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Transformation of Residential Land Use, Concomitant Changes and Impacts on Neighbourhood Quality in Port Harcourt Municipality

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Abstract
Residential land use transformation is becoming a recurring phenomenon in most urban areas in Nigeria. The study assessed the impacts of the transformation of residential land use on neighbourhood quality in Port Harcourt Municipality. The specific objectives are to describe the current condition of the residential neighbourhoods of the study area; identify the type of land use change taking place and causes in the neighbourhoods; assess the impacts of the transformation of residential neighbourhood quality in the study area; and identify physical planning measures that will check rapid transformation of the neighbourhoods to improve their neighbourhood quality. The study adopted a quantitative research approach employing a causal-comparative research design. The study used a simple random technique for data collection. The study identified 25 neighbourhoods and randomly selected 3 neighbourhoods: Orominike Layout (D/Line), Ogbunabali and Oromerezimgbu neighbourhoods. A total of 397 respondents were determined and selected for the study by applying the Taro Yamane formula. The determined sample size was distributed proportionately across selected neighbourhoods for the study. From the findings, the study showed that currently, there is a transformation of the planned residential land use of the Port Harcourt Master Plan of 1975 to accommodate other land uses and activities (mixed-use, commercial, industrial and institutional) in the studied neighbourhoods, as observed in 2005 and 2022. The study further identified population growth, urbanisation, infrastructure and services development, government inaction, economic activities and transportation as the causes of the land-use transformation. These impacts on the neighbourhood quality caused by the land use transformation include increased rental value, environmental pollution, security and safety challenges, traffic congestion and deduction of social amenity quality, which has adversely affected residents and businesses. However, there are beneficial impacts for landlords and investors. Addressing these observed impacts of the study would require a review of the Port Harcourt Master Plan of 1975, especially the studied neighbourhoods to evaluate the level and magnitude of changes that have occurred, replanning of the neighbourhoods to incorporate the newly introduced land uses and activities to promote Multi-functional Landuse System (MfLS), provide guidelines to carry out development control activities through collaboration and coordination of planning activities to eliminate regulatory conflicts, regulate indiscriminate transformation without adequate plan to accommodate such changes, and introduce security and safety measures in neighbourhoods through provision of street lighting, community policing initiatives to enhance neighbourhood safety.

Keywords: Transformation, Residential Landuse and Change, Neighbourhood Quality, Port Harcourt Municipality

1.0 Introduction

The land is a predetermining factor of socioeconomic growth and development, and humans still depend on it for sustenance and existence (Verburg, Ritsema, de Nijs, Dijst & Schot. 2004). In recent times, land has become a veritable resource that drives growth and development in urban areas. It has also become a contestable and contemporary issue for urban stakeholders, including governments, investors, and individuals. Urban areas allocate more of their available

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land for residential land to accommodate their teaming population and have other land to contend with. This pressure has transformed and reconfigured the urban landscape, especially the residential land use.

As land becomes a veritable resource for national development, the rates, levels, directions and dynamic implications of land use change have become a critical subject of discourse in recent times, expressing enormous changes in the land use pattern from one into another or in the intensity of uses in cities globally (Chen, Sun. Chen, XinWu, Guo & Wang, 2014). Change in land use occurs in two forms: conversion from one use to another and/or modifying certain land use types to accommodate other uses and activities. In some cases, this transformation in urban areas does not always lead to positive impacts, bringing about the chain to the neighbourhoods in the urban areas, and their quality becomes questionable (Adebayo, 2009).

These changes have become a constant phenomenon in urban areas of Nigeria, predominantly in residential neighbourhoods. When these changes occur without plan or deliberate actions (unplanned and uncoordinated land use conversion) by the municipality government and its physical planning agencies, it brings about negative consequences which may defeat the changer's (developers') objective against the public interest. Land use changes are common in city development and can happen within and/or outside the city. The gentrification phenomenon in neighbourhoods is associated with their susceptibility to land use changes due to accessibility, renting and business prospects and sometimes government urban policy (Yuri, 2009).

Residential neighbourhoods in Port Harcourt Municipality have recently transformed from predominantly residential land use to other land uses. The phenomenon is observed in planned and unplanned neighbourhoods, including indigenous enclaves in the urban area. There is a need to assess the land use change occurring in the neighbourhoods to identify the driving forces that trigger this phenomenon and the impacts on the urban environment that affect the neighbourhood quality. This will provide measures to address the issues of indiscriminate land use changes to achieve sustainable urban development and improve residents' quality of life and well-being.

The neighbourhoods of Port Harcourt Municipality face rapid transformation from its planned initially residential land use to

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other land uses and activities. This transformation is attributed to developers' pressure, government negligence, ineffective development control practices, and urbanisation processes. The situation has resulted in a phenomenal gentrification process that has affected the socio-economic conditions of residents of the neighbourhoods, reducing neighbourhood quality and reconfiguring the landscape and character of the neighbourhoods in the Municipality. Therefore, there is a need to assess the neighbourhoods and identify the concomitant changes occurring from the transformation of residential land use to other land uses, reshaping the neighbourhoods and their characters.

