies within latitudes 4°45'N and 7°15 N, and longitudes 6°50 E and 7°25 E. It has a land area of about 5,100 square kilometres. It is bordered by Abia State to the east, Delta State to the west, Anambra State to the north and Rivers state to the south (see Figure 1). Owerri is the administrative capital of the State. The Capital Territory consists of the following Local Government Areas (LGAs): Owerri North, Owerri West, Owerri Municipal and parts of Ikeduru, Mbaitoli, Aboh-Mbaise, and Ohaji-Egbema (Agoha, 2016) and is located approximately between latitudes 5º 47' 6'' and 5° 29' 6'' north of the equator, and longitudes 7°2'5'' and 7°2'6" east of the Greenwich meridian (see Figure 2). Owerri town (within the capital Territory) is one of the largest and most populous cities in Southern Nigeria and the largest city in Imo State, with a population of 4,978,758 (National Population Commission, 2006). It has an area of approximately 100 square kilometres (40 square miles), and is located at the intersection of roads from Port Harcourt, Onitsha, Aba, Orlu, Okigwe and Umuahia.

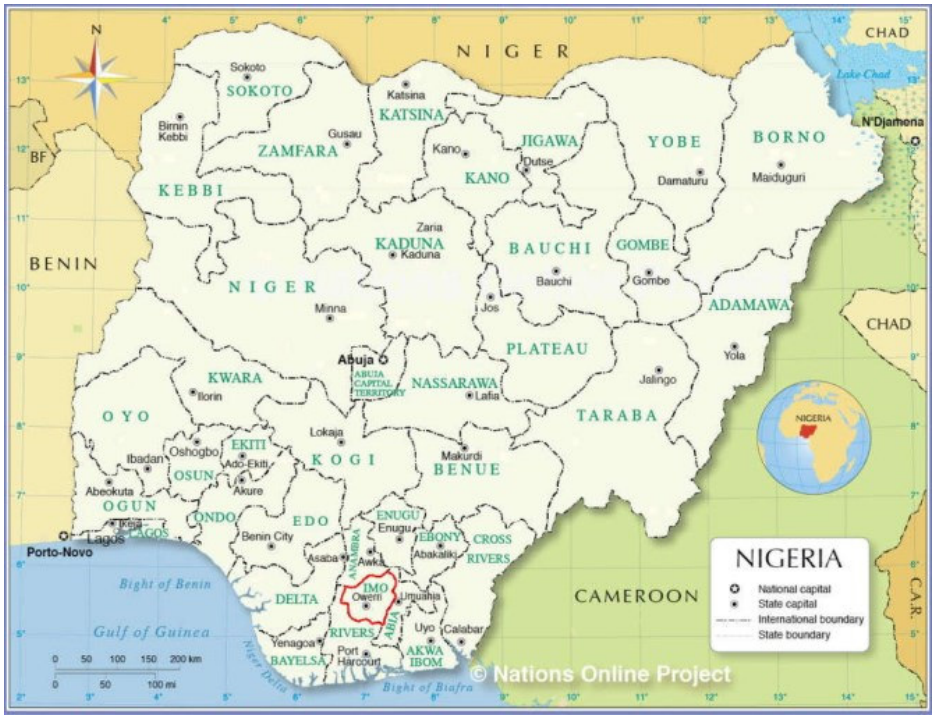

Figure 1: Map of Nigeria showing Imo State (with red border)

Source: (everyevery.ng, 2019)

