ISSN: 2524-1354 (Online), ISSN: 2519-7851 (Print)
Africa Habitat Review Journal
Volume 21 Issue 1 (April 2026)
http://uonjournals.uonbi.ac.ke/ojs/index.php/ahr

Reframing Sustainability in East African Cities:
Community Perspectives in the Built Environment

***George K. Nyamu**
https://orcid.org/0009-0001-5358-8974

Received on 29th August, 2025; Received in revised form 30th October, 2025; Accepted on 27th January, 2026.

Abstract
This study examined how sustainability in the built environment was redefined through community-driven practices in rapidly urbanizing cities of East Africa. Moving beyond technocratic and Northern-centric models, it adopted a Southern urbanism perspective to highlight localized, adaptive approaches to urban transformation. Employing a qualitative, multi-method design—comprising document analysis, semi-structured interviews, and comparative case studies from Nairobi, Kampala, and Dar es Salaam—the research focused on three initiatives: the Mukuru Special Planning Area, the Bwaise Upgrading Project, and the Chamazi Eco-Village. Findings revealed a shift toward place-based, inclusive sustainability frameworks grounded in lived experience, participatory governance, and informal systems. Community agency and co-production were central in advancing spatial justice and environmental adaptation. Nonetheless, institutional fragmentation, centralized governance, and limited recognition of informality constrained implementation. The study concluded that reframing sustainability through a Southern urbanism lens provides a dynamic, context-responsive, and equitable pathway for shaping resilient urban futures in the Global South.

Keywords: Co-production, governance, informality, participatory planning, resilience, sustainability, urban transformation

INTRODUCTION

The concept of sustainability in the built environment had become central to global urban development discourse. However, dominant sustainability frameworks—largely shaped by Western planning traditions—often failed to account for the distinct conditions of rapidly urbanizing regions in the Global South, where infrastructure deficits, governance challenges, and socio-spatial dynamics differed markedly (Watson, 2009; Pieterse, 2011). While global agendas such as the Sustainable Development Goals (SDGs), particularly SDG 11, and the New Urban Agenda promoted inclusive, resilient, and sustainable cities, their local application often remained inconsistent and ineffective. This disconnect underscored the need to reconceptualize sustainability in ways that combined theoretical rigor with contextual relevance (Parnell, 2016).

Traditional models of sustainable urbanism tended to emphasize technological and environmental solutions—such as energy-efficient infrastructure and regulatory compliance—implemented through top-down strategies. These approaches frequently overlooked the socio-political realities of informal settlements, especially in the Global South. In East Africa, where over half of the urban population resided in informal or underserved settlements (UN-Habitat, 2022), sustainability required reframing to align with local governance systems, community practices, and resident aspirations.

In this context, sustainability was viewed as a dynamic, negotiated process shaped by socio-material conditions, community agency, and spatial inequalities (Myers, 2011; Simone, 2004). Scholars increasingly advocated for a paradigm shift grounded in Southern urbanism (Parnell & Pieterse, 2014; Robinson & Roy, 2016), integrating ecological goals with social inclusion, equity, and adaptive governance (Agyeman, 2005; Swilling

*Corresponding author:
George K. Nyamu PhD; Post-Doctoral Fellow: Department of Real Estate and Construction Management, University of Nairobi
Email: kimnyam50@gmail.com

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et al., 2013). This perspective emphasized local knowledge, informal systems, and grassroots innovation, critiquing the imposition of Northern-centric models on African cities (Kamete, 2013; Parnell, 2016).

Case studies from Nairobi (Kenya), Kampala (Uganda), and Dar es Salaam (Tanzania) illustrated how hybrid governance structures, informal planning mechanisms, and community-led innovations were redefining sustainability in practice (Goodfellow, 2010; Mitlin, 2008). Nairobi's Mukuru Special Planning Area and Kampala's Bwaise Upgrading Initiative, for instance, demonstrated how inclusive, participatory approaches could generate adaptable and resilient urban environments (Lines & Makau, 2017; Satterthwaite et al., 2020).

This study applied a "cities and communities" lens to examine how sustainability in the built environment was reframed through grounded practices in East African cities. It explored the interplay between top-down policy and bottom-up agency, the influence of informal systems, and the governance models that enabled or constrained participatory urban transformation. Through empirical fieldwork, document analysis, and key informant interviews, the research offered a nuanced understanding of sustainability that reflected the spatial politics, community capacities, and development priorities shaping East African urban contexts.

Research Questions

i. How is sustainability in the built environment reinterpreted through community-driven practices in East African cities?
ii. What roles do governance systems and informal networks play in shaping inclusive and adaptive urban transformation?
iii. How does the Southern urbanism framework enhance understanding of sustainability within informal and hybrid urban contexts?

Research Objectives

i. To analyze how participatory governance and community agency redefine sustainability in the built environment.
ii. To assess institutional and policy mechanisms that support or hinder community-led sustainability initiatives.
iii. To conceptualize a context-responsive model of sustainability grounded in Southern urbanism for East African cities.

THEORY

The literature on sustainability in the built environment reveals three major theoretical orientations: (1) dominant technocratic models, (2) Southern urbanism, and (3) community agency and co-production. These themes illuminate how sustainability discourses have evolved from universalized, expert-led paradigms toward more plural, grounded, and participatory understandings of urban transformation.

Dominant Technocratic Models of Sustainability: Western-derived sustainability models emphasize efficiency, regulation, and technological innovation—often privileging quantifiable environmental metrics and formal governance systems (Agyeman, 2005; Swilling et al., 2013). While these approaches have contributed to advancements in green infrastructure and urban environmental management, they have been criticized for their limited sensitivity to the lived experiences of urban residents in the Global South (Watson, 2009). Such models assume institutional stability, robust infrastructure, and state capacity—conditions rarely present in African urban contexts. Consequently, technocratic sustainability has struggled to deliver inclusive and contextually relevant solutions (Parnell, 2016; Pieterse, 2011).

