DISPARITIES IN ACCESS TO PUBLIC OPEN SPACES FOR CHILDREN IN NAIROBI CITY, KENYA

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ABSTRACT

Public open spaces are essential for children's health, learning, and social interaction, yet their provision and quality remain uneven in rapidly urbanising cities. This study examines disparities in the availability, safety, and usability of public open spaces for children in Nairobi, Kenya. The study sampled three Nairobi neighbourhoods to represent different socioeconomic contexts: high-income (Loresho), middle-income (Nairobi West), and low-income (Kibera). A mixed-methods approach included surveys, FGDs, KIIs, field observations, and spatial analysis, engaging 417 respondents (198 children, 61 parents, 158 other open space users). Purposive sampling identified key institutions based on their relevance, including Nairobi City departments (Talents, Skills Development and Care; Green Nairobi; Built Environment and Urban Planning), sports subcounty officers, ward managers and local user groups. Results show that all three areas fall far below the World Health Organization benchmark of 9 m² of open space per capita. Provision is lowest in Kibera and Nairobi West, where population density, poverty, poor infrastructure, and weak enforcement of planning laws limit access. Safety risks include overcrowding, poor lighting, lack of fencing, proximity to traffic, and encroachment of informal activities. Usability is further reduced by poor maintenance, competition from organised groups, and the exclusion of children from available facilities. In Loresho neighbourhood, private amenities compensate for the limited public open spaces but do not eliminate exclusion. These disparities constrain physical activity and social development, particularly for children in the low-income areas, and highlight gaps in urban policy implementation. The paper calls for stronger planning, investment, and management to create equitable, safe, and inclusive open spaces, in line with Sustainable Development Goal

11.7 and Kenya's Vision 2030.

Keywords: Public Open Spaces, Children, Availability, Safety and Usability; Socioeconomic Disparities; Urban Planning; Nairobi, SDG 11.7

INTRODUCTION

Public open spaces, including neighbourhood playgrounds and parks are important for children's physical, social and cognitive development. These spaces provide opportunities for physical activity, social interaction and contact with nature, which support healthy growth. Studies show that children depend on open spaces for play and socialisation, and that their presence encourages more active lifestyles (Bao, *et al*., 2021; Zhang & Kiyai, 2024). The World Health Organization identifies physical inactivity as a major risk factor for chronic disease and links it to the rise in obesity among children aged 6–12 years in recent decades. It emphasises the need for accessible open spaces to mitigate these trends (Hales, *et al*., 2018). Beyond health, public spaces contribute to social equity by providing free recreation for families unable to afford private facilities. This aligns with Sustainable Development Goal (SDG) 11.7, which calls for universal access to safe, inclusive and accessible public spaces by 2030, with a focus on children and other vulnerable groups (UN-Habitat, 2015).

Globally, the supply of public open spaces has declined as urbanisation and competing land uses increase. In Europe, about 41 per cent of public space has been lost to residential and commercial development since the early twentieth century, as economic priorities have overtaken communal needs (European Environment Agency, 2002). Similar trends are evident in South America and Asia, where rapid urban growth has produced an unequal distribution of open spaces. In Bogotá, wealthier areas maintain well-managed public open spaces while informal settlements face crowding and inadequate infrastructure. In cities such as Mumbai, luxury developments have replaced land that previously served as shared open spaces. These patterns point to a global trend in which urban expansion prioritises economic gains over equitable access, disproportionately affecting marginalised communities.

Urbanisation in Africa, among the fastest in the world, is intensifying pressures on land, reducing the availability of public open spaces. This is worsening inequalities in how such open spaces are distributed and in their quality. The United Nations projects that 90 per cent of future urban growth will occur in African cities, placing major strain on infrastructure and services (United Nations, 2014). Nairobi exemplifies this trend. Its population has grown from 345,000 in 1963 to 4.3 million in 2019 (KNBS, 2019). This growth driven by migration and natural increase, has transformed the city from a planned colonial capital into a sprawling metropolis with widening inequalities, including limited access to open spaces.

Nairobi's urban form was shaped by colonial planning, with the 1948 Master Plan allocating 27.5 percent of land to parks and open areas (White, *et al*., 1948). After independence, weak development control reduced this legacy (Makworo & Mireri, 2011). The 2014 Nairobi Integrated Urban Development Master Plan proposed allocating 20 percent of land for public use, well below the UN's 45–50 percent guideline. However, the implementation of this plan has been weak.

Consequently, children face growing shortage of public spaces (County Government of Nairobi, 2014; UN-Habitat, 2015).