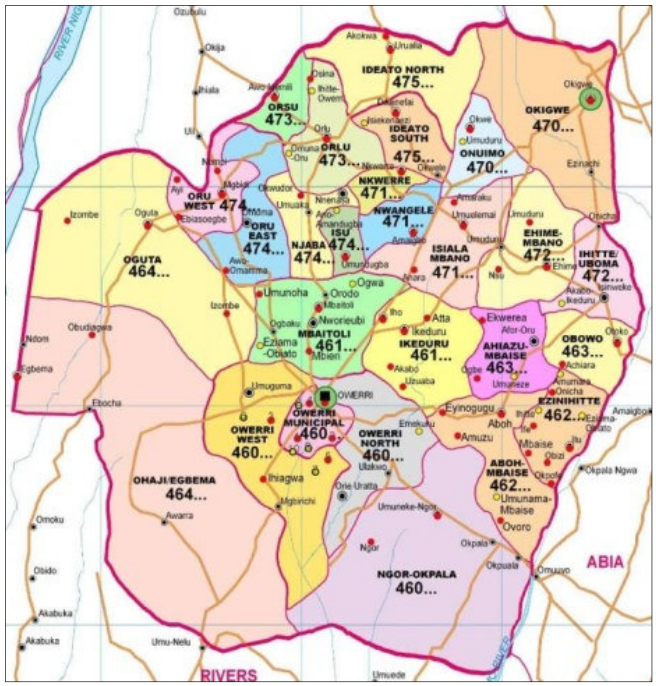

Figure 2: Map of Imo State showing the Local Government Areas

Source: (nigeriazipcodes.com, 2023)

METHODOLOGY

Survey research design method was adopted. As such, questionnaires were administered to the target population to obtain data. As stated, the public housing estates in Owerri Capital Territory Imo State were the focus of the study, and the research population. These included World Bank Estate, Prefab Estate, Aladinma Estate, Uratta Estate, Redemption Estate, Umuguma Estate, Trans-Egbu Estate, Nekede Exclusive Garden Estate and City Garden Estate. There were 1588 housing units in five typologies, within the estatessampled. A multi-stage, stratified random sampling method was adopted in the selection of the study sample. The first stage involved the stratification of the buildings by house types which existed in them (see Table 1). The second stage involved the identification of the number of housing units in each estate and the application of Cochran formula to obtain respondents' size.

Table 1: Stratification of the estates according to house types that exist in them.

S/N	1-bedroom and 2-bedroom bungalow 3–bedroom bungalow (combined)	1 – bedroom, 2–bedroom and 3–bedroom bungalow (combined)	2-bedroom, and 3–bedroom bungalow (combined)	4-bedroom bungalow, 5-bedroom bungalow (detached)	4-bedroom, 5-bedroom bungalow and Duplex (detached)
1	Redemption Estate	World Bank Estate	Uratta Estate	Aladinma Estate	City Garden estate
2	Trans-Egbu Estate	Redemption Estate	Tavron Estate	Uratta Estate	Nekede Exclusive Garden Estate
3					Umuguma Estate
4					Prefab Estate

Source: (Fieldwork, 2020)

Following the stratification, random sampling by balloting was carried out and the following estates were picked from each stratum to represent the various building types.

i. *1 – bedroom, 2 – bedroom and 3-bedroom bungalows combined* –Trans Egbu estate.
ii. *1 – bedroom, 2-bedrooms and 3-bedroom bungalows combined* - World Bank estate
iii. *2 - bedrooms and 3 - bedrooms bungalow combined* - Uratta estate
iv. *3 – bedroom and 4 – bedroom bungalows detached* – Aladinma estate.
v. *4 – bedroom, 5-bedroom bungalow detached and duplex detached* – Prefab estate

Sampling size was derived using Cochran formular for finite population:

$$n = \frac{Z^2 \text{ X } \sigma^2 p \text{ X } N}{(N-1)\ e^2 + Z^2 \text{ X } \sigma^2 P}$$ (Kothari, 2004)

Where N=Size of sample for finite population; N = Research population = 1,588 housing units; σP = Standard deviation of population assumed = 0.5; e = Significance level (precision and acceptable error) chosen – 0.05; Z – Standard variate at a given confidence level = 1.96 for a confidence level of 95% (Kothari, 2004). Sample size of 309 respondents was derived as shown in Table 2.

