CHAPTER 7

Secondary Cities and Urban Agriculture in Sub-Saharan Africa

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Introduction

Since the beginning of the twenty-first century, urban agriculture (UA) in sub-Saharan African cities has been an expanding feature of the urban landscape and economy, mainly because of increasing food insecurity, poverty, and unemployment in many parts of the continent. Informal food enterprises, including street food, have evolved to be important sources of urban employment and food. Previous food studies in cities that dominate their national urban systems, such as Harare (Drakakis-Smith et al., 1995; Mbiba, 1995), Lusaka (Hampwaye et al., 2007), Kampala (Maxwell et al., 1998), Maputo (Paganini et al., 2018), and Cape Town (Battersby & Marshak, 2013), have provided interesting insights into the drivers of UA and the spatial extent of the activity in

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several national cities across sub-Saharan Africa. Studies that have been done in the past decade have shed light on food production issues in secondary cities and towns. However, most of the studies have focused on single cities and have not generated comparative cross-country discussions on UA in different size and function urban centres. In recent years, secondary cities in Africa have been receiving increased attention, which is largely attributable to their vast numbers (about 7,500 across the continent) and their rapid growth since the new millennium (Tacoli & Agergaard, 2017). Secondary cities and towns are closely connected to the apex and usually primate cities (their main source of consumer and capital goods) and to their rural hinterlands (their primary source of cultural foods and various environmental resources, such as wild fruits and edible insects).

The Food and Agriculture Organization of the United Nations (FAO) defines UA as any agricultural activity that entails the raising, growing, or processing (and distribution) of agricultural produce in cities and towns (FAO, 2001). In sub-Saharan Africa, UA takes place across a whole range of spaces, including backyard home gardens (especially in middle-income suburbs), community gardens (at sites such as school grounds, church premises, and community centres) and open space cultivation on vacant lots and road verges. UA in African cities has generated considerable debate regarding the impact of its contribution to household food and nutrition security (Battersby & Haysom, 2016; Binns & Lynch, 1998; Crush et al., 2011, 2018; Drescher, 1996; Ferreira et al., 2018; Hampwaye, 2013; Riley et al., 2018). Its contribution to urban employment and incomes has also been hotly contested, largely because of the non-availability of reliable data on the activity, which takes place behind high security walls (in the case of urban home gardens in many Zimbabwean urban centres) and well beyond the watchful gaze of officials.

The benefits of UA have been highlighted in the literature and they include the improvement of environmental quality (through green spaces), improvement of household food security, and the production of cost-effective food supplies in urban spaces (Modibedi et al., 2021; Simatele & Binns, 2008; Simatele et al., 2012). Several scholars have also acknowledged the importance of UA in Africa and its ubiquity in post-independence African cities. For example, Thabo Modibedi, Mosima Masekoameng, and Matome Maake (2021) have argued that urban

community gardens have contributed to the mitigation of food insecurity in low-income urban areas in the Gauteng Province, South Africa's commercial and industrial hub.

However, studies done by the African Food Security Urban Network (AFSUN) across 11 cities in Southern Africa reveal that the alleged contribution of UA to the nutritional status of urban households is exaggerated, if one considers the low levels of participation in many low-income areas (Crush et al., 2018). Similarly, studies by Jane Battersby and Gareth Haysom (2016), Bruce Frayne, Cameron McCordic, and Helena Shilomboleni (2014), and Madhav Badami and Navin Ramankutty (2015) support the view that the contribution of UA in Southern Africa to the nutritional status of urban households is exaggerated.

This chapter is based on a desktop study of three secondary urban centres that perform different functions and have experienced different growth trajectories during the past two decades, but have similar UA experiences. Nakuru is a commercial and transport city in Kenya, Ndola is a mining and industrial city in Zambia, and Karoi is an agricultural town in Zimbabwe. This chapter seeks to pursue a discussion that allows a re-imagining of UA in sub-Saharan Africa's secondary urban centres, especially the gendered food production landscapes that have become theaters of colliding visions of urban farmers and local authorities.

Secondary Cities and the Urban Food Question

According to UN-DESA (2019), the urban population in Africa will exceed 1.3 billion by 2050 and a significant portion of this population will be residing in secondary cities with less than 500,000 residents. Many of these secondary cities are experiencing rapid growth that is attributable to rural–urban migration. These secondary cities experienced considerable disruptions to their local food systems following various government-enforced economic lockdowns implemented in 2020 and 2021 to slow the spread of the COVID-19 virus (FAO, 2020). The disruption to food systems by COVID-19 highlights the need to reconnect local production and consumption. One way to achieve this might be through deliberate promotion of commercial agricultural activities in the peri-urban zones of these cities so as to make them better positioned to withstand future shocks.