2.0: Literature Review

Landuse Changes and Causes

Landuse refers to managing and modifying the environment so individuals can settle in and have a better quality of life. Furthermore, the Oxford Reference (2024) defined land use as the purpose for which an area of land is designed, whether for agriculture, residential, commercial, retail, or industrial purposes. These definitions connote land use as social and economic purposes and contexts for and within which land is managed (Fred-Nwagwu, 2012). These contextually demonstrate the different purposes humans put into the land to satisfy their social and economic gains and interests. Several factors may trigger these land-use changes, transforming the urban environment from its planned use to other uses.

These factors, as opined by Gbenga, Eniola and Umanubueso (2015), include population growth, urbanisation pressure, the need for creating environments for business growth and the provision of a sustainable environment by introducing new infrastructure, facilities and services in the urban area, and fast-growing rate of physical development may cause neighbourhood transformation and changes in land use. Ayotamuno, Gobo and Owei (2010) also asserted that government urban planning and development policies can contribute to land use change. Similarly, Imaitor, Eyenghe and Brown (2021) identified that uncoordinated urban policies and regulations by the government in urban areas, lapses from poor implementation and supervision of development plans increase changes in land use and encourage land speculation by investors, especially in the urban areas. The factors have contributed to the development of urban sprawl and uncontrolled urbanisation, which has led to land use change and urban transformation, as observed in Yenagoa City in Bayelsa State.

It is imperative to iterate that the government's failure to adequately monitor building plans in society to ensure that citizens adhere to the provisions of the Master Plan of areas where they intend to develop has given rise to distortion of the

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master plan. Okosun, Ogbazi, Nwachukwu, Jiburum and Okeke (2019) stated that many existing buildings in Enugu were built at variance with approved building plans. Initially approved for residential purposes, some building plans were altered to accommodate mixed-uses, primarily residential/commercial uses commonly found in the city. Again, most of the existing residential buildings have been partly or wholly converted to commercial, industrial or institutional uses. In a concerted effort, Fellmann, Getis, and Getis (2005) revealed that the speed at which urban areas sprout without proper planning, management and control spurs the formation and spread of slum and squatter developments in different parts of the urban environment. These developments are significant consequences of poorly managed urbanisation as the inner city is saturated and congested and becomes delayed in physical, social, and economic forms (Okosun et al., 2019). The construction of new roads makes movement within a settlement easy, connects different land uses, and reduces journeys between inner city and open urban areas. No doubt, the expansions (that is, the existence of new roads) help to increase the population in the urban area in size and form and help to encourage land use change.

Impact of Land Use Change on Residential Quality

It is important to state that human activities can distort the environment when humans try to change the order of things from their original design. Every urban area is mapped out for part of its area for various land uses or activities (for example, residential, commercial, industrial, institutional and transportation land uses). In recent times, human activities have led to a distortion of the urban environment, making it look different from what is documented in the master plan of an area. Fellmann, Getis, and Getis (2005) revealed that the speed at which urban areas sprout without proper planning, management and control spurs the formation and spread of slum and squatter developments in different parts of the urban environment. The implication is that many areas that were initially mapped out for residential purposes have either been sold off or leased out for commercial purposes for one reason or another. Similarly, Abiodun (2020) highlighted that the frequent issue of land-use change is the conversion of residential buildings to industrial buildings without recourse to the master plan; this negatively impacted the city aesthetics, which has reconfigured and transformed the urban landscape.

However, the negative impact associated with the unplanned and uncoordinated change in land use with residential neighbourhoods induced the springing of informal settlements such as slums and squatters, thereby reducing the residents' quality of life. Adedeji, Fadamiro, and Adeoye (2014) opined that the informal sector poses a significant threat to the quality of the urban environment, its arrangement and aesthetics because of their illegality in the acquisition, operation and erection of commercial structures,

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resulting in congestion, pollution, and shortage of housing availability. It is no news that this issue of non-adherence to the master plan of a city, which has been emboldened by the lack of supervision from the government and its planning agency, has contributed to a shortage of housing availability and a rent increase. Noise pollution is a significant environmental problem in many rapidly urbanising areas (Uchenna-Ogbodo, Oyegun & Elenwo, 2021). An important factor for the quality of life in urban centres is related to the noise levels to which the population is subjected as a result of land use change. Several factors interfere with the amount of noise pollution and air pollution throughout the city. The aforementioned impacts contribute to land-use change, affecting residential quality and quality of life. The government and its agencies must carefully monitor the activities of land developers in urban areas.

