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Urban Planning, Urban Food Systems, and the Circular Economy: Exploring Synergies for Sustainable Development of African Cities

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Abstract

The rapid urbanisation and population growth in African cities pose significant challenges to food security and sustainable development. Urban planning and urban food systems can play a crucial role in addressing these challenges and promoting sustainable development. The circular economy presents an opportunity to enhance the sustainability of urban food systems by promoting resource efficiency, reducing waste, and creating new economic opportunities. However, the potential synergies between urban planning, urban food systems, and the circular economy are yet to be fully explored in the context of African cities. This paper aims to fill this gap by exploring the potential synergies between urban planning, urban food systems, and the circular economy for sustainable development in African cities. Drawing on case studies and examples from diverse African contexts, we examine the key challenges and opportunities of integrating these three domains. We identify several promising strategies and tools for promoting circularity in urban food systems, such as urban agriculture, food waste reduction, and sustainable food packaging. We also highlight the importance of participatory and inclusive approaches to urban planning and governance, which can enable communities to co-create solutions that are contextually appropriate and socially just. Our analysis demonstrates the critical role of urban planning, urban food systems, and the circular economy in promoting sustainable development in African cities and provides insights for policymakers, planners, and practitioners seeking to integrate these domains into practice.

Keywords: Urban Planning, Urban Food Systems, Circular Economy, Synergies, Sustainable Development, African Cities

1. Introduction

The urban landscape of African cities is undergoing a profound transformation, driven by the forces of rapid urbanisation and population growth (Gambe, Turok and Visagie, 2023; Matamanda, Mafuku and Bhanye, 2022; Tulibaleka, Tumwesigye and Nakayima, 2021). As people migrate from rural areas to urban centres in search of economic opportunities and improved living conditions, the urban population of Africa is projected to double by 2050 (Berger and Helvoirt, 2018). This urban transition, while holding promises of prosperity and development, also poses a series of formidable challenges that demand innovative and sustainable solutions. One of the most pressing challenges stemming from this urban shift is the issue of food security and sustainable development (FAO et al. 2023; Raybould, 2021). As cities expand, the demand for food escalates, placing immense stress on existing food systems (Béné et al., 2019). Ensuring a consistent and affordable food supply for burgeoning urban populations becomes an intricate puzzle, complicated by factors such as limited agricultural land, inadequate infrastructure, and uneven access to resources (Bhanye and Dzingirai, 2022; Wijerathna-Yapa and Pathirana, 2022). Concurrently, the imperative of sustainable development looms large, calling for solutions that meet the immediate needs of urban residents, safeguard the natural environment, and preserve resources for future generations.

This paper examines urban planning, urban food systems, and the circular economy as interconnected avenues that hold immense potential to address the intricate challenges of African cities in the 21st century. Urban planning, often regarded as a tool for shaping physical spaces, takes on new dimensions in the context of rapidly urbanising African cities (Van Assche, Beunen, and Oliveria, 2020; Yacamán, Ferrer, and Mata, 2020). It becomes a means to foster order within chaos, to devise strategies that not only accommodate urban growth but also channel it in a sustainable manner. This includes the careful allocation of land for agriculture, housing, and infrastructure and the establishment of governance frameworks that promote equitable access to resources (Pozoukidou and Chatyinnaki, 2021). At the heart of the urban conundrum lies the intricate web of urban food systems—complex networks encompassing food production, distribution, and consumption within cities (Ingram, 2011). These systems are pivotal in determining the nutritional well-being of urban populations and can significantly influence the overall socio-economic fabric of a city (Ericksen, 2008). However, the prevalent linear food systems, characterised by excessive resource extraction, wastage, and environmental degradation, call for transformation. This is where the concept of the circular economy enters the stage.

