AT2030
Case Study: Summary

Inclusive Design and Accessibility of the Built Environment in Nairobi, Kenya

Funded by

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Global
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Hub

In partnership with

KDI

Kilimanjaro
Blind Trust Africa
"Unlocking Literacy for Life"

AT2030

Summary: Becoming a more inclusive city

"An inclusive Nairobi is somewhere that can be experienced by everybody in a fair and equal way. By creating safe and accessible environments for all members of the community the city can allow everyone to access and participate in the opportunities they would like."

Nairobi is a city with a population of 4,397,073 people and the capital of Kenya. Nairobi is experiencing rapid growth and investment in infrastructure which offers great potential to embed inclusion. The city has complex urban development challenges with roads and transportation commonly cited as major challenges. More than half of Nairobi's residents live in the informal settlements in the city which are areas of high-density, poor-quality accommodation and lack basic infrastructure such as roads, water and sanitation infrastructure and power. Many persons with disabilities live in these communities due to reinforcing cycles of disability and poverty. However, there is vision and ambition in Nairobi to generally improve urban conditions. There is also a good policy basis to make progress towards disability inclusion. It is important these two agendas are coordinated. Kenya enacted its first disability law, the 'Persons with Disabilities Act' in 2003 and ratified the UNCRPD in 2008. According to official statistics, around 1.1% of Nairobi's population are persons with disabilities, but it is recognised that this is likely an underestimation and the need for inclusive and accessible environments is much higher. Nairobi as the capital city of Kenya has a real opportunity to lead by example in terms of inclusive city design, not just for cities in Kenya but across the continent, as a key African commercial hub.

A woman is walking with her guide in the informal settlement.

Kenya has a strong legal framework to create inclusive cities and further disability inclusion and there is clear appetite from Government to take action represented through these legal frameworks. Further progress is imminent through the proposed new Building Code (2022) which is currently at draft stage. It more comprehensively addresses accessibility than the previous code which is 50 years old. A major barrier for inclusive design delivery in the city is around good implementation, for which accountability and knowledge of inclusive design across project teams is important. Policy and practice stakeholders must be collaborative for more effective delivery.

In terms of becoming a more inclusive city, Nairobi has some complex contextual factors that influence the state of the built environment. Nairobi's colonial era created segregated urban development planning approaches which generated conditions for exclusion that resulted in, among others, the birth and growth of informal settlements. These urban areas are characterised by high density and poor or lacking infrastructure and are some of the most inaccessible parts of the city. Due to high levels of poverty among persons with disabilities and high costs of housing, these are also areas where many disabled citizens live. Informal settlements in Nairobi are also high-risk areas for disasters such as flooding, fires and disease outbreak. These risks are due to, among others, poor or lacking infrastructure such as proper sewer and power systems, roads, and water and sanitation facilities.

A flooded road in downtown Nairobi. Street stalls and the road conditions also create pedestrian inaccessibility

"Inclusive and universal design to me means that the built environment (Infrastructure, transport and housing) are constructed in a way that anyone can access them without difficulty. It accommodates all type of people and their needs."

The built environment sector could do more to support accessibility by also advocating for its implementation. The most inclusive environments are usually produced not just by regulations and standards for accessibility but robust inclusive design processes that include genuine participation of persons with disabilities. There are learnings from community-led approaches and co-design with other under-served communities. It would be helpful to do this to build more evidence on the co-

Example of accessible ramp at place of worship

benefits of inclusive design for social inclusion more broadly. There is shared responsibility to ensure participation among stakeholders and project finances must account for this. Training and education across the built environment sector on disability awareness would help as it is a collaborative effort from designers, engineers, planners and contractors to deliver on inclusive design. Quality control and material selection are key aspects to remember to ensure more seamless inclusion.

Inclusive infrastructure, urban planning and assistive technology must be complementary and the built environment is a vital part of creating access to AT and ensuring seamless use. In turn, AT must be designed to be fit for purpose for the environment and context of its use. Championing local production and local innovators in AT can help here, as there are working directly in the communities the AT is for.

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"We need to be our own advocates."