The levels of urban planning and management vary considerably from city to city, as do the urban planning policies that aim to control UA. The

limited levels of urban land use planning are generally a reflection of the underdeveloped institutional capacities to plan and enforce regulations. According to David Satterthwaite (2017), a majority of local authorities that manage small urban centres in sub-Saharan Africa are constrained by having insufficient capacity or funding to fulfill their mandates. Also, urban planning in many secondary urban centres has largely been top-down, with limited input from stakeholders.

Urban transformations in secondary cities in sub-Saharan Africa have generated renewed interest in food systems resilience in smaller towns. Two main questions are pertinent. First, will the 7,500 secondary cities that account for 48% of Africa's urban centres be able to achieve Sustainable Development Goal 2 on hunger eradication by 2030? Second, is UA making a meaningful contribution to the urban food system, especially food production? While urban development in sub-Saharan Africa is characterized by rapid population growth and increasing urban food insecurity, secondary urban centres such as Nakuru (Kenya), Ndola (Zambia), and Karoi (Zimbabwe) have recorded high growth rates over the past 20 years, and this has had consequential effects on urban food security livelihoods.

Nakuru is a secondary city whose population growth during the past two decades has been in excess of job creation capacity. This has given rise to urban informality characterized by numerous street trading activities and informal settlements. Between 1969 and 2020, the population of Nakuru increased from 47,000 to 383,000. The high rate of population growth has been accompanied by rising poverty and an uptake of UA (Foeken & Owuor, 2008; Owuor, 2006). In Nakuru, UA activities in the peri-urban zone have contributed to the city's local food system, as some of the produce finds its way to local vegetable markets (Foeken & Owuor, 2008; Owuor, 2006). However, it is unlikely that the contribution of UA to local food production can be maintained because the urban development projects that have been implemented in recent years in the peri-urban zone (Willkomm et al., 2021) and in open spaces will reduce the space available for UA. Ndola is an intermediate city with a population of about 500,000, including a large labour force that is employed in copper mining and allied industries. The city experienced a long period of steady growth from the 1960s to the early 1990s. However, following the decline of copper mining and de-urbanization in the copper belt during the 1990s, the rate of growth has declined. The location of Ndola in the country's copper mining region has resulted in the growth of close ties

with the global economy and also with a huge rural hinterland that has provided the mines with cheap semi-skilled labour. Karoi, on the other hand, is a small agricultural town of fewer than 35,000 people, situated in the heartland of one of Zimbabwe's most productive farming regions. However, with the repeal of influx control measures following the country's attainment of majority rule in 1980, Karoi experienced relatively rapid growth during the 1980s and 1990s.

This chapter examines city and food production issues in three secondary urban centres that have varied UA experiences. The studies on Karoi (Gondo et al., 2017), Nakuru (Foeken & Owuor, 2008; Owuor, 2006; Willkomm et al., 2021), and Ndola (Mwitwa, 2008; Smart et al., 2015; Voleníková & Opršal, 2016) are significant because they emphasize the role of UA in various African secondary towns of different sizes. Maximilian Willkomm, Alexander Follmann, and Peter Dannenberg (2021) have argued that close attention needs to be paid to how rapid secondary urbanization is presenting food insecurity challenges through the displacement of urban food producers on one hand and the disruption of local food systems (especially in peri-urban zones) on the other hand. This state of affairs could be a reflection of an inability by both local urban authorities and national governments to structure urban space, through spatial planning, in ways that can accommodate UA and also nurture food systems in urban systems. One way to address this spatial challenge is by mainstreaming African urban food systems into the much broader urban policy and planning programs, because the two are interconnected. However, this requires the development of city strategic agendas on UA that involve local authorities, urban farmers, and other stakeholders, including community-based organizations (de Zeeuw, 2010).

Synthesis of Major UA Themes

Table 7.1 highlights several common elements of the UA experiences of Karoi, Nakuru, and Ndola, despite their considerable differences in terms of size, economic base, and UA policies. The table presents key aspects of UA in these urban centres, captured in the following broad themes: Theme 1 highlights the main factors that motivate households to engage in UA; Theme 2 presents the socio-demographic profiles of the urban farmers in terms of age, gender, educational attainment, and income class; Theme 3 highlights the dominant UA activities; Theme 4 identifies the bottlenecks that are blocking the uptake of UA; and Theme 5 provides an

Table 7.1 Key aspects of urban agriculture in Karoi (Zimbabwe), Nakuru (Kenya), and Ndola (Zambia)

