

Street Food: Urbanization and Agriculture in Africa

Bright Nkrumah

Department of Environmental Studies, Fulton School, Salisbury, MD 21801-6860, USA; bxnkrumah@salisbury.edu

Abstract

Despite the plethora of literature on urban agriculture (UA), an analysis of the reasons why many urban residents in Africa rarely engage in the practice remains incipient. This review examines the irony between large arable land and persistent hunger in African cities. It was inspired by the rising food insecurity driven by the heavy reliance on market-based food, high poverty, and rapid urbanization. The study conducts a systematic review to clarify the debate on why, in the midst of these setbacks, a disproportionate percentage of urban residents do not produce their own food. Through the PRISMA method and five inclusion benchmarks, the paper identified 38 peer-reviewed book chapters and journal articles that provide the underlying rationale for why UA is not prevalent in African cities. The paper found economic, environmental, governance, and prevailing sociocultural conditions as primary barriers. To that end, it suggests avenues for empowering urban residents to transition from simply being consumers to producers. It concludes by identifying the limitations of the paper and new lines of study that ought to be conducted to fully realize the potential of UA across the continent.

Keywords: Africa; agriculture; food insecurity; policy; urbanization

1. Introduction

In Africa, there is a gradual increase in rural to urban migration [1]. Nearly half of the continent's population is now residing in cities [2]. The phenomenon will persist as young people in rural areas perceive cities as the hub of economic opportunities. Growing urban residents infer that more food is required to meet the dietary needs of the burgeoning population. Urban agriculture (UA) could meet that end. This system of farming has been identified as one of the remedies to contain interrelated environmental, economic, and social problems in (peri-)urban spaces [3,4]. It has been documented as a primary source of green jobs, poverty alleviation, food security, and urban greenery [5–7]. When carefully designed, urban greenery can reduce flood risks, the heat island effect, and improve air quality [8]. While all these benefits have been the driving force for the promotion of UA in the Northern Hemisphere, in the context of Africa, it is mainly about food insecurity [5,9]. Cultivating and raising livestock is one of the most effective avenues for improving people's access to adequate and nutritious food in cities [6]. The potential of UA for Africa could extend from economic to environmental, governance, and sociocultural benefits [8]. Access to food through UA is attainable, as more than half of the continent's land is uncultivated arable [10].

Despite these prospects, a disproportionate percentage of Africans in (peri-)urban areas rarely engage in UA [11,12]. Although rural communities have historically contributed to food availability in urban markets, contemporary disruptions in weather patterns and a lack of coping strategies threaten this sector [13]. It follows that a substantial percentage



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of food in urban centers is imported from global markets [14]. Even then, recurring flooding and poor infrastructure disrupt transportation from harbors to grocery shops [15]. These constraints imply that some city dwellers are inadvertently cut off from direct food access [16].

As such, hunger and malnutrition are pervasive in many cities [17]. A growing body of studies has projected that the region's food insecurity will exacerbate [18–20]. Yet, there is a considerable amount of fertile land in cities. Once a reader appreciates this irony, a question that comes up as the logical starting point in this discourse is: why do city residents rarely engage in UA? While a number of authors have attempted to grapple with this question, the core reason for the limited participation of city dwellers in UA remains elusive [21–24]. Against this backdrop, the paper conducts a systematic review of the growing body of scholarship on UA. In responding to this central question, the paper asked three sub-questions: (i) what is UA; (ii) what benefits and barriers persist against the practice; and (iii) what actionable steps are required to overcome the barriers?

2. Materials and Methods

The paper relied on the PRISMA technique (Supplementary Materials) in conducting a systematic review of the scholarship on urban agriculture in Africa [25]. An essential feature of this approach is that it provides a benchmark for a rigorous assessment of the existing literature [26]. The benchmark sets out a checklist on what to exclude or include in a scholarly review [27]. This feature positioned PRISMA as the ideal approach (over other standardized methods) for conducting the current review.

