

EDITORIAL

Planning, Design and Construction Management

Welcome to the Nineteenth Volume 2nd Issue of the Africa Habitat Review-Journal of the Faculty of Built Environment and Design. This issue has presented thirteen critically analysed papers on issues relating Covid-19 and higher education, project construction management, peri-urban invasion, designing for disaster, design, profession, industry and academia, Swahili people heritage. Urban planning framework and status of food system in Kenya.

Predictive Model for Project Construction Labour Productivity versus Flow of Project Materials and Components is an article that offers a roadmap for the actions that must be taken in order to increase construction labor productivity and project performance. Data from 129 housing projects in Nairobi, Kenya were gathered using a questionnaire survey administered to the projects. The survey included two (2) variables of construction project materials and components flow and three (3) measures of project level construction labor productivity (CLP) that the literature research had determined. Eleven (11) items concerning construction project materials and components flow were rated on a six (6) point scale and from these the level of flow of materials and components for the project were determined. The level of project construction labour productivity was equally measured. A model for predicting the level of project construction labour productivity using the flow of materials and components into the projects was developed for practical use in managing labour productivity in projects. The results indicated that materials and components explain 87.0% of the variability in construction project labour productivity and that a unit increase in Project Materials and Components Flow (PMCF) resulted in 26.7% increase in construction project labour productivity. The study thus recommended project materials and components to be supplied and managed in an effective and efficient manner within projects for improvement of construction project labour productivity.

The article on *The status of food system in Kenya: The case of Kakamega Municipality, Kenya*, discusses the status of local food system in Kakamega Municipality, Kenya. It specifically looks at the administration of urban food system and the components of food system in Kakamega Municipality. Cross sectional survey was conducted in 8 wards of Kakamega Municipality. A total of 382 households were interviewed and 175 market traders from the seven markets in the Municipality were engaged. Key informant interviews were also conducted with the Director – Agriculture, Director – Urban Planning, Director – Finance and economic planning and the market administrators. The data was electronically collected using the Kobo Collect application. The data was then sorted, coded and analyzed using the statistical package for social sciences (SPSS), Microsoft excel and geographical information system (GIS). Qualitative and quantitative data was analyzed and presented in tables, graphs and maps using descriptive and inferential statistics. The findings revealed that Kakamega Municipality is net food importer. The paper concludes by stating that the local food system is informal, undocumented and unstable. It recommends formulation of a food system strategy for Kakamega Municipality.

In the article on *The Influence of Project Management Practices on Time, Cost, Site Dispute and Quality during the Execution of Court Buildings in Kenya*, the authors explore the influence of project management practices on project performance during the construction of court buildings in Kenya. A pragmatic research design incorporating both quantitative and qualitative research methods using questionnaires, interview guides, and document content analysis is employed to investigate the relationships between project management practices and key performance indicators such as time, cost, site disputes, and quality. Descriptive statistics analysed quantitative data, while correlation and regression analysis techniques analysed inferential statistics. The study used systems theory, theory of change, and stakeholder theory to develop a conceptual framework that was adopted in carrying out the study. Results showed that project management practices significantly influenced cost, site disputes and

quality but not time. Ensuring the timely and economical completion of court buildings can be achieved by addressing areas that require improvement, such as work scope management and tie management. The research provides information for project management, policymakers, scholars, and stakeholders involved in court construction implementation. The study also recommends that time management strategies be enhanced in effective project management practices so as to lead to project success.

The Role of Industry as Stakeholders in the Growth of Interior Design Profession in Kenya is an article that investigates the role of industry stakeholders in the development of the interior design profession in Kenya, with an emphasis on how collaboration may promote growth, innovation, and creativity. The research used a mixed-methods approach, including in-depth interviews and surveys administered to 20 participants from Nairobi's educational institutions and design sector. The data were examined using theme analysis, as well as descriptive and inferential statistical approaches. Key findings show a substantial positive relationship between industry participation and the advancement of the interior design profession. Industry connections greatly improve educational endeavors, with 80% of practitioners acknowledging the value of internships, collaborative projects, and mentorship programs. Furthermore, 75% of respondents emphasized the role of professional organizations and regulatory bodies in upholding high standards and ethical practices. 65% of practitioners cited economic issues, such as business investments and real estate development, as key impacts on design trends. Furthermore, 70% of respondents stressed the importance of incorporating cultural components into design, which preserves cultural identity while increasing design value. The paper recommends promotion of the interior design profession in Kenya. Further, it recommends the implementation of industry-based service learning in order to match education with industry demands while also giving practical experience and skill development. It further recommends creation of an advisory board of industry professionals to steer professional growth and standards; Strengthen educational ties between interior design institutes and industry stakeholders for the courses relevance and adaptation. Advocating for strong industry standards through ongoing stakeholder participation in order to critical for upholding ethical practices; Exploring economic diversification projects to sustain industrial growth, whilst implementing cultural preservation programs can include regional cultural components into designs and finally, encouraging continuing study and conversation for the profession relevant and to ensure sensitively to cultural circumstances.

