

Influence of Housing Quality Control on Socioeconomic Development of Residents in Machakos County, Kenya

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ABSTRACT

Housing quality control has become a critical component of affordable housing programmes globally due to its contribution to social welfare, economic growth, and sustainable urban development. In Kenya, the Affordable Housing Programme (AHP) seeks to address the housing deficit while ensuring compliance with quality standards that promote safety, durability, and sustainability. This study examined the influence of housing quality control on socioeconomic development among residents of Machakos County, Kenya. The study was anchored on the Housing Adjustment Theory developed by Morris and Winter (1975), which explains how housing conditions influence household welfare and residential satisfaction. The study adopted a descriptive survey design targeting Affordable Housing Programme allottees and Micro, Small and Medium Enterprises (MSMEs) within Machakos Central and Mavoko Sub-Counties. The findings indicate that housing quality control contributes significantly to improved living standards, enhanced public health, increased household productivity, improved security, and increased access to social amenities. The study concludes that adherence to housing quality standards is essential for sustainable socioeconomic development. The study recommends strengthening quality assurance mechanisms, enforcing building standards, and enhancing monitoring frameworks throughout the implementation of affordable housing projects.

Keywords: Affordable Housing Programme, Housing Quality Control, Socioeconomic Development, Housing Standards, Affordable Housing, Machakos County.

INTRODUCTION

Housing is universally recognized as a fundamental human need and a critical determinant of socioeconomic development. Adequate housing provides shelter, security, privacy, dignity, and a conducive environment for human development (UN-Habitat, 2021). Beyond shelter provision, housing quality directly affects household welfare, health outcomes, educational attainment, and economic productivity (World Bank, 2020).

Background of the study

The Government of Kenya has prioritized housing development through the Affordable Housing Programme under Vision 2030 and the Bottom-Up Economic Transformation Agenda. The programme aims to reduce the housing deficit while ensuring compliance with quality standards that guarantee safety, durability, and sustainability of housing units (Government of Kenya, 2023). Housing quality control therefore forms a critical component of successful housing delivery.

Socioeconomic development refers to aspects that involve both social and economic factors essentially how social behaviors, structures, or conditions intersect with financial realities (Giddens 2021; Cambridge University Press, 2023). Socioeconomic development incorporates public concerns into the formulation of social policies

and economic initiatives. The ultimate objective of social development is to bring about sustained improvements in the well-being of the individuals, groups, families, community, and society at large. It involves sustained increase in the economic standard of living, typically achieved through investments in both physical, human capital and advancements in technology (Tweheyo, 2021).

According to Migala-Warchol (2019), socioeconomic development can be defined as the process of improving social welfare in order to maximize personal and community potential. The aspect of the socioeconomic in terms of development can be measured by the level of income, access of quality education, health status and the supply of clean water to the community (Taylor & Francis, 2024). Socioeconomic development is thus, the process of social and economic progress in a society, commonly measured by metrics such as GDP growth, literacy rates, life expectancy, and levels of employment (Cambridge University Press, 2023).

Globally, countries such as Singapore, Brazil, and the United States have demonstrated that quality housing contributes significantly to social inclusion, improved health outcomes, and economic growth. According to UN-Habitat (2021), investments in quality housing generate long-term socioeconomic benefits through improved living conditions and enhanced community development.

Statement of the problem

Housing quality is a critical determinant of socioeconomic wellbeing, influencing public health, safety, productivity, and overall quality of life (UN-Habitat, 2021). In Kenya, the Affordable Housing Programme (AHP) was established to address the growing housing deficit and improve access to decent and affordable housing. Machakos County has experienced rapid urbanization due to its proximity to Nairobi City and the expansion of industrial centers such as Athi River and Machakos Town. According to the Kenya National Bureau of Statistics (2019), approximately 52% of the County's population resides in urban areas, increasing pressure on housing and related infrastructure. Despite the National Government's target of constructing 60,941 affordable housing units in Machakos County by the end of 2024, only 3,330 units had been completed, representing 5.46% of the planned target (State Department for Housing and Urban Development, 2024). Consequently, many residents continue to reside in informal settlements and substandard housing characterized by inadequate sanitation, poor construction standards, and limited access to essential services (Machakos County Government, 2023).