The circular economy represents a paradigm shift in resource management—a departure from the traditional 'take-make-dispose' model towards a regenerative and restorative approach (Morsetto, 2020). By design, it seeks to minimise waste, promote resource efficiency, and extract maximum value from existing resources (Velasco-Muñoz et al., 2021). In the context of urban food systems, circularity translates to reducing food waste, recycling organic matter, and creating closed-loop systems that convert waste into valuable resources (Hamam et al., 2021; Velasco-Muñoz, 2021). This approach not only addresses environmental concerns but also presents economic opportunities, such as job creation and innovative business models.

The intersections between urban planning, urban food systems, and the circular economy form the crux of this paper. In a landscape riddled with challenges, these concepts converge as potential solutions that offer a roadmap to achieving food security, promoting sustainable

development, and nurturing resilient African cities. Through a desktop literature review and exploration of case studies and examples, this paper reveals the synergies that can be harnessed to create a holistic framework for addressing the multi-faceted challenges of urbanisation in African cities. In the subsequent sections, the paper delves deeper into the roles of urban planning, urban food systems, and the circular economy, dissecting their individual significance and uncovering their collective potential. Examining the complexities, opportunities, and barriers associated with these concepts, the paper provides insights that resonate with policymakers, planners, practitioners, and researchers seeking to guide the sustainable development of African cities in the face of rapid urbanisation and dynamic global change.

2. Urban Planning and Sustainable Development in African Cities

Urbanisation, the relentless migration of populations from rural to urban areas, has emerged as one of the defining phenomena of the 21st century, and African cities stand at the forefront of this transformation (Li et al., 2020; Randolph and Storper, 2023). As these cities expand at an unprecedented rate, they bring both opportunities and challenges. Urban planning, a discipline traditionally concerned with shaping the physical infrastructure of cities, assumes a pivotal role in navigating the complexities of urbanisation and steering the trajectory of African cities toward sustainable development (Wood, 2022). Urban planning goes beyond the mere layout of roads, buildings, and utilities; it encompasses a holistic approach to creating livable, equitable, and resilient urban environments (Ravagnan, Rossi, and Amiraref, 2022). In the context of African cities, where infrastructural deficits and disparities are often pronounced, effective urban planning becomes imperative. The integration of sustainability principles into urban planning practices is crucial for nurturing the long-term prosperity of African cities. Concepts such as compact urban design, mixed land-use zoning, and efficient public transportation systems can reduce urban sprawl and minimise the carbon footprint associated with transportation (Musakwa and Van Nieekerk, 2014; Dyachia et al., 2017). Additionally, preserving and enhancing natural ecosystems within cities can mitigate environmental degradation, improve air quality, and contribute to residents' well-being (Narayani and Nagalakshmi, 2023).

A cornerstone of modern urban planning is the shift towards participatory and inclusive approaches. The complexities and diversities of African cities necessitate planning processes that are not only top-down but also embrace local knowledge and perspectives (Pissourios, 2014; Semeraro, 2020). Participatory urban planning empowers communities to actively engage in decision-making, ensuring that urban interventions are contextually relevant and responsive to the needs of diverse populations (Muhamad, Lee, and Mokhtar, 2020). Inclusivity within the realm of urban planning extends beyond consultation to encompass co-creation. Engaging marginalised groups, such as informal settlers and low-income communities, in the planning process can lead to solutions that address social equity and alleviate urban poverty (Bhanye, 2022; Bhanye, 2023; Fieuw and Mitlin, 2018). Inclusivity also means fostering collaborations between governmental bodies, non-governmental organisations, private sector stakeholders, and citizens to achieve integrated urban development. Participatory and inclusive urban planning aligns with the principles of democracy, transparency, and social justice (Abrahams, 2018; Lung-Amam and Dawkins, 2020). By allowing residents to voice their concerns, aspirations, and needs, planners can design cities that reflect the collective vision of their inhabitants. Such an approach strengthens

social cohesion and builds a sense of ownership among citizens, fostering a commitment to the sustainable development and maintenance of their urban environment.