	Karoi (Zimbabwe)	*Nakuru (Kenya)*	*Ndola (Zambia)*
Theme 1: Motivation for engaging in UA	– Food and nutrition benefits – Income generation – Community building	– Food and nutrition benefits – Income generation – Survival strategy	– Food and nutrition benefits – Income generation – Community building
Theme 2: Urban farmer profile	– Most farmers are female – Most male and female farmers are 26–35 years old – Low and middle income – Most have secondary school education – Most are regularly employed in formal/informal economy	– Most farmers are female – Most male and female farmers are 40+ years old – Low and middle income – Most have secondary school education – Most are regularly employed in formal/informal economy	– Most farmers are female – Most male and female farmers are 40+ years old – Low and middle income – Most have secondary school education – Most are regularly employed in formal/informal economy
Theme 3: Dominant activities	– Open space land is acquired through squatting – Mostly crop cultivation (e.g., leafy vegetables in home gardens and maize in open spaces) mostly on 20–49 m^2	– Crop cultivation (mainly maize) and livestock keeping (mostly chickens, goats, sheep, cattle, and pigs)	– Crop cultivation and livestock keeping (mostly chickens in the large plot areas)
Theme 4: Challenges	– Land permits are expensive – Favoritism determines land allocation – Field is too far – Land and water shortages – Periodic destruction of crops by urban local authorities	-Lack of suitable land – Difficult to get land for cultivation – Pests and insects are a problem	– Land and water shortages – Difficult to get suitable land for cultivation – Pests and insects are a problem

	Karoi (Zimbabwe)	*Nakuru (Kenya)*	*Ndola (Zambia)*
Theme 5: Policy frameworks	– Bylaws don't allow livestock keeping –Open space UA is technically illegal although there is less harassment of urban farmers – National Environmental Policy prohibits stream bank cultivation –UA not integrated into urban planning	– Cultivation of selected crops in open spaces is permitted – Municipal bylaws prohibit river bank and road verge cultivation –UA is not integrated into urban planning	– No legal land tenure in open spaces – The policy environment for UA activities is generally prohibitive – UA not integrated into urban planning – City supports sustainable UA

Sources Willkomm et al. (2021); Foeken and Owuor (2008); Gondo et al. (2017); Mwitwa (2008); Owuor (2006); Smart et al. (2015); Voleníková and Opršal (2016)

overview of the policy environments in the three urban centres and their effects on UA.

Theme 1: Drivers of UA

UA is driven by a variety of factors, including urban food insecurity, urban poverty, entrepreneurial aspirations, desire for ethnic foods, and shocks to the urban food systems that are caused by economic, environmental (e.g., drought), and health crises (e.g., government-induced COVID-19 lockdowns). Table 7.1 highlights the main reasons why both poor households and relatively well-resourced commercial farmers have engaged in UA in the three secondary urban centres. Lack of access to food, because it is either too expensive or unavailable for purchase, is one of the main reasons why many low-income households have resorted to UA under fairly challenging conditions (Foeken & Owuor, 2008; Gondo et al., 2017; Voleníková & Opršal, 2016; Willkomm et al., 2021). Urban food production is largely a response by the urban poor to inadequate, unreliable, and irregular access to food supplies (Foeken & Owuor, 2008; Modibedi et al., 2021; Zezza & Tasciotti, 2010). The need to produce fresh and culturally preferable food has also compelled some middle-income households to grow the food they consume. The persistence of UA in African cities is attributed to factors such as expensive urban food, urban food deserts, high unemployment levels, and food rights initiatives.

Theme 2: Profile of Urban Farmers

Table 7.1 shows that in Nakuru, Ndola, and Karoi, the major groups involved in UA are women, middle-aged residents (over 40 years old), people with regular incomes, and fairly educated urban dwellers with high school education (Foeken & Owuor, 2008; Gondo et al., 2017; Voleníková & Opršal, 2016). The limited involvement of young people in the activity implies reduced opportunities for potential transfer of UA skills and knowledge to the younger generation. Regarding the role of women involved in UA, it is essential to think beyond the numbers and to consider women's involvement in terms of their contribution to the gendering of UA (Hovorka & Lee-Smith, 2006; Hovorka et al., 2009; Ishani, 2009). It is clear from all three urban centres that since women are actively engaged in UA activities they are contributing to urban food and nutrition security in ways that are often missed by urban food studies

that focus on where households buy their food. However, further studies in Nakuru, Ndola, and Karoi could try to establish whether households that are engaged in UA are more food secure than households that do not participate in the activity. An earlier study by Alice Hovorka (2004) also argues for looking at UA through an alternative entrepreneurship prism.