Designing for Disaster: The Role of Interior Design in Mitigating Flooding in Kenya; article investigates the role of interior design in mitigating the impacts of floods and enhancing community resilience in Kenya. It explored spatial planning, community-oriented design strategies, and innovative technologies to address urban flooding challenges. To comprehensively understand flood risk challenges communities face, different data sources were compiled in a thorough and multifaceted research study. Residents, design professionals, urban planners, and policymakers were surveyed, interviewed, and participated in focus groups. In addition to qualitative information, the 1D Flood Modeler platform and Quantum GIS software were used to analyze quantitative physical, environmental, and socioeconomic data. This research established the contributions of interior design to flood preparedness and resilience, including participatory flood modeling, community-oriented design approaches, flood-resistant materials, eco-friendly technologies, and public awareness campaigns. The study recommends the role of interior design in fostering resilient communities and empowering vulnerable populations on flood risk management in Kenya.

The paper on *Assessment of the Efficiency of Onsite Wastewater Management Systems Peri-Urban Areas, Case Study: Utawala, Nairobi County* studies the efficiency of onsite wastewater management systems in a developing peri urban area, Utawala, on the outskirts of Nairobi city, Kenya, currently used due to lack of a centralised waste management system. It relates the system efficiency with environmental considerations, sizing, construction, and maintenance of the systems which are some of the factors considered during selection. A total of 25 systems were studied ranging from pit latrines, bio-digesters and septic tanks. The total efficiency for the systems studied was 44% with 56% considered to be failing.

When considering the systems serving 25 – 100 persons only, the efficiency rate was 22.22% with 77.78% considered to be failing. The area studied had clay black cotton soils and a hard phonolite layer beneath as its geological make up. This study demonstrated that the study area with poor soil absorption capacity was not suitable for handling absorption-based systems for large developments. While maintenance is critical to improve the functioning of these systems, especially in areas with absorption difficulties, it is often expensive and can be neglected leading to failure. Sizing of absorption-based systems in less absorbent areas should include a soak pit detail based on the actual geophysical properties to improve the working of these systems. Thinking about waste as a resource is helpful and can promote the use of recycling systems but they could be expensive install and therefore decentralised systems to serve a larger group of developments should be considered where the centralised sewer treatment option is not available.

Assessing Functional Obsolescence Impact on Property Values in Komarock Sector III, Nairobi County is an article that investigates the impact of functional obsolescence on property values in Komarock Sector III, Nairobi County, illuminating how outdated designs and the lack of modern amenities contribute to declining property values. Utilizing a case study approach, including surveys with property owners and valuation professionals, alongside Spearman's Rank Correlation Coefficient analysis, the research uncovers a negative relationship between the degree of functional obsolescence and property values. Findings reveal that as properties become more functionally obsolete, their market value tends to decrease, highlighting the significant influence of contemporary standards and preferences on real estate valuation. The study underscores the importance of regular property upgrades and renovations to mitigate the effects of obsolescence and recommends policy development aimed at sustainable urban planning to encourage future-proof building designs. Through these strategies, the research suggests that property owners and developers can maintain or increase the market value of their properties, ensuring their competitiveness in the real estate market.

The article on *Knowledge Exchange Mechanisms Between Design Industry and Academia*, investigates the mechanisms of information sharing between the design industry and academia, in order to identify successful models and present a comprehensive framework for productive collaboration. The study takes a mixed-methods approach that includes historical analysis, case studies, quantitative surveys, and interviews. Key findings underscore the efficacy of past and present collaborations, such as the Bauhaus, Stanford d.school, and MIT Media Lab, in promoting creativity and bridging the gap between theory and practice. The study finds obstacles to matching educational achievements with corporate expectations and emphasizes the significance of clear communication, coordinated research objectives, and motivated collaboration. Recommendations include establishing interdisciplinary research centers, industry-academia advisory boards, and long-term collaboration agreements. They aim to enhance the synergy between academic and industry partners, ultimately driving innovation and addressing real-world design challenges.