Measures to Manage Landuse Change and Improve Residential Quality

Over time, to ensure the optimum use of land, urban planners, through the instrumentality of planning laws and conventions, have designed urban areas and allocated various land uses and activities to take place in specific zones and or sites of the urban area. These land uses include residential, commercial, recreational, institutional, transportation, and industrial land uses. More often, residential land use in urban areas is invaded and converted by other land uses and activities, which affects the residential quality of the neighbourhoods. Ealing Council in Egbenta (2009) suggested that measures such as land use policies to protect the neighbourhood's residential quality should be provided. The Council further recommended the establishment of a land use classification system, enforcement of strict development control laws, regulations and standards to maintain the residential land use quality, ensuring safety and security by implementing laws based on residential quality planning and zoning as principal tools that local communities can deploy to manage growth, preserve community character, protect property values and enhance the economic viability of the area. These measures will help to establish and maintain the desired future of the neighbourhoods to meet the urban area master plan and achieve the goals of the neighbourhood in terms of quality and viability.

3.0 Methodology

The study adopted a quantitative research approach employing a causal-comparative research design. The study employed a simple random technique. Primary data were collected from residents of the study area's neighbourhood through questionnaire administration (closed and open-ended questionnaires) and physical observations to assess the impact of the transformation of residential land use changes on the neighbourhood quality in Port Harcourt Municipality. The study identified 25 neighbourhoods in the study area and randomly selected 3 neighbourhoods for study precisely: Orominike Layout (D/Line), Ogbunabali and

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Oromerezimgbu neighbourhoods (National Population Commission (NPC), 1991). Thus, to determine the sample size, six (6) persons per household were used to determine the sample population to select respondents (household heads) who participated in the study (National Bureau of Statistics (NBS), 2016). A total of 397 respondents were achieved and selected for the study applying the Taro Yamane formula. The determined sample size was distributed proportionately across selected neighbourhoods for the study. The study used a simple random sampling technique to select respondents who were interviewed in the study (see Table 1). After the survey of the study area, a total of 364 questionnaires were returned and valid for analysis.

Table 1: Showing the Population of the Study

Neighbourhoods	1991 Pop	Projected Pop. 2022	Household Size (6 per HH)	No. of Sampled Respondents
Orominieke Layout (D/Line)	21,377	150,586	25,097	198
Ogbunabali	15,014	105,758	17,626	139
Oromerezimgbu	6,595	46,455	7,742	60
Total	**42,986**	**302,799**	**50,465**	**397**

Source: NPC, 1991; NBS, 2016; Researchers' Computation, 2023

4.0 Results and Discussions

Present Condition of the Residential Neighbourhoods of the Study Area

The analysed data presented in Table 2 and Figure 2 showed the land use budget analysis of the Orominieke and Oromerezimgbu neighbourhoods of the study area in 1975. Both neighbourhoods were planned from the Port Harcourt Master Plan of 1975, while the Ogbunabali neighbourhood was unplanned. The data reflected that 71% of the total land area, representing 135 hectares, was allocated from the land use budget for residential land use. The following land allocation in these neighbourhoods was industrial land use, accounting for 14.7% of the total land area, representing 27.93 hectares from the analysed land use budget. Other land uses where land was allocated were commercial and institutional land uses represented by 8.2% and 6.1%, 15.62 hectares and 11.57 hectares, respectively. The commercial land use comprised shopping and business activities, while the institutional land use covered health, education, emergency services and government facilities. Accordingly, the total area of both neighbourhoods is 190.12 hectares. Ogbunabali is an unplanned neighbourhood in Port Harcourt, so the Port Harcourt Master Plan of 1975 did not capture the neighbourhood and its land use budget. However, like most unplanned neighbourhoods in Port Harcourt, Ogbunabali is an indigenous enclave, making it a predominantly residential neighbourhood. However, other land uses are found in Orominieke and Oromerzimgbu neighbourhoods.