The various studies conducted in the three secondary urban centres help to dispel the myth that people engaged in UA in Africa are predominantly poor and recent arrivals from rural areas who have run out of livelihood options. A study by David Mkwambisi, Evan Fraser, and Andy Dougill (2011) on UA in Lilongwe and Blantyre (Malawi) also found that UA is not a preserve of the poor. The study also noted that urban food production in the two cities in Malawi is dominated by high-income households because, unlike low-income households, this group of urban farmers has the capacity to cultivate larger pieces of land and to purchase the required agricultural inputs, such as seeds, fertilizers, and pesticides. They also hire farm labour from low-income urban neighbourhoods. While this creates employment for a group of people who would have been unemployed, it also tends to create a group of urban farm labourers and to reproduce social inequalities. Urban farmers are commonly portrayed through a poverty lens as resource-poor urbanites who engage in undercapitalized micro-farming activities as a livelihood strategy, but the experiences of Ndola and Nakuru suggest that while poverty is the driving force for many low-income urban farmers, many households have engaged in the activity for entrepreneurial purposes. It is also worth noting that the most poverty-stricken households do not own spaces they can use for cultivation, and neither can they afford to rent. In fact, the poor tend to be transient and do not have the cash and social capital to enable them to access urban land for cultivation. In view of this, the open spaces in Karoi, Nakuru, and Ndola should not be perceived as sites of survivalist pursuits of the poor; instead they should be viewed as spaces of resistance to top-down urban planning approaches by both resource-rich and resource-poor households.

Theme 3: Dominant Activities

Cultivation of maize and leafy vegetables is practiced by urban farmers in the three secondary urban centres, with leafy vegetables generally grown in home gardens and maize in open spaces during the rain season. Urban farmers in Nakuru and Ndola with relatively large plots are able to

keep chickens, but in Karoi the municipal bylaws make it illegal to keep livestock in urban areas.

Theme 4: Challenges Facing Urban Farmers

Urban farmers in the three secondary urban centres face several common challenges, such as limited access to suitable land for cultivation, land tenure insecurity, and theft of produce before harvesting. Karoi's urban farmers are also confronted with the issue of expensive permits that are beyond their reach. In Nakuru and Ndola, pests and insects are a common problem. Limited access to water and inability to obtain adequate resource inputs are key challenges faced by urban farmers in Nakuru (Foeken & Owuor, 2008; Willkomm et al., 2021).

Theme 5: Policy Frameworks

UA has long been a feature of sub-Saharan African cities, despite earlier efforts by both municipal authorities and national governments to supress the activity (Davies et al., 2020; Drakakis-Smith et al., 1995; Mbiba, 1995; Schmidt, 2012; Simatele & Binns, 2008; Tevera, 1996). The policy environment for UA activities in Karoi is generally prohibitive, despite the relaxation of controls over the past decade. In Nakuru and Ndola, official responses to UA have been generally supportive of the activity. However, a closer examination reveals that there is need for a policy shift in the three urban centres for UA to contribute in a meaningful and sustainable way to local food production. The findings also reveal the struggles engaged in by those in the urban informal food sector as they seek to negotiate a web of restrictive municipal policies that are generally anti-informal sector. Urban planning in the three urban centres has paid minimal attention to food issues and, as a result, UA continues to remain outside national urban development and planning frameworks. On the other hand, in both Ndola and Karoi a general lack of coherent UA policies and planning has resulted in inconsistent policy reactions toward UA activities on unauthorized open land. In Karoi, as in other Zimbabwean cities, the central government has generally been unenthusiastic about supporting UA. The destruction by council workers of crops grown on open spaces, although less frequent during the past five years, is justified by officials on the basis that the activity is not authorized and that

the land is earmarked for urban development, such as housing construction. Such actions account for the tension between urban developers and urban farmers in some African cities. In order to overcome this tension, it is essential to encourage the development of multi-stakeholder UA platforms, involving municipal councils and urban farmer groups, that can promote the development of ecologically sustainable and socially friendly local food production systems.

Conclusion

This chapter has contributed to the discussion of UA practices in Karoi, Nakuru, and Ndola and has reflected on the changing UA policy environment in the three urban centres. Close attention needs to be paid to how rapid secondary urbanization is presenting food insecurity challenges through the displacement of urban food producers on the one hand and the disruption of local food systems on the other hand. One way to address this spatial challenge is by mainstreaming UA into the much broader urban policy and planning programs, as the two are interconnected. However, many local governments across sub-Saharan Africa fail to include UA in urban planning policies. The experiences of Ndola, Nakuru, and Karoi reveal how the three urban councils have responded to urban food challenges by being (or becoming) more tolerant of UA activities in open spaces. The big challenge for the local urban authorities managing secondary cities and towns in sub-Saharan Africa is to find ways of creating space for the urban poor to improve their nutritional status through pro-poor planning processes that allow the urban poor to produce some of their food. Lessons learned from elsewhere in sub-Saharan Africa reveal that city councils and national governments need to support livelihood strategies pursued by the poor, such as UA, in order to help them to be more food secure (Tevera, 2009). The experiences of Karoi, Nakuru, and Ndola provoke a rethink in the understanding of African realities regarding UA in secondary urban centres.

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