The article on *The urban growth and applied urban planning framework; Case study: Kakamega Municipality, Kenya* discusses the urban growth and urban planning framework applied in Kakamega Municipality, Kenya. Specifically, the study examined historical growth trends, urban planning regulations and policies as well as the urban planning practices in Kakamega Municipality. Content analysis study was conducted and key informant interviews with urban managers and stakeholders recorded. The qualitative and quantitative approaches were applied. Geo-statistical analysis functions were applied for non-spatial and spatial data. High urbanization rate was revealed in Kakamega Municipality. The article concludes by stating that there is incongruity between applied urban planning framework and the actual practice. The paper recommends review of urban planning regulations and zoning policies to accommodate the contemporary urban dynamics in Kakamega Municipality.

The article on *Attitudes of Workers Toward Safety and Health Compliance in Construction Sites in Nairobi* investigates the attitudes of construction workers in Nairobi City County (NCC) towards on-site conformity to safety and health regulations. Employing a rigorous case study approach that combined questionnaires

and observations, the research targeted a population of 896 construction sites across NCC. From this population, a representative sample of 268 construction sites were selected. Ultimately, data was collected from 210 respondents, yielding a response rate of 78.4%. The findings demonstrate that a positive attitude toward safety and health is crucial for enhancing outcomes and minimizing accidents and incidents. The results revealed that worker attitudes are pivotal in meeting safety and health standards, accounting for a 52% variation in adherence to safety practices. Consequently, the study advocates for a strategic framework that fosters a culture of safety, emphasizing the need for resource investment, leadership by example, targeted training initiatives, and comprehensive sensitization campaigns. These measures are essential for promoting proactive safety behaviour and enhancing safety and health practices within the Kenyan construction industry.

The article on *Epitome of Resilience in Adversity: Cottage Enterprises using Home-spaces for Production and Exchange of goods; Evidence from Tassia, Nairobi City County* argue that there exist advantages in the home-spaces that enable SMEs to thrive. Thus, any challenges posed by these activities should be understood and resolved amicably in order to support the livelihoods of the majority of the urban poor who depend on them. Data used to write this paper was acquired through the use of questionnaires; administered on various households and individuals who were sampled according to the categories of SMEs that they operated. More data was acquired from key informants and further buttressed through ground truthing. After the analysis, this study found out that when SMEs locate in residential neighborhoods, entrepreneurs who also reside in these houses save on rent and travelling cost and they also make use of cheap labor from the neighborhoods. Secondly, entrepreneurs not only make use of the neighbor-based market threshold to sell their goods and services but also receive customers from all directions of the city. For this reason, the house-space can be viewed as a multi-functional-point; first, facilitating the production of goods and services and secondly, promoting exchange and finally, as home. However, SMEs were found, first, to create visual clutter that led to an imbroglio in waste management and secondly, SMEs were putting a strain on infrastructure, hitherto dedicated to residential use only. In order to arbitrate the various space contests and needs, this paper recommends for a policy shift aimed at integrating SMEs into residential neighborhoods.

Diversion of Population and Capital to 'Peri-urban Magnet', Invasion of Farmlands and Threat to Rural Livelihoods in Kenya; article identifies the steps involved in the formation of the 'peri-urban magnet'. Using evidence from recent research findings by the author and augmented by data from desk-based literature review, this paper identifies the steps involved in the formation of the 'peri-urban magnet' and demonstrates why and how the magnet threatens rural livelihoods. Due to urban and rural zones occurring as separate enclaves in some societies, developers tend to avoid the often-regulated urban core in favor of the less regulated rural-urban interface in order to maximize profits. The middle class detest congestion and crime in the core areas of the city, yet, they cannot afford alternative homes in the less congested and fairly quiet areas of the city; for example, Karen and Muthaiga in Nairobi. For this reason, areas outside the city become attractive to the middle-class because such areas are fairly quiet and developers have the freedom to build houses of their taste. Home seekers, labor, speculators, real estate investors and infrastructure providers agglomerate in and around the 'peri-urban magnet' in a circular, causative and cumulative process. For this reason, this paper establishes that the 'peri-urban magnet' is attractive and invasive, making horizontal incursions into the rural zone and, thus, consuming farmlands and threatens food security and rural livelihoods. To avert the catastrophic process, policy must review the urban rural relations.