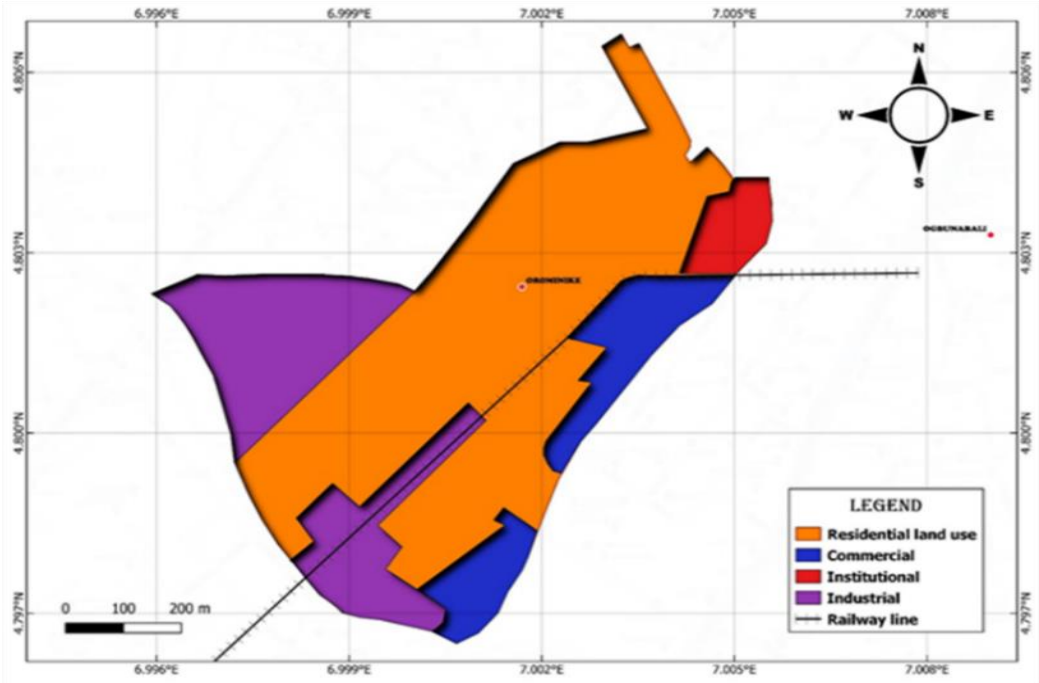
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Presently, there is a significant change in the land use analyses of the Orominieke and Oromerzimgbu neighbourhoods. Table 3 and Figure 3 indicate this change that has transformed these neighbourhoods. The data presented and analysed reflected that mixed-use (residential, commercial, institutional and other uses) currently accounted for 51% of the total land area, representing 171.43 hectares of land, followed by commercial and institutional land uses having 21.4% and 17.1% of the total land area representing 71.88 hectares and 57.58 hectares, respectively. Many plots initially allocated for residential land use from the 1975 Master Plan are now transformed into mixed-use. Thus, only 7.4% of the land area is now residential land use only, accounting for 24.81 hectares. Commercial and institutional land use has increased equally in land area, occupying 21.4% and 17.1% of land, accounting for 71.88 hectares and 57.48 hectares, respectively.

Table 2: Landuse Budget for Oromlneke and Oromerezimgbu Layouts in 1975

Landuse Budget	Area (Hectare)	% of Land
Residential	135	71
Industrial	27.93	14.7
Open space and green belt reservation	-	-
Institutional	11.57	6.1
Commercial	15.62	8.2
Total	**190.12**	**100**

Source: Port Harcourt Master Plan, 1975



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Figure 2: Landuse Plan of Orominieke and Oromerezimgbu Layouts in 1975
Source: Port Harcourt Master Plan, 1975

Table 3: Present Land Use Budget for Oreminieke and Oromerezimgbu Layout in 2022

Landuse	Area (Hectare)	% of Land
Residential	24.81	7.4
Mixed-use	171.43	51
Industrial	1.94	0.6
Open space and green belt reservation	8.58	2.5
Institutional	57.48	17.1
Commercial	71.88	21.4
Total	**336.12**	**100**

