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The Economic Benefits of Gentrification Strategy on Kisumu Urban

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Abstract

Kisumu, a city located in western Kenya, is experiencing rapid urbanization and economic development. As part of this growth, gentrification has emerged as a strategy to revitalize and transform urban neighborhoods, often resulting in economic benefits for the local community. Gentrification refers to the process of renovating and improving deteriorated urban areas, typically by attracting more affluent residents and businesses. In Kisumu Urban, this process involves the refurbishment of old buildings, creation of new infrastructure, and enhancement of public spaces to attract investment and improve the overall quality of life. However, designing sustainable urban region gentrification projects remains a crucial challenge, particularly in understanding the ways physical planning and social issues interact. This paper therefore investigates the gentrification strategy of urban Redevelopment in the Kisumu housing renewal projects in Kenyan by exploring the connections between sustainable development and physical planning/gentrification strategy. The target population was all the households in greater Nyalenda, Makasembo estate, Kaloleni, and Arena and other stakeholders. The study sample size was 309 households. Systematic sampling procedure and simple random sampling technique was used to select the respondents. The study used content analysis, key informant interview and focus group discussion to gather contextual information on gentrification strategy of renewal housing. The data was then analyzed using SPSS and Stata and presented through graphs, charts and tables. Findings of the four studied household areas indicated that renewable housing infrastructure projects can lead to improved access to facilities and services. In addition, positive effects of the renewable housing infrastructure projects on the socio-economic aspects included more job opportunities and improved commerce in all the communities. Further, reduction in travel time in the four household areas, with improved transit, circulation and connectivity to other household areas was observed. The renewable housing infrastructure projects also

brought with them adverse effects such as displacement, protests and insecurity which were felt across the four household areas; in Nyalenda, Makasembo estate, Kaloleni and Arena. The study recommends that policymakers should adopt place-based policies to address the consequences of gentrification and housing renewal projects. Further, infrastructure projects like road construction associated with urban renewal should undergo thorough environmental assessments to evaluate their impacts comprehensively.

Keywords: Gentrification strategy, urban sustainable development, Kisumu housing renewable project

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Introduction

Long-term urban sustainability and resilience are the focus of urban decision makers as urbanisation attracts more people to cities and people remain the main driver of concerns (Anguelovski, Connolly, Masip & Pearsall, 2018). Recent urban deterioration in Kenya has exacerbated numerous urban challenges. This deterioration impacts many parts of cities, lowering quality of life and causing instability (Obange & Wagah, 2019). It causes social, physical, environmental, and economic non-sustainability by inefficient urban physical structure and infrastructure, reducing land price and property value, aggravating social and cultural anomalies, intensifying environmental pollution, and destroying natural resources (Newman & Wyly, 2006). Kenya has a housing shortage of approximately 2 million units, with 61% of urban households living in slums or decrepit buildings that degrade metropolitan centres. Kenyans still need affordable housing. This means that many urban Kenyans must live in unsanitary slums or informal settlements owing to housing shortages and affordability.

Urban centers including cities, major towns among others experience considerable number of problems among them is aging of the physical fabric, environmental pollution, loss or declining asset values and livelihoods, sprawl which require interventions to arrest their spread (Roberts, 2000; Dodman et al., 2022). In housing areas, indicators of decay include inadequate housing, degraded environment and presence of non-conforming uses. It means that once-thriving urban communities who have recently been habitats of dilapidated worn out and despaired housing structures have been depressed and struggling (Makagutu, 2020). But their

concerns may come to the rescue of rediscovery and revitalized initiatives. There has been influx of investment capital, the arrival of new investment and speculative visions for the future of the community and the development of new residential and commercial spaces in formerly declining areas. Urban renewal of housing may generate enthusiasm and excitement. In Kisumu city, for example, estates such as Makasembo, which is 100 years old has become a multi-billion modern housing project at a cost of 3.5billion Kenya shillings and hoped to restore the lost glory of the area. It aims to build 1,700 housing units on the 10-acre land (NEMA, 2021). These units will consist of one, two, and three bed-roomed houses as part of urban renewal and affordable housing unit projects of the current Governor of Kisumu.

According to Construction Kenya (2012), the 11.6-acre property will have seven multi-story buildings with 1,870 one-, two-, and three-bedroom homes and 1,754 parking spaces. Under low-cost housing, 180 one-bedroom, 100 two-bedroom, and 290 three-bedroom units will be built with 544 parking lots. The medium-cost sector will have 1,300 units with 1,210 parking spots, 600 two-bedroom and 700 three-bedroom. The structure will also have pre-schools, boreholes, solar power, high-speed lifts, landscaped gardens, and communal playgrounds. A multi-storey house development project is underway at Makasembo estate, Kaloleni Shaurimoyo ward, Kisumu central sub-county, Kisumu County (Republic of Kenya, 2019). Other measures supporting housing renewable gentrification include improving Otonglo market, Kopere PV solar power project, Kisumu Bus transportation transit system and housing renewals at Nyalenda, Ondiek, Arena, Otonglo, Anderson-Ofafa and Obunga. Thus, Kisumu city has been experiencing haphazard urban sprawl, including the growth of informal settlements, the use of very old housing structures, some of which were unfit to live in, and a declining quality of urban life, especially for low-income groups in informal or slum settlement areas.