3. Urban Food Systems in African Cities

The urbanisation wave sweeping across African cities has profoundly transformed the dynamics of food systems within their boundaries (Riley and Crush, 2022). The intricacies of urban food systems extend far beyond the act of consuming food; they encompass a complex web of production, distribution, consumption, and waste management (Ingram, 2011). These systems are defined by the interplay of various actors, including farmers, processors, retailers, consumers, and waste handlers, each playing a distinct role in shaping the urban food landscape (Säumel et al., 2022; Filippini, Mazzocchi and Corsi, 2019). While urbanisation holds the promise of economic advancement and improved living standards, it also ushers in a set of formidable challenges concerning food security and nutrition. Ensuring access to safe, nutritious, and culturally appropriate food for growing urban populations is a multi-faceted challenge (Long, 2023). The spatial expansion of cities often results in encroachment on agricultural land, reducing local food production capacity (Giroux et al., 2021). Therefore, cities become increasingly reliant on external sources for their food supply, rendering them vulnerable to disruptions in transportation and supply chains. Food distribution within urban areas is riddled with disparities, often leaving marginalised communities with limited access to fresh produce and balanced diets (Karg et al., 2022; Roy et al., 2023). Infrastructure deficits, inadequate transportation networks, and unequal market access exacerbate the issue (Ruel et al., 2020). Moreover, food affordability poses a significant hurdle, as low-income urban residents grapple with rising food prices that can strain household budgets and compromise nutritional well-being.

The challenges inherent in urban food systems underscore the urgent need for resilient and sustainable approaches. Resilience refers to the ability of a system to withstand shocks and disturbances while maintaining its essential functions (Kareem et al., 2020). In the context of urban food systems, resilience involves designing mechanisms that ensure continuous access to food even in the face of disruptions such as natural disasters or supply chain disruptions (Maranga, 2021). On the other hand, sustainability calls for a harmonious balance between the socio-economic, environmental, and nutritional dimensions of food systems (El Bilali, Strassner, and Ben Hassen, 2021). The conventional linear model, characterised by resource extraction, production, consumption, and waste, is proving unsustainable (Stone et al., 2021). The circular economy principles of reduce, reuse, and recycle find relevance in reimagining urban food systems (Jurgilevich et al., 2016; Fassio and Tecco, 2019). This entails strategies like reducing food waste, reusing organic matter for composting, and creating closed-loop systems where waste becomes a resource for new production.

4. The Circular Economy: Concepts and Applications

The concept of the circular economy has emerged as a transformative framework for rethinking traditional linear production and consumption models (Witjes and Lozano, 2016; Salvioni and Almici, 2020). At its core, a circular economy is an alternative approach that seeks to decouple economic growth from resource depletion and environmental degradation (George, Lin, and Chen, 2015). Unlike the linear "take-make-dispose" model, the circular economy envisions a

regenerative cycle where products and materials are designed, produced, used, and then reintegrated into the economy, minimising waste and maximising resource efficiency (Mohajan, 2021; Lazarevic and Brandão, 2020). The principles of the circular economy revolve around the concepts of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems (Liu, Adams, and Walker, 2018). This entails a shift towards renewable and biodegradable materials, efficient product design for longevity and easy disassembly, and the establishment of closed-loop systems where products are refurbished, remanufactured, or recycled at the end of their life cycles (Hugo and Bhanye, 2022). The end goal is resilience, be it social resilience, or environmental resilience.