Although previous studies have examined affordable housing from the perspectives of affordability, financing, institutional capacity, and project implementation (Nthenge, 2022), limited attention has been given to the role of housing quality control and its contribution to socioeconomic development. Existing literature provides insufficient empirical evidence on how compliance with housing quality standards, including structural integrity, ventilation, sanitation facilities, safety requirements, and construction quality, influences living standards, health outcomes, productivity, security, and community wellbeing among residents. This knowledge gap necessitated the current study to examine the influence of housing quality control on socioeconomic development in Machakos County, Kenya, with the aim of providing evidence to inform housing policy, quality assurance practices, and sustainable housing development initiatives.

Research Objective

To establish the influence of housing quality control on socioeconomic development to the residents of Machakos County, Kenya.

Significance of the Study

This study is significant because it provides empirical evidence on the contribution of housing quality control to socioeconomic development among residents of Machakos County. The findings are expected to assist national and county governments, policymakers, housing developers, and urban planners in understanding the importance of adherence to housing quality standards in enhancing living conditions, public health, safety, productivity, and community wellbeing. The study will also contribute to the existing body of knowledge on affordable housing

by addressing the limited research on the relationship between housing quality control and socioeconomic outcomes at the county level. Furthermore, the findings may inform the formulation of housing policies, quality assurance frameworks, and monitoring mechanisms aimed at promoting sustainable housing development and improving the effectiveness of affordable housing programmes in Kenya (Government of Kenya, 2023; UN-Habitat, 2021; World Bank, 2020).

LITERATURE REVIEW

Housing Adjustment Theory

The study was guided by Housing Adjustment Theory developed by Morris and Winter (1975). The theory postulates that households continuously evaluate their housing conditions against their needs, expectations, and available resources. When housing conditions fail to satisfy these expectations, households seek adjustments through improvement, relocation, or modification of housing arrangements (Lynch, & Martin 2021).

Housing quality indicators including structural integrity, sanitation, ventilation, accessibility, and safety significantly influence residential satisfaction and household wellbeing (Clark et al., 2020). Lynch and Martin (2021) further argue that housing quality remains one of the strongest determinants of social stability and residential satisfaction in contemporary urban environments.

The theory is relevant because it explains how quality housing contributes to improved living standards and socioeconomic wellbeing among households.

Empirical Literature Review

Housing quality has consistently been associated with positive socioeconomic outcomes across both developed and developing countries. According to the World Bank (2020), quality housing improves health outcomes by reducing exposure to environmental hazards, overcrowding, and communicable diseases. UN-Habitat (2021) reports that adequate sanitation facilities, proper drainage systems, sufficient ventilation, and access to clean water contribute significantly to improved public health and quality of life. Furthermore, quality housing promotes economic productivity by creating conducive environments for education, employment, and entrepreneurial activities.

In Kenya, Mutwii and Wachira (2024) found that quality management practices in affordable housing projects significantly enhance project performance, beneficiary satisfaction, and community welfare. Similarly, the Government of Kenya (2023) emphasizes that compliance with construction standards improves housing sustainability, safety, and public confidence in housing programmes.