Urban renewal aims to revitalise degraded properties by changing their use, repair, or rebuilding to maximise urban land use (Marra et al., 2016). Economic, educational, and employment determinants including transportation infrastructure, housing quality, and food access inequalities affect urban sustainable welfare. Inequalities are caused by environmental, social, and physical factors (Boschmann & Kwan, 2008). The 1980s and 1990s saw considerable shrinkage, forcing metropolitan centres and major cities in Kenya to deal with obsolete structural housing infrastructure. After 2000, this shrinkage ended and large-scale state funding and donor partner programmes funded many redevelopment projects to improve quality of life. This led de-industrializing and post-industrial communities to repair and redevelop green amenities. This movement reflects new trends like quick urbanisation, urban healthcare demands, accelerated digital transformation, shifting cultural ideas

and products, and increasing spatial inequality.

The drives are to initiate gentrification strategies as models for transforming urban areas into more diverse and vibrant neighbourhoods and extend those positive impacts into the wider city-scale over long term (Yee & Dennett, 2022). Gentrification of housing renewable strategies use an integrated and inclusive process combining physical, environmental, and socio-economic measures. It leads to a desired most comprehensive and effective tools that decision makers can implement to promote more inclusive, resilient, safer, and sustainable development of cities (Chava & Newman, 2016). Yet there are inadequate studies investigating the impacts of these strategies on urban sustainable development. This means that there a significantly urgent need to examine the impacts of these strategies through a broad lens. There has been considerably witnessed physical gentrification of renewable housing areas, improvement of streetscapes, street commerce, urban markets and urban green spaces, as well as the reuse of vacant lots (McClintock, 2018). In this context, the reuse of urban brownfields and demolished former residential and industrial buildings made the expansion of urban greenery a key measure in sustainable urban and neighbourhood development.

Although this turnover has clear benefits for a neighbourhood's physical and economic infrastructure, the resulting gentrification as higher-income residents who can afford rising market costs displace lower-income households can have dire consequences for a neighbourhood's social and cultural character (Bates, 2013; Spinney et al., 2011). Already residents of old estates such as Makasembo, Nyalenda, Ondiek, Arena, Otonglo, Shaurimoyo, Anderson-Ofafa and Obunga have been asked to vacate their current houses to pave way for demolitions. Friction and fear arise with displacement as increased demand raises rents for lower-income residents; rental buildings are converted to for-sale condominiums at upscale prices; older properties are torn down for new, high-priced developments; and property taxes climb for everyone. As gentrification takes hold of a neighbourhood, clashes of culture and lifestyle are a frequent byproduct. Often, this transition has racial implications as well. In many cases, the wealthier newcomers are white and the long-term residents, who can no longer afford to live in their old neighbourhood, are racial and ethnic minorities.

Moreover, the gentrification ambitions, however, also may typically translate into escalating housing costs, an influx of wealthier households, and the displacement of a lower-income neighbourhood's residents (Wolch, Byrne & Newell, 2014). In the case of Kisumu housing renewals, the County governments has suggested that the cost of housing may be valued at; one bedroom at a cost of 1.6million, two bedrooms at 2.5million and three bedrooms at 3.5 million when complete. It may imply that sustainable urban development may not be spatially or equitably realised. Although housing is not the only

component of neighbourhood gentrification; market upgrades, solar PV projects, new street commercial development, education, transportation, and local leadership are also critical factors for a community in transition, little is known about the impacts of these strategies in sustainable urban development. Communities that recognize the potential for gentrification early can mobilize resources to help local residents share in the benefits. Access to better jobs provides residents with increased income to afford market-rate housing. Transitioning neighbourhoods are often in depressed urban areas, including central cities and first- and second-tier informal settlement areas. Nonetheless, these areas lack excellent infrastructure and choices of multiple modes of transportation is lacking, thus making them less attractive to households seeking to avoid car dependent urban areas. Finally, local political will as well as the foresight to pursue mixed-income communities can be a key factor in determining whether a neighbourhood retains residents as it revitalizes or displaces them.

Over the past few decades, urban sustainability has required innovative planning methods. Sustainable development is emphasised by professionals, environmental activists, and politicians, and strategies, policy, planning, and programmes have embraced it. It means housing must be rethought to successfully and synergistically address slum avoidance, the urban divide, economic and human development, and climate change. Housing is no longer only a roof over one's head; it's essential to sustainable development (Immergluck & Balan, 2018). Kisumu (Kenya) is one of nine Eastern and Southern African cities chosen to accomplish Millennium Declaration Goal 7 Target 11 of "Cities without slums" (Republic of Kenya, 2019). Addis Ababa, Lilongwe, Maputo, Durban, Arusha, Kampala, Maseru, and Ndola are the other cities. This is intended to improve access to basic needs like quality education, healthcare, water, electricity, and the internet, which has become a human right in some European countries. However, some parts of the capital and her territories still lack internet access.