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Nairobi is a city of innovation - business opportunities and the start-up ecosystem is vibrant. Innovation must be inclusive and ensuring basic support and access to livelihoods must not be forgotten. Persons with disabilities should have choices in opportunities and the freedom to access education and work in whatever

employment they would like. Currently, there are limited perceptions that persons with disabilities can only work in certain sectors. Many persons with disabilities are entrepreneurial, which can be due to the exclusion they experience. They aspire to be independent, running successful businesses, and leading fulfilling lives but the built environment can be a barrier to this.

An inclusive city is an accessible, healthy, resilient, gender-inclusive, age-friendly, child-friendly, sustainable city. Inclusive city aspirations intersect with many other global goals as set out in the UN's 2030 Agenda and it is evident that disability and accessibility are cross-cutting issues across the SDGs. This is clearly seen in Nairobi where we see accessibility, health, climate-resilience and livelihood problems intersecting. The ideal solution is a unified and holistic approach but breaking down siloes is challenging. We would advocate inclusive design is a tool for participatory urban development that can support action across these diverse development targets and while delivering co-benefits through inclusive infrastructure that supports diverse disadvantaged groups, particularly due to the intersectionality of disability.

Example of poor drainage planning blocking routes to amenities

"Change the planning approach, look at design in a holistic manner so that in issues of access we have continuous access, safe spaces, protected spaces."

**We also need to design for people and planet, otherwise the planet will
continue to exacerbate conditions of exclusion. Resilience and inclusion
cannot afford to be separate considerations.** In Nairobi and other cities, the
impact of climate-related disasters, changing weather patterns, pandemics and
worsening inequality is felt by citizens and has a tremendous impact on city
infrastructure and resources. Infrastructure design and urban development must
integrate inclusive design as well as resilience-led approaches and climate action –
both of which are arguably further ahead in terms of implementation and progress.
Our cities must be able to withstand shocks and inclusive design can help make sure
all citizens are included and no one is left behind.

Key barriers:

Transportation and roads: public transport options are challenging for persons with
disabilities to use. This includes not only the physical design of infrastructure but also
attitudes and behaviour across service providers and passengers. Large parts of
Nairobi have been designed to prioritise cars but still road infrastructure can be poor
in certain areas. Traffic and congestion are major problems and it can be an unsafe
and stressful environment for pedestrians. Infrastructure development would benefit
greatly from inclusive design to ensure accessibility and suitability of design,
including things like safety and sustainability.

Housing and basic infrastructure:
needs to be more accessible, inclusive
and affordable. There is a lack of
accessible housing, with housing and
land costs being high, creating
insecurity. Poor quality or lacking
essential infrastructure such as water
and sanitation, electricity supplies,
roads, and sewers are a barrier to a
good quality of life for persons with
disabilities and must be improved,
particularly in informal settlements.

*An inaccessible home entrance in an
informal settlement in Nairobi*

Recreation and culture: being able to participate in cultural and recreational activities such as practising religion or sports and visiting parks, restaurants, clubs is part of a fulfilling life and important to combat social isolation and participate in community life. In many cases, these types of spaces are not accessible. Inclusive public spaces are an important enabler of social spaces and need inclusive and accessible furniture to create gathering and rest spaces.

Daily life activities and services: insecurity, a lack of independence and an inaccessible built environment and transport impact daily life. Being able to access essential services such as health and social care, banks and schools is important to access opportunities and is a fundamental human right. People also need to be able to run errands like going to the market but often these more informally managed spaces are inaccessible, limiting independence.

*Photo diary image of woman with a visual impairment shopping at the market*

Other particularly relevant thematic areas that represent opportunities to support inclusive cities include:

- Inclusive climate, water and sanitation and health as part of a cohesive approach to inclusive resilience
- Inclusive design processes to ensure seamless accessibility in rapidly developing cities with changing circumstances
- Innovation and entrepreneurship for fit for purpose, accessible, AT and livelihoods
- Participation of persons with disabilities across government and built environment sectors, in leadership, employment and participatory design processes.