Socioeconomic status also influences access to public open spaces. High-income areas such as Karen and Muthaiga have maintained public spaces and supplement them with private facilities. In contrast, low-income settlements such as Mathare and Mukuru, which host more than 60 percent of Nairobi's residents, lack designated public open spaces. Children in these areas play on unpaved streets, exposed to traffic, pollution and unsafe conditions (Okech & Nyadera, 2022). Middle-income zones such as Imara Daima and Donholm lie between these extremes, with some facilities available but often poorly maintained and unsafe.

Limited access to safe and usable open spaces restricts children's physical activity and social development, increasing health risks and limiting opportunities for cognitive growth. The need for supervision among younger children compounds these constraints in low-income areas (Wekesa & Onyango, 2019). Few Kenyan studies have examined how these disparities vary by income, particularly about the availability, safety and usability of public spaces (Muhoro, *et al*., 2018; Makworo & Mireri, 2011).

This study focuses on availability, safety, and usability of public open spaces in Nairobi, comparing conditions in Loresho (high-income), Nairobi West (middle-income), and Kibera (low-income). The findings aim to advance the discourse on public open spaces and support efforts to improve equitable provision for children in line with SDG 11.7 in Nairobi City's rapidly urbanising context.

Study objectives

1. To examine the availability of public open spaces for children in Nairobi City County.
2. To evaluate the safety of public open spaces for children in Nairobi City County.
3. To assess the usability of public open spaces for children in Nairobi City County.

Theoretical framework

Public open spaces, including parks, playgrounds, and green areas, are important to urban well-being, particularly for children, as they support physical activity, social interaction, and mental health. Koohsari, *et al*. (2015) link well-maintained public spaces to reduced stress and improved cardiovascular health, while Bedimo-Rung, *et al*. (2005) highlight their role in reducing socioeconomic health disparities by providing free recreational opportunities. For children, such spaces are vital for play, cognitive development, and social cohesion (Loukaitou-Sideris & Sideris, 2010). However, access to these spaces is shaped by underlying structural and spatial inequalities, a central concern of urban political ecology (UPE) theory.

UPE frames the urban environment as a product of political, economic, and social processes that determine how resources, including land for public spaces, are distributed. It argues that urban space is socially produced, with access mediated by power relations, market forces, and governance priorities. From this perspective, disparities in public open space availability, safety, and usability are not accidental but reflect broader patterns of urban decision-making that

privilege certain populations over others. In cities such as London and New York, planning policies have expanded public space provision, yet marginalised communities still face barriers due to poor maintenance and safety concerns (Frank, *et al*., 2010; Cohen, *et al*., 2016). UPE interprets such inequities as outcomes of political choices and economic interests that shape the urban landscape, often prioritising commercial development over social needs.

In African cities, these inequities are amplified by rapid urbanisation, colonial planning legacies, and weak governance structures. Studies from South Africa reveal that low income neighbourhoods have fewer quality parks, while wealthier areas retain better-managed green spaces (Cilliers, *et al*., 2013; McConnachie, *et al*., 2008). In Nairobi City, land privatisation for commercial and residential development has reduced communal open spaces, particularly in low-income areas (Oyeyemi, *et al*., 2019). UPE helps explain how these spatial outcomes are linked to economic interests that prioritise revenue-generating land uses, reinforcing social inequalities. This has direct consequences for children, whose access to safe and usable public spaces is constrained, increasing risks of sedentary lifestyles and related health issues (Malambo, *et al*., 2017).

The neighbourhood concept complements UPE by situating public open space access within the localised contexts where people live and interact. Neighbourhoods function as both physical and social units, with their quality influencing daily experiences, community identity, and child development. In high income neighbourhoods, open spaces often offer better infrastructure, safety, and maintenance, fostering greater use and health benefits. In contrast, low-income neighbourhoods frequently lack adequate facilities or face security risks, limiting children's ability to engage in outdoor play (Taylor & Kuo, 2009). The neighbourhood lens emphasises that public space provision must consider the specific social, economic, and environmental conditions of each locality rather than applying uniform solutions.

This study draws on UPE to interrogate how urban governance, market forces, and socio-political priorities shape the spatial distribution, quality, and safety of public open spaces in Nairobi. It uses the neighbourhood concept to compare conditions in Loresho (high-income), Nairobi West (middle-income), and Kibera (low-income), recognising that children's experiences are embedded in their immediate environments. By integrating these frameworks, the study examines the connection of structural urban processes and local realities, contributing to debates on equity, health, and physical planning in rapidly urbanising African cities.