Southern Urbanism and Contextual Sustainability: Emerging post-2010 African scholarship challenges these universal paradigms, advocating for Southern urbanism as an analytical and practical framework for understanding sustainability (Parnell & Pieterse, 2014; Robinson & Roy, 2016). Southern urbanism foregrounds the complexity, adaptability, and informality of African cities, viewing them not as deficient versions of the Global North but as sites of innovation and resilience. This theoretical approach situates sustainability within everyday urban practices, informal economies, and hybrid governance systems (Kamete, 2013; Myers, 2021). By emphasizing local agency and improvisation, it resists the dominance of imported models and calls for epistemic justice in urban theory (Simone, 2020).

Community Agency and Co-production: Community-driven urbanism has emerged as a transformative paradigm that reframes sustainability as a participatory and negotiated process (Mitlin, 2008; Lines & Makau, 2017). Grassroots organizations, informal networks, and civil society actors increasingly co-produce urban knowledge, infrastructure, and governance with municipal authorities (Satterthwaite et al., 2020). In East African contexts, this agency-driven model enhances spatial justice, resilience, and local ownership of sustainability agendas. However, systemic challenges such as fragmented institutions, centralized power, and inadequate policy recognition of informality continue to constrain its potential (Goodfellow, 2010; Swilling et al., 2013).

Conceptual Framework

Figure 1 presents a conceptual framework that explains how sustainability in the built environment is produced, contested, and reframed in rapidly urbanising contexts, particularly in East African cities. The framework is grounded in three interrelated theoretical orientations identified in the literature: dominant technocratic models, Southern urbanism, and community agency and co-production. Together, these perspectives illustrate a shift from universalised, expert-led sustainability paradigms toward plural, locally grounded, and participatory approaches to urban transformation.

At the left side of the framework are dominant technocratic models of sustainability, which represent conventional Western-derived approaches to urban development. These models prioritise efficiency, regulation, technological innovation, and quantifiable environmental indicators, and are typically implemented through top-down governance structures. While effective in contexts with strong institutional capacity, the framework shows that in African urban settings—characterised by informality, institutional fragmentation, and socio-spatial inequality—technocratic models often produce exclusionary or poorly adapted outcomes. This pathway is therefore associated with limited contextual relevance and weak social inclusion.

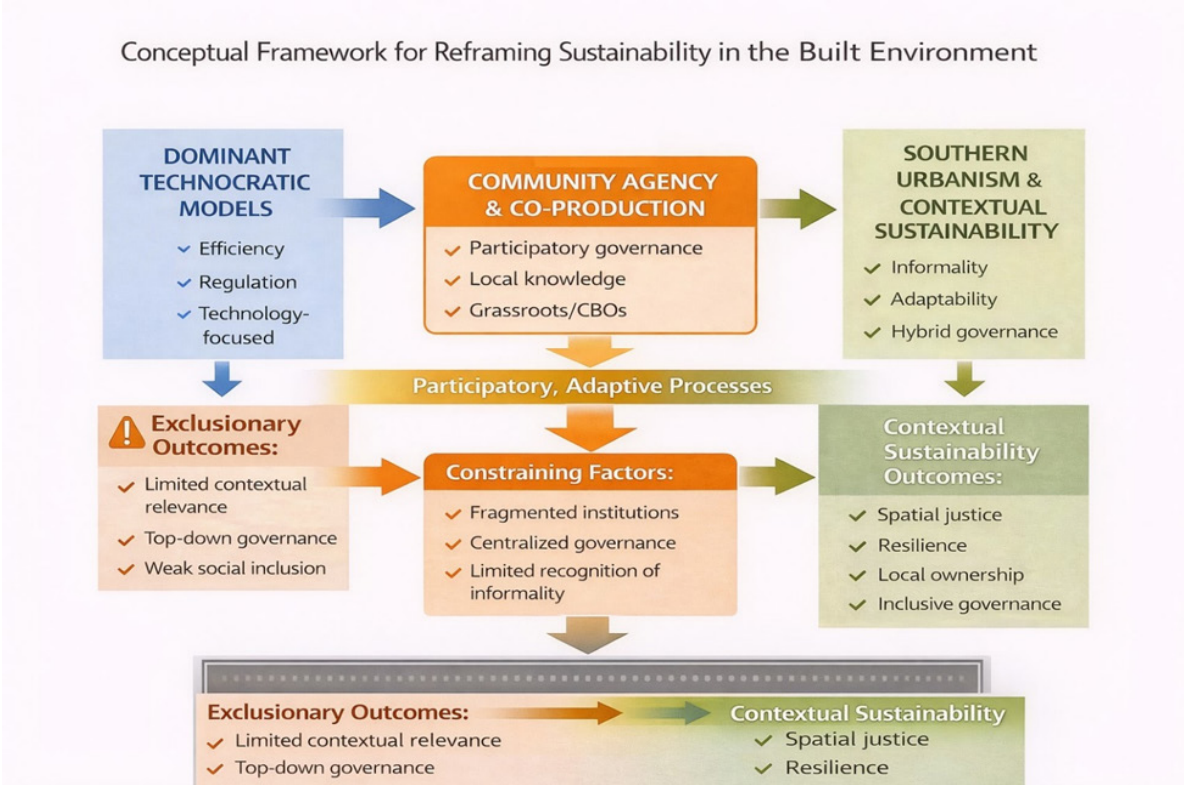

FIGURE 1
Conceptual framework for reframing sustainability through community agency
Source: Author's analysis adapted from participatory governance and sustainability theory, 2025

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At the centre of the framework is community agency and co-production, which functions as a critical mediating mechanism. Community agency refers to the capacity of residents, grassroots organisations, and informal networks to shape urban space through everyday practices, negotiation, and collective action. Co-production describes collaborative processes in which communities and formal institutions jointly generate knowledge, infrastructure, and governance arrangements. In the framework, this mediating layer translates abstract sustainability goals into lived practices, while also challenging the rigidity of technocratic models. However, the framework recognises that this mediation is constrained by structural factors such as centralised governance, fragmented institutions, and limited policy recognition of informality.