Priority Recommendations:

- Action across key barriers: transport, roads, housing, recreation and culture and daily life activities and services. Prioritise these areas in urban development
- Consider an ecosystems approach to inclusion, a coordinating organisation or committee that can strategically align priorities, resources and opportunities across disability inclusion and inclusive urban development
- Use architecture, urban design, planning and infrastructure to enhance quality of life, supporting health, wellbeing, livelihoods
- Enjoyable urban life: don't underestimate the importance of access to recreation, culture and public spaces
- Let communities lead, facilitate, and resource community-driven development
- Champion inclusion, champion what works – we need to know what good looks like in the local context and good examples should be publicised
- Understand co-benefits of infrastructure, do more with less – housing supports health, access supports livelihoods
- Consider resourcefulness of design, make good use of materials and design sustainable and resilient solutions that will last
- Resilience, climate, risk and sustainability need to be a part of an inclusive design strategy
- Use inclusive design to enhance freedom, safety and security
- Work on inclusive mobility: accessible transport options and safe pedestrian environments
- Contextualise legislation and standards to local development plans through participation of local persons with disabilities to understand better what a good inclusive environment looks like in that context
- Work with communities to develop an inclusive design strategy for informal settlements, inclusive design that can work with minimal resources and supports addressing essential infrastructure needs
- Disability awareness and inclusive design training for all key urban stakeholders, including service providers
- Finance an inclusive built environment. Inclusive design should be an integral part of early project planning with ringfenced budget.
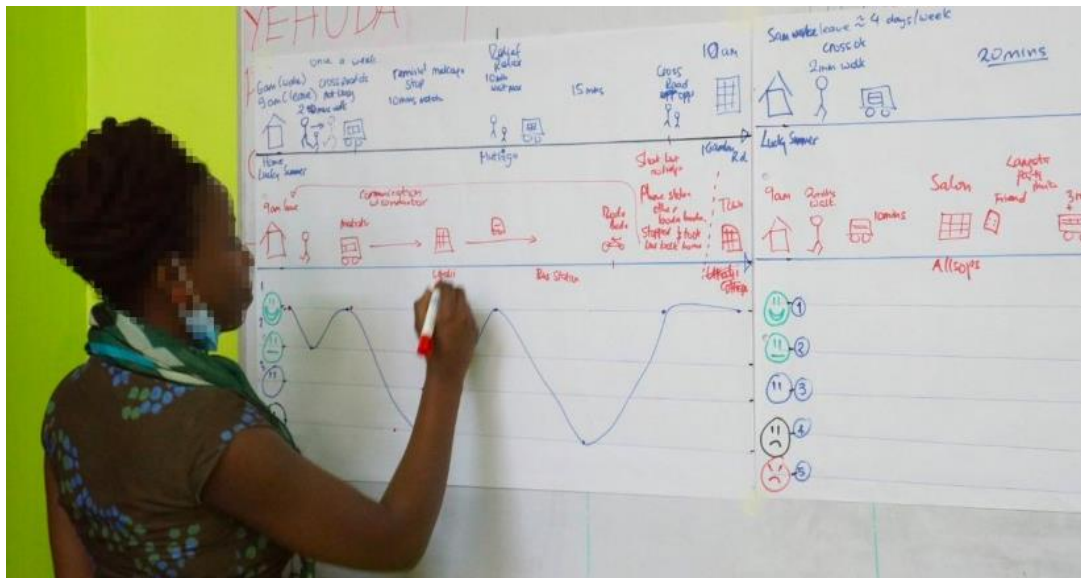
An example of a journey map being drawn during a workshop

Different stakeholders have different roles to play in shaping an inclusive environment and specific recommendations for policy, practice and people are found in the full report.

Creating an enabling environment

An enabling environment for persons with disabilities should integrate: a supportive legislative environment, an inclusive culture and mindset, participation in planning, design and decision-making, positive cultural change, an accessible and inclusive built environment and access to good quality and affordable assistive technology. Some of these aspects are already taking place in Nairobi but for an inclusive city to maintain an enabling environment it is necessary to ensure robust, sustainable, disability-inclusive urban development processes are implemented.

So what might an inclusive Nairobi look like?