RESEARCH METHODOLOGY

This study employed a mixed-methods survey design to assess disparities in access to public open spaces for children in Nairobi City County. Three neighbourhoods were sampled to reflect socioeconomic diversity: Loresho (high-income), Nairobi West (middle-income), and Kibera (low-income). These areas vary in population density, infrastructure development, and governance arrangements, offering a representative cross-section of Nairobi's urban landscape.
Both primary and secondary data sources were used. Primary data was gathered from surveys, focus group discussions (FGDs), key informant interviews (KIIs), and field observations.

Secondary data was obtained from Nairobi City County's open space inventory (UN-Habitat, 2020), policy documents, and planning reports, which provided baseline information on the spatial distribution and characteristics of public open spaces.

The sample size was determined using the Krejcie and Morgan (1970) formula to ensure statistical representativeness across the three neighbourhoods. Stratified random sampling was used, with strata based on neighbourhood income category. Data collection took place between April 11 and April 17, 2023, coinciding with the school holidays to maximise children participation. Surveys and observations were conducted between 9:00 and 17:00 on both weekdays and weekends to capture variations in use.

The sample comprised 417 participants, including children aged 9–12 years, their parents, and other open space users. At the open space level, participants included children, parents, and other users present during the survey. At the county and institutional level, participants included space managers, urban planners, sports officers, and ward administrators involved in open space management.

Table 1 Distribution of the sample for the study

Category	Kibera	Nairobi West	Loresho
Children	69	65	64
Parents	20	21	20
Other open space users within sampled open spaces	32	34	33
Other open space users outside sampled open spaces	20	19	20
Total	**141**	**139**	**137**

Source: Field survey, 2022

Structured questionnaires, adapted from the Neighbourhood Environment Walkability Scale (NEWS), were used to gather quantitative data on space availability, perceived safety, and usage patterns from children and parents. The NEWS tool has been widely applied in urban studies to assess neighbourhood-built environments and their influence on physical activity, including in African contexts (Oyeyemi, *et al*., 2013). Each questionnaire contained 20 Likert-scale items and achieved a Cronbach's alpha of 0.85, indicating high internal consistency. Semi-structured guides were used for KIIs with three space managers and planners to explore governance, maintenance, and policy challenges. FGDs, each with 8–10 participants drawn from parents and other open space users, examined perceptions of functionality, safety, and access barriers. An observation checklist was used to rate the condition of the open spaces in terms of cleanliness, surface condition, and available amenities. GIS tools were used to conduct spatial analysis. Data from Nairobi City County's open space inventory were georeferenced, and ArcGIS software plotted the location of spaces relative to residential areas. Proximity was measured, with distances under 400 metres classified as accessible for children.

Quantitative data were analysed using SPSS v.26 to produce descriptive statistics (means, percentages) comparing availability, safety, and usability across income categories. Qualitative data from KIIs and FGDs underwent content analysis, with manual coding into categories such as "safety concerns" and "infrastructure deficits." Observational scores were aggregated to create comparative profiles for each neighbourhood.

Ethical approval was obtained from Kenyatta University's Ethics Review Committee. Informed consent was obtained from parents, and assent was secured from children. Participation was voluntary, with confidentiality maintained through anonymisation. Limitations included potential recall bias in self-reported data and seasonal variations in space conditions, which were mitigated by triangulating survey responses with observation and GIS data.

RESEARCH RESULTS AND DISCUSSION

Availability of Public Open Spaces

This study revealed a shortage of public open spaces for children in all three neighbourhoods. Combined, Kibera, Nairobi West, and Loresho have an overall mean of only 0.3 m² of open space per capita, far below the World Health Organization (WHO) standard of 9 m² (WHO, 2010). In 2019, per capita provision was 0.12 m² in Kibera, 0.19 m² in Nairobi West, and 0.59 m² in Loresho. These deficits persist despite variations in population density and income levels and are likely to worsen by 2030 as population growth outpaces provision of open spaces.

Kibera, one of the largest informal settlements in Africa, occupies approximately 588 acres. Within this area, eight sites have been designated as public open spaces, covering a total of 14.68 acres. These spaces consist of sports fields, playgrounds, a public square, and a courtyard. Despite this provision, rapid population growth has placed significant pressure on these facilities. The population increased from 48,492 in 1999 to 120,057 in 2019 and is projected to reach 144,360 by 2030 (Kenya National Bureau of Statistics, 2020).
Table 2 shows the typology and sizes of the public open spaces in Kibera.