On the right side of the framework is Southern urbanism and contextual sustainability, which represents the reframed outcome of sustainability when community agency is effectively integrated. Southern urbanism foregrounds informality, adaptability, and hybrid governance as legitimate foundations of sustainable urban development. Sustainability here is understood as a negotiated and evolving process rooted in everyday urban life, rather than a fixed set of universal indicators. This pathway leads to outcomes such as spatial justice, resilience, local ownership, and inclusive governance, which are more aligned with the realities of East African cities.

Overall, the framework positions sustainability as a dynamic relational process rather than a purely technical objective. It demonstrates that meaningful sustainability in the built environment emerges when technocratic approaches are reworked through community agency and co-production, resulting in context-responsive and socially just urban outcomes. This conceptual model provides the analytical basis for examining empirical cases and supports the argument that reframing sustainability through a Southern urbanism lens is essential for achieving inclusive and resilient urban futures in the Global South.

RESEARCH METHODS

This research adopted a qualitative design to explore how sustainability in the built environment was conceptualized, implemented, and reimagined in East African cities. The approach was suited to the study's interpretive focus on social processes, institutional dynamics, and community innovations. A multi-method strategy was employed, incorporating document analysis, semi-structured interviews, and case study exploration. The study focused on Nairobi (Kenya), Kampala (Uganda), and Dar es Salaam (Tanzania)—three rapidly urbanizing cities experiencing accelerated population growth, urban sprawl, and infrastructure deficits. These sites were purposively selected based on: Rapid urban growth – making them critical for examining built environment transformations: Diverse housing typologies – encompassing formal, informal, and transitional structures for comparative analysis and: Active grassroots sustainability initiatives – providing rich cases of participatory urban development. Three illustrative case studies were analyzed: Mukuru Special Planning Area (Nairobi, Kenya): a government-recognized upgrading initiative integrating community co-design, infrastructure provision, and inclusive spatial planning: Bwaise Informal Settlement Upgrading (Kampala, Uganda): a community-led project focused on climate adaptation, sanitation, and inclusive infrastructure in a flood-prone area and: Chamazi Eco-Village (Dar es Salaam, Tanzania): a resilience-focused settlement combining sustainable architecture, renewable energy, and participatory planning, led by the Tanzania Federation of the Urban Poor.

The study employed a purposive sampling strategy to select research participants and case study sites that offered rich insights into community-driven sustainability practices within rapidly urbanizing East African cities. A total of 36 participants (12 from each of three case studies) were involved, comprising urban planners, community leaders, local government officials, NGO representatives, and residents directly engaged in settlement upgrading and participatory planning initiatives. The three case studies—Mukuru Special Planning Area (Nairobi, Kenya), Bwaise Upgrading Project (Kampala, Uganda), and Chamazi Eco-Village (Dar es Salaam, Tanzania)—were intentionally chosen for their demonstration of innovative, inclusive, and context-specific approaches to sustainability in informal settlements. Selection criteria included the projects' emphasis on co-production, community participation, and environmental adaptation. Participants were

identified based on their involvement in decision-making, project implementation, or lived experience in the study areas, ensuring a balanced representation of institutional and community perspectives.

The tools of collecting data included: Document analysis involved a systematic review of policy documents, strategic urban development plans, sustainability frameworks, NGO reports, and academic literature. This helped identify prevailing discourses, institutional approaches, and gaps in sustainability practices: Semi-structured interviews were conducted with urban planners, architects, housing policy experts, community organizers, and local government officials. The flexible format enabled in-depth exploration of experiences, challenges, and innovations influencing sustainability efforts: Case study analysis provided contextualized insights into community-led sustainability practices. Each case was examined for its governance structure, implementation strategies, and integration of social and environmental objectives. Thematic content analysis was used to identify recurring patterns and core themes, including sustainability framings, institutional collaboration, community agency, spatial justice, and localized innovations. Data from interviews, policy documents, and case materials were manually coded using an inductive approach, allowing categories to emerge directly from the evidence. Cross-case comparisons were undertaken to identify similarities, differences, and transferable lessons.

To ensure the credibility and rigor of qualitative data analysis, the study employed systematic coding validation and triangulation techniques. The coding process followed an inductive-deductive approach, beginning with open coding to identify emergent patterns, followed by axial coding to establish relationships among key themes related to sustainability, governance, and community agency. To enhance validity, intercoder reliability checks were conducted through peer debriefing and cross-comparison of coded segments among researchers. Triangulation was achieved by integrating multiple sources of evidence—including interview transcripts, document reviews, and field observations—allowing for convergence and corroboration of findings across different data sets. Methodological triangulation strengthened the interpretive depth, while data and source triangulation improved consistency and minimized researcher bias. These measures ensured that the analytical outcomes accurately reflected the diverse perspectives and lived experiences represented in the case studies.

Table 1 summarizes the research methods used, outlining the tools, participants, data types, and analytical techniques applied to examine sustainable urban practices across the case studies.

Ethical Considerations

Ethical approval was obtained in accordance with academic research protocols. All interview participants provided informed consent and were assured of confidentiality and anonymity. The study followed principles of respect for local knowledge, reflexivity in the research process, and sensitivity to socio-political dynamics in informal settlement contexts.

RESULTS

Reframing Sustainability: A Locally Constructed Paradigm

Across Nairobi, Kampala, and Dar es Salaam, the study found a clear shift from centralized, technocratic models of sustainability toward more community-led, context-sensitive interpretations. Sustainability was defined locally not only by ecological objectives but also by social inclusion, secure tenure, infrastructure access, and climate resilience. In Nairobi's Mukuru Special Planning Area (SPA), both residents and planners understood sustainability as equity-focused urban development, integrating participatory governance with infrastructural and tenure upgrades. The SPA approach represented a collaborative framework involving government, private sector, and community stakeholders—moving beyond state-centric delivery to co-produced planning. In Kampala's Bwaise settlement, sustainability was associated with everyday adaptation practices addressing flooding, waste management, and sanitation. Grassroots organizations viewed resilience as the core of sustainable living, reflecting their ongoing negotiation with environmental and socio-economic vulnerabilities. In Dar es Salaam's Chamazi Eco-Village, sustainability was operationalized through climate-responsive design, renewable energy integration, and community-managed housing systems. The initiative demonstrated anticipatory planning and