Housing Quality Control and Socioeconomic Development

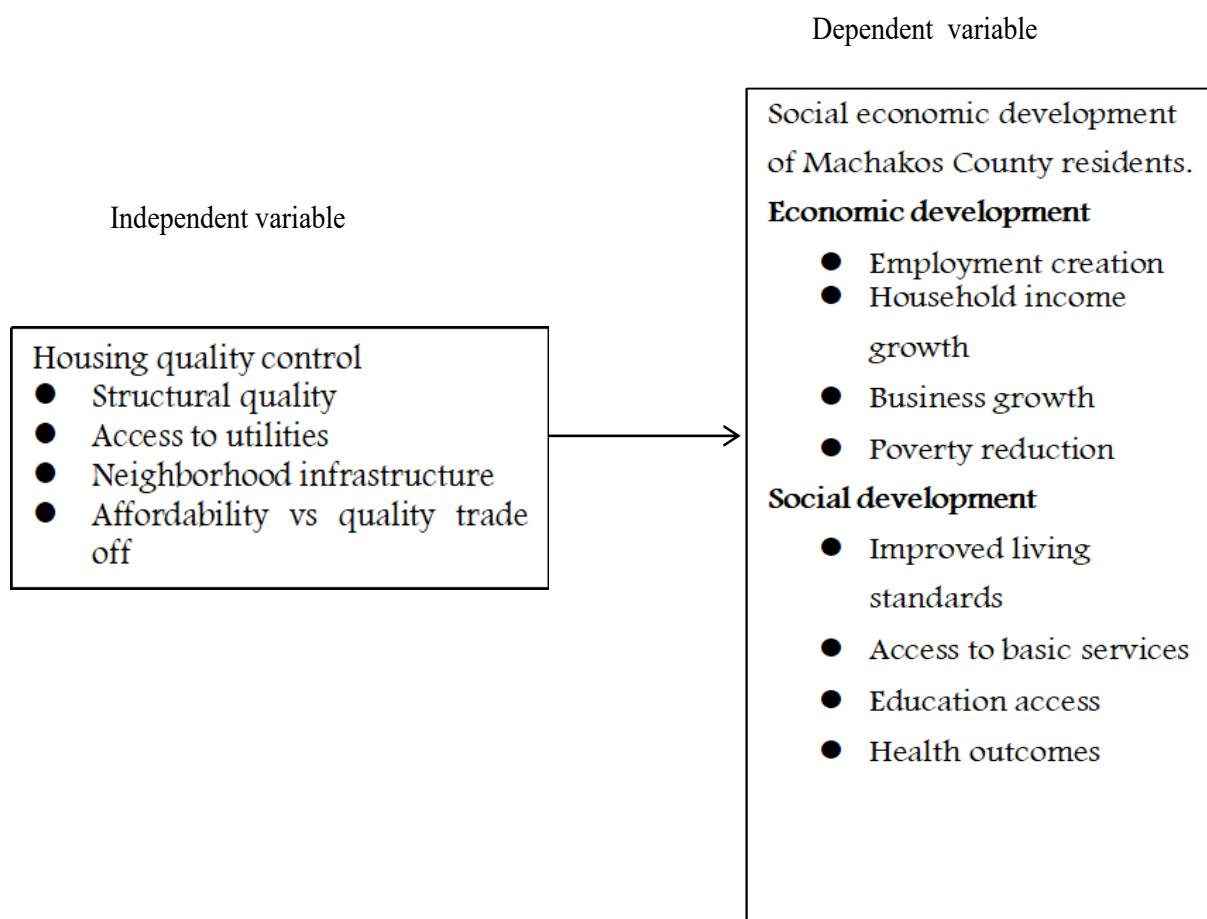
In a case study of Kenya's Affordable Housing Programme (AHP), Kieti et al. (2020) examine the Park Road project in Ngara estate, Nairobi, using a mixed-methods approach including semi-structured interviews, document review, and field observation (Kieti, Rukwaro, & Olima, 2020). The study reveals that while the program did provide employment and income opportunities particularly for local *Jua Kali* artisans, many prospective beneficiaries struggled to raise the required 12.5% down payment to access the housing units (Kieti et al., 2020, p. 1680).

Although participants generally rated the housing quality (structural integrity and finishes) as satisfactory, space constraints and overall affordability emerged as significant concerns. The limited size of units and the financial burden of the initial down payment were seen as barriers to broader uptake (Kieti et al., 2020). Kieti and colleagues argue that in order to overcome these constraints, the government and developers should consider large-scale, standardized construction techniques to reduce per unit costs. They also recommend more flexible financing arrangements (such as graduated payment plans, subsidized down payments, or alternative procurement models) to help low-income households surmount the initial capital barrier (Kieti et al., 2020).