Table 2: Respondents Population in Sampled Estates

Number	Trans-Egbu Estate	World Bank Estate	Uratta Estate	Aladinma Estate	Prefab Estate	Total
Existing	266	500	200	350	272	1,588
Samples	52	97	39	68	53	309

Source: Fieldwork, 2021

RESULTS AND DISCUSSION

Occurrence of physical changes to the building

Analysis of data about whether the respondents had made physical changes to their buildings showed that physical changes had been made. At Uratta estate the majority of residents (87.5%) had made changes. The results were similar at Trans-Egbu estate, (86.3%) and Aladinma estate (80.9%). Though the proportions were reduced, they remained high at World Bank estate, with three quarters (74.0%), and at Prefab estate with half (57%), of respondents making physical changes. This is shown in Table 3.

Table 3: Area- wise data on physical changes to the building

Value label	Prefab Estate			Uratta Estate			Trans-Egbu Estate			World Bank Estate			Aladinma Estate		
	Freq	%	Cum %	Freq	%	Cum %	Freq	%	Cum %	Freq	%	Cum %	Freq	%	Cum %
Yes	30	57.7	57.7	35	87.5	87.7	44	86.3	86.3	71	74.6	74.6	55	80.9	83.3
No	32	42.3	100.0	5	12.5	100.0	7	100.0	100.0	25	26.0	26.0	11	16.2	100.0
Total	52	100.		40	100		51			96	100		66	100.0	

Source: Field work, (2022).

Similarly, analysis of aggregated data of all estates showed that a greater proportion of the respondents (77.0%) indicated that they had made physical changes to their residences. This is illustrated in Figure 3.

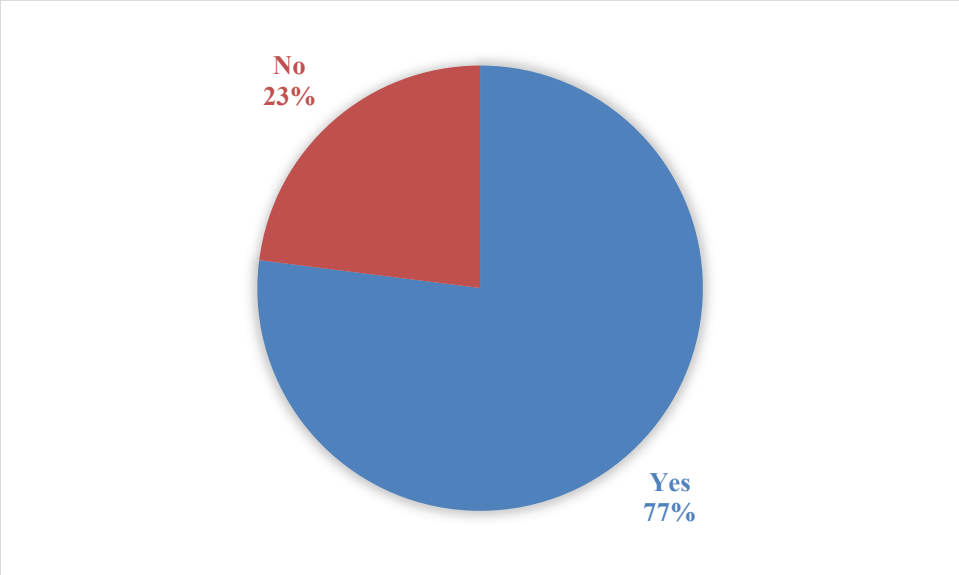

Figure 3: Aggregated data on physical changes to the building

Source: Fieldwork (2022)