Extensive research in this field has been focused on the mechanisms of urban redevelopment, which involved looking at how housing renewal infrastructural project have been addressing the ideal of building sustainable cities and neighbourhoods (Turcu, 2012; Wang et al., 2014; Ercan, 2011). Debate continues about the best strategies for the delivery of sustainable urban redevelopment. Models to achieve these goals have been circulating across the world and similar patterns have appeared from one country to another. But in Kisumu, the displacement of a certain class of society in order to redevelop certain areas that has had despaired, dilapidated and worn-out buildings is an ongoing process. These areas include Nyalenda, Ondiek, Arena, Otonglo, Makasembo, and Housing renewal, Shaurimoyo, Anderson-Ofafa and Obunga among others. These areas will certainly experience acceleration as a result of Kisumu's

hastening stance towards the realisation of affordable housing, cities without slums and globalisation status. Kisumu city is emerging as the premier African intermediary city of the future and is fast gathering pace. The city is chasing the tag of smart resilient city and urban dwelling place that must provide quality services to the residents as well as be responsive to emerging unforeseen situations while playing a critical role in enabling dignified habitation conditions with quality affordable housing as fundamental component.

The Kilimani residential neighbourhood in Nairobi has undergone redevelopment and transformation. Previously a quiet and hot suburb during the 80s and 90s, Kilimani now extends from Valley Arcade to the bustling Hurlingham area. It used to be known for its low-rise buildings and bungalows with spacious backyards. Urban communities have the challenge of improving the quality of life by addressing social, economic, physical, and environmental issues to promote the vitality and viability of their operations (Shen et al., 2011). Sustainable locations are typically characterised by their health, attractiveness, and economic prosperity, although they are often limited in their distribution throughout space. Reliable solutions for sustainable development of cities are crucial for creating an improved physical environment for sustainable urban existence. Nevertheless, the correlation between the significance of these techniques and the achievement of sustainable development has not been thoroughly investigated, especially within the context of developing nations. The lack of focus is concerning given the significance of sustainable development for local communities. Being mindful of both sustainable development and gentrification strategy entails prioritising the enhancement of living circumstances and the promotion of more diversified and socially inclusive environments.

Redevelopment procedures worldwide aim to create more varied, reengineered, rejuvenated, and active neighbourhoods and spread those benefits to the city. The focus is on how gentrification might incorporate physical, environmental, and socio-economic measures, or urban renewal techniques, to achieve sustainable urban growth. Gentrification is one of the most complete and successful tools for inclusive, resilient, safer, and sustainable urban development (Dale & Newman, 2009). According to Goodling, Green, and McClintock (2015), pension funds can provide decent and affordable housing, boost economic growth, and boost industrial growth, creating jobs and raising Kenyans' living standards. Several studies have proposed that urban redevelopment and new urbanism should mix gentrification with initiatives that improve place, identity, quality, and liveliness (Yu & Kwon, 2011; Onjala & K'Akumu, 2016). Applied urban planning is focusing more on sustainable city centre gentrification. If urban sustainable development is integrated into design practice, sustainable city centre gentrification may have more sustainable effects.

Kisumu, Kenya's third-largest city, is striving for sustainable urban development to address challenges such as high unemployment, informal employment, and widespread poverty. However, rapid development efforts have often failed to deliver sustainable outcomes, neglecting the needs of local communities and exacerbating urban poverty. Despite the national vision for economic growth, Kisumu's development has been marred by issues like displacement, gentrification, traffic congestion, and social segregation. Urban renewal is essential for addressing these challenges and promoting inclusive, resilient, and productive cities. Yet, Kenya lacks a clear policy framework for urban renewal, leaving deteriorating neighborhoods unaddressed. Kisumu County has identified poor housing, rapid urbanization, and inadequate infrastructure as key challenges, proposing strategies like affordable housing development and infrastructure improvement. However, without a comprehensive framework for urban renewal, these efforts may fall short. Therefore, this study aims to propose a viable institutional, legal, and policy framework for sustainable urban renewal in Kisumu, bridging the knowledge gap and providing guidance for future urban renewal projects.

Research questions

This paper aimed to investigate the gentrification strategy of urban sustainable development in Kenyan cities: a case of Kisumu housing renewable project. It evaluated the gentrification strategy as a concept being used across fourteen (14) Counties including of Mombasa County, Nairobi City, Kisumu, Nakuru, Uasin Gishu, Nyeri, Kiambu, Embu, Garissa, Kakamega, Kericho, Kitui, Machakos and Kilifi. Besides, desktop analysis focused on a case study of Kisumu housing renewable projects. The research questions of this study included:

i) What are the dimensions of urban sustainable development?
ii) What is the importance of gentrification strategies of housing renewable projects used by Kisumu County Government?
iii) In what ways are the gentrification strategies of housing renewable projects contributing to realisation of urban sustainable development of Kisumu County?

Theoretical framework

Neoliberal trends in urban development and its contestations, Legislative and policy framework for Urban renewal in Kenya were the theoretical approaches for this paper.

