

EDITORIAL

Sense of a Place, Urban Transportation and Performance of Construction Project

Welcome to the Twentieth Volume 1st Issue of the Africa Habitat Review-Journal of the Faculty of Built Environment and Design. This issue has presented critically analysed papers on issues relating urban traffic, construction project performance and sense of a place.

This article on *Impact of Urban Traffic Congestion on Emissions along a Section of James Gichuru Road in Nairobi County, Kenya* examines the impact of urban traffic congestion on air quality focusing on traffic volume and its emissions of carbon monoxide (CO), carbon dioxide (CO₂), and particulate matter (PM_{2.5}). Data collected revealed a strong correlation ($r = 0.83$) between traffic volume and emissions. The regression analysis indicated that each additional vehicle per hour resulted in a 0.07 unit increase in emissions, a statistically significant finding with a p-value of less than .001. During peak hours, traffic reached as high as 2000 vehicles per hour, contributing to alarming CO levels of 10 ppm and PM_{2.5} concentrations of 90 $\mu\text{g}/\text{m}^3$. In contrast, off-peak hours averaged around 750 vehicles per hour, leading to significantly lower emissions. These findings underscored the considerable influence of traffic volume on air pollution, highlighting the urgent need for effective urban planning and traffic management to enhance air quality and public health in rapidly urbanizing areas. The study therefore recommended that traffic volumes, which rise during school hours, highlight the necessity for safe walking and biking paths to promote non-motorized transportation. It also suggested encouraging flexible work hours to reduce travel demands and enhancing community awareness as additional traffic calming measures. Furthermore, advocating for remote learning for students and educators could significantly decrease daily commutes to schools and the associated emissions. Collectively, these insights offer practical recommendations for addressing traffic congestion and improving air quality in urban areas.

Adopting Feedback Loops to Enhance Performance in Construction Projects is an article that examines the adoption of feedback loops as a solution to enhance AHP performance by addressing these issues. Performance metrics such as project scope, cost, time, and community participation were assessed, with community involvement identified as the most critical factor for success. Despite moderate cost overruns (6-10%) and time delays, minimal reworks (74.2%) were observed, emphasizing the need for improved resource management. The study reveals that integrating feedback loops significantly improves performance, particularly in managing scope, cost, and time. Activities such as sourcing case studies, creating visual diagrams, validating insights, and adopting feedback mechanisms at every project stage are instrumental. Feedback loops are most effectively implemented during construction for real-time adjustments, with the operations and maintenance phases benefiting from user feedback. A proposed framework prioritizes early community engagement, regular scope reviews, budget monitoring, and real-time progress tracking, fostering responsive project management and enhancing cost and time efficiency. While concerns about potential delays and resource wastage exist, the advantages—such as early problem identification, timely issue resolution, and stakeholder engagement—outweigh the drawbacks. Key recommendations include strengthening community engagement, providing training for project teams, utilizing technology for real-time feedback, and integrating feedback loops into risk management plans. This article contributes to the understanding of feedback loop adoption in construction, offering a practical model to improve the performance of Kenya's affordable housing sector and ensuring more effective and sustainable project outcomes.

This article on *Sense of Place: Concepts, Importance and Methods of Study* seeks to understand the discourse across disciplines interested in the place-people-process relationships. It aims to cover the key aspects in terms of components, importance and methods of investigation. This review was done by

open access search for “sense of place” and within related literature of its sub-concepts. Findings reveal lack of clarity as different researches include different sub-dimensions as its components and employ different methods of investigation. Place attachment (PA), place identity (PI) and place dependence (PD), place meanings (PM), place satisfaction (PS) are the common dimensions. Many studies on sense of place have been done within neighborhoods and public spaces. The study recommends the need for standard and uniform dimensions, methods for its investigation across disciplines in order for built environment professionals, other professions and policy makers to integrate the findings in place making.

This article on *The Management of Climate Change-Induced Flooding in Ziwa La Ng'ombe Informal Settlement, Mombasa County, Kenya* investigates the management of climate change-induced flooding in Ziwa la Ng'ombe informal settlement, leading to displacement and property damage during extreme weather events. The study employed a mixed-methods approach, combining quantitative data from 158 household surveys with qualitative insights from key informant interviews. The study found that 78% of the respondents have noticed changes in rainfall patterns, with 59% reporting increased intensity and frequency. Poor drainage systems and inadequate waste management are identified as primary causes of flooding. Residents have undertaken individual measures such as creating small drainage channels and constructing flood barriers. However, institutional efforts appear to be lacking, with 85% of residents unaware of any formal flood management initiatives. Further investigation revealed that local NGO, KECOSCE, has established an early warning system such as SMS messages, radio broadcasts, and community meetings. Additionally, the Department of Housing also plays a vital role in regulating land use and enforcing zoning regulations. The effectiveness of these interventions appears limited, as evidenced by continued flooding and resident dissatisfaction. Based on these findings, the research recommends climate change induced flood management strategies, including upgraded infrastructure to improve drainage and waste management, community empowerment and participatory planning to ensure that flood management strategies are aligned with the needs and priorities of residents, and increased awareness of formal flood management initiatives to bridge the gap between institutional efforts and community awareness in Ziwa la Ng'ombe informal settlement.