These findings align with other critiques of the AHP. For example, Nzau (2020) notes that the slow delivery pace and limited affordability of the units raise doubts about meeting the target of 500,000 affordable homes (Nzau, 2020). Moreover, cost pressures from construction inputs (materials, labor) have been steadily rising, which further constrains affordability (see e.g. projections of input cost escalation in recent studies) (see e.g. “Assessment of housing construction costs” study, 2024). Kimani and Karugu (2020) conducted a descriptive study among 64 stakeholders (county government officers in Nairobi) to investigate strategies influencing the delivery of affordable housing, focusing on modern construction technologies, financing innovations, collaborative approaches, and legal/regulatory reforms.

They found that adopting modern/innovative construction technologies significantly reduced the time and cost of housing delivery. Policy reforms such as tax incentives, simplifying land acquisition, and public private partnerships were shown to accelerate project implementation, broaden access to housing, and increase employment opportunities. From their findings they recommend expanding training in new construction technologies, scaling up financing models including PPP-based or pension-backed funding, and strengthening regulatory oversight to ensure efficient delivery of affordable housing projects (Kimani & Karugu, 2020).

CONCEPTUAL FRAMEWORK



Housing Quality control has been shown to significantly influence project success and user satisfaction in affordable housing projects in Nairobi (Gathu & Nyang’au, 2020). Housing quality control leads to health and wellbeing that is an improved housing reduces exposure to health hazards, leading to better health outcomes. It also gave the residents stable and safe housing environments which contributed to improved concentration and performance among students. Residents in quality housing engaged in productive economic activities. Housing quality control especially structural quality was a central pillar of Kenya’s Affordable Housing Programme (AHP), which explicitly requires that units delivered under the scheme comply with national building standards, undergo regular inspections, and meet minimum space and safety requirements to ensure durability and occupant safety.

The World Bank's implementation documents for the Kenya Affordable Housing Finance Project (2019–2020) similarly emphasize the need for robust quality assurance systems (including independent inspections and acceptance testing) as part of project readiness and performance indicators, and note that measured outcomes such as percentage of units meeting codes and resident satisfaction scores are useful performance metrics for monitoring program success.

METHODOLOGY

Research Design

The study adopted a descriptive survey research design to examine the influence of housing quality control on socioeconomic development among residents of Machakos County, Kenya. The design was appropriate because it enabled the collection of quantitative and qualitative data regarding respondents' perceptions and experiences related to housing quality and socioeconomic wellbeing (Creswell & Creswell, 2022).

Target Population and Sampling

The target population comprised 3,530 respondents, including 3,330 Affordable Housing Programme (AHP) allottees and 200 Micro, Small and Medium Enterprises (MSMEs) operating within Machakos Central and Mavoko Sub-Counties (State Department for Housing and Urban Development, 2024). Using Yamane's (1967) sample size determination formula, a sample of 359 respondents was selected. Simple random sampling was used to select AHP allottees, while MSMEs were selected to provide complementary information on housing quality and socioeconomic impacts.

Data Collection Instruments

Primary data were collected using structured questionnaires administered to AHP allottees and interview guides administered to MSME representatives. The instruments captured information on housing quality control indicators, including structural integrity, ventilation, sanitation facilities, safety compliance, and construction quality, as well as socioeconomic development indicators such as living standards, health outcomes, productivity, security, and access to social amenities.

Validity and Reliability

Content validity was ensured through expert review by academic supervisors and housing sector specialists. Reliability of the questionnaire was assessed using Cronbach's Alpha coefficient. A pilot study conducted prior to the main survey yielded a Cronbach's Alpha value of 0.842, indicating good internal consistency and reliability of the research instrument (George & Mallery, 2021).

Data Collection Procedure

The researcher obtained the necessary approvals from the university, the National Commission for Science, Technology and Innovation (NACOSTI), and relevant county government departments before conducting the study. Data were collected from respondents within Machakos Central and Mavoko Sub-Counties through questionnaires and interviews.