Source: Google Earth Image and Ground Truthing of the Study Neighbourhoods, 2023

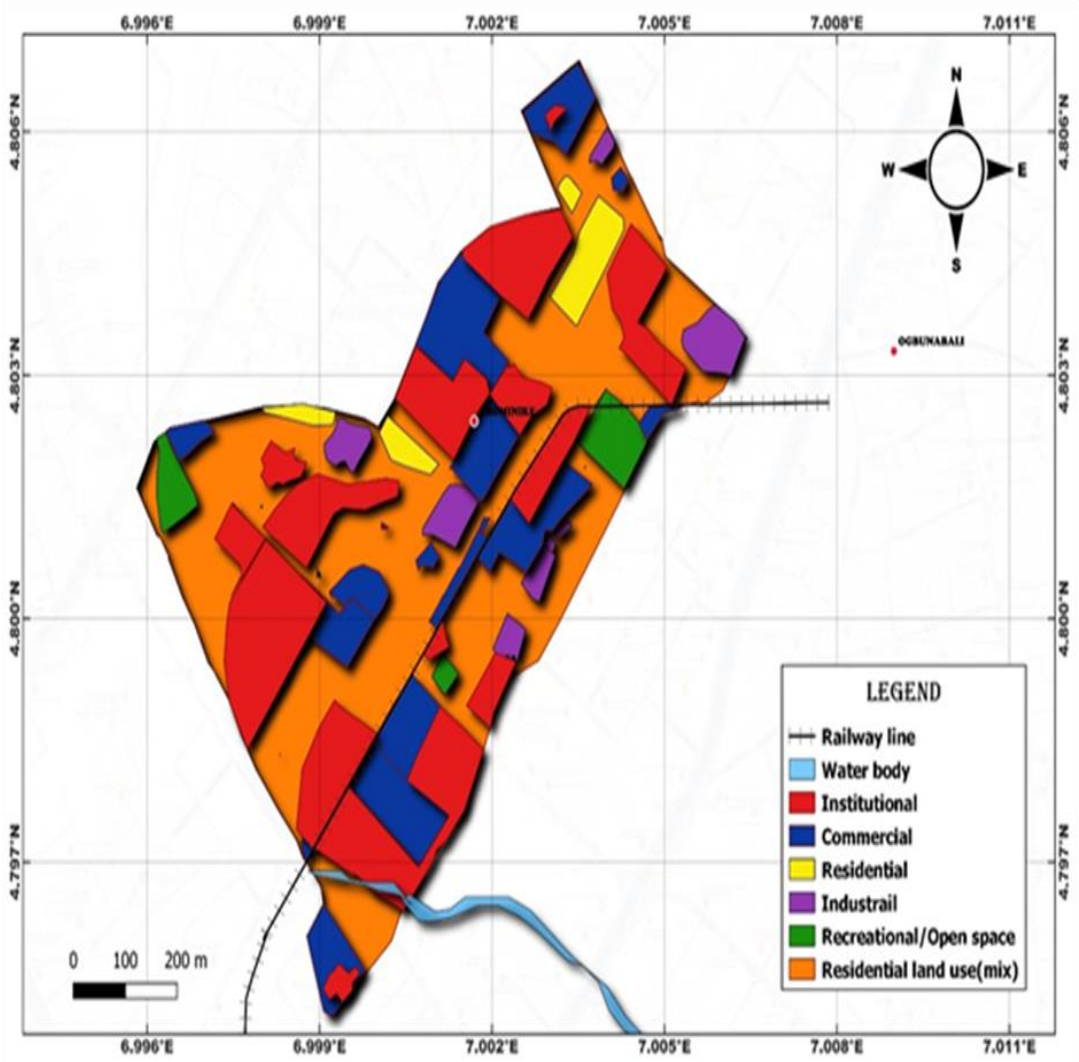


Figure 3: Present Land Use of Orominieke and Oromerezimgbu Layout Port Harcourt in 2022
Source: Adapted from the Google Earth image and Ground Trotting of the Study Neighbourhood, 2023

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Identified Land use Change Taking Place and Causes in the Neighbourhoods

Identified Land use Change in the Neighbourhoods between 1975, 2005 and 2022

The analyses of changes in land use in the studied neighbourhoods showed that Orominieke and Oromerezimgbu experienced changes in their land use characteristics within the period under study. Table 4 highlighted the land use changes in the area for different epochs (1975, 2005 and 2022). For instance, residential land use occupied 135 hectares in 1975 and increased to 260.62 hectares in 2005, with a total deviation of 125.62 hectares. However, in 2022, the size of land allocated to residential land uses was reduced to 20.81 hectares, accounting for 7.4% of the total land coverage. Thus, the land use change that gained more hectares was mixed-use, which has become a new land use phenomenon in the study area. By 2022, mixed-use became the predominant land use characterising the neighbourhoods, accounting for 171.43 hectares and representing 51% of the total land area. Most of the changes were the illegal conversion of residential lands into other lands. After the prominence of mixed-use found in the study area, commercial land use became next in terms of increase in spatial allocation. This evidence is shown in the analysed data as commercial land use in 1975 was allocated 15.62 hectares, accounting for 8.2% of the total land area in the land use budget in 2005.

There was an increase in hectares to 16.83 hectares but a decrease in the percentage of the land area to 5.2%. Similarly, there was a sharp increase in 2022 in hectares and percentage of area coverage to 71.88 hectares and 21.4%, respectively, due to the conversion of many residential plots to commercial, as observed in the study. Likewise, on the assessment of open space reservation, the master plan did not make provision for such land in the studied neighbourhoods, while in 2005, open space reservation merged in the neighbourhoods, occupying 7.32 hectares, representing 2.2% of the land area. The land use increased to 8.58 hectares in 2022, representing 2.5% of the land use budget. However, for industrial land use, there was no appreciation of land from 1975 to 2022. Instead, the neighbourhoods experienced a decrease in industrial land use. In 1975, the master plan allocated 27.93 hectares of land to use, accounting for 14.7% of the land use budget. By 2005, the land area decreased drastically to 2.74 hectares, represented by 0.8% of the total land area and further decreased to 1.94 hectares, accounting for 0.6% of the total area. Fellmann, Getis and Getis (2005) further showed that urban areas experience rapid land use change without proper planning and management, as observed in the study area.