Table 2 Public open spaces in Kibera informal settlement

Public space name	Typology	Scale of use	Size (acres)
Joseph Kang'ethe Grounds	Sports field	Neighbourhood	7.19
Undugu Grounds Silanga	Sports field	Neighbourhood	3.05
Kibera Social Grounds	Playground	Neighbourhood	1.6
Laini Saba sports field	Sports field	Neighbourhood	1.2
Old Olympic Bus Terminus	Playground	Neighbourhood	0.6
AP Kibera Chief's Camp Square	Square	Neighbourhood	0.59
Acref grounds	Playground	Neighbourhood	0.3
Ayany Parking	Courtyard	Neighbourhood	0.15
Total			14.68

Source: Field survey, 2023

Sampled children in the informal settlement reported that most playgrounds are overcrowded and often occupied by older youths, leaving little space for younger children to play. This concern was mentioned by 78 percent of children respondents. 72 percent of sampled parents observed that the few available spaces cannot accommodate the growing number of children in the neighbourhood. This crowding reflects Kibera's informal settlement high population density, with the population increasing by 147 percent from 48,492 in 1999 to 120,057 in 2019, and projected to rise by a further 20 percent to 144,360 by 2030. The County Government officials confirmed that demand for recreation areas far exceeds supply, and noted that competing land

uses have further reduced the limited space available for public recreation. As a result, children are often displaced from the few available open spaces by older youths and adults who use them for other activities.

Table 3 presents the acreage, available open space, and population changes for Kibera, Nairobi West, and Loresho as well as Nairobi City as a whole between 1999 and 2019, with projections to 2030. The data show substantial population growth across all areas, outpacing any increase in available open space and resulting in significant deficits.

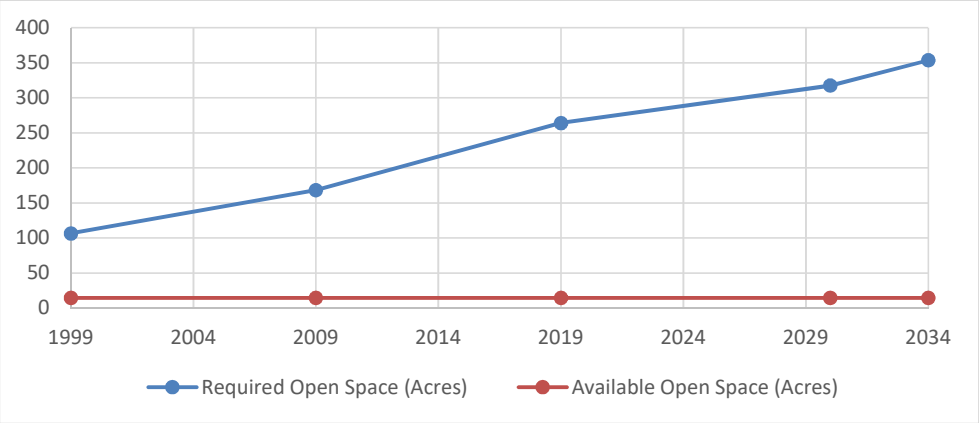
Table 3 Population increase of the sampled neighbourhoods in 1999-2019.

Name of neighbourhood	Acreage (acres)	Available open spaces (acres)	Population 1999	Population 2009	Population 2019	Projected population 2030	Net population increase 1999–2019
Kibera	588	14.68	48,492	76,548	120,057	144,360	71,565
Nairobi West	1,700	1.66	12,081	15,812	35,156	42,272	23,075
Loresho	2,250	3.11	8,667	9,449	21,036	25,294	12,369
Nairobi City	169,000	5,629	2,143,254	3,138,369	4,397,073	5,500,000	2,253,819

Source: KNBS, 2024

The data in table 3 show substantial population growth in all three neighbourhoods and across Nairobi City between 1999 and 2019. Kibera informal settlement recorded the highest increase, adding 71,565 people, while Nairobi West and Loresho grew by 23,075 and 12,369 respectively. Over the same period, the supply of public open space remained unchanged, creating a widening per capita deficit. By 2019, available open space per person was only 0.12 m² in Kibera, 0.19 m² in Nairobi West, and 0.59 m² in Loresho. This is well below the World Health Organization's recommended 9 m² per person. For Kibera's 2019 population, the WHO standard translates to 264.13 acres, yet only 14.68 acres were available, leaving a deficit of over 249 acres. This shortfall is projected to exceed 300 acres by 2030, with the most severe impacts in high-density areas where children's opportunities for physical activity, play, and social interaction are already limited.