Methodology

The research design used in this paper is a mixed design approach combining both quantitative and qualitative designs involving an in-depth review of the relevant literature as well as semi-structured interviews and face-to-face questionnaires are adopted for this study. The target population was all households in greater Nyalenda,

Makasembo estate, Kaloleni, and Arena and other stakeholders. A total of 309 households were involved in this study. Simple random sampling technique was used to select the respondents and purposive sampling was used to select key informants. These informants included the Kisumu City County planning officer, officers from the department of housing, housing and urban development, urban community elders, assistant chief and officers from LAPFUND. Socio- economic surveys were conducted using CSPro software that supports data collection on android devices such as phones and tablets. The study further used focus group discussion to gather contextual information on gentrification strategy of renewal housing. Content analysis of gentrification strategy of renewal housing at the department of planning budgeting and county city planning office generated adequate secondary information as is documented in the study. Secondary data involved reviewing available published and unpublished literature on the study subject. Other secondary was collected from government agencies. The data was then analyzed using SPSS and Stata and presented through graphs, charts and tables. One of the difficulties faced in appraising gentrification strategy of renewal housing systems in Kisumu city is lack of clear records on urban housing regeneration approaches. The lack of detailed and up-to-date gentrification strategy of renewal housing records acts as a major impediment to the appraisement of current urban housing regeneration systems. Consequently, the study used key informant interviews of relevant gentrification strategy of renewal housing information alongside focus group discussions with different socio-economic groups from main study areas including greater Nyalenda, Makasembo estate, Kaloleni and Arena, which generated relevant primary data to verify facts as reported by the paper. Clearly, the establishment of the gentrification strategy of renewal housing records with details of regeneration approaches, compensation of households affected, demolition, rebuilding of housing, priority during sales of complete housing units, affordability and accessibility, is pre-condition to improve understanding of Kisumu urban housing regeneration systems and for formulation of appropriate policies to improve Kisumu city urban housing regeneration approaches. They were designed with the help of experts in all categories of focus on sustainable development.

Results and discussions

Demographic characteristics of the respondents

The table 1-5 below presents the demographic characteristics of the respondents participating in the study. This includes data on gender, age, educational level, occupation, and household size. These characteristics provide information into the composition of the sample population.

Gender

Table 1 and 2 below display the distribution of gender for the respondents. According to the findings

on household heads, it's observed that men comprise the majority at 68%, whereas women head only 32% of households.

Table 1: Distribution of gender of respondents

Gender	Frequency	Percentage
Male	198	36
Female	111	64
Total	**309**	**100**

These findings might suggest that women were more inclined to engage with interviewers or were more frequently present at home during the day when the interviews took place.

Table 2: Distribution of household heads of respondents

Characteristics		Nyalenda	Makasembo	Kaloleni	Arena	Sub Total
Gender		f(%)	f(%)	f(%)	f(%)	f(%)
	Male	61(19.8)	45(14.6)	59(19.1)	45(14.6)	210(68.0)
	Female	25(8.1)	28(9.1)	24(7.8)	22(7.1)	99(32.0)
	Total	**86(27.9)**	**73(23.6)**	**83(26.9)**	**67(21.7)**	**309(100.0)**

But results from the FGD showed that women form most of the rent payers and chief breadwinners in a household. This, however, differs from the field data as shown in Table 2.

Age

The following table 3 illustrates the distribution of age brackets among the respondents participating in the study.

Table 3: Distribution of age brackets of respondents

Age Band	Frequency	Percentage
15- 24	68	22.03
25- 34	58	18.62
35- 44	79	25.4
45- 54	47	15.22
55- 64	31	10.16
65- Above	26	8.57
Total	**309**	**100.0**

Table 3 results show that individuals below 65 years old make up 91.43% of the sample, with a mean age of 39 years. Among households, about 22% consist of individuals aged 24 years and below, reflecting the school-going population. This is the school going age and places a demand for schools that the proposed storey housing facility in Makasembo may provide.

Education level

The following table 4 presents the distribution of education levels among the respondents participating in the

Table 4: Distribution of education level of respondents

Education Level	Frequency		Percentage
	Male	Female	
No Formal Education	24	7	10
Primary	86	62	48
High School	57	30	28
College or Tertiary	31	12	14
Total	**198**	**111**	**100**

In Table 4, it is revealed that 48% of respondents have completed only primary school education. Additionally, 14% of respondents have attained college or tertiary education, while 10% did not report having received any formal education. Further, the results from FGD indicated that education levels for all household members of schooling going stages, was primary and high school education.

Monthly household income

Table 5 presents the distribution of monthly household income among the respondents.

Table 5: Distribution of monthly household income of respondents

Variable	N	Mean	Std. Dev.	Min	Max
Income	308	17,553	11,103	5,000	56,000

The findings from Table 5 revealed that respondents reported an average monthly income of 17,500 Kenyan Shillings, with reported incomes ranging from a minimum of Kes 5,000 to a maximum of 56,000 per month.

Duration of stay

The respondents were asked to indicate their duration of stay in the area and figure 1 below displays their responses.