2.1. Definition of Key Phrases and Terms

In this paper, the concept 'urban agriculture' is used to imply the integration of farming into the structures of cities [28,29]. It represents an agricultural city or food-producing city [30]. According to Hardman et al. [31], the concept aims to enhance food security, resilience, and sustainability in urban and peri-urban areas. It represents the production, distribution, and marketing of (non-)food agricultural products on land or water within the geographical boundary of a city [20]. In contrast, the production of food on the outskirts of cities is considered peri-urban agriculture [32,33]. While that distinction remains, the paper will adopt UA as an umbrella term in reference to agricultural activities in both urban and peri-urban locations [34]. The adoption of such a general term is necessary as both systems of production share a common aspiration, that is, the provision of food for (peri-)urban residents.

2.2. Search Strategies and Inclusion Criteria

In the selection of empirical articles for review, the PRISMA technique recommends four steps: (i) come to a decision on the type of articles to review; (ii) screen the papers by reading their titles and abstracts; (iii) determine their eligibility for review by reading the full texts; and (iv) select what to include in the review [35]. As set out in Table 1, the author's decision in determining what paper to include in the full-text screening was informed by an initial review of the titles and abstracts. This was followed by a careful reading of the texts. A final list of papers to include in the review was determined after comparing their content. The full texts were then critically assessed by the author.

The search for papers was conducted through a number of scholarly databases. Yet, the Web of Science and Scopus were prominent. These two electronic databases were preferred since they provide an array of peer-reviewed journals that speak to the present discussion. The publication date of papers was customized to range from 1980 to 2026. While the former date was to accommodate papers with a historical perspective to UA, the latter

date reflects the year in which the current review was conducted. Only journals written in English and peer-reviewed were chosen. The language and peer-reviewed limitations were necessary to ensure the vetting results in papers that have been authored by experts in the field are easily comprehensible.

Table 1. Literature search based on PRISMA approach.

Steps	Process	Number of Papers
Identification	Web of Science	2058
	Scopus	1976
	Total number of papers	4034
	Duplicate papers	473
Screening	Papers after duplicates removed	3561
	Excluded based on title screening	3108
	Papers with relevant title	453
	Excluded based on abstract screening	186
Eligibility	Papers with relevant abstract	267
	Excluded based on full text screening	218
Included	Papers with relevant full text	49

The author began the preliminary search of the literature on UA in Africa by framing phrases to aid in this pursuit. The phrases were a blend of keywords that conceptualize ‘hunger in cities’ (or synonym), ‘food security’ (or synonym), ‘agriculture in cities’ (or synonym), and a geographic location (of Africa) in the title, abstract, and keywords. To capture the diverse range of UA, several synonyms of the practice were used in both databases. They included ‘squat farms’, ‘micro-gardens’, ‘vertical farming’, ‘school gardening’, and ‘community gardens’ [36]. In narrowing the search to Africa, the author included keywords that describe the names of African states and (mega)cities.

The decision to include an article in this systematic review was guided by five thresholds. The paper has: (i) to contain inferential or descriptive data on hunger and malnutrition; (ii) to form a construction of UA that has to (somewhat) align with the definition adopted in this text; (iii) to articulate rapid urbanization; (iv) to focus on one or more cities in Africa; and (v) to provide an analysis of the historical or contemporary practice of UA in a relevant city.

At the stage of full-text screening, a total of 229 papers were excluded. Of this figure, 107 peer-reviewed articles made scant reference to African cities in the text. A total of 78 articles had inadequate statistics on hunger and malnutrition. A total of 35 papers were written in a non-English language, which made it not feasible to distill information for the current review. Nine papers were mainly conceptual without elucidating the historical or contemporary conditions of UA. As demonstrated in Table 2, only 49 peer-reviewed journals satisfied all the benchmarks for inclusion in the current review.

Table 2. List of papers included in current review.