Figure 1 illustrates the trend in required versus available public open space in Kibera between 1999 and the projected year 2034. While the required open space increases steadily in line with population growth, the available open space remains constant at 14.68 acres. This widening gap highlights the growing deficit, which is projected to exceed 350 acres by 2034 if no additional land is allocated for public use.



Source: Field survey, 2024

Figure 1 Available and required open space per capita in Kibera informal settlement

Nairobi West neighbourhood shows a similar shortage of public open spaces. The neighbourhood covers about 1,700 acres and had a population of 35,156 in 2019. This population is projected to grow to 42,272 by 2030. The only documented public open space is the Nairobi West Estate Playground, which occupies 1.66 acres. In 2019, this space provided only 0.19 m² of open space per person. This is far below the World Health Organization standard of 9 m² per person, which for the 2019 population would require 77.3 acres of open space. By 2030, the required open space area will rise to 93.8 acres, widening the gap between demand and supply.

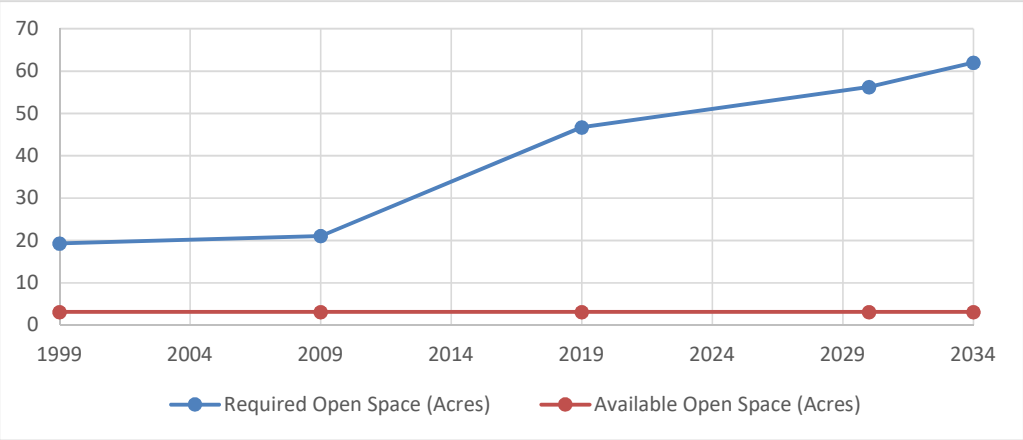
59 percent of children reported that the playground is too small to meet demand and is often used for other events, reducing its availability for regular play for children. Among parents, 64 percent noted the absence of alternative open spaces nearby, forcing some children to play on streets. County sports officers acknowledged that land originally set aside for recreation has been taken up by other developments, while County government planners indicated that limited budgets for land acquisition have hindered the expansion of public open spaces. As a result, children's play opportunities are frequently interrupted or displaced, limiting their ability to engage in regular outdoor activity

Kenya's Physical and Land Use Planning Act (2019) and the Urban Areas and Cities Act (2011) require that public open spaces be provided and protected. However, weak enforcement of these laws has allowed the deficit to persist, reflecting a broader failure in urban planning in Nairobi City.

Loresho neighbourhood a high-income neighbourhood, has only one public open space measuring 3.11 acres. This is far below the 46.74 acres required to meet the needs of its 21,036 residents, showing that higher income levels do not necessarily guarantee adequate public open space provision. 69 percent of sampled children reported that, although the open space is in better physical condition than those in low-income areas, their access is sometimes restricted by organised sports clubs, particularly during weekends and evenings when they also wish to use the open space. The space manager noted that community agreements governing use of the open space are informal and inconsistently enforced since the open space is managed by Vetlab institution. County government officers acknowledged the contribution of Vetlab Institution in

making its open space available for community use. However, with only 3.11 acres of public open space available against the 46.74 acres required for its 21,036 residents, such access restrictions further reduce the effective availability of recreational areas for children's regular activities.

Figure 2 presents the trend in required versus available public open space in Loresho between 1999 and the projected year 2034. The required open space increases from 19.30 acres in 1999 to a projected 61.99 acres in 2034, driven by population growth. However, the available open space remains constant at 3.11 acres throughout the period. This growing disparity indicates a worsening deficit, which is expected to exceed 58 acres by 2034 despite Loresho's lower population density compared to other study areas.