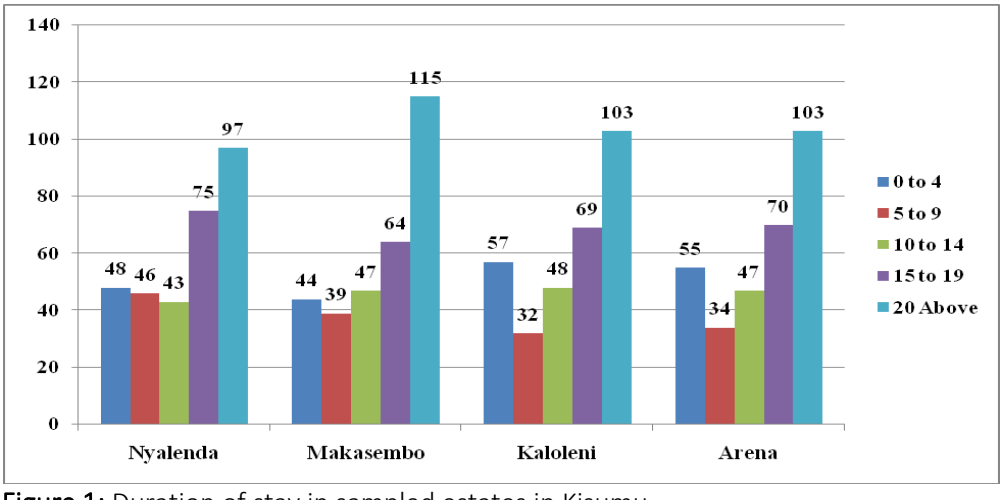

Figure 1: Duration of stay in sampled estates in Kisumu

The aforementioned findings in figure 1 above reveal that most participants have been with Makasembo for over 20 years, with 115 respondents indicating this tenure as the highest. Additionally, a significant number have been living in the region for 15 to 19 years, while a minority have tenure ranging from 5 to 9 years across the four areas under study.

Urban sustainable development in Kisumu

This study considers four overarching goals that is physical, economic, sociocultural, and environmental improvements in order to attain sustainable urban development. Figure 2 illustrates the sustainability level in the study area across different indicators.

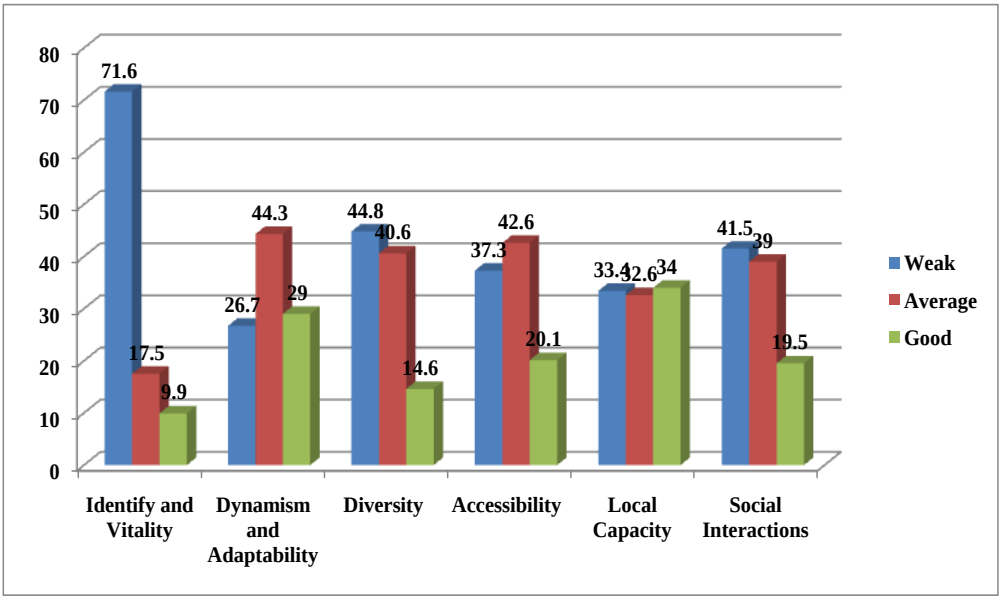

Figure 2: The level of sustainability indicators in the study area

The gentrification strategy of housing renewable projects in Kisumu neighborhood raises significant concerns in various dimensions: physical, cultural, spatial, social, and economic. Analysis of the data indicates a lack of distinct urban identity, with old structures serving as the primary identifier, often slated for demolition. Anticipated population density increases present challenges such as limited space for cycling and walking, heightened traffic congestion, retail store shortages, and inadequate recreational areas, resulting in a low neighborhood liveliness. Consequently, residents must seek essential services outside their neighborhoods due to incomplete road and housing infrastructure, reducing adaptability. Demographically, the area reflects a mix of indigenous and non-native residents, contributing to socio-cultural diversity with both positive and negative implications. Economic diversity also influences neighborhood activities and residents' livelihoods,

with a transition from higher to lower economic activity levels observed from north to south within Kisumu town.