Author(s), Date and Citation	Geographic Location
Bacha and Mohamed 2024 [3]	Algiers
Chari and Ngcamu 2022 [4]	Sub-Sahara Africa
De Oliveira et al. 2021 [12]	Ghana

Table 2. *Cont.*

Author(s), Date and Citation	Geographic Location
Gumisiriza et al. 2022 [14]	East Africa
Makalima 2022 [15]	South Africa
Ekobi et al. 2023 [17]	South Africa
Kiribou et al. 2024 [20]	Sub-Saharan Africa
Maxwell 1999 [21]	Sub-Saharan Africa
Mayeko 2012 [22]	DR Congo
Mufwaya and Muchuru 2016 [24]	DR Congo
Adams et al. 2023 [29]	Accra
Bhanye and Dzingirai 2022 [33]	Zimbabwe
Nkrumah 2019 [35]	South Africa, Ethiopia
Naazie et al. 2024 [36]	Ghana
Alpern 1992 [37]	West Africa
Curtin 1985 [38]	Tropical Africa
Houessou et al. 2019 [39]	Benin
Davies et al. 2021 [40]	Nigeria
Jagganath 2022 [41]	South Africa, Tanzania
Korbéogo 2018 [42]	Burkina Faso
Olivier 2019 [43]	Cape Town
Pillai et al. 2016 [44]	Morogoro, Tanzania
Kanosvamaha et al. 2025 [45]	South Africa
Schumacher et al. 2009 [46]	Sudan
Rich and Ardoin 2014 [47]	South Africa
Tuomala and Grant 2022 [48]	South Africa
Smith et al. 2017 [49]	Burundi
Segnon et al. 2022 [50]	The Gambia
Tambwe 2006 [51]	DR Congo
Atukunda et al. 2021 [52]	Africa
Usman and Haile 2022 [53]	Eastern Africa
Oh and Lu 2023 [54]	Sub-Saharan Africa
Wessels et al. 2021 [55]	Sub-Saharan Africa
Davies et al. 2022 [56]	Kenya, Zambia
Cudjoe et al. 2022 [57]	Sub-Sahara Africa
Nkrumah 2018 [58]	Ghana, Malawi
Nchanji et al. 2023 [59]	Northern Ghana
Orsini et al. 2013 [60]	East Africa
Sánchez et al. 2022 [61]	Sub-Saharan Africa
Bartis and Oberholzer 2022 [62]	Ghana, Rwanda
Balogun et al. 2022 [63]	Sub-Saharan Africa
Devereux 2021 [64]	South Africa

Table 2. *Cont.*

Author(s), Date and Citation	Geographic Location
Dollar and Kraay 2002 [65]	Sub-Sahara Africa, North Africa
Li et al. 2023 [66]	Sub-Sahara Africa
Mwaijande 2025 [67]	Tanzania
Otekunrin et al. 2020 [68]	Africa
Onakpa et al. 2018 [69]	Nigeria
Amegah, A. K. 2021 [70]	Sub-Saharan Africa
Aduloju et al. 2024 [71]	Nigeria

3. Benefits of UA

A historical review by Corrêa et al. [28] shows that UA dates back to 2.500 BC. The authors trace its roots to the sowing of medicinal plants, (non-)fruit-bearing trees, flowers, and vegetables in the Yucatán peninsula by the Maya civilization [28]. In Africa, Alpern [37] observes that it evolved at the advent of colonialism. Around that era, natives concentrated on the cultivation of indigenous crops in the inland areas [72]. However, fewer Europeans migrated to the inland areas due to the high humidity and the risk of malaria [13]. Coastal areas were preferred destinations for many European explorers and settlers [38,73]. With a continuous inflow of new settlers, coastal areas became rapidly urbanized through trade and commerce. Alpern [37] affirms that a few of the commodities that were introduced by Western explorers were New World crops. Mainly transported from southern America, the crops included avocados, cassava, citrus fruits, hot peppers, guavas, groundnuts, maize, potatoes, and tomatoes. It follows that some consumers began cultivating excesses to ensure their continued access to the crops. The practice was embraced by African bureaucrats, elites, and tradespersons who harnessed their traditional farming techniques to cultivate exotic and indigenous crops in their homes [37].