Source: Field survey, 2024

Figure 2 Available and required open space per capita in Loresho neighbourhood

These findings align with previous studies that identified inadequate open space provision in Nairobi as a result of urban expansion and weak planning controls (Makworo and Mireri, 2011; UN-Habitat, 2016). Similar deficits have been recorded in South African cities, where colonial planning and rapid urbanisation have disproportionately disadvantaged poorer communities (Cilliers, *et al*., 2013). However, unlike evidence from Latin American cities such as Bogotá, where affluent zones generally maintain adequate public parks (Guerra, *et al*., 2018), this study shows that in Nairobi, even high-income neighbourhoods such as Loresho experience shortfalls. From an urban political ecology perspective, these shortages reflect how political and economic decisions about land allocation prioritise revenue-generating development over the equitable distribution of environmental amenities, including public open spaces. The neighbourhood concept further explains how such structural inequalities manifest at the local scale, with each neighbourhood's socioeconomic profile shaping the extent and quality of available spaces. The evidence from Kibera, Nairobi West, and Loresho demonstrates that disparities in open space provision are rooted both in city-wide political-economic processes and in neighbourhood-specific conditions that either constrain or facilitate access for children.

Safety of Public Open Spaces

Safety emerged as a major challenge across the three neighbourhoods. Overcrowding, poor infrastructure and unregulated use of spaces by adults have exposed children to risks and reduced their willingness to use public spaces. Across the study areas, 71 percent of children in Kibera, 69 percent in Nairobi West and 70 percent in Loresho reported frequent injuries during play.

These injuries were mainly linked to congested play areas and conflicts with other users. Parents corroborated these concerns, pointing to the absence of fencing, poor lighting and the exposure of play areas to vehicular traffic as key barriers to safe use.

In Kibera, 80 percent of parents reported increase in safety risks, while 67 percent of children reported experiencing minor injuries due to broken play equipment. Nairobi West presented a similar picture, where 63 percent of children indicated that they had been injured while playing, and 62 percent of parents noted that the single playground was unfenced and located close to busy roads. Even in Loresho, which has a lower density and better infrastructure, 58 percent of children reported injuries and 63 percent of parents expressed concerns about congestion and unsafe conditions linked to the dominance of organized sports teams. In all three neighbourhoods, informal vending along footpaths leading to play areas further restricted safe access, with some respondents raising concerns about illegal substance use near playgrounds.

These findings align with studies in low-income urban areas globally that show overcrowding and poor infrastructure as significant barriers to safe use of public spaces (Cohen, *et al*., 2016). Similar patterns have been observed in Mumbai, where informal uses of open spaces increase safety risks (Mahadevia, *et al*., 2017). They differ, however, from findings in cities such as New York and London, where safety risks in parks tend to be associated with crime and surveillance rather than inadequate fencing or congestion (Frank, *et al*., 2010).

Usability of Public Open Spaces

The usability of public open spaces for children was compromised across the three sampled open spaces. Children frequently experienced interruptions during play, most often due to activities organised and dominated by adults or older youth. The survey found that 62 percent of children in Kibera, 81 percent in Nairobi West, and 58 percent in Loresho had been displaced from the open spaces to allow adult-led events or games to proceed.

Observations and user responses confirmed that most open spaces were poorly maintained, with uneven surfaces, worn-out equipment, and litter. This reduced the usability of these open spaces for children. In Kibera, 76 percent of adult users reported degraded conditions such as bare patches and rubbish, attributing these to heavy use and insufficient maintenance. Nairobi West respondents described similar challenges, with 73 percent noting deteriorated pitch surfaces and the absence of play equipment. In Loresho, 52 percent of other open space users observed uneven surfaces and poor upkeep of the Vet Lab Community Field, further constraining children's use.
County planners acknowledged that the absence of structured scheduling for different user groups contributed to conflicts over space and displacement of children. They explained that current management arrangements depend on informal agreements between community members and organised sports clubs, with no county-led framework to prioritise children's use. Planners also pointed to the lack of a dedicated system for routine upkeep, which further reduced the usability of existing facilities especially for children.

These findings show that there are no set time or designated activities tailored for children in

these open spaces. As a result, children are particularly vulnerable to being displaced when other activities are ongoing, limiting opportunities for regular, safe, and child-focused recreation. This finding supports Rigolon's (2017) argument that quality and inclusivity strongly influence the use of open spaces, especially by children. It is also consistent with Koohsari, *et al*. (2015), who found that poorly maintained environments discourage physical activity.