The article on *The Impact of Urban Transport Policy on Urban Sprawl along Thika Road Corridor Nairobi* investigates how the urban transport policy contributes to urban sprawl through sprawling residential and commercial developments in previously underdeveloped areas along the Thika Road Corridor in Nairobi. The information sources within the scope of this study include both primary and secondary data, whereby the research applies surveys, Geographic Information System analysis, and historical land use data to evaluate changes in population growth, traffic congestion, and land use patterns over the last decade. Data collection for this research was done by surveying residents' and commuters' opinions regarding the extent of traffic

congestion and the adequacy of public transport along the Thika Road Corridor. GIS-based land-use and green space change analysis enabled the tracing of development. Historical data served as a base against which population growth and trends in urban expansion could be compared. The research also involved interviews with key stakeholders such as urban planners and local government to gain insights into the problems and effectiveness of current transport policies. Key findings revealed a high population increase from 3.0 percent to 4.5 percent in 2022, a proportionate rise in urban sprawl, and increased traffic congestion, with peak-hour average travel time doubling from 30 minutes to 60 minutes over the same period. Green spaces have shrunk from 50 sq km in 2010 to 35 sq km in 2022, and on the whole, there is a high degree of environmental degradation. These findings have implications that suggest an urgent call to have integrated urban transport policies for sustainable urban growth. This includes developing a comprehensive public transport system and transit-oriented development adoption, enforcing land use regulations in retaining green spaces, and managing urban expansion. By so doing, mobility will be improved, traffic congestion will be reduced, and the environment will be sustained better for healthier livability in Nairobi and cities like it.

The article on *To What Extent is Old Town Mombasa a Swahili Town? An Analytical Framework for Assessing Heritage Richness* discusses the Swahili heritage and explore its continuity in place – making that has Swahili identity. The identity of the Swahili remains fluid and contentious due to varying ethnography but also a history of intense contact and exchange with the outside world. This paper uses Mombasa Old Town in Kenya to illustrate an analytical framework that can be used to assess the authenticity of Swahili towns. The study utilized literature review, content analysis of archaeological and historical-cultural discourses, and interviews with key informants. Based on weighted variables across social logic and spatial practices, the study qualified Mombasa Old Town as a Swahili town at a moderate score of 60.5%. The study concluded that Mombasa Old Town is a mid-ranking town on the continuum of Swahili heritage. The study recommends that the approach to urban heritage should pay attention to the entire range of urban space discourse, including the way space was conceived, structured, and used, while pragmatically paying tribute to elements of place-making from the past.

The paper entitled *Use of Public-Private Partnerships (PPPs) for Provision of Low-Cost Housing in Kenya* delves into utilization of PPPs in advancement of affordable housing in Kenya, offering comprehensive examination of PPPs arrangements and recent successful case studies. The insights gained from literature review demonstrate that despite considerable contributions of PPPs to affordable housing, obstacles like regulatory barriers, financial issues, and stakeholder coordination still persist. The findings suggest that PPPs have significant promise for improving supply of affordable housing in Kenya. The study recommends reviewing PPP Act, exploring innovative funding options, clearly defining stakeholder roles and responsibilities, developing clear risk-sharing frameworks, implementing strict quality controls and regular affordability assessments.

Challenges of Land Acquisition for Infrastructure in Kenya: A Case Study of the Kisii-Awendo Power Wayleave is an article on the challenges faced by landowners impacted by the Kisii-Awendo power wayleave acquisition in Kenya. A descriptive research design was used to target 276 project-affected persons through a stratified random sampling strategy. Findings revealed concerns about inadequate compensation (16.6%), poor communication (14.5%), limitations due to illiteracy (12.5%), and financial constraints (12.1%). These issues highlight the limitations of theoretical frameworks like Neoclassical Economic Theory and Lockean Property Theory in addressing real-world complexities. Recommendations for a more equitable and efficient process include improved communication strategies, financial and legal aid for landowners, transparent compensation practices, and literacy support programs. By implementing these recommendations, land acquisition projects can achieve greater fairness and social justice for affected landowners, facilitating the successful completion of vital infrastructure projects.