From Table 5 and Figure 4, the data showed that the Ogbunabali neighbourhood, an Indigenous enclave that was not captured by the Port Harcourt Master Plan of 1975, has also transformed from a predominantly residential neighbourhood to a mixed-use neighbourhood from observation as recorded in Orominieke and Oromerezimgbu

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neighbourhoods. The neighbourhood occupies a total of 169.36 hectares of land. Currently, the study found that in the Ogbunabali neighbourhood, residential land use still maintains the highest land coverage in the land use budget, occupying 88.29 hectares accounting for 52.1% of the total land area and next to the waterbody and commercial land uses occupying 32.63 hectares and 26.02 hectares accounting for 19.3% and 15.4% of the total available land in the neighbourhoods. Other land uses observed in the neighbourhood were open space and institutional and industrial land uses, which have a significant share of the total land area in the neighbourhood. The trend has followed the other neighbourhoods studied.

Table 4: Land use Change in Orominieke and Oromerezimgbu Neighbourhoods between 1975, 2005 and 2022

Landuse	Area (Hectare) 1975	% of Hectare 1975	Area (Hectare) 2005	% of Hectare 2005	Area (Hectare) 2022	% of Hectare 2022
Residential	135	71	260.62	79	20.81	7.4
Industrial	27.93	14.7	2.74	0.8	1.94	0.6
Open space	-	-	7.32	2.2	8.58	2.5
Institutional	11.57	6.1	42.33	12.8	60.48	17.1
Commercial	15.62	8.2	16.83	5.2	71.88	21.4
Mixed-use	-	-	-	-	171.43	51
Total	**190.12**	**100**	**329.84**	**100**	**336.12**	**100**

Source: Researchers' Field Survey, 2023

Table 5: Landuse Condition of Ogbunabali Neighbourhood in 2022

Landuse	Area (Hectare)	% of Land
Residential	88.29	52.1
Open space	16.15	9.5
Commercial	26.02	15.4
Institutional	6.13	3.6
Industrial	0.41	0.1
Waterbody	32.63	19.3
Total	**169.36**	**100**

Source: Researchers' Field Survey, 2023

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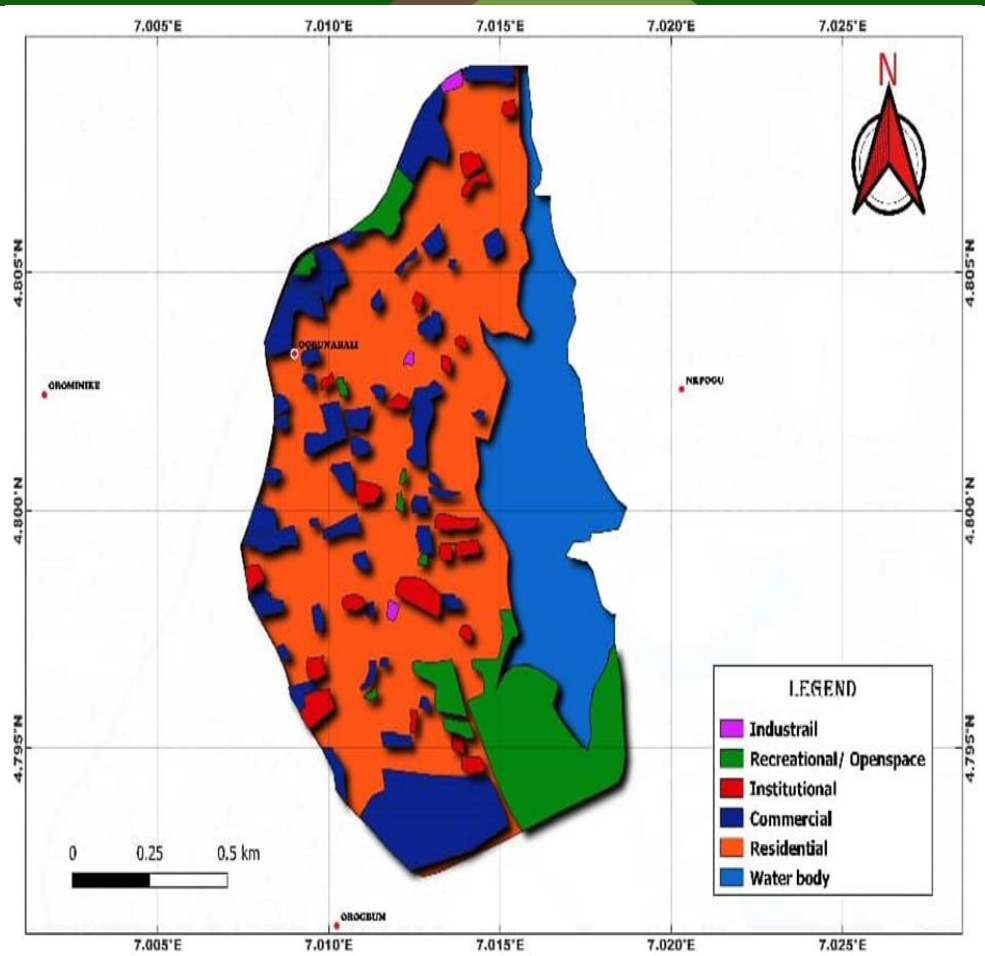