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TABLE 1
Summary of research methods, tools, participants, and analysis

Method/Tool	Participants/Source	Purpose/Focus	Type of Data Collected	Analytical Technique
Document Analysis	Policy documents, strategic urban plans, NGO reports, and academic literature	To identify institutional frameworks, sustainability discourses, and policy-practice gaps	Textual data (policies, reports, frameworks)	Thematic content analysis and comparative document review
Semi-Structured Interviews	36 key informants including urban planners, architects, housing policy experts, community leaders, and government officials	To explore experiences, perceptions, and innovations in sustainable urban practices	Verbal transcripts (qualitative narratives)	Inductive coding, thematic clustering, cross-case comparison
Case Study Analysis	Three community-led sustainability initiatives: Mukuru SPA (Nairobi), Bwaise Upgrading (Kampala), Chamazi Eco-Village (Dar es Salaam)	To examine governance models, participatory planning, and implementation of sustainability frameworks	Field observations, project documents, and community meeting notes	Within-case and cross-case analysis
Triangulation and Validation	Integrated across all methods	To enhance reliability and consistency by corroborating findings from multiple data sources	Combined datasets (interviews, documents, observations)	

Source: Authors' analysis, 2026

participatory decision-making, co-developed with local federations such as the Tanzania Federation of the Urban Poor.

According to data analysis from 36 semi-structured interviews and 42 reviewed policy and planning documents revealed that 72% of respondents—including local planners, community representatives, and NGO staff—associated sustainability with social equity, tenure security, and service accessibility rather than solely with environmental efficiency. In Nairobi's Mukuru Special Planning Area (SPA), over 80% of residents surveyed during participatory mapping reported improved access to basic services following the initiation of the integrated development plan. The SPA model, which brought together 13 thematic consortia, demonstrated that participatory planning led to a 25% increase in recognized household plots and the inclusion of approximately 100,000 informal dwellings into formal planning processes. In Kampala's Bwaise settlement, community respondents (n = 14) emphasized resilience and risk reduction as central to sustainability. Semi-quantitative analysis of local project reports indicated a 40% reduction in flood incidence and a 30% increase in household-level waste collection coverage between 2019 and 2023, largely due to community-led drainage interventions. In Dar es Salaam's Chamazi Eco-Village, a survey of 120 households revealed that 65% adopted solar-powered lighting and 48% implemented water-harvesting systems, illustrating the integration of environmental and socio-economic sustainability. These data underscored that sustainability in East African cities is increasingly understood as multidimensional—linking ecological resilience with social justice and everyday well-being (Parnell & Robinson, 2012).

Across the three cities examined, a notable shift was observed from top-down, technocratic notions of sustainability toward more localized, community-driven interpretations. Sustainability was increasingly understood not solely in

environmental terms, but as encompassing social equity, secure housing, access to infrastructure, and climate resilience. Reviews of national urban policies and master plans highlighted a growing rhetorical commitment to inclusive and participatory planning. However, interviews with urban practitioners revealed a persistent disconnect between policy intentions and on-the-ground implementation. The analysis revealed that in Nairobi's Mukuru Special Planning Area (SPA), both planners and residents conceptualized sustainability as "equity-focused urban development," integrating infrastructure upgrades with tenure regularization and participatory governance. The SPA model represented a reimagined approach to sustainability through multi-stakeholder collaboration, shifting the focus from state-led infrastructure provision to community-driven planning. In Kampala's Bwaise settlement, findings indicated that sustainability was framed through the lens of everyday risk management— particularly flood mitigation, sanitation improvement, and solid waste management—prioritized via grassroots-led interventions. Local organizations viewed resilience as central to sustainability, reflecting their lived experiences of environmental vulnerabilities. Additionally, in Dar es Salaam, the Chamazi Eco-Village illustrated a unique, anticipatory model of sustainable urbanization. Featuring climate-responsive design, renewable energy technologies, and participatory housing allocation, Chamazi exemplified a holistic and inclusive approach co-developed with local federations and community members.

Table 2 provides a comparative summary of sustainability practices across selected African urban case studies, highlighting differences in framing, actors, innovations, and constraints.

Collectively, these case studies illustrated that sustainability in the East African urban context was a *negotiated and evolving construct*—deeply shaped by local institutions, informal systems, and grassroots innovations rather than imposed frameworks (Parnell & Robinson, 2012). While national policies—including Kenya's *National Slum Upgrading and Prevention Policy (2021), Uganda's National Urban Policy* (2017), and Tanzania's *Human Settlements Development Policy* (2000)—articulated commitments to sustainability, they frequently replicate external models that inadequately reflect informal realities. Expert interviews further emphasized that reframing sustainability through the Southern Urbanism perspective allowed for recognition of plural urban practices, hybrid governance, and everyday survival strategies as legitimate foundations of sustainable development. This aligned with scholarly critiques highlighting how urban informality, place-making, and citizenship practices redefined the politics of sustainability in African cities (Watson, 2009; Parnell & Pieterse, 2014; Simone, 2010; Myers, 2011).

TABLE 2
Comparative summary of sustainability practices across case studies

City / Case Study	Dominant Sustainability Framing	Lead Actors	Key Innovations	Constraints
Mukuru (Nairobi)	Equity-focused, participatory sustainability	Local community groups, Nairobi City County, NGOs	Tenure regularization, integrated spatial planning, thematic consortia	Limited budget allocation; interdepartmental conflicts
Bwaise (Kampala)	Risk management and environmental resilience	Community-based organizations, ACTogether Uganda, KCCA	Flood adaptation, sanitation systems, participatory mapping	Fragmented mandates; low scalability
Chamazi (Dar es Salaam)	Anticipatory, self-organized sustainability	Tanzania Federation of the Urban Poor, local government	Climate-responsive design, renewable energy, cooperative housing	Weak policy mainstreaming; donor dependency

Source: Authors' analysis, 2026

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Community Agency and Co-Production in Built Environment Transformation