The circular economy offers a plethora of benefits that extend beyond environmental considerations. It provides a means to enhance resource efficiency by prolonging the lifespan of products and materials, reducing the need for continuous extraction of finite resources (Chateau and Maroeidi, 2020). This results in decreased environmental impacts associated with resource extraction and waste generation. Moreover, the circular economy aligns with waste reduction goals. Curbing the disposal of materials in landfills and incinerators mitigates the negative environmental consequences of waste accumulation and supports the conservation of ecosystems (Buchmann-Duck and Beazley, 2020; Nocca, Toro, and Voysekhovska, 2021). In the circular economy, waste transforms into a valuable resource that can be repurposed, refurbished, or regenerated. Economically, the circular economy presents opportunities for innovation, job creation, and new business models (Hugo and Bhanye, 2022). The focus on repairing, refurbishing, and remanufacturing products fosters industries centered around repair services, reverse logistics, and component reutilization (Den Hollander, Bakker, and Hultink, 2017). In addition, the shift from ownership to access models, such as sharing and leasing, can stimulate collaborative consumption and drive economic growth in innovative directions.

The principles of the circular economy have found application in various industries across the globe. In the fashion industry, for instance, brands are exploring designs that prioritise recyclability and disassembly, reducing the environmental impact of fast fashion. The electronics sector is witnessing initiatives that encourage the repair and upgrade of devices, extending their lifespan and reducing electronic waste (Awasthi et al., 2019). In the food industry, the circular economy manifests through efforts to combat food waste (Liu, Adams, and Walker, 2018). Restaurants and food retailers are adopting strategies to repurpose surplus food for donation or conversion into bioenergy and compost (Mohajan, 2021). Urban agriculture, where organic waste becomes a resource for cultivation, exemplifies the circularity of nutrient flows (Giroux et al., 2021). These examples illustrate the versatility of circular economy principles in driving systemic change across diverse sectors. The integration of circular economy principles within urban food systems holds particular promise, offering avenues to enhance sustainability, reduce waste, and create economic opportunities while addressing the unique challenges of food security and resource scarcity in African cities.

As we delve deeper into the paper, the subsequent section explores the interactions between urban planning, urban food systems, and the circular economy, revealing their potential to converge and catalyse sustainable development in African cities.

5. Synergies between Urban Planning, Urban Food Systems, and the Circular Economy

The realms of urban planning, urban food systems, and the circular economy are not isolated silos but intricate threads woven into the fabric of sustainable urban development. As African cities grapple with the complexities of rapid urbanisation, recognising and harnessing the potential connections and synergies between these domains becomes imperative. A closer examination reveals that these seemingly disparate areas can converge to create a comprehensive strategy for addressing multi-faceted challenges and fostering sustainable development (Jurgilevich et al., 2016; Mohan et al., 2020). Integrating urban planning, urban food systems, and the circular economy offers a holistic approach that addresses critical challenges, particularly food security, within the framework of sustainable development in African cities (Fonseca, Battersby and Hualda, 2019). Urban planning can facilitate the creation of spaces for urban agriculture and food production, ensuring that cities have localised sources of fresh produce (Wood, 2022). This integration can lead to reduced distances between food production and consumption, minimising the environmental impact of transportation and enhancing food security. Moreover, the spatial distribution of food production can be strategically planned to reduce pressure on valuable agricultural land, leaving room for other essential urban functions (Dyachia et al., 2017). By incorporating circular economy principles, urban food systems can become more efficient and sustainable. Food waste can be minimised through innovative strategies such as composting organic waste for nutrient-rich soil or converting it into biogas for energy. Closed-loop systems can be established wherein food waste becomes a resource for agricultural production, completing the nutrient cycle (Stuiver and O'hara, 2021; Zou et al., 2022).

The participatory and inclusive nature of urban planning can enable communities to actively engage in designing circular urban food systems. Community gardens, farmers' markets, and cooperatives can flourish, promoting a sense of ownership and localised food resilience (Semeraro, 2020). Inclusivity ensures that solutions are culturally sensitive, addressing urban populations' diverse dietary and nutritional needs. Integrating these domains can also catalyse economic opportunities. The circular economy-driven repair and remanufacturing businesses can flourish, providing jobs and boosting local economies. Inclusive planning can empower marginalised groups to participate in the value chains of urban food systems, fostering economic inclusivity (Lejan, Jonas and Deutz, 2021; Kandpal et al., 2023).