Today, an estimated 40% of city dwellers engage in UA [74]. The aim for engaging in UA in Africa is fourfold: (i) households producing for their own consumption; (ii) non-profit agencies donating to charity (hospitals, prison); (iii) profit organizations selling at discounted rates at farm stands, and to restaurants and supermarkets; and (iv) commercial farmers seeing it as a direct source of income [3,74,75]. Houessou et al. [76] assert that the practice is dominant along the coast of West Africa. In this sub-region, an estimated 261 residents in Cotonou and Porto Novo (Benin) routinely engage in vegetable production as their primary source of income [76].

Food production in African cities is diversified, spanning along the lines of small-animal husbandry and horticulture. Beach [76] observes that the former is dominant in Yaounde (Cameroon) and Kampala (Uganda). In these two cities, households rear aquatic organisms and livestock, including fish, bees, bovines, rabbits, ponies, pigs, sheep, and poultry. That said, a number of scholars concur that the dominant form of UA across the region is horticulture [41–43,76]. But what these scholars fail to set down is justifying this phenomenon. Arguably, the preference for horticulture over livestock may be tied to its efficient use of land. In some cases, it is the limited land space. For instance, Pillai et al. [44] moot that households in Morogoro resort to small backyard vegetable gardens as a means of coping with the limited space in urban Tanzania. Kanosvamhira et al. [45] state that similar conditions have nudged others to explore innovative strategies for cultivating crops. These strategies include indoor herb gardens on windowsills, hanging plants, balcony container gardens, and vertical fence gardens [46].

From the list of the literature surveyed, the practice of UA can be categorized into five camps. The first is micro-gardens. This practice involves raising crops on small patches of land in residential areas. Adams [29] stipulates that the limited plots around urban homes compel homeowners to shift to miniature gardens. In Accra, households practice micro-gardening by raising vegetable gardens in the balconies, patios, and front yards [29]. Common crops cultivated are fruits, herbs, and vegetables. Beach [76] affirms that over half of the residents in Lusaka (Zambia) resort to this approach. Crops such as carrots, edible flowers, mushrooms, leafy greens, tomatoes, basil, and mint are often cultivated in containers or on parcels of land. The second is school gardening. This is the practice of cultivation on school grounds. Rich and Ardoin [47] observe that despite the scarcity of land in Cape Town (South Africa), high schools in the city used it to increase students' ecological awareness [48]. Smith et al. [49] observe that a similar activity is used for experiential learning, food security, and youth development in Gitega (Burundi). The third is vertical farming. It is the use of innovative technologies for intensive crop production [4]. Seeking to maximize limited lands, the various stages of crop cultivation take place on aqua- and hydroponics. The fourth is community gardens. This form of farming activity occurs on a parcel of land allocated by the city to a group for a fee. Segnon et al. [50] state that it has become a model for containing hunger in Banjul (Gambia). The final camp is squat farms. It is the act of working on vacant land without a lease or permission from the landowner [41,51]. Since they could be displaced at any time, squat farmers cultivate crops with shorter life spans, *inter alia*, such as flowers, fresh eggs, herbs, and so on.

UA has some benefits that are worth highlighting. They can, in general terms, be classified into five levels. At the primary level is food security. Dietary adequacy is a fundamental component of improved mental health, strong bones, teeth, and stable energy. The feeling of hunger, and in particular, nutrient deficiency, leads to a drop in glucose and blood sugar levels [21,52]. In time, these byproducts impair one's cognitive flexibility, hinder clear decision-making, and decrease work productivity. Valdes [77] argues that low-income households are more susceptible to hunger as the cost of food depletes about 60% to 80% of their total income. As the level of urbanization accelerates, farms in (peri-)urban settings hold the prospect of ameliorating malnutrition [53,54]. Own production in one's backyard could be a remedy as some working-class households in Algiers (Algeria), Ouagadougou (Burkina Faso), Khartoum (Sudan), and Cape Town (South Africa) depend on UA as a means of meeting their food requirements [3,42,46,55–57]. Importantly, a practitioner may trade some of the harvest to supplement their household income [23]. That is to say, considering limited job opportunities in the contemporary era, UA is likely to evolve into a major occupation [58]. Moreover, the gain of UA encompasses the burning of calories and weight loss through cardio exercises like weeding [78].