Figure 4: Present Landuse of Ogbunabali Layout in 2022
Source: Adapted from the Google Earth image and Ground Truthing of the study Neighbourhood, 2023

The transformation observed in the neighbourhoods studied from the predominant residential land use to other land uses, such as mixed-use, commercial, industrial and open space, is attributed to many factors that have driven this phenomenon in the study area. Similarly, Abiodun (2020) highlighted frequent land use changes, especially converting residential buildings to other land uses in residential neighbourhoods, impacting the cityscape aesthetically. From Table 6, the significant factors causing land use change in the neighbourhoods were population growth, urbanisation, infrastructure, and service development. These factors accounted for 36.5%, 33.2% and 12.3%. Population growth is attributable to natural increase through birth. Most migration activities, such as rural-urban and urban-urban migration, occur rapidly, resulting in rapid urbanisation. The development of more infrastructure and services in the neighbourhoods also triggered urbanisation that may result in changes in land use within the neighbourhoods. The factors identified by the study collaborate with Gbenga *et al.* (2015), Ayotamuno *et al.* (2010),

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and Imaitor *et al.* (2021) findings in their studies of land use changes in Port Harcourt and Yenagoa. Other factors causing the transformation of residential land use in the neighbourhoods to other land uses, as identified by respondents, were government inaction, economic activities and transportation resulting in gentrification because of the need for land to meet the urban dwellers and investors needs and activities as 10.2%, 5.1% and 2.7%, respectively attested to these factors. The government physical planning agency not committed to adhering to the provisions of the Port Harcourt Master Plan of 1975 has further contributed to the transformation of land use in the neighbourhoods from its planned allocation without evaluation of the need for such changes to be welcomed in the neighbourhoods as also observed by Imaitor *et al.* (2021).

Table 6: Causes of Land use Change in the Neighbourhoods

Causing Factors	No.	%
Urbanisation	121	33.2
Population growth	133	36.5
Infrastructure and services development	45	12.3
Government inaction	37	10.2
Transportation	9	2.7
Economic Activities	19	5.1
Total	**364**	**100**

Source: Researchers' Field Survey, 2023

Impacts of the Transformation of Residential Neighbourhood Quality in the Study Area

The study has identified several impacts from the transformation caused by land-use changes on the neighbourhood quality of the studied neighbourhoods in Port Harcourt Municipality. From Table 7, 43.4% of the sampled residents attested that an increase in house rent is the most prevailing impact on the study area, affecting the neighbourhood quality as many landlords have increased their rents, which is becoming unaffordable for residents. Another important impact mentioned was increased environmental pollution and serenity, which accounted for 30% of the responses. The pollution arises from private electric generating sets (noise and emission of carbons) and activities that generate wastes (especially non-biodegradable wastes such as polythene, paper, and metal). Also, increased vehicular inflow and traffic congestion in the neighbourhoods, which accounts for 9.3% of the responses, have impacted the study area by introducing other new land uses and activities to the neighbourhoods, bringing the emergence of unplanned gentrification. This action has further increased noise and air pollution, thereby affecting the serenity of the neighbourhood environment. The transformation of the neighbourhoods by introducing new land uses and activities has increased security and safety challenges and decreased social amenity quality in the study area,

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as accounted by the respondents represented by 11% and 6.3%, respectively, responses. Criminal and violent activities, trading activities, indiscriminate parking and increased vehicular traffic, have all introduced new social life and put pressure on available social amenities (such as public educational and healthcare facilities and open space) and increased environmental pollution (noise and carbon footprints) as the population increased in the studied neighbourhoods. These conditions have further threatened the security and safety of residents in the neighbourhoods, which were supposed to be predominantly residential as planned by the Port Harcourt Master Plan of 1975. Thus, Okosun *et al.* (2019) corroborated the study's findings as neighbourhoods experiencing such changes exhibiting environmental degradation and social and economic problems of introducing new lifestyles in urban areas.

From the findings, as shown in Table 8, even while there has been an increase in the number of facilities and services in the neighbourhoods because of the introduction of new land uses and activities, Table 7 has shown the negative impacts of these changes in land use in the study area have caused. However, the impact level of the transformation experienced in the studied neighbourhoods clearly showed that 45% of the respondents thought that the level of impact had an adverse impact on residential quality. In comparison, 27% said its impact level is very adverse. As earlier said, there are positive impacts; 20% of the respondents opined that the impact is beneficial, while 8% said it was very beneficial to the neighbourhoods. This transformation has contributed to the neighbourhoods as many landlords profit more from renting their property in the study area.