Perception on access to sustainable dimensions

Table 6 presents information on the various factors contributing to and benefiting from urban sustainable development, including policies, infrastructure, socio-economic factors, resource utilization, emissions, and other relevant processes. These measurements and assessments are key for understanding and enhancing the city's metabolism, prosperity, and overall quality of life. The response was coded in likert scale (1-5) where 1 represented Very Low Accessibility while 5 represented Very High Accessibility in Kisumu.

Table 6: Respondents' anticipated perception on access to sustainable dimensions in Nyalenda, Makasembo, Kaloleni and Arena in Kisumu before and after projects completion

		Before	After
Environmental Dimensions	Mean	2.29	**3.78**
	Standard Deviation	0.723	0.822
Spatial Dimensions	Mean	2.53	4.16
	Standard Deviation	0.89	0.82
Cultural Dimensions	Mean	2.38	3.71
	Standard Deviation	0.754	0.862
Social Dimensions	Mean	2.50	3.50
	Standard Deviation	0.721	0.813
Economic Dimensions	Mean	2.58	3.53
	Standard Deviation	0.706	0.813

As depicted in Table 6, households in Kisumu experienced a notable rise in perceived accessibility across five dimensions following the implementation of the gentrification strategy involving renewable housing. Respondents from Nyalenda, Makasembo, Kaloleni, and Arena areas in Kisumu initially reported low accessibility to sustainable development components. However, after the completion of housing renewable projects, they indicated a significant increase in accessibility, as evidenced by mean scores in Table 6. For example, there was a considerable improvement in accessibility to education facilities, with a mean score of 3.78.

Gentrification strategy impacts on land use sustainable development

In order to determine the degree of satisfaction of the residents given the gentrification strategy of housing renewable project embarking by the County Government of Kisumu in partnership with the LAPFUD, the following results were obtained as shown in Table 7.

Table 7: Gentrification strategy of housing renewals and land use sustainable development

Land Use Type Satisfaction	VL	L	A	H	VH	Mean
Residential Apartments	0(0.0)	0(0.0)	46(14.9)	55(17.8)	208(67.3)	4.52
Commercial Block	0(0.0)	0(0.0)	0(0.0)	36(11.5)	274(88.5)	4.90
Kindergarten and Day-care Centre	11(3.6)	0(0.0)	0(0.0)	110(35.7)	188(60.7)	4.50
Landscaped Lawns	31(10.0)	22(7.0)	0(0.0)	102(33.0)	155(50.0)	4.10
Recreation Areas	44(14.3)	44(14.3)	22(7.1)	99(32.1)	99(32.1)	3.53
Recreational Facility	11(3.6)	44(14.3)	0(0.0)	110(35.7)	143(46.4)	4.06
Driveways and Parking's	0(0.0)	0(0.0)	0(0.0)	110(35.7)	199(64.3)	4.65
Fire assembly point	11(3.6)	0(0.0)	44(14.3)	133(46.4)	110(35.7)	3.97
Solid waste collection centre	0(0.0)	0(0.0)	0(0.0)	124(40.0)	186(60.0)	4.62
Storm water drainage system	0(0.0)	0(0.0)	31(10.0)	115(40.0)	155(50.0)	4.30
Average LUT Mean						4.32

1-Very Low (VL); 2-Low (L); 3-Average (A); 4-High (H); 5-Very High (VH)

The results in Table 7 showed that overall average land use type as influenced by gentrification approach of housing renewable infrastructure accounted for a high level of satisfaction as shown by a mean score of 4.32 points. This means those respondents are highly optimistic of the proposed gentrification housing plan for developing the old estates. The gentrification of housing inferred the redevelopment or regeneration of the area to attract social, cultural, economic, environment and spatial sustainable development that were lacking from those areas. Once complete, the area proposes multistory residential apartments with single, double and three bedroomed blocks. There are also new mixed land use plans including commercial block, kindergarten and day-care centre, landscaped lawns, recreation areas, recreational facility, driveways and parking's, fire assembly point, solid waste collection centre and storm water drainage system. The respondents' level of satisfaction was very high with the proposed commercial block with a mean score of 4.90 points. This means that respondents were optimistic with the inclusion of commercial facility for commerce and trade or business activities.

Spatial impact of gentrification strategy of housing renewals on sustainable urban development

The increase in perceived accessibility after gentrification strategy of renewable housing was registered across the five dimensions in both communities in Kisumu as depicted in Table 8. The response was coded in likert scale (1-5) where 1 represented Very Low Accessibility while 5 represented Very High Accessibility in Kisumu.