At the secondary level, it serves as an avenue for people to hold onto their heritage. To some urban agriculturalists, farming is not simply a source of food, but is also a means of connecting to one's traditions [79]. Given these circumstances, urban farms adopt methods that bear semblance to their rural practices. Beach [76] mentions that the intercropping of coffee, bananas, and indigenous leafy vegetables in Dar es Salaam bears semblance to that in rural Kagera Region (Tanzania). Thus, the only major contrast between rural and urban farms in Tanzania is the spatial variability of the land size [59]. The inadequate land access in cities hinders large-scale production and eventually, net returns on investment [60]. To offset the setback, farmers could cultivate high-value and sought-after crops [61]. These may include garlic, mushrooms, and indigenous crops that are rare in supermarkets [62].

At the tertiary level, it helps mitigate climate change [63]. By eliminating food travel, UA plays a fundamental role in cutting back on greenhouse emissions [54]. Also, given the continent's fragility to weather fluctuations, interventions to boost its resilience will be

judicious [80]. Resilience encompasses a gradual shift from high dependence on rain-fed agriculture to practices that maximize water retention in the soil [64]. It is in light of this that Oh and Lu [54] affirm that the dissemination of knowledge on vertical farming could provide an important inroad to increasing food production, considering that it requires less space for cultivation.

Moreover, it enhances economic viability and social integration. Marginalized groups could leverage UA as a means of integrating into the fabric of society. Community gardens provide a conducive atmosphere where the disabled, elderly, left women, migrants, and the unwaged could network [30]. Such social capital may be a fulcrum around which they advance their common interest. With a unified voice, they could lobby power brokers for access to credit, additional land, and markets to expand their operations [45]. Access to credit empowers them to diversify their operations, including recycling inorganic waste or creating compost from organic waste [64,65]. The success of the group could serve as a model for others [81].

Finally, it is a source of recreation. In an era of the dying culture of children's outdoor play, edible green spaces provide an avenue for youth to build friendships. With shrinking outdoor recreational spaces due to new constructions, (indoor and outdoor) gardening provides an alternative playground for children [75]. While playing with their peers can help reduce anxiety and depression, learning how to farm empowers children with the skills required for food sufficiency. Such knowledge could enhance their capability to engage in UA as a means of rehabilitating atrophied soil, wetlands, or mountainous areas that are susceptible to climate change [66]. By teaching children how to interact with soil and its organisms, UA serves as the medium for the transfer of indigenous knowledge on agroecology change [82,83]. That understanding is important for safeguarding the natural environment for us and future generations. However, the potential of UA is strongly shaped by local dynamics. For that reason, the next section explores a few of the sociopolitical and environmental conundrums that impede these prospects.

4. Barriers to Africa's Urban Agriculture

While UA has been recognized as a panacea to urban hunger, there are a few barriers that undercut its potential [67,83,84]. This section reflects on some of the dominant constraints that have rarely been discussed in the contemporary literature. It ought to be declared that the barriers discussed below are not exhaustive, as some have been summarily discussed elsewhere [58,68]. Accordingly, the paper will pinpoint and critique the dominant ones as the logical starting point for framing strategies to overcome them. The barriers will be sub-structured into analytical categories.

4.1. Governance Constraints

Gumisiriza et al. [14]. observe that a major limitation to UA is the widespread eviction of squat farmers. Accordingly, a considerable proportion is compelled to engage in short-term crop production. This technique unquestionably undermines soil fertility as it rarely allows the land to fallow. Poor soil quality translates into poor crop yield, which affects the income of farmers [53]. This phenomenon is pervasive in megacities where retail food stores have high standards on the quality of produce to procure from producers. Under such circumstances, farmers attempt to sell directly to consumers [85]. In-person sales can occur at farmers' markets or garage sales [86]. Still, some communities consider such actions as a violation of the zoning code, with varying severity and fines imposed [87]. McCain [88] recounts that a farmer in Tshwane-South Africa was fined ~\$100 for growing a cabbage patch in front of his home. Similar developments can be observed in residential

areas where there are limitations on what, when, and how often one could conduct a trade in front of one's house [56,88].