The intersections between urban planning, urban food systems, and the circular economy offer a blueprint for sustainable development that transcends mere survival. These synergies present an avenue for thriving, enabling cities to become not only resilient to challenges but also platforms for innovation, growth, and community well-being.

6. Case Studies and Examples

Real-world examples vividly illustrate the transformative potential that emerges when urban planning, urban food systems, and circular economy principles converge in the context of African cities. These projects demonstrate that innovative solutions can be harnessed to address pressing challenges and promote sustainable development.

1. Kigali, Rwanda: Sustainable Urban Agriculture and Waste Management

In Kigali, Rwanda, urban planners integrated urban agriculture and waste management into the city's master plan. Rooftop gardens, community gardens, and vertical farming installations sprouted across the city, ensuring access to fresh produce while mitigating food miles. Organic waste is collected and transformed into compost, which is then used to enrich urban farms, closing the nutrient loop. This approach enhances food security, reduces waste, and contributes to a cleaner urban environment.

Outcomes: Improved access to nutritious food, reduced organic waste sent to landfills, community engagement, and increased awareness of sustainable practices.

Challenges: Limited space for large-scale agriculture, need for ongoing community education and involvement, ensuring inclusivity in project implementation.

Lessons Learned: Integrating food production and waste management requires a holistic perspective that considers both physical and social dimensions. Engaging citizens and local communities is essential for the success and sustainability of such initiatives.

2. Nairobi, Kenya: Informal Food Markets and Circular Economy

Nairobi's informal food markets are vibrant hubs of commerce, often overlooked by traditional urban planning. However, through a circular economy lens, these markets became engines of economic activity and resource efficiency. The markets encourage the reuse of containers and packaging, minimising single-use plastic waste. Additionally, leftover food is collected for animal feed or composting, reducing waste and contributing to circular nutrient flows.

Outcomes: Economic opportunities for informal traders, reduction of single-use plastics, and improved waste management practices.

Challenges: Balancing informality with regulation, ensuring hygiene and safety standards, addressing the needs of marginalised traders.

Lessons Learned: Acknowledging and collaborating with informal sectors can lead to innovative solutions that align with circular economy principles. The key lies in bridging the formal-informal divide for sustainable outcomes.

3. Dakar, Senegal: Community-Led Urban Agriculture and Inclusive Planning

In Dakar, community-led urban agriculture initiatives emerged as a response to food insecurity and urbanisation pressures. These projects bring together local residents to cultivate vacant spaces, creating pockets of greenery amidst the concrete jungle. Through participatory urban planning, these initiatives have been formalised, with spaces designated for urban agriculture in the city's development plans. The circular economy aspect is evident in composting initiatives that recycle organic waste back into the soil.

Outcomes: Increased access to fresh produce, improved urban aesthetics, strengthened community ties, and inclusion of local knowledge in planning.

Challenges: Balancing competing land-use priorities, addressing water scarcity, and ensuring equitable access to resources.

Lessons Learned: Community engagement is vital for the long-term success of such projects. Integrating urban agriculture into formal planning processes requires collaboration among local authorities, communities, and other stakeholders.

These case studies demonstrate the potential of integrating urban planning, urban food systems, and circular economy principles in addressing complex challenges. They emphasise the importance of adaptive strategies that consider local context, engage communities, and embrace innovative approaches. While each project faces unique challenges, their outcomes demonstrate that synergistic efforts can positively impact food security, waste reduction, economic opportunities, and the overall sustainability of African cities.

7. Strategies and Tools for Promoting Circular Urban Food Systems

The circular economy lens offers a transformative perspective for reimagining urban food systems, moving beyond linear models of production and consumption. A range of strategies and tools can be harnessed to promote circularity within urban food systems, fostering resource efficiency, waste reduction, and sustainable practices. These approaches hold significant potential to address food security challenges and enhance the sustainability of African cities. Table 1 shows the strategies and tools for promoting circular urban food systems.