- Inclusive mobility
- Enjoyable urban life: recreation, culture and safe inclusive public spaces
- Accessible and affordable housing for all
- Inclusive infrastructure, urban planning and services
- Thriving communities, security and a just city
- Access to opportunities: disability innovation and entrepreneurship

What's next?

This report outlines the key findings from a case study on the city of Nairobi, Kenya. As the fourth of six case studies on inclusive design and the built environment in lower-and-middle-income countries, it will go on to inform the subsequent 'Global Action Report' on inclusive city design. The remaining two case studies will take place in Freetown, Sierra Leone and Medellín, Colombia.

Local partners Kilimanjaro Blind Trust (KBTA) and Kounkuey Design Initiative (KDI) continue to champion inclusion through various work and will continue to disseminate and apply the research undertaken in this case study.

KBTA continue to support AT entrepreneurs through the InnovateNow programme and work across various aspects of disability inclusion in Nairobi.

KDI continue to deliver community-led infrastructure work across Nairobi including projects such as nature-based solutions. From 2020-2021, KDI led the first phase of a projecte called 3IF: Integrated Inclusive Infrastructure Framework for Kenya, which looks more broadly at inclusive infrastructure (www.3if.info). A second phase began in 2022. They are also part of the Urban Fabric Initiative which is looking at small-scale public space upgrading and community infrastructure projects co-designed and co-produced by residents and urban stakeholders.

The data collection that informed this case study took place just prior to the second wave of COVID-19 in Kenya, we recognise the impact it has had on partners and communities and hope this research on inclusive environments can support strategies for a more inclusive recovery.

To find out more:

The full case study is available at www.at2030.org/inclusive-infrastructure and you can contact the Inclusive Design Team at GDI Hub to find out more.

Acknowledgements

Global Disability Innovation Hub
www.disabilityinnovation.com

GDI Hub is a research and practice centre driving disability innovation for a fairer world. Our vision is of a world without barriers to participation and equitable opportunity for all. We believe disability innovation is part of a bigger movement for disability inclusion and social justice. GDI Hub works across 5 domains, research, innovation, programmes, teaching, and advocacy. We are solutions-focused experts in; Assistive & Accessible Technology; Inclusive Design; Inclusive Education Technology; Climate & Crisis Resilience and Cultural Participation. Based in East London and a legacy of London 2012 Paralympic Games, we deliver world-class research, ideas and inventions, creating new knowledge, solutions and products, and shaping policy through co-creation, participation and collaboration. An Academic Research Centre (ARC) and a not-for-profit Community Interest Company (CIC) we are guided by an Advisory Board of disabled people. We are operational in over 35 countries and have reached 12 million people since our launch in 2016.

Kilimanjaro Blind Trust Africa
www.kilimanjaroblindtrust.org

Kilimanjaro Blind Trust Africa (KBTA) is a charitable Trust based in Nairobi providing access to quality education for children and youth with visual impairments (VI) in Kenya, Tanzania, Uganda, Rwanda, Malawi & Ethiopia. KBTA uses innovation & technology to provide access to digital Braille literacy & skills. It serves over 3000 learners with visual impairment in 250 schools across the countries, by providing them with multi-functional, digital, Braille assistive devices called the Orbit Reader 20 which allows the VI learners to actively participate in their learning process. This digital Braille technology reduces the overall cost of educating a VI learner and allows them to transition to higher education. KBTA also supports the VI youth to have access to a wide range of subjects including science, math, coding etc. and ultimately provides employability skills support, that allows them to access mainstream employment.

Kounkuey Design Initiative

www.kounkuey.org

Kounkuey Design Initiative (KDI) is a non-profit design and community development organisation. With a team comprising landscape architects, urban planners, civil engineers, architects, community organisers and researchers, KDI partners with under-resourced communities to advance equity and activate the unrealised potential in neighbourhoods and cities. KDI works with residents to transform unsafe and under-used sites into productive public spaces. From permanent parks to temporary vacant lot activations, each space integrates key amenities such as community buildings, water and sanitation facilities, green infrastructure and open spaces for recreation and exercise.

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