The constraints of urban settings limit the use of space for either backyard or ground-based farming [59]. In some residential communities, the stringent regulations of homeowners' associations (HOAs) prohibit crop and livestock rearing [40]. Such restrictions are pervasive in (gated) communities, including condominiums, planned communities, and townhomes. In some instances, the restrictions emanate from the exclusion of UA from municipal planning [9]. The non-codification of farming in zoning laws provides little safeguards against HOAs, planners, and developers who encroach on farm sites. In cases where the UA is contemplated in municipal legislation, the laws merely dictate what and where one could cultivate. An example might serve to illustrate what has just been said. Section 8(b)(t) of the by-laws of the City of Tshwane (South Africa) proscribes the cultivation of plants in a public space [89]. Thus, a resident in Pretoria (South Africa) was a subject of arrest for growing cabbage in front of his home [88]. While such restrictions are necessary to ensure that farming practices align with the topographic features of the municipality, the heavy-handed approach by security forces could deter potential agriculturalists in urban spaces.

4.2. Environmental Constraints

Whereas urban spaces provide vital habitats for humans to thrive, not all soils are ideal for food production [90]. The health of crops is compromised by heavy metal concentration from dumpsites leaching and runoffs [91,92]. It is against this backdrop that Onakpa et al. [69] observe that in Ado-Ekiti (Nigeria), the leaves of crops show high levels of heavy metal concentration. These include okra (0.32 mg/kg cobalt; 0.36 mg/kg copper); spinach leaves (0.36 mg/kg arsenic; 0.32 mg/kg cobalt); maize grains (0.28 mg/kg arsenic; 0.48 mg/kg copper); groundnut (0.37 mg/kg arsenic; 0.71 mg/kg copper); and Roselle leaves (0.33 mg/kg cobalt; 0.32 mg/kg iron). Alengebawy et al. [90] opine that heavy metals do not only compromise the quantity of farm produce but also their quality. Consumption of food with high levels of heavy metal can increase the risk of cancer [70].

Bartis and Oberholzer [62] affirm that there is a reasonably sufficient connection between temperature rise and poor crop yield. Tropical cities do not have winter and experience hot temperatures all year round. With climate change projected to intensify heat stress, the practice of UA faces a new threat [63]. In Kinshasa (DR Congo), extreme temperatures vary from 30 to 35 °C, with an annual average between 24 and 26 °C [24]. Unlike in rural areas with vegetation and water bodies, the dense buildings and roads in cities absorb and retain more heat from the sun. To that end, Aduloju et al. [71] moot that cities such as Iringa (Tanzania), Kampala (Uganda), Nairobi (Kenya), Tare (Rwanda), Ibadan (Nigeria), Maputo (Mozambique), and Kinshasa (Democratic Republic of the Congo) are susceptible to warming and decreased precipitation. Under such conditions, the types of crops to cultivate in these areas will be limited.

4.3. Socioeconomic Constraints

A major impediment to UA is the competing land uses and users. As desirable spaces for the circular economy, city lands are at the convergence of industrial, recreational, and residential development. This phenomenon has resulted in the shrinking of urban lands in the inner cities of Accra (Ghana), Nairobi (Kenya), Tare (Rwanda), Iringa (Tanzania), and Cape Town (South Africa) [63]. With developers aiming to meet housing demand, vacant land for traditional horticulture or animal keeping becomes increasingly limited [74]. Then again, long-term access to land for horticulture is tied to homeownership, an aspiration that remains a pipe dream for the poor. The cost of single-family units negates permanent access

to land for production [93]. To overcome that limitation, some horticulturalists lease lands or squat on vacant private/public lands. Consequently, farming activities on such lands are temporary as they are prone to disruptions (either from owners or from retrofitting for infrastructural development).