Conclusion

This paper has examined the availability, safety, and usability of public open spaces in Nairobi. Findings show that these spaces are largely unavailable, insecure, and of low usability. For children, the situation is particularly concerning as public open spaces are already scarce, unsafe, and poorly maintained.

Over the years, the total supply of open space has remained largely unchanged, while the city's population has grown significantly, intensifying the shortage. This deficit is most acute in informal settlements, where population density is high and alternative recreation options are limited. If this trend continues, Nairobi City will fall short of achieving SDG 11.7, and children will face an even greater risk of health problems such as obesity, alongside reduced opportunities for safe play and social interaction.

The findings of this study point to the need for deliberate reforms in the provision and management of public open spaces in Nairobi. The shortage of open spaces that is severe in informal settlements, together with evidence of children being displaced by adult activities, unsafe conditions, and poor maintenance, calls for a strategic rethinking of their use and governance. To address these inequities, public open spaces should be recast to meet the needs of diverse users while prioritising children. Existing spaces, many of which are degraded as shown in Kibera, Nairobi West, and Loresho, should be rehabilitated, well-maintained, and equipped with age-appropriate play structures. Given the widespread displacement of children by organised sports and adult-led activities, a dedicated day each week and set times during the day should be reserved exclusively for children's activities. Implementing these measures would improve safety, increase usability, and promote equitable access, enhancing the role of public open spaces in supporting children's physical, social, and cognitive development across Nairobi's neighbourhoods.

Recommendations

To improve the accessibility, safety, and functionality of public open spaces in Nairobi, a comprehensive, multi-faceted approach is essential. The recommendations below aim to maximize the use of existing spaces, upgrade infrastructure, encourage community involvement, and foster local partnerships to create safer, more inclusive environments.

Maximizing the Use of Existing Spaces: To address overcrowding and the insufficient provision of public open spaces, the city should reorganize crowded areas by designating sections for different age groups or activities. For underutilized spaces like public school fields, the city could explore converting these areas into shared community spaces during off-hours. This would help increase the availability of public spaces without the need for significant new development.

Encouraging Rotational Use of Spaces: To manage overcrowding in these spaces, introducing rotational schedules for activities such as children's play, sports, and community events will allow different groups to use the same space at different times. Additionally, hosting temporary events in alternative locations, such as school grounds, can help alleviate congestion in popular public open spaces and provide more recreational opportunities across the city.

Promoting Community Involvement: Increased community engagement is vital for the sustainable management of public spaces. Collaborating with local stakeholders, such as schools, churches, and businesses, to allow the sharing of open grounds during non-operational hours will significantly increase space availability for the community. Encouraging community-led initiatives, such as tree planting and volunteer maintenance programs, will foster a sense of ownership and ensure the long-term upkeep of these spaces.

Improving Pedestrian Infrastructure and Safety: Prioritize the construction of wide, accessible footpaths in high-density areas like Huruma and Kibera, ensuring safety and functionality. In shared spaces like Nairobi West, dedicated pedestrian lanes should be implemented to reduce conflicts with vehicles. Install zebra crossings, traffic lights, speed bumps, and raised crosswalks in high-risk areas to improve safety, along with enhanced street lighting to ensure visibility, particularly at night.

REFERENCES

Bao, J., Zhang, Y., & Fu, X. (2021). Urban green spaces and children's physical activity: A systematic review of current literature. Environmental Research and Public Health, 18(4), 2345.

Bedimo-Rung, A. L., Mowen, A. J., & Cohen, D. A. (2005). The significance of parks to physical activity and public health: A conceptual model. American Journal of Preventive Medicine, 28(2), 159–168.

Burdette, H. L., & Whitaker, R. C. (2005). Resurrecting free play in young children: Looking beyond fitness and fatness to attention, affiliation, and affect. Archives of Paediatrics & Adolescent Medicine, 159(1), 46–50.

Cilliers, E. J., Diemont, E., Stobbelaar, D. J., & Timmermans, W. (2013). Sustainable green infrastructure planning: A perspective of environmental planning. Journal of Environmental Planning and Management, 56(3), 311–335.

Cohen, D. A., Han, B., Derose, K. P., Williamson, S., Marsh, T., McKenzie, T. L., & Golinelli, D. (2016). The paradox of parks in low-income areas: Park use and perceived threats. Environment and Behaviour, 48(1), 230–245.

County Government of Nairobi. (2014). Nairobi Integrated Urban Development Master Plan (NIUPLAN). Nairobi: Author.