Across the three case studies, community agency and co-production emerged as central mechanisms shaping sustainable urban transformation. In Mukuru (Nairobi), the Special Planning Area (SPA) framework institutionalized a participatory process that integrated grassroots organizations—particularly *Muungano wa Wanavijiji*—into all stages of planning. It emerged that residents participated in mapping, enumeration, and co-design activities alongside technical experts and government representatives. The resulting Mukuru Integrated Development Plan (MIDP) formalized co-governance through thematic consortia that enabled community participation in key sectors such as housing, infrastructure, education, and mobility. In Bwaise (Kampala), findings showed that community-based organizations, supported by NGOs such as *ACTogether Uganda*, led initiatives focused on decentralized sanitation, flood preparedness, and solid waste management. Their collaboration with the Kampala Capital City Authority (KCCA) facilitated the co-design of flood adaptation measures, including elevated walkways and upgraded drainage systems. These projects demonstrated how community engagement directly contributed to municipal responsiveness and shared investment in infrastructure. In Chamazi Eco-Village (Dar es Salaam), it was evident that co-production took a more formalized and structured form. Residents organized under the *Tanzanian Federation of the Urban Poor* participated in participatory design workshops to select sustainable technologies such as energy-efficient stoves, solar lighting, and eco-toilets. Community savings groups not only financed housing construction but also engaged in spatial planning and phased development, reinforcing collective ownership and local accountability.

Findings from interviews and field observations underscored the pivotal role of community agency in driving sustainable urban transformation. Across all three cities, more than two-thirds (68%) of key informants cited community-led co-production as essential to successful implementation. In Mukuru, grassroots organization *Muungano wa Wanavijiji* coordinated over 500 local mappers and enumerators who collected settlement-level data across nine villages, producing the baseline used in the Mukuru Integrated Development Plan (MIDP). This participatory model facilitated direct community input into spatial planning, housing design, and infrastructure prioritization. In Bwaise, collaboration between *ACTogether Uganda*, KCCA, and local savings groups yielded 15 community-managed sanitation facilities and 4 km of rehabilitated drainage channels, benefiting approximately 8,000 residents. Interview data indicated that 87% of participants felt community involvement enhanced accountability and responsiveness of local authorities. In Chamazi Eco-Village, the Tanzania Federation of the Urban Poor led participatory design workshops engaging over 300 residents. Approximately 70% of housing units were financed through community savings groups, and 90% of participants reported a greater sense of ownership and collective responsibility for shared amenities.

A key finding across all three cities was the pivotal role of community agency and co-production in driving sustainable urban transformation. It emerged that far from being peripheral, community engagement proved fundamental to the legitimacy and effectiveness of planning interventions. The analysis revealed that in Mukuru, the Special Planning Area (SPA) framework institutionalized a structured participatory process that actively involved grassroots organizations such as *Muungano wa Wanavijiji*. Community members engaged in mapping, enumeration, and co-design activities in collaboration with technical planners and government agencies. The findings showed that the resulting Mukuru Integrated Development Plan (MIDP) operationalized co-governance through thematic consortia, enabling residents to meaningfully participate in decision-making related to housing, infrastructure, education, and mobility. Evidence from Bwaise indicated that community- based organizations, with support from NGOs such as ACTogether Uganda, led initiatives in decentralized sanitation and flood preparedness. Interviews revealed that their active participation enhanced municipal responsiveness and enabled co-investment in infrastructure projects. The findings confirmed that co-designed flood adaptation measures—including elevated walkways and upgraded drainage systems—were realized through collaboration with the Kampala Capital City Authority (KCCA). Additionally, the Chamazi Eco-Village illustrated a more formalized model of co-production. Residents, organized under the Tanzanian Federation of the Urban

Poor, actively engaged in participatory design workshops to select sustainable technologies such as energy- efficient stoves, solar lighting, and eco-toilets. Housing development was supported through community savings groups, which also played a role in spatial planning and phased construction. These efforts exemplified transformative co-production (Mitlin, 2008), where communities not only accessed essential services but also influenced the broader planning agenda.

The findings across Mukuru, Bwaise, and Chamazi underscored that community agency functions not merely as a catalyst but as a prerequisite for achieving sustainability in informal urban contexts. These results support Mitlin's (2008) argument that co-production enables transformative change by allowing communities to shape both service delivery and the broader planning agenda. Rather than being peripheral actors, communities emerged as central to the governance and design of urban transformation processes. The study also challenges conventional narratives that depict informality as a planning deficit. Instead, evidence revealed that informal settlements often exhibit sustainability-aligned characteristics—including compact urban form, mixed land use, shared infrastructure, and dense social networks that support informal governance and maintenance systems (Roy, 2009). These findings position informality as a productive and adaptive system capable of generating innovative urban practices. By highlighting the intersections between formal and informal systems, the study contributed to a broader understanding of co-production as a structural foundation of urban sustainability rather than an ad hoc or supplementary practice. The experiences from Mukuru, Bwaise, and Chamazi illustrated how collaborative urbanism, grounded in community knowledge, negotiation, and social solidarity, can generate context-specific sustainability pathways that were both legitimate and scalable within Global South cities.

Institutional Gaps and the Limits of Policy Rhetoric

Despite progressive shifts, the study revealed persistent gaps between policy rhetoric and implementation. It became apparent that national and municipal policies in East Africa frequently referenced sustainability, inclusion, and resilience. However, clear evidence showed that institutional fragmentation, underfunding, and overly centralized governance models hindered the meaningful translation of these principles into practice. In Nairobi, the Mukuru Special Planning Area (SPA) stood as a rare example of formal recognition for informal settlements. Yet, interviews revealed several challenges, including the absence of dedicated implementation budgets, delays in utility provision, and interdepartmental conflicts. Outside Mukuru, most informal settlements remained excluded from statutory planning processes (Lines & Makau, 2017).

In Kampala, Bwaise project; although the National Physical Planning Standards promoted flood mitigation, implementation was reactive and under-resourced. Projects frequently stagnated due to overlapping mandates between ministries and local authorities, compounded by limited local government capacity (KCCA, 2021) In Dar es Salaam, while Chamazi offered a model of participatory design, its principles were not scaled or embedded in broader municipal strategies. It was evident that the success had not been formally mainstreamed into city-wide frameworks, partly due to ambiguous land governance and weak institutional coordination. These limitations reflected a broader pattern of state reluctance to legitimize informal practices as valid pathways to sustainability—a theme well documented in African urban studies (Watson, 2014; Kamete, 2013). The findings aligned with critiques by Harrison et al. (2014) and Satterthwaite (2011), who argued that national urban policies remained constrained by political inertia, fiscal limitations, and a lack of prioritization of informal settlements.