Evaluating the Socio-Economic Benefits of Transit-Oriented Development (TOD) along Thika Road Corridor, Nairobi is an article that evaluates the socio-economic benefits of Transit-Oriented Development (TOD)

along the Thika Road corridor in Nairobi, Kenya. TOD is identified as a critical urban planning strategy to address significant challenges such as traffic congestion, pollution, and inadequate infrastructure. The study compares local examples with global successes in cities like Hong Kong and Portland, Oregon, where TOD has notably increased property values, enhanced business activity, and reduced commute times. The research employs a case study research design and quantitative and qualitative approaches to collect data. Quantitative data on property values and business growth are obtained from real estate agencies, government land records, and property listing websites. Surveys and questionnaires are distributed to residents and business owners in TOD and non-TOD areas to assess community well-being. Additionally, qualitative data are gathered through semi-structured interviews with key stakeholders, including urban planners, policymakers, real estate developers, and community leaders. Focus group discussions provide further insights into residents' perceptions and experiences. Key findings indicate that property values in TOD areas increased by an average of 20% over five years, compared to 8% in non-TOD areas. Business growth in TOD areas saw a 15% increase in the number of businesses and a 25% rise in business revenues. Employment opportunities in these areas grew by 10%. Surveys also indicated a 10% reduction in respiratory problems and a 15% decrease in traffic-related accidents in TOD areas. Residents reported a 20% increase in satisfaction with access to amenities and services. The study offers several recommendations: developing a comprehensive land use strategy integrating TOD principles, investing in public transport infrastructure, enhancing community participation in planning processes to ensure sustainability and inclusiveness, implementing policies to manage property value appreciation to avoid displacement of low-income residents, and encouraging mixed-use development to create vibrant, dynamic urban spaces. The successful implementation of TOD along the Thika Road corridor underscores its potential to drive sustainable development and address urban challenges in Nairobi. The study's findings provide valuable insights for policymakers and urban planners, highlighting how to optimize the socio-economic benefits of TOD and contribute to an equitable, sustainable urban future.

The article entitled *Assessing the Effectiveness of Conservation Policy in Building Resilience of the Built Heritage of Old Town, Mombasa, Kenya* examines the effectiveness of conservation policy interventions in mitigation of adverse transformation in Old Town, Mombasa. This study applies spatial and descriptive techniques to analyze transformation across three clusters namely Mji wa Kale, Kibokoni, and Makadara in order to ascertain whether there is reduced, by type and degree, transformation in the conservation area that could be attributed to the gazetted status. The study established that qualifying the adequacy of heritage management based on existence of conservation policy only, without scrutinizing actual impact, is inappropriate. The paper recommends need to embrace flexibility that can respond to diverse needs of business, residence, and investment hence provide multiple opportunities and optimization of spaces based on multi-use buildings, active frontages, and fine amenities. Further, there is need to maintain compactness of urban form for viability of associated culture-rich activities, connectivity of public space and social life, attainment of connected mixed use with good proximity, but also for attainment of energy-efficiency and climate resilience. Finally, there is need to create complementary multi-agency urban conservation financing strategy that is popular, attractive, flexible, conditional and coordinated.

The article entitled *Role of Work Controls in Preventive Management of Musculoskeletal Disorders in Building Projects: Case Study, Masonry Workers, Nairobi County, Kenya* focuses on a search for WMSD preventive solutions in organizational, cognitive, and participatory ergonomic fields. The study population consisted of masonry workers registered with NCA (2020) within the geographical area of the study. The sample size was determined using stratified random sampling, and the participants were selected using purposeful random sampling. Data was collected using questionnaires, interview guides, relevant books, journals, and online resources. Descriptive analysis was employed to identify central tendencies in the data. The Spearman rank-ordered correlation results (95% confidence level) revealed a moderate positive and statistically significant relationship between the independent and dependent variable of the study, $\rho (0.001, p < 0.05)$. The study established that the masonry worker safety was undermined due

to productivity prioritization over worker health and safety, under-representation on safety committees, inadequate training, insufficient guidance on compliance requirements; a lack of performance recognition, and appropriate workplace risk management strategy. Proposed interventions included review of existing training programs to include participatory ergonomic practices, occupational safety and health framework to include multifaceted stakeholders' intervention, improving the work environment, communication, information sharing, statutory compliance, employer and worker incentive policies.

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