Test of Hypothesis

The variable of interest: 'Any Physical Changes to the Building' is a binary nominal variable. As such the tool used for analysis was Binary Probit multiple regression analysis tool. This was in order to characterize its relationship with other variables and identify those that had significant correlation with it. These would be the drivers that may trigger physical transformation in the public housing estates. The following independent variables were regressed against this dependent variable using the Statistical Package for Social Sciences (SPSS) programme: Name of housing estate; gender; marital status; age of respondent; employment status; average monthly income; length of stay; cost of monthly rentage; tenure status of residents; number of persons in household; dwelling type; perception of current design of the building; purpose for the physical changes to the building; present number of bathrooms, present number of water closets; availability of space for expansion in the compound; availability of space in the compound for home-based enterprises; physical changes to provide alternative source of water supply; time taken to respond to complaints; frequency of estate managers visit; plan approval before physical changes; engagement of building professionals during physical changes.

The results showed that the model containing the predictors represents a significant improvement in fit over an unconditional model with no predictors (df=22, Sig.= 0.000). This is seen in Table 3.

Table 3: Omnibus Test

Omnibus Test[a]		
Likelihood Ratio Chi-Square	df	Sig.
105.175	22	.000

Source: Fieldwork (2022)

Similarly, the results for the parameter estimates are shown in Table 4. They indicated that there was significant correlation between the dependent variable and some of the independent variables after entry into the model ($p<0.5$). This showed which variables in the model significantly contributed to predicting physical changes in the public housing estates in the study area (the dependent). The following independent variables were found to have significant positive correlation with physical changes to the building: (i) Name of housing estate, (ii)Cost of monthly rentage, (iii) Number of persons in household, (iv) Perception of current design of the building, (v) Purpose for the physical changes to the building and environment, (vi) Present number of bathrooms, (vii) Availability of space for expansion in the compound, (viii) Time taken to respond to complaints, (ix) Frequency of Estate managers visits, (x) Plan approval before physical changes.

Table 4: Parameter Estimates

Parameter Estimates							
Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	7.033	3.1148	.928	13.138	5.098	1	.024
Name of housing estate	.695	.2546	.196	1.194	7.454	1	.006
Gender	-.699	.4747	-1.630	.231	2.171	1	.141
Marital Status	.146	.1669	-.181	.473	.763	1	.382
Age of Respondent	-.023	.2883	-.588	.542	.006	1	.936
Employment Status	.112	.3686	-.610	.834	.092	1	.761
Average Monthly income	.139	.2207	-.293	.572	.398	1	.528
Length of Stay	.045	.2205	-.387	.477	.042	1	.837
Cost of monthly rentage	-1.017	.3466	-1.697	-.338	8.616	1	.003
Tenure Status of residents	-.294	.2805	-.844	.255	1.101	1	.294
Number of persons in household	.828	.3619	.119	1.537	5.234	1	.022
Dwelling Type	.130	.2682	-.396	.655	.235	1	.628
Perception of current design of the building	.677	.2831	.123	1.232	5.725	1	.017
Purpose for the physical changes to the building and environment	1.173	.3196	.547	1.799	13.473	1	.000
Present number of bathrooms	-1.293	.5076	-2.288	-.298	6.488	1	.011
Present number of water closets	-.664	.4860	-1.616	.289	1.864	1	.172
Availability of space for expansion in the compound	-1.752	.6191	-2.965	-.539	8.009	1	.005
Availability of space in the compound for home-based enterprises	.369	.5076	-.626	1.364	.528	1	.467
Physical changes to provide alternative source of water supply	-.102	.5895	-1.257	1.053	.030	1	.862
Time taken to respond to complaints	-.468	.2078	-.875	-.061	5.075	1	.024
Frequency of Estate managers visits	-.853	.2363	-1.316	-.390	13.030	1	.000
Plan approval before physical changes	-1.768	.5755	-2.896	-.640	9.440	1	.002
Engagement of building professionals during physical changes	.306	.5075	-.688	1.301	.364	1	.546
(Scale)	1[a]						