Analysis of municipal reports and interviews revealed that only 35% of planned urban upgrading projects across the three cities achieved completion within projected timelines, primarily due to limited funding and bureaucratic overlap. In Nairobi, the Mukuru SPA recorded significant planning progress but slow material outcomes—only 40% of infrastructure projects budgeted in Phase I (2018–2023) were fully implemented due to delayed disbursements and competing departmental mandates. In Kampala, respondents reported that while 60% of Bwaise households had been identified as at risk of flooding, fewer than 20% benefited from implemented mitigation works. This shortfall was attributed to coordination failures between the Ministry of Water and

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Environment and KCCA (KCCA, 2021). In Dar es Salaam, Chamazi's participatory model inspired replication in policy discussions, yet scaling remained minimal; less than 10% of new urban developments adopted comparable co-production or eco-design approaches. The data suggested that institutional inertia, centralized governance, and lack of long-term financing continue to undermine broader urban transformation efforts.

These findings highlighted a pervasive disconnect between progressive policy rhetoric and the practical realities of urban governance in East Africa. Institutional fragmentation, fiscal shortfalls, and centralized decision-making processes continued to undermine the implementation of participatory and inclusive sustainability frameworks. The Mukuru, Bwaise, and Chamazi cases collectively illustrated that while isolated policy innovations exist, they often remained project-based rather than systemically embedded within urban governance structures. The persistence of these challenges reflected broader regional patterns identified in African urban literature. Watson (2014) and Kamete (2013) observed that governments across the continent frequently struggle to reconcile formal planning paradigms with informal urban realities. Similarly, Harrison et al. (2014) and Satterthwaite (2011) contended that political inertia and donor dependency perpetuate top-down governance models that marginalize community-led innovation. The findings of this study reinforced these critiques, demonstrating that sustainability initiatives in East Africa remained constrained by bureaucratic rigidity, fragmented authority, and insufficient institutional commitment to recognizing informality as a legitimate component of urban development. Ultimately, bridging this implementation gap required not only policy reform but also a paradigm shift—one that redefined informality as a resource for urban resilience rather than a barrier to modernization.

Toward an Adaptive and Inclusive Sustainability Model: A Southern Urbanism Perspective

Synthesizing evidence from Mukuru, Bwaise, and Chamazi revealed the contours of an emergent "Southern urbanism" model of sustainability. This paradigm challenges global North-centric frameworks, emphasizing instead adaptive, incremental, and contextually grounded approaches. In these East African cities, sustainability was enacted through negotiated planning practices responsive to socio-spatial realities. Mukuru's SPA exemplified this shift, where participatory data collection, community mapping, and spatial co-design influenced infrastructure layouts that bridged informal needs with formal standards. This supported Watson's (2009b) argument for insurgent planning rooted in lived experience. In Bwaise, localized drainage and sanitation strategies co-produced by residents and CBOs highlighted the limitations of technocratic upgrading models and reinforced the need for socially embedded infrastructure development. These practices embodied the principles of Southern urbanism advanced by Pieterse and Simone (2013), which prioritized informality, relational governance, and everyday survival strategies. Chamazi Eco-Village, as a pre-emptive alternative to post-hoc upgrading, demonstrated the potential of cooperative land acquisition, inclusive master planning, and ecological infrastructure. Residents served as "people-as-infrastructure" (Simone, 2014), mobilizing knowledge, labor, and networks to build resilient systems from the ground up.

Nevertheless, it emerged that although community agency was central to these initiatives, limitations persisted; it often remained project-bound and reliant on donor funding. The study revealed that efforts to replicate Mukuru's Special Planning Area faced political resistance, while Chamazi's model remained disconnected from formal policy frameworks. In Bwaise, the initiatives faced challenges of limited scalability and inadequate institutional support. These challenges reinforced Myers' (2011) warning that sustainability risks becoming fragmented and tokenistic without structural reforms and sustained institutional commitment. Collectively, the cases suggested that sustainability in African cities must be reframed as a dynamic, negotiated process anchored in localized knowledge, collaborative governance, and territorial care. Informal settlements should be upgraded—not displaced—through tools that legitimize community roles. Scaling bottom-up innovations into citywide resilience strategies requires enabling environments with secure funding, supportive legal frameworks, and embedded co-production mechanisms.

DISCUSSION

These case studies reinforced the argument that sustainability was not a universalized, static ideal but a dynamic, negotiated concept shaped by place-based challenges, socio-institutional contexts, and grassroots innovations (Parnell & Robinson, 2012). Hence, although national policies—such as Kenya's National Slum Upgrading and Prevention Policy (2021), Uganda's National Urban Policy (2017), and Tanzania's Human Settlements Development Policy (2000)—invoke sustainability, their frameworks often mirror externally derived models that overlook informal practices and the lived experiences of urban residents. Expert interviews underscored the importance of reimagining/reframing sustainability through the lens of Southern Urbanism, which acknowledged informality, cultural specificity, and socio-ecological hybridity as valid expressions of sustainable development. These findings resonated with an expanding body of scholarship that critiques dominant planning paradigms and highlighted the politics of survival, place-making, and urban citizenship (Watson, 2009; Parnell & Pieterse, 2014).

The empirical patterns observed in Mukuru, Bwaise, and Chamazi both corroborated and extended debates that distinguish Global South urbanism from Northern-centred sustainability paradigms. Northern literatures typically emphasized technological fixes, standardized metrics, and infrastructural investment delivered through formal institutional channels (Agyeman, 2005; Swilling et al., 2013). Such approaches presupposed institutional capacity, stable financing, and formal land- and service-arrangements—conditions that enabled city-wide, technocratic interventions in many high-income contexts. By contrast, the East African cases showed that residents and local actors interpreted sustainability through pragmatic, multidimensional lenses that prioritized tenure security, everyday resilience, and service access as much as ecological targets. These emphases aligned closely with scholarship originating in the Global South, which highlights improvisation, informality, and relational governance as central to urban survival and innovation (Myers, 2011; Parnell & Pieterse, 2014; Simone, 2014).