The question of insufficient access to land is exacerbated by the dwindling open spaces in inner cities [45]. Besides small plots that are often confined to built-up areas, the frequent conversion of city lands into concrete roads places a strain on horticulture. Given this constraint, the majority of urban agriculturalists have relocated their operations to the city outskirts [51]. While such a strategy is attainable, a central concern is food travel. With crops such as tomatoes that are easily decomposable, the inefficient transportation network in peri-urban areas causes some produce to rot before they reach the market [57]. The waste ultimately affects the expected income of farmers, and by extension, the socioeconomic conditions of their households.

5. Recommendations for Improving Urban Agriculture

To overcome the prevailing constraints, the paper calls for institutional support for farmers. States could assist farmers' access to green space and the market. Access to green space could be complemented with interventions that strengthen the well-being of low-income households. Such interventions may include reduced fees on water usage and other utilities in the demarcated area [16]. These incentives could spur gentrification as planners and estate developers may seek to exploit the program. To mitigate such occurrences, there is a need for (a raft of) supportive policy regimes that ensure land security for agriculturalists. That line of action could encourage mass urban production that could provide relief for the increasing demand for rural food sources. The urgency for production to meet the needs of the increasing urban population leads to continued and intensive production with limited duration for the land to fallow. Being unable to leave land unplanted for a season has pernicious effects on the environment, as the soil is unable to replenish nutrients and retain water. With this development affecting harvest and availability, enabling horticulture in underserved communities could be an inroad toward containing urban food insecurity [66]. To adapt to the growing water scarcity, local growers rely on rainwater catchment for irrigation. This approach has the advantage of potentially enhancing soil conditions and increasing yields [22].

To forestall the concentration of heavy metals in urban food production, farmers could adopt one of two precautionary measures: (i) They could discontinue cultivation on heavy metal-contaminated soil. While this is ideal, it is unlikely that horticulturalists will comply with the suggestion given the scarcity of urban lands. (ii) They could specialize in the cultivation of crops that are resilient to heavy metals. Garrido et al. [91] state that the uptake of heavy metals in plants is relative to the type of plant species. Seed-based crops do not actively absorb heavy metals as opposed to plants that are grown from other parts. In essence, it may be prudent for farmers to be selective in the choice of crops based on the nature of the soil.

Moreover, since the urban poor are the victims of food insecurity, they ought to be empowered to be active agents in the practice of UA. However, given the scale of hunger and malnutrition in cities, local governments must address squatter displacement as it could exacerbate the precarity of the marginalized communities. Thus, the demarcation of land for horticulture or animal keeping ought to be a prime objective for local governments. Also, considering citizens' right to food, municipalities ought to provide the resources for the training and capacity building of urban farmers to be resilient. At the same time, it is suggested that local governments adopt a targeted strategy of subsidizing the cost of municipal water and related utilities that are essential for their own production. The

increased accessibility to green space could be an antidote for addressing social and spatial inequality in cities. All in all, it is hoped that these suggestions, when implemented individually or collectively, will augment the practice of UA across the continent.

6. Conclusions

The paper sets out to explore what conditions were hindering UA across the region. It responded to the question by providing a bird's-eye view of the barriers. This approach was ideal considering that a comprehensive survey of the conditions in the ~130 cities across the region might not be feasible within the word limit of the journal. The paper found governance, environmental, and socioeconomic constraints as primary impediments to UA. While the list of the literature under review affirms these constraints, it is prudent to declare that this may not be an exhaustive list of the barriers hindering UA. Further studies ought to be conducted at the local level to fully appreciate the unique conditions that undermine UA across the region. This step may be crucial due to the limitations of the present paper. Three limitations are evident. First, while the paper perceives Africa as a unified entity, there are distinct political, environmental and socioeconomic dynamics at the (sub)national level. While each of these elements has different effects, the paper does not address how each element plays out across the 54 states. Second, it does not provide a unique case study of one or more African countries. Finally, it does not consider how the diverse customs and legal system (Shari'a, English, and Roman Dutch laws) impact women and their access to land in cities.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/urbansci10070372/s1>. File S1: PRISMA 2020 Checklist [94].

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