Table 1: Strategies and Tools for Promoting Circular Urban Food Systems

Strategy/ Tool	Explanation
Urban Agriculture: Nurturing Localised Food Production	Urban agriculture emerges as a foundational strategy for promoting circular urban food systems. By cultivating crops and raising livestock within city limits, urban agriculture shortens food supply chains, reducing the environmental impact associated with transportation. The circular aspect comes to light through the use of compost derived from food waste to enrich urban soils, creating a closed-loop nutrient cycle. Rooftop gardens, vertical farms, and community plots contribute to fresh produce availability while greening urban spaces.
Food Waste Reduction: Transforming Waste into Resources	Addressing food waste is a crucial step towards circularity. Redirecting food waste away from landfills and incinerators minimises environmental harm and unlocks resource potential. Initiatives that encourage the separation of organic waste for composting or anaerobic digestion can create valuable soil amendments and renewable energy sources. Additionally, redistributing surplus food to those in need and converting food waste into animal feed contribute to circular resource flows.
Sustainable Packaging: Rethinking Material Usage	Circular urban food systems necessitate a reevaluation of packaging practices. Transitioning from single-use plastics and non-recyclable materials to sustainable alternatives can reduce waste streams. Biodegradable and compostable packaging materials and innovative designs that prioritise reusability and durability contribute to a circular economy. Adopting a "less packaging, better packaging" mindset aligns with the circular economy's principle of extending the life of materials.
Innovative Technologies: Enabling Circular Practices	Cutting-edge technologies offer tools to advance circularity in urban food systems. Smart sensors can optimise supply chains, minimising food spoilage and waste. Precision agriculture techniques enable efficient resource usage, enhancing productivity while minimising environmental impacts. Blockchain technology can enhance transparency and traceability, fostering consumer trust in food sources and reducing food fraud.
Community Engagement and Education: Driving Cultural Shifts	Promoting circular urban food systems necessitates a collective commitment. Educating consumers, producers, and policymakers about the benefits of circular practices can drive cultural shifts towards sustainable consumption and production. Engaging communities in waste reduction initiatives, encouraging responsible consumption, and celebrating local food sources contribute to a circular mindset.

The convergence of these strategies within urban planning frameworks enhances their impact. Integrating urban agriculture into city planning, for example, involves designating spaces for

cultivation, ensuring water access, and enabling community engagement. Synergising food waste reduction initiatives with waste management policies amplifies circular outcomes.

8. Participatory and Inclusive Approaches to Urban Planning and Governance

The success of urban planning endeavours, especially those focused on urban food systems and circular economy initiatives, hinges on the active involvement of local communities (Lejan, Jonas, and Deutz, 2021). Recognising that the needs, preferences, and aspirations of residents vary across diverse urban contexts, participatory and inclusive approaches have emerged as essential tools for shaping sustainable development that is both contextually appropriate and socially just (Moallemi et al., 2019; Teklemariam, 2022). Engaging local communities in the planning and implementing urban food systems and circular economy initiatives is vital for several reasons. Firstly, communities possess invaluable knowledge about their own needs and challenges. Involving residents ensures that strategies and interventions are informed by this local wisdom, resulting in more responsive and effective solutions. Secondly, community involvement fosters a sense of ownership. When individuals actively participate in shaping their urban environment, they are more likely to feel invested in the outcomes (Roberson and Perry, 2022). This sense of ownership can lead to increased compliance, engagement, and stewardship of projects, ultimately contributing to their long-term sustainability.