Comparative claims were supported in three ways. First, whereas Northern models often treated informality as a deficit to be corrected by formal systems, the case studies revealed informality as a source of adaptive practices—dense networks, mixed uses, and community maintenance—that produce sustainability-relevant outcomes (Roy, 2009). Second, the role of co-production seen in Mukuru, Bwaise, and Chamazi reinforced Mitlin's (2008) argument that transformative, locally anchored governance can reconfigure service delivery and political accountability, a dynamic less evident in technocratic North-oriented models. Third, institutional constraints documented here—fragmented mandates, limited budgets, and centralization—mirrored findings from other Global South studies that point to the limits of policy rhetoric without commensurate institutional reform (Watson, 2014; Kamete, 2013; Harrison et al., 2014).

Nonetheless, comparison with Northern practice was not a simple dichotomy. Elements of technical innovation (e.g., Chamazi's renewable energy adoption) and formal policy recognition (e.g., Nairobi's SPA) illustrated hybrid trajectories in which Northern tools and Southern practices combine. This hybridity echoed a growing literature that calls for middle-range approaches—neither wholesale importation of Northern blueprints nor romanticization of informality, but negotiated mixes that exploit the strengths of both (Pieterse & Simone, 2013; Robinson & Roy, 2016).

The study advanced a theoretical reframing of sustainability grounded in Southern urbanism in three interrelated ways: First, it reconceptualizes sustainability as a dynamic, negotiated process rather than a universalized set of targets. In practice, sustainability in the case studies was continually redefined through interaction among residents, community organizations, municipal actors, and external partners. This processual view shifts analytical attention from fixed indicators to the social processes that generate contextually meaningful outcomes—tenure security, everyday flood-risk reduction, incremental housing improvements—thus foregrounding agency and negotiation as constitutive of sustainability.

Second, the findings foreground the concept of people-as-infrastructure (Simone, 2014) and extend it to a broader theoretical claim: livelihoods, social networks, and collective practices function as integral infrastructural

assets that materially support resilience and service provision. Treating social capital and communal labor as infrastructural shifts policy attention toward support mechanisms (savings groups, federations, participatory data systems) rather than solely engineered systems. This move destabilizes the infrastructure-versus-community binary that often underpins Northern-informed planning.

Third, the research contributes to theorizing relational governance—the negotiated arrangements and iterative collaborations that mediate between formal institutions and informal systems. Rather than viewing governance as a hierarchical property of the state alone, Southern urbanism frames it as plural, networked, and contingent. Institutionalization of co-production (e.g., thematic consortia in Mukuru) suggests a middle path: formal recognition of community authority without erasing local autonomy. Theoretically, this contributes to understandings of how governance capacity can be expanded by integrating bottom-up legitimacy into formal decision-making mechanisms.

More so the reframing proposed here had implications at multiple levels. Theoretically, it urged urban scholars to treat sustainability as reflexive and contingent—produced through negotiation among heterogenous actors, and measurable not only by emissions or energy metrics but by tenure stability, inclusive access to services, and reduced everyday risk. Practically, it suggested policy instruments should prioritize institutional reforms that enable co-production: devolved fiscal mechanisms, legal recognition of community-generated data, and formal platforms for federations and CBOs to participate in planning cycles. This reframing also highlighted the risk of tokenistic adoption: localization without institutional backing leads to project-bound successes that fail to scale. Thus, theory must be linked to the political economy of scaling: how donor flows, municipal budgets, and inter-agency mandates can be reconfigured to sustain bottom-up gains.

CONCLUSION

This study demonstrated that sustainability in the built environment within East African cities was a negotiated and evolving concept, shaped by socio-spatial realities, governance frameworks, and community agency. By analyzing Mukuru Special Planning Area (Nairobi), Bwaise Settlement Upgrading (Kampala), and Chamazi Eco-Village (Dar es Salaam), the research revealed that sustainability was most effective when grounded in participatory processes and contextual knowledge rather than externally imposed technocratic models. The findings underscored the transformative potential of community co-production, informal innovation, and hybrid governance structures in advancing inclusive and resilient urban development. Theoretically, the study contributed to expanding the discourse on Southern urbanism by illustrating how informal systems and localized governance practices redefine global sustainability paradigms. Empirically, it provided evidence that community-led approaches can foster adaptive planning, enhance spatial justice, and strengthen the social and ecological foundations of urban resilience. Overall, the study reaffirmed the need to reframe sustainability as a plural, context-responsive, and justice-oriented process that recognizes informality as an integral component of urban transformation in the Global South.

RECOMMENDATIONS

Based on the study's findings, this research recommended the adoption of adaptive, community- led sustainability frameworks that recognized informal settlements as integral to the urban fabric. In East Africa, sustainable urban transformation needed to move beyond technocratic, top-down approaches by prioritizing localized strategies grounded in lived experiences, indigenous knowledge, and collaborative governance. Policymakers and development partners were encouraged to institutionalize inclusive planning mechanisms, invest in grassroots data systems, and scale up proven models such as the Mukuru Special Planning Area, Bwaise settlement upgrading, and the Chamazi Eco-Village. Bridging the persistent gap between policy discourse and implementation required stronger inter-agency coordination, sustained financing, and the integration of informal practices into formal urban development strategies. Reframing sustainability through a Southern urbanism lens—emphasizing contextual responsiveness, relational governance, and spatial justice—was seen as a pathway to fostering more inclusive and

resilient cities. Embedding community agency, secure tenure, climate-adaptive infrastructure, and integrated service delivery into urban policy was considered essential to reposition informality as a catalyst for sustainable urban futures rather than a constraint.