Data Analysis

Quantitative data were analyzed using the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the data. Inferential statistics comprising Pearson correlation analysis, regression analysis, and Analysis of Variance (ANOVA) were employed to determine the relationship between housing quality control and socioeconomic development. Qualitative data obtained from interviews were analyzed using thematic content analysis and presented alongside quantitative findings to enrich interpretation of the results.

RESULTS AND DISCUSSION

Housing Quality Control

The findings indicate that respondents generally agreed that housing quality control measures had been effectively implemented within Affordable Housing Programme projects, as evidenced by a composite mean score of 4.28. Respondents particularly acknowledged compliance with approved building standards, use of durable construction materials, adequate sanitation facilities, and enhanced safety provisions.

These findings are consistent with Government of Kenya (2023), which emphasizes that adherence to building standards is critical in achieving safe, durable, and sustainable housing developments. The findings also support observations by UN-Habitat (2021), which notes that housing quality contributes significantly to improved living conditions and community resilience.

Socioeconomic Development

The study established that housing quality contributes positively to socioeconomic development, as reflected by a composite mean score of 4.31. Respondents reported improvements in living standards, health outcomes, economic productivity, access to social amenities, and overall community wellbeing.

The findings support World Bank (2020), which argues that quality housing serves as an important driver of social and economic transformation. Adequate housing infrastructure improves residents' welfare while stimulating local economic activities.

Correlation Analysis

The Pearson correlation coefficient indicated a strong positive and statistically significant relationship between housing quality control and socioeconomic development ($r = 0.724$, $p < .05$). This suggests that improvements in housing quality are associated with corresponding improvements in socioeconomic outcomes among residents.

The findings corroborate previous studies that identify housing quality as a significant determinant of household welfare and socioeconomic advancement (Clark et al., 2020; Lynch & Martin, 2021).

Regression Analysis

The regression results revealed that housing quality control explained 52.4% of variations in socioeconomic development ($R^2 = 0.524$). This indicates that housing quality remains a major predictor of socioeconomic wellbeing among residents.

The regression coefficient ($\beta = 0.687$, $p < .05$) indicates that a one-unit increase in housing quality control leads to a 0.687-unit increase in socioeconomic development. These findings support evidence by Mutwii and Wachira (2024), who found that quality management practices significantly improve housing project outcomes and community welfare.

DISCUSSION OF FINDINGS

The study established that housing quality control significantly influences socioeconomic development among residents of Machakos County. Quality housing improves living standards, promotes public health, enhances productivity, increases security, and facilitates access to social amenities.

The findings support Housing Adjustment Theory, which argues that households seek housing conditions that adequately satisfy their physical and socioeconomic needs. The results are also consistent with Clark et al. (2020), who found that quality housing contributes significantly to residential satisfaction and improved household welfare.

Furthermore, the findings align with Government of Kenya (2023), which highlights housing quality standards as critical components of sustainable housing development. Similar conclusions were reached by Mutwii and Wachira (2024), who observed that effective quality management practices improve project sustainability and socioeconomic outcomes.

CONCLUSION

The study concludes that housing quality control significantly contributes to socioeconomic development among residents of Machakos County. Quality housing improves living standards, promotes better health outcomes, enhances household productivity, increases security, and supports sustainable community development. These findings underscore the importance of integrating quality assurance mechanisms within affordable housing programmes to maximize socioeconomic benefits (Government of Kenya, 2023; UN-Habitat, 2021).

RECOMMENDATIONS

1. National and County Governments should strengthen housing quality assurance frameworks.
2. Developers should adhere strictly to approved building standards and construction regulations.
3. Regular inspections should be conducted throughout project implementation to ensure compliance.
4. Affordable housing projects should integrate adequate sanitation, ventilation, safety systems, and social amenities.
5. Continuous monitoring and evaluation mechanisms should be institutionalized to assess housing quality outcomes and socioeconomic impacts.

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