Participatory and inclusive approaches have a range of benefits that extend beyond the immediate project outcomes. These approaches promote social equity and inclusion by including a diverse array of stakeholders, including marginalised and vulnerable groups (Chu, Anguelovski, and Carmin, 2016). In the context of urban food systems and circular economy initiatives, this inclusivity can lead to solutions that address the unique challenges faced by various communities, ensuring that benefits are distributed more fairly. Additionally, participatory processes foster transparency and accountability. When communities are engaged from the outset, decision-making becomes more democratic and informed. This builds trust between residents and authorities and reduces the risk of resistance or backlash against projects. Furthermore, participatory and inclusive approaches support capacity-building. By involving local residents in the planning and implementation stages, knowledge is shared, skills are developed, and a culture of collaboration is nurtured. This capacity-building empowers communities to take the lead in managing and sustaining urban food systems and circular economy initiatives over the long term.

One of the key advantages of participatory and inclusive approaches is their ability to generate contextually appropriate solutions. By tapping into local knowledge and experiences, planners and policymakers can design interventions tailored to communities' specific needs. This adaptability enhances the effectiveness of projects, reduces the risk of unintended negative consequences, and increases the chances of successful implementation. Moreover, participatory and inclusive approaches uphold the principles of social justice. They challenge existing power dynamics, ensuring that those in positions of authority do not solely dictate decisions. Vulnerable and marginalised groups are given a platform to voice their concerns and needs, making the urban development process more equitable and representative.

9. Conclusion and Way Forward

In the journey through this paper, we examined the intricate intersections of urban planning, urban food systems, and the circular economy, uncovering their potential to drive sustainable development in African cities. The rapidly urbanising landscapes of the continent bring forth formidable challenges of food security, resource scarcity, and environmental degradation. However, the convergence of these domains offers a transformative framework that can guide cities toward resilience, equity, and prosperity. The paper illuminated the power of integrating urban planning, urban food systems, and the circular economy. Urban planning emerges not merely as a tool for the physical organisation but as a conduit for shaping livable environments, fostering equitable access to resources, and engaging communities in meaningful ways. Urban food systems, intricate production, distribution, and consumption networks, gain a renewed significance as spaces for circular resource flows, waste reduction, and localised food production. The circular economy principles, built upon regenerative cycles and resource efficiency, provide the overarching paradigm that binds these domains together, transforming waste into resources, encouraging innovation, and nurturing economic opportunities.

The seamless integration of these concepts in African cities holds immense promise for addressing the challenges posed by urbanisation. By intertwining urban planning strategies, circular urban food systems, and the circular economy principles, cities can craft solutions that transcend isolated interventions. These solutions have the potential to secure food access, minimise waste, and stimulate economic growth, all while safeguarding the environment and nurturing social equity.

As we peer into the future, several directions beckon for research and implementation. In-depth case studies exploring the dynamics of circular urban food systems in diverse African contexts can offer invaluable insights into successful strategies, challenges, and adaptations. Exploring the role of policy frameworks and governance structures in supporting these synergies could reveal avenues for transformative change on a larger scale. Furthermore, advancing innovative technologies that enhance traceability, resource optimisation, and waste reduction within circular urban food systems warrants exploration. Collaborative efforts that bridge academia, local governments, community organisations, and private enterprises can unlock the full potential of these synergies, catalysing change that transcends silos and benefits the entire urban ecosystem.

In closing, this paper serves as a call to action. It calls upon policymakers, urban planners, practitioners, and communities to recognize the interconnectedness of these domains and the profound impact they can have on the trajectory of African cities. It calls for inclusive, participatory, and adaptive strategies, rooted in each city's unique contexts and needs. It calls for a collective commitment to forge a path toward sustainable development that leaves no one behind and ensures the well-being of current and future generations. The journey towards sustainable urbanisation in African cities is marked by challenges and complexities and immense opportunities for innovation, growth, and positive change. As we embrace the intersections of urban planning, urban food systems, and the circular economy, we embark on a transformative path that has the potential to shape thriving cities that are resilient, just, and sustainable.

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