From these results, it can be averred that having seen a significant correlation in the omnibus test, it was always likely that the Name of housing estate would be a predictor. Evidently, different housing estates differed in their likelihood to engage in transformation. This may be due to difference in income of residents, which is associated with cost of monthly rentage, also found to be a predictor in the model. Similarly, an increase in the number of persons in the household would drive up the likelihood for transformation as there would be need for increased accommodation. Also, growth and transition from one stage of life to another has been known to cause changes in expectations, incomes and opportunities, thus incentivising physical changes to the environment to accommodate these. It can also be deduced that having available space for expansion, or lacking needed infrastructure in the home, will likely serve as encouragement for residents who have means to alter their accommodations.

Another factor directly associated with name of housing estate is the management of the estate. The following predictors variables were derived from this factor: Time taken to respond to complaints, Frequency of Estate managers visits, and Plan approval before physical changes. The implication is that an increase in these variables would improve the level of management while increasing the likelihood for transformation to occur.

RECOMMENDATIONS AND CONCLUSION

Following from these deductions, it is recommended that public housing management organizations should ensure a strict plan approval process, implement regular oversight visits to the estates, and commit to timely response to complaints by residents. If management is improved, then guided housing transformation would likely occur.

When concerted measures are taken by the appropriate stakeholders, some of the negative effects of housing transformation such as insecurity, visual pollution, indiscriminate waste disposal, and unlawful land uses, could be mitigated. The findings of this study can thus be used as a knowledge base for researchers as well as policymakers in their bid to curb unguided housing transformations. Stakeholders in housing should therefore collaborate towards ensuring that measures are taken to ensure transformation that would improve housing quality.

REFERENCES

Abubakar, D.I., Tarreef, H.K., & Abdulleh, S.A. (2015). *Design implications: Impact of Socio-physical setting on public Housing Transformation in Nigeria.* Retrieved from http://dx.doi.org/10.5296/jmr.7i2-6925

Adegbehingbe, V.O. (2015). Evaluation of involvement of Built Environment professionals in Housing Transformation processes in three government housing estates in South-Western Nigeria. Retrieved fromhttps://www.sermanticscholar.org

Aduwo, B.E. (2011). Housing Transformation and its impact on Neighbourhoods in selected low-income public housing estates in Lagos, Nigeria. *Unpublished doctoral dissertation theses covenant University Nigeria.*

Aduwo, B. E., Ibem, E.O, & Opoko, A.P (2013). Residents' transformation of Dwelling units in public Housing estates in Lagos, Nigeria: Implication for Policy and practice. 1(4), ISSN: 2201-6333 (print) ISSN: 2201-6740 www.ijern.com.

Atalia, E., Doris, D.M., & Cornelie, C. (2022). Housing transformation and their impacts on the well-being of dwellers. Retrieved from www.researchgate.net. Doi:10.1590/31678-86212022000400639, 22(4), 255-274.

Barbara S. (2020). Paradigm Shifts in Social Housing after Welfare-State Transformation: *Learning from German Experience, International Journal of Urban and Regional Research 44(6), 1023-1040.* Retrieved December 1,2020 from https://onlinelibraryswiley.com/doi/pdf/10.1111/1468-2427.12914.

Calzado, L.R., (2022). Governing Corviale: *The transformation of housing estates into healthier living spaces.* Retrieved from https://oajournals.fupress.net/index.php/contesti/ article/view/14182 (2), 153-172.