Table 8: Respondents' expected perception on access to facilities in Nyalenda, Makasembo, Kaloleni and Arena in Kisumu before and after projects completion

		Before	After
Educational Facilities	Mean	2.73	3.59
	Standard Deviation	1.04	0.836
Healthcare facilities	Mean	2.74	3.62
	Standard Deviation	0.997	0.763
Recreational and Public facilities	Mean	2.86	3.59
	Standard Deviation	1.018	0.779
Cultural Institutions	Mean	2.82	3.62
	Standard Deviation	0.94	0.742
Trade and Commerce activities	Mean	2.88	3.54
	Standard Deviation	0.951	0.774

The gentrification strategy of renewable housing in Kisumu resulted in significant spatial dynamics, including increased residential development, changes in access to facilities and services, shifts in land use, and informal developments. Interviews and focus group discussions highlighted improved access to education, health facilities, recreational areas, religious and cultural institutions, water, and electricity following the implementation of renewable housing projects. Residents in areas like Nyalenda and Kaloleni reported a perceived increase in accessibility to facilities post-project completion, as evidenced by mean scores in Table 8. Interviews corroborated these findings, noting enhanced accessibility due to improved access roads facilitating movement within the estates. Additionally, there were observable social and physical changes within residential communities, including increased demand for land, changes in residential densities, and sub-division of land parcels. Some residents began leasing their homes for commercial purposes and relocating to peri-urban areas. This shift in land use and housing quality was partly influenced by infrastructural developments and the scarcity of office space within the Central Business District, leading to the conversion of residential units into commercial establishments such as hotels, health facilities, learning institutions, and NGO offices. The transformation also included the emergence of middle-standard buildings, indicative of evolving housing standards in the studied estates.

Economic impact of gentrification strategy of housing renewals on sustainable urban development

Housing projects in Kisumu have spurred employment and promoted local businesses, especially along newly constructed access roads. However, they also led to the displacement of residents in areas like Nyalenda, Makasembo, Kaloleni, and Arena, as access road construction disrupted businesses and raised property values, replacing low-income residents with higher-income groups. Table 9 presented summarized positive impacts for gentrification strategy.

Table 9: The positive impacts of gentrification strategy of housing renewable after completion in Kisumu

Major Dimensions	Positive Impacts	Selected Study Estates
Social	Improved social interaction	▪ Improved social interaction between residents and within own community through social networks ▪ Fulfilling the right to adequate housing and promoting the right to the city ▪ Ensuring affordable, decent and suitable homes for all, including disadvantaged groups ▪ Developing social housing provision ▪ Promoting choice and security of tenure ▪ Promoting integrated communities and ensuring trust in communities ▪ Providing community facilities, preventing segregation and displacement ▪ Regenerating and reintegrating 'neglected' areas into regional, urban fabric ▪ Ensuring infrastructural integration of housing into wider areas ▪ Upgrading inadequate housing and slum areas ▪ Empowering people and ensuring public participation ▪ Ensuring health, safety, well-being in residences ▪ Creating a sense of community, 'sense of place', and identity ▪ Meeting specific needs and wants in housing (including those related to gender, age and health) ▪ Providing access to infrastructure and public spaces
Spatial Dimension	Improved Accessibility in area-targeting of estate with strongly decentralized planning approach	▪ high degree of residential development, changes in access to facilities and services, change in land uses, and informal developments ▪ Easier access to basic facilities and services. ▪ Improved accessibility to both motorized and non-motorized users ▪ improved access to facilities like

		education and health facilities, recreational areas, religious and cultural institutions, water and electricity ▪ demand for land increased, leading to changes in residential densities and sub-divisions of land parcels ▪ some residents were leasing out their residential houses for commercial use and relocated to peri-urban areas ▪ the quality of housing in Nyalenda, Makasembo, Kaloleni and Arena estates in Kisumu city was also changing with middle standard buildings springing up ▪ these areas were originally zoned for single-family residential, low density as per the 1984 Structure Plan of the Kisumu city; the changes may be partly attributed to road project
	Reduction in travel time and costs	▪ Connection to other communities by use of motorcycles and reduction in traffic jams through access roads
Economic	-Increase of employment opportunities and commerce	▪ More job opportunities during and after roads' construction phases ▪ Improved business activities & market base in the communities
	-Creation of local employment in estate management and construction and small business development and training	▪ businesses improve after the implementation of the construction of access roads and lunch of renewable housing projects but also the operation of motorcycles to ferry people from one place to another increased ▪ Small-scale businesses like welding, street commerce, trade, vegetable vending, among others, sprung up along the access roads to estates ▪ Institutional capacities for sustainable housing markets and housing development ▪ Improving housing supply and effective demand, stabilising housing markets ▪ Improving housing finance options ▪ Promoting innovations in housing ▪ Managing economic activities and growth by strengthening housing provision and housing markets thus attracting new

		capital investment ▪ Provision of necessary infrastructure and basic services to housing ▪ Providing serviced land for housing ▪ Strengthening entrepreneurship of communities, local building industry and enterprise ▪ Promoting local and traditional building materials and techniques ▪ Promoting regional and urban regeneration ▪ Ensuring housing affordability for different social groups ▪ Providing adequate residences to raise labour productivity; ensuring housing is integrated with employment. ▪ Supporting domestic economic activities and enterprise ▪ Promoting petty landlordism and self-help housing ▪ Housing management and maintenance ▪ Strengthening resilience and future proofing of homes
Cultural	Increased cultural tolerance	▪ Promoting links between housing and knowledge-based and cultural economies ▪ Promoting traditional, indigenous and local knowledge (including of relevance to sustainable resource use, energy efficiency and resilient building techniques) ▪ Protecting cultural heritage and urban creativity, culture, aesthetics, diversity ▪ Shaping values, tradition, norms and behaviours ▪ Improving diversity and cultural sophistication of the built environment and residence ▪ Helping community ▪ Assisting people's transition from rural and slums areas to decent housing or multifamily housing
Environmental	Providing strict guidelines in terms of pollution, eco-system integrity,	▪ Mixed land use (land and spatial development) planning and implementation efficiency ▪ Integrating national housing and energy