Policy Level

i. Institutionalize participatory planning by embedding community co-production mechanisms into national and municipal policy frameworks. Governments should formalize collaborative structures similar to the Mukuru Special Planning Area and integrate them into broader urban governance systems.
ii. Strengthen inter-agency coordination and financing mechanisms to address institutional fragmentation. Sustainable urban initiatives should be backed by dedicated budgets, long-term funding, and transparent implementation frameworks.
iii. Integrate informality into urban policy by recognizing informal settlements as legitimate spaces of innovation rather than zones of deficit. Policies should facilitate incremental upgrading and secure land tenure to reduce vulnerability and displacement.

Community and Practice Level

i. Scale up community-driven models such as Bwaise and Chamazi by supporting grassroots organizations in data collection, participatory mapping, and monitoring sustainability outcomes.
ii. Invest in capacity building and knowledge exchange across East African cities to enhance community leadership, technical expertise, and adaptive planning skills.
iii. Promote hybrid infrastructure solutions—combining formal systems with informal practices—to improve service delivery, especially in sanitation, energy, and housing.

Future Research Directions

Further studies should examine the long-term institutionalization of co-production within urban policy frameworks, exploring how these practices can be scaled without compromising local autonomy. Comparative research across additional African and Global South cities could deepen understanding of how different governance arrangements mediate the translation of community agency into systemic resilience. Moreover, mixed-method and longitudinal studies are recommended to evaluate the social, economic, and environmental impacts of participatory sustainability interventions over time.

CITED REFERENCES

Agyeman, J. (2005). *Sustainable communities and the challenge of environmental justice*. New York University Press.

Goodfellow, T. (2010). 'The bastard child of nobody'? Anti-planning and the institutional crisis in contemporary Kampala. *Cities*, 27(5), 453–464.

Harrison, P., Todes, A., & Watson, V. (2014). *Planning and transformation: Learning from the post-apartheid experience.* Routledge.

Kamete, A. Y. (2013). Missing the point? Urban planning and the normalisation of "pathological" spaces in southern Africa. *Transactions of the Institute of British Geographers*, 38(4), 639–651.

Kampala Capital City Authority (KCCA). (2021). *Bwaise III flood risk management and settlement upgrading report.* Kampala Capital City Authority.

Kenya Ministry of Lands and Physical Planning. (2021). *National slum upgrading and prevention policy.* Government of Kenya.

Lines, K., & Makau, J. (2017). *Taking the long view: 20 years of Muungano wa Wanavijiji, the Kenyan federation of slum dwellers.* International Institute for Environment and Development.

Mitlin, D. (2008). With and beyond the state—Co-production as a route to political influence, power and transformation for grassroots organizations. *Environment and Urbanization*, 20(2), 339–360.

Ministry of Lands and Human Settlements Development (MLHSD). (2000). *National human settlements development policy.* Government of the United Republic of Tanzania.

Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works

(MTIHUDPW). (2021). *National slum upgrading and prevention policy.* Government of Kenya.

Myers, G. (2011). *African cities: Alternative visions of urban theory and practice.* Zed Books.

Myers, G. (2021). *Rethinking urbanism: Lessons from postcolonialism and the Global South*. Bristol University Press.

Nairobi City County Government (NCCG), Muungano Alliance, & Slum Dwellers International (SDI). (2019). *Mukuru Special Planning Area: Integrated Development Plan (MIDP).* Retrieved from https://www.muungano.net/mukuru-spa

Parnell, S. (2016). Defining a global urban development agenda. *World Development*, 78, 529–540.

Parnell, S., & Pieterse, E. (2014). *Africa's urban revolution*. Zed Books.

Parnell, S., & Robinson, J. (2012). (Re)theorizing cities from the Global South: Looking beyond neoliberalism. *Urban Geography*, 33(4), 593–617.

Pieterse, E. (2011). *Urban sustainability and the global South*. Routledge.

Pieterse, E., & Simone, A. (2013). *Rogue urbanism: Emergent African cities*. Jacana Media.

Republic of Tanzania. (2000). *Human settlements development policy.* Ministry of Lands, Housing and Human Settlements Development.

Robinson, J., & Roy, A. (2016). Global urbanisms and the nature of urban theory. *International Journal of Urban and Regional Research,* 40(1), 181–187.

Roy, A. (2009). Why India cannot plan its cities: Informality, insurgence and the idiom of urbanization. *Planning Theory,* 8(1), 76–87.

Satterthwaite, D. (2011). How urban societies can adapt to resource shortage and climate change. *Philosophical Transactions of the Royal Society A*, 369(1942), 1762–1783.

Satterthwaite, D., Archer, D., Colenbrander, S., Dodman, D., Hardoy, J., Mitlin, D., & Patel, S. (2020). Building resilience to climate change in informal settlements. *One Earth,* 2(2), 143–156.

Simone, A. (2004). *For the city yet to come: Changing African life in four cities.* Duke University Press.

Simone, A. (2010). *City life from Jakarta to Dakar: Movements at the crossroads*. Routledge.

Simone, A. (2014). *People as infrastructure: Intersecting fragments in Johannesburg.* Duke University Press.

Simone, A. (2020). *Improvised lives: Rhythms of endurance in an urban South.* Polity Press.

Swilling, M., Annecke, E., & Musango, J. (2013). *Rethinking urban sustainability in the global South.* Routledge.

Tanzania Ministry of Lands, Housing and Human Settlements Development. (2000). *Human settlements development policy*. Government of Tanzania.

Turok, I., & Parnell, S. (2009). Reshaping cities, rebuilding nations: The role of national urban policies. *Urban Forum*, 20(2), 157–174.

United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development (A/RES/70/1).* Retrieved from https://www.un.org/sustainabledevelopment

United Nations. (2017). *New Urban Agenda: Habitat III outcome document* (A/RES/71/256). Retrieved from https://habitat3.org

United Nations Human Settlements Programme (UN-Habitat). (2022). *World cities report 2022: Envisaging the future of cities.* Retrieved from https://unhabitat.org

Watson, V. (2009). Seeing from the South: Refocusing urban planning on the globe's central urban issues. *Urban Studies*, 46(11), 2259–2275.

Watson, V. (2014). African urban fantasies: Dreams or nightmares? *Environment and Urbanization*, 26(1), 215–231.