Danquah, J.A., Afram, S.O. & Ofori, P.A. (2015). Evaluating the level of physical Transformation of Houses in gated communities in Ghana. Journal of science and Technology, http:/dx.doi.org/10.4314/just.v35i3.8 (35), 3,84-97

Deiredre, O., Chandra, W., Lesly, R., & Erin, R. (2011). The Poverty Deconcentration imperative and Public Housing Transformation. Sociology Compass 5/9 (2011): 824-833 10. IIII/j.1751-9020.2011.00405.x

Everyevery.ng. (2019). *Nigeria administrative map*. Retrieved from everyevery.ng: https://everyevery.ng/wp-content/uploads/2019/09/nigeria-administrative-map-1024x785.jpg

Federal Government Nigeria, FGN (2006). *National Housing Policy draft:* Federal Ministry of Abuja, Retrieved on June 10, 2020 fromhttps://www.jacksonettiandedu.com

Ibem, E.O., Adeboye, A.B. & Alagbe, O.A (2015). *Similarities and Differences in Residents' Perception of Housing Adequacy and Residential Satisfaction. Journal of Building Performance,* 6(1), 1-4.

Ibem, E.O., Okpoko, U.P., Adeboye, A.B., & Amole, D. (2013). Performance Evaluation of Residential Buildings in Public Housing estates in Ogun State, Nigeria: *User's Satisfaction perspective,* Retrieved from https://www.sciencedirect.com

Imo State Government. (1976). The Imo State Official Gazette: *Imo State Housing Corporation Edict:* 9(1), 62-67

Jenny, P., Joe, C., Kim, M., John, F. & David, R. (2020). *Understanding Changing Housing aspirations:* a review of the evidence, Housing Studies, 35:187-106, DOI:10.1080/02673037. 2019.1584655, Retrieved December 1, 2020 from https://doi.org/1080/02673037.2019.1584665.

Kalabamu F., & Bolaane, B. (2014). Rapid Urbanization and Housing Transformations in Tlokweng, Botswana. *Proceedings of the Conference on urban challenges Conference, Barcelona, Spain. ISBN: 978-84-697-1815 (4)126-139.*

Lewis, A.A., & Richmond, J.E. (2020). *Housing transformation rent gap and gentrification in Ghana's traditional houses*: Insute from compound houses in Bantama, Kumasi, Housing Studies, Doi: 10.1080102673037.2020.1823331

Mark, K.G., Susan J.P., & Martha, R.B. (2005). Public Housing Transformation and the "Hard to House" metropolitan Housing and Communities: A Roof over their Heads. Retrieved online on 14 April 2021 from webarchive.urban.org/publications/311178.htm/

Morris, E.W., & Winter, M. (1975). *A Theory of Family Housing adjustment Journal of Marriage and Family, 37(1),* 79-88. Retrieved December 4, 2020 from https://doi.org/10.2307/35102.

Mukiibi, S. & Machyo, J.N., (2021). *Housing Transformation in Kampala, Uganda:* causes and opportunities. East journal of Environment and Natural Resources 3(1), 1-7 https//doi.org/10.37284/eajenr.3.1.266.

Nigeriazipcodes.com. (2023, January). *Imo State Zip Code Map*. Retrieved from Nigeria Zip Code: https://nigeriazipcodes.com/428/imo-state-zip-code-map/

Nalubwama, J.M. (2018). An investigation into the nature of Kampala's owner – occupied houses, Kampala, Uganda. Unpublished Master's degree dissertation, Makerere University.

Olotuah, A.O., & Taiwo, A.A. (2013). Housing the Urban Poor in Nigeria through low-cost Housing schemes. *The Journal of Physical and Human Geography* 1(3) 1-8, *European centre for Research training and Development UK*

Olubi, R.A & Ayoola, H.A (2020). Assessment of residential housing transformation in Oyo town, Nigeria Environmental Technology & Science Journal II(1), 49-53.

Oluwasola, F.O & Famutimi, J.T. (2022). Public Housing transformation and Quality of life: A case study of Ado-Ekiti, Nigeria. International Journal of Social Sciences: current and future Research Trends, 14(1), 53-65. Retrieved from htts://ijsscfrtjournal.isrra.org/ index.php/social-science journal/article/view/950.

Tipple, G. (2000). Extending Themselves: *User Initiated Transformation of Government – Built Housing in Developing Countries* Liverpool: Liverpool University Press