The article on *Finding Value, Conserving Heritage in Townscapes along the Kenya Railway* aims at identifying the underlying heritage values in selected towns along the Kenya Railway line. A qualitative approach and a cross-sectional research design were adopted. Three towns; Limuru, Naivasha and Molo, with higher urban populations than the rest were selected from a list of 19 between Nairobi and Kisumu cities. 360 respondents were interviewed; 70 in Limuru, 160 in Naivasha, and 130 in Molo. Townscape heritage data was collected through observation, while data on heritage values was collected through interviews using attitudinal statements on Likert scales. Exploratory factor analysis was used to determine latent heritage values. The Chi-Square test was significant ($p < .05$). Five main heritage values explaining 43.28% of the total variance were extracted; cultural continuity, functional-economic, identity, placeness and historicity. Additionally, three other values; rarity, evidence and memory were considered for the completeness of the value spectrum. It was concluded that the identified heritage values are interdependent and thematically communicate communities' aspirations and should provide guidance to the values-based approach to conservation. This paper recommends integrating heritage values in conservation planning and engaging communities in the process to achieve culturally sustainable urban development programmes.

This article on *Transformation of Vernacular Housing and its Effects on Indoor Thermal Comfort: A Case Study in a Tropical Coastal Village in Kenya* assesses the effect of transformation of building envelop design of vernacular dwelling houses on the indoor thermal comfort. In three case study houses in Kilifi County, indoor air temperature, relative humidity, mean radiant temperature and air speed measures were taken using data loggers. The rectangular house type with mud walls and palm leaf thatch roof was found to have the lowest thermal discomfort with a daily mean of 3.0°C Hrs. The preceding traditional rounded oblong shaped house of grass thatch covering and the subsequent contemporary brick wall and metal sheet roof had higher mean thermal discomfort levels of 8.2°C Hrs and 7.5°C Hrs, respectively. Using linear

correlation between indoor operative temperature and outside air temperature, thermal discomfort levels were predicted for the whole year and in the future considering climate change. Indoor thermal discomfort was predicted to increase by up to 90 % when surface air temperatures increase by 1°C. It is recommended that as vernacular houses undergo building envelop design transformation, vaulted insulated ceilings and high-level permanent vents be used to reduce indoor thermal discomfort.

Impact of Changing Built Forms from Colonial to Post-colonial on Landscape Identity: A Case of Kisumu City's Clock Tower is an article that investigates how the Clock Tower contributed to Kisumu's identity and secondly perception on satisfaction level with the changes and lastly need for its preservation or not before the renewal. Mixed-method approach was used through survey with 293 respondents, photo elicitation interviews (PEI) with twelve purposive participants and county government officials. Field investigation through mapping and photography was carried after archival review. Results revealed that majority felt that it was a landmark feature that is symbolic, contributes to Kisumu's identity and evokes urban memories. Majority were satisfied with outcome of the changes that signaled they did not support its preservation then. Findings imply that memory and identity was affected through the changes in form, colour and materials. The study recommends by-law to protect this landmark against changes and demolition through preservation. The findings are important to local authorities and policy makers with regard to preservation of landmarks that contribute to identity.

This article on *Anthropogenic Activities and their Implications on the Physical Extents and Ecological Conditions of Riparian Zones in Nairobi River Basin, Nairobi City County: A Case of Ngong, Mathare and Nairobi Rivers* investigates the implications of anthropogenic activities on the physical extent and ecological conditions of riparian zones in Nairobi City County. Specifically, the study examines the effects of human land-use activities, and it identifies the drivers of anthropogenic activities on the physical extent and ecological conditions of riparian zones in Nairobi City County. Finally, it proposes strategies that promote the appropriate physical extent and ecological conditions of riparian zones in urban areas. Focusing on the Nairobi, Ngong, and Mathare rivers, secondary data were collected from peer-reviewed journals, government records, and policies and laws on riparian zones. Meanwhile, primary data were collected and analyzed using GIS, observation, interviews, and key informant interviews with, among others, staff from the National Construction Authority. The Kobo Collect tool was used to administer questionnaires digitally and offered spatial locations from its GPS. The camera enabled photography. Findings show that the effects of human activities are the narrowing of riparian zones due to encroachments and the dumping of waste. The problem is prevalent in both formal and informal land uses. The drivers of encroachment and degradation of riparian zones include, among others, weak enforcement of policies and laws, poor demarcation of the zones, and poor mapping and monitoring of the zones. The study concludes that anthropogenic activities, including the construction of structures and the disposal of solid waste and wastewater, have harmed the physical extent and ecological quality of the riparian zones in the Nairobi River Basin. The study recommends demarcation of riparian zones, GIS mapping and monitoring using GIS spatial analyst tools. Utilization of Kobo Collect to gather data on hotspots and the periodic enforcement of policies and laws.

The article on *Theatre and Architecture: Kamirithu Decolonial Theatre, and Kamirithu Polytechnic* evaluates the architecture of the polytechnic against the ethos of the play that was previously staged in the space it now occupies. It then assesses the proposition of making the polytechnic a place of memory and heritage in a decolonial context. The Kamirithu theatre project, led by Ngugi wa Thiong'o and Ngugi wa Mirii sought to re-inscribe a decolonial discourse in Limuru, Kenya. However, due to the revolutionary content of the play and the decolonial redesigning of the space, the Kenyan government banned the play, destroyed the theatre, and built a polytechnic on the site. Acknowledging the significance of architecture as a means of activism, particularly in a country impacted by oppressive colonial and postcolonial continuities, the architectural design of Kamirithu open-air – theatre, and Polytechnic are implicated in decolonization processes in Kenya.

Robert Rukwaro
Editor-in-Chief

African Habitat Review
Faculty of the Built Environment and Design
University of Nairobi
Tel: +254-2729700
E-mail address: sobe.ahrjournal@gmail.com
rukwaro@uonbi.ac.ke