Table 7: Impacts of the Transformation on Neighbourhood Quality

Impacts	No.	%
Increase house rent	158	43.4
Increase in environmental pollution and serenity	109	30
Decrease in social amenity quality	23	6,3
Increase vehicular inflow and traffic congestion	34	9.3
Security and safety challenges	40	11
Total	**364**	**100**

Source: Researchers' Field Survey, 2023

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Table 8: Impact Level of the Transformation on the Neighbourhood Quality

Impact Level	No.	%
Very adverse	98	27
Adverse	164	45
Beneficial	72	20
Very beneficial	30	8
Total	**364**	**100**

Source: Researchers' Field Survey, 2023

Identified Physical Planning Measures to Check the Rapid Transformation of the Neighbourhoods to Improve Neighbourhood Quality

From Table 9, some respondents were asked for measures to check rapid transformation in their neighbourhoods and improve neighbourhood quality of the study area due to land use change from planned land use to other land uses. The findings indicated that 37% of the respondents believe that physical development should adhere to the original land use plan of the neighbourhoods. In comparison, 23% of the respondents suggested replanning the neighbourhoods to meet the present demand of the Municipality's physical and socio-economic growth and development, which will orderly organise and coordinate the ongoing gentrification process in the study area. Thus, from the findings, other suggested measures by the respondents were to improve infrastructural development and social amenities and improve development control mechanisms, accounting for 21% and 19% of the responses. With the increase in population, human activities and the inadequacy of available infrastructure and services within the studied neighbourhoods, it is imperative that an increase in the provision of neighbourhood infrastructure and services, well-coordinated development control mechanism and replanning of the neighbourhoods will allocate land resources adequately and sustainably to regulate land use change and further improve neighbourhood quality for residents, investors and visitors. Ealing Council in Egbenta (2009) and Imaitor et al. (2021) also suggested the same measures to check the rapid land use changes occurring in urban areas, especially in residential neighbourhoods.

Table 9: Measures to Check Transformation of Neighbourhoods and Improve Neighbourhood Quality of the Study Area

Measures	No.	%
Adhere to the original landuse plan of the neighbourhood	133	37
Replanning of the neighbourhood	85	23
Improve development control mechanism	70	19
Improve infrastructural development and social amenities	76	21
Total	**364**	**100**

Source: Researchers' Field Survey, 2023

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5.0 Conclusion

Rapid transformation in residential neighbourhoods in urban areas has become a recurring process due to land demand for development and increased urban population and human activities. The study found that the neighbourhoods' landscape had been reconfigured due to the transformation of their planned residential land use, the Port Harcourt Master Plan of 1975, to accommodate other land uses and activities. This action indicated a change in the neighbourhoods' morphology as allocated in 1975 to the changes observed in 2005 and 2022. The observed transformation in land use change in the neighbourhoods is driven by population growth, urbanisation, infrastructure and services development, government inaction, economic activities and transportation. The study found that the transformation has impacted the neighbourhood quality by increasing rent and environmental pollution, affecting the neighbourhoods' serenity, security and safety challenges that threaten life and property, causing traffic congestion and reducing social amenity quality. These impacts on the neighbourhoods have adversely affected residents and businesses and have also recorded beneficial impacts on landlords and investors. Residents of the study area have suggested measures to check the rapid transformation experienced and to improve the neighbourhood quality, such as adhering to the original land use plan and replanning the neighbourhoods, providing more infrastructure and services and improving the development control mechanisms in the study area. The study has highlighted these issues as observed in the study area and required physical planning measures to address the situation to achieve a sustainable urban development and environmental quality that will improve the quality of life and well-being of residents and likewise accommodate the new phenomena occurring in urban neighbourhoods due to pressure of urban growth and development.

6.0 Recommendations

i. There should be a review of the Port Harcourt Master Plan of 1975, especially the section that covers the studied neighbourhoods, to evaluate the level and magnitude of changes that have occurred in the neighbourhoods;

ii. There should be a replanning of the neighbourhoods to incorporate the newly introduced land uses and activities, including the provision of new neighbourhood infrastructure and services that will promote a Multi-functional land system (MfLS) as a new approach to building sustainable urban growth and development. This action will improve residents' quality of life and well-being, social and economic growth and general neighbourhood quality;

iii. The State and Local Government physical planning and urban development agencies managing physical planning and

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development affairs in the Municipality should provide guidelines to carry out development control activities (monitoring, evaluation, implementation and feedback mechanism) through collaboration and coordination of planning activities to eliminate regulatory conflicts;

iv. There should be proper coordination in the granting of residential land conversion to other land to regulate indiscriminate transformation without an adequate plan to accommodate such changes in the study area and

v. Introduce neighbourhood security and safety measures through street lighting and community policing initiatives to combat crime and violence to enhance neighbourhood safety.

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