	Carrying Capacity, and Bio-diversity	systems ▪ Achieving good location and density for residential areas and access to infrastructure ▪ Promotion of a more equitable allocation of road space by shifting focus to sustainable modes, including walking, cycling, and public transport for the social and economic growth of Kisumu ▪ Protection of ecosystems and biodiversity ▪ Promoting sustainable and low carbon urban infrastructure, public transport and non-motorised mobility, energy systems ▪ Waste management and recycling ▪ Ensuring energy efficiency, micro/generation, water and resource efficiency ▪ Green design, using sustainable local construction and materials ▪ Sanitation, preventing hazardous and polluting materials ▪ Affordable use of resources ▪ Improving resilience and adaptation of homes

The study examined social interaction, accessibility to facilities, spatial changes, and economic impacts in Kisumu's Nyalenda, Makasembo estate, Kaloleni, and Arena communities post-gentrification. Social networks improved with enhanced intra-neighborhood interactions after the implementation of renewable housing projects and access road construction. This aligns with the findings of Yu and Kwon (2011); Mehdipanah *et al*. (2018); Yau (2011); McClintock (2018) and Immergluck and Balan (2018) on social networks which are fond of augmenting interaction between residents and making one feel at home. Improved accessibility to basic facilities and services was observed, potentially attributed to the gentrification strategy and road infrastructure development. Peri-urban towns experienced increased residential developments, transforming urban forms and increasing residential densities. However, gentrification also led to the displacement of low-income groups, social upgrading by high-income residents, and economic changes, including job creation but also displacement of the poor due to rising land prices and rents.

Conclusion

The study aimed to investigate gentrification strategy of urban sustainable development in Kenyan cities: a case of Kisumu housing renewable project. In order to do so,

research questions of the paper were operationalised across the households investigated. It produced empirical findings and conclusions on how gentrification strategy of urban sustainable development projects change the urban fabric and associated processes and how they impact different social groups of peri-urban areas. As also found in earlier studies, this paper has shown that gentrification strategy of urban sustainable development in Kisumu come with both positive and negative impacts on different social groups where they are being implemented. The other difficulty is on the sustainable development indices that are not universally applicable.

The paper concludes that only positive dimensions of economic, social, environmental and spatial impacts exert significant influences on urban development sustainability. Gentrification strategy of renewable housing projects economic impact is not significant predictor of urban development sustainability. Implementing mega-infrastructure such as gentrified renewable housing projects is only symbolic for the renewed strength of the city if the authorities concerned can provide an enhanced vision of how to use these facilities afterwards. Regrettably, mega-infrastructure such as gentrified renewable housing projects have negative effects such as prices rising, rising rents, home and property values extreme and unnecessary cultural displacement, wasting investment. These sustainable urban development include access to modern transportation, transit, circulation and connectivity network, urban information system, clean water resources, food system, sewerage and sanitation system, waste management, employment, improved trade, improved access roads, integrated public facility planning, education issues, health issues, security and crime prevention, emergency management issues and improved human capital development, driveways and parking, stable income sources and street lights, energy among others.

Further, the launch of renewable housing projects in Kisumu created several sustainable developments, including improved transit, circulation, accessibility, increased commerce, employment opportunities, and reduced travel time, along with enhanced access to alternative modes of transportation. However, the gentrification strategy also brought about contrasting developments, such as disruptions to business activities and displacement of individuals during construction, impacting social, cultural, economic, spatial, and environmental dynamics in areas like Nyalenda, Makasembo estate, Kaloleni, and Arena. The study highlights the diverse impacts of housing renewable projects on both populations and urban fabric, underscoring the need for nuanced, place-based policies to address the consequences, particularly concerning housing affordability, spatial planning, and social equity. Despite the positive implications of urban sustainable development and housing renewal projects, they also pose challenges to household livelihoods, potentially leading to social and functional decompositions, inequality, conflicts,

segregation, and unplanned developments, necessitating careful policymaker consideration. Additionally, the environmental dimension emerges as key when evaluating impacts from infrastructure projects like road construction.

Recommendation

Policymakers should adopt place-based policies to address the consequences of gentrification and housing renewal projects. These policies should prioritize housing affordability, spatial planning, and social equity to mitigate potential negative impacts on vulnerable populations. Additionally, considering the various impacts of such projects on different social groups, aligned interventions are necessary to ensure inclusive and sustainable urban development. Further, infrastructure projects like road construction associated with urban renewal should undergo thorough environmental assessments to evaluate their impacts comprehensively. Environmental sustainability should be a key consideration in urban development projects to minimize negative effects on ecosystems and natural resources. This involves integrating environmental considerations into planning, design, and implementation processes to promote environmentally friendly and sustainable urban development.

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