European Environment Agency. (2002). Urban sprawl in Europe: The ignored challenge. Copenhagen: EEA Report No. 10/2006.

Faber Taylor, A., & Kuo, F. E. (2009). Children with attention deficits concentrate better after a walk in the park. Journal of Attention Disorders, 12(5), 402–409.

Frank, L. D., Engelke, P. O., & Schmid, T. L. (2010). Health and community design: The impact of the built environment on physical activity. Island Press.

Giles-Corti, B., Boulange, C., Lowe, M., et al. (2016). City planning and population health: A global challenge. The Lancet, 388(10062), 2912–2924.

Government of Kenya. (2007). Kenya Vision 2030: The popular version. Nairobi: Government Printer.

Guerra, E., Cervero, R., & Tischler, D. (2018). Half a century of changes in urban accessibility. Transport Reviews, 38(4), 465–490.

Hales, C. M., Fryar, C. D., Carroll, M. D., Freedman, D. S., & Ogden, C. L. (2018). Trends in obesity and severe obesity prevalence in US youth and adults by sex and age, 2007–2008 to 2015–2016. JAMA, 319(16), 1723–1725.

Kenya National Bureau of Statistics (KNBS). (2019). 2019 Kenya Population and Housing Census Volume I: Population by County and Sub-County. Nairobi: KNBS.

Kenya National Bureau of Statistics (KNBS). (2024). Population projections and settlement data. Nairobi: KNBS.

Koohsari, M. J., Karakiewicz, J. A., & Kaczynski, A. T. (2015). Public open space and walking: The role of proximity, perceptual qualities of the surrounding built environment, and street configuration. Environment and Behavior, 47(10), 1041–1051.

Loukaitou-Sideris, A., & Sideris, A. (2010). What brings children to the park? Analysis and measurement of the variables affecting children's use of parks. Journal of the American Planning Association, 76(1), 89–107.

Mahadevia, D., Joshi, R., & Desai, R. (2017). Urban policies and the right to the city: The case of informal settlements in Ahmedabad. Environment and Urbanization ASIA, 8(1), 43–62.

Malambo, P., Kengne, A. P., De Villiers, A., Lambert, E. V., & Puoane, T. (2017). Built environment, selected risk factors and major cardiovascular disease outcomes: A systematic review. PLoS ONE, 12(11), e0189266.

Matthew McConnachie, M., Cowling, R. M., & Shackleton, C. M. (2008). Patterns in the use of formal and informal natural resources. Landscape and Urban Planning, 85(1), 1–12.

Makworo, M. O., & Mireri, C. (2011). Public open spaces in Nairobi City, Kenya, under threat. Journal of Environmental Planning and Management, 54(8), 1107–1123.

Muhoro, S., Mwau, B., & Kivuva, J. (2018). Towards sustainable public spaces in Nairobi: An institutional and policy analysis. Urban Planning, 3(1), 83–94.

Mundoli, S., Manjunath, B., & Nagendra, H. (2017). Effects of urbanization on the use of public green spaces. Urban Ecosystems, 20(4), 953–972.

Mwau, B., Makau, J., & Were, P. (2020). Strengthening urban planning knowledge in Kenya through community-led data. Environment and Urbanization, 32(2), 441–458.

Okech, T. C., & Nyadera, I. N. (2022). Informal settlements and the right to adequate housing in Nairobi. Journal of Urban Management, 11(1), 12–20.

Oyeyemi, A. L., Kasoma, S. S., Onywera, V., & Adedoyin, R. A. (2019). Physical activity and built environments in Africa. Current Sports Medicine Reports, 18(8), 299–306.

Rigolon, A. (2017). Parks and young people: An overview of planning and design research. Journal of Planning Literature, 32(4), 433–445.

UN-Habitat. (2015). Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Nairobi: United Nations Human Settlements Programme.

UN-Habitat. (2016). Public space in Nairobi: Improving quality of life through inclusive and accessible public spaces. Nairobi: United Nations Human Settlements Programme.

UN-Habitat. (2020). Open public spaces inventory for Nairobi City County. Nairobi: UN-Habitat.

United Nations. (2014). World urbanization prospects: The 2014 revision. New York: UN Department of Economic and Social Affairs.

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

White, L. H., Muiruri, H., & Gillman, R. (1948). The Nairobi Master Plan for a Colonial Capital. Nairobi: Government Printer.

Zhang, Y., & Kiyai, T. (2024). Urban form and children's outdoor play in cities: A review of recent literature. Journal of Urban Health, 101(1), 1–15