REVIEW

Foodscapes in urban spaces of Africa: implications for food and nutrition security among the urban poor [version 1; peer review: awaiting peer review]

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V1 First published: 27 Aug 2021, 4:44
<https://doi.org/10.12688/aasopenres.13283.1>
Latest published: 27 Aug 2021, 4:44
<https://doi.org/10.12688/aasopenres.13283.1>

Open Peer Review

Approval Status *AWAITING PEER REVIEW*

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Abstract

Food security has been a global development agenda for several decades, and rightly so: nearly 945 million people were food insecure in 2005 and a decade later, this number declined to 784 million in 2014, only to rise to 821 million three years later in 2017. These global figures, however, mask variations in the extent of progress in different regions of the world. Progress towards achieving food security has been much slower in sub-Saharan Africa, and the region continues to be the worst hit by food insecurity. Furthermore, it is increasingly being recognised that food insecurity is prevalent in urban, and not just rural areas, and that the urban poor rather than the rural poor are particularly vulnerable, and at increased risk of being food insecure. Additionally, nutrition insecurity, a closely related component of food insecurity, is common among the urban poor and contributes to malnutrition. While several factors have been explored in trying to address the issue of food security, the potential role of foodscapes in urban spaces of Africa has been less researched. Recent evidence, however, indicates that foodscapes in urban areas of sub-Saharan Africa potentially contribute to food and nutrition insecurity, particularly among the urban poor. Addressing food and nutrition insecurity in sub-Saharan Africa will thus first require reframing the discourse about these issues from solely a rural to also an urban problem, and secondly improving access, especially availability of healthy and nutritious options that are also economically accessible, for vulnerable and at-risk groups; in particular, the urban poor.

Keywords

foodscape, nutrition security, food security, urban poor, Africa

This article is included in the [Health and Social Change in Africa - a BIARI Special Collection](#) collection.

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Author roles: Dake FAA: Conceptualization, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: The author(s) declared that no grants were involved in supporting this work.

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How to cite this article: Dake FAA. **Foodscapes in urban spaces of Africa: implications for food and nutrition security among the urban poor [version 1; peer review: awaiting peer review]** AAS Open Research 2021, 4:44 <https://doi.org/10.12688/aasopenres.13283.1>

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Introduction

Food security has been a global development agenda for several decades. International development frameworks such as the UN Millennium Development Goals (MDGs) indirectly addressed food security by focusing on ending hunger, while the Sustainable Development Goals (SDGs) include a direct and specific focus on food security. The UN's SDG number 2 on "zero hunger" seeks to "end hunger, achieve food security and improved nutrition and promote sustainable agriculture"¹. The first target of SDG 2 sets to "by 2030, end hunger and ensure access by all people, in particular, the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round"; the second target sets to "by 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons"¹. Inherent to this goal and its targets is the attainment of food security for all people, but this is far from being achieved, as an estimated 124 million people in 51 countries are currently facing a crisis of acute food insecurity². Some of the worst-affected countries are in the sub-Saharan African region, where the Global Food Security Index shows the need for marked improvement in ensuring that people are food secure³. While these figures paint a grim picture of food security, the situation is even more dire when the dimension of nutrition security is considered.

Food security is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life¹; while nutrition security refers to adequate nutritional status in terms of protein, energy, vitamins, and minerals for all at all times⁴. Nutrition security goes beyond access and considers factors such as individual biological and physiological factors, socio-environmental and sanitary factors, and adequate healthcare.

Given these distinctions, it has been acknowledged that nutrition security goes beyond food security, as it is possible to be food secure without being nutrition secure. Food security is thus necessary for the achievement of nutrition security. In view of this realisation, recent definitions have combined food and nutrition security as a condition under which adequate food (in terms of quantity, quality, safety and socio-cultural acceptability) is available and accessible for, and satisfactorily utilised, by all individuals at all times to live a healthy and happy life⁵.

Food and nutrition insecurity lead to malnutrition; both over- and undernutrition among young and adult members in the same household; a situation described as the nutrition paradox⁶. This co-existence of over- and undernutrition among members of the same household is described as a dual/double burden of malnutrition⁷. There is evidence of a rising prevalence of the double burden of malnutrition in Africa⁸, particularly among

the urban poor⁹ and the associated health implications are even more profound among the urban poor.

There is growing evidence that the urban poor, especially those in Africa, are particularly vulnerable to food and nutrition insecurity, resulting from the combination of a myriad of factors, ranging from the nature of foodscapes in urban areas and accompanying social/lifestyle changes resulting in unhealthy behaviours, to availability and accessibility of quality, affordable and nutritious food, and challenges of reduced productivity brought on by climate change, environmental degradation, and access to land, among others¹⁰. Yet, for several decades, the discourse on food and nutrition security has focused on the rural population¹¹. In the past, the debate on food and nutrition security in urban areas focussed on production and access^{4,6}. However, recently, there has been growing recognition that production and access are only part of the complex interplay of the several factors that influence food and nutrition security; particularly among the urban poor^{6,7}.

One of the dimensions of food and nutrition security among the urban poor that is gaining increasing recognition is the opportunities and challenges presented by the foodscape. This realisation has become apparent even in African countries where research on the subject is limited. This paper reviews changes in the foodscape in urban areas of Africa and the associated implications for achieving food and nutrition security among the urban poor. The paper further explores challenges to achieving food and nutrition security for the urban poor.

Discussion

Foodscapes among the urban poor in Africa

Foodscapes "[emphasise] the spatiality of food systems" and include the physical structures such as availability of supermarkets and grocery shops, as well as social and economic factors that influence how residents in an area access different foods and make dietary choices or decisions¹². Other definitions further specify that foodscapes are "the multiplicity of [places] where food is displayed for purchase, and where it maybe be consumed"^{8,9}. The foodscape is also synonymously referred to as the food environment, and Lake *et al.* emphasised that, in addition to the physical, social and economic factors, policy factors at macro and micro levels influence the foodscape^{10,11}. The aforementioned varied definitions indicate that foodscapes are complex and result from an interplay of several factors operating at different geographic scales¹². Additionally, foodscapes tend to be dynamic and change over time, even in the same geographic location. Furthermore, changes in foodscapes have been observed to be more pronounced in urban areas compared to rural areas for several reasons, including the influence of processes such as globalisation, urbanisation and westernisation¹³.

Research on foodscapes in most of sub-Saharan Africa has been limited, largely because for a long time the focus was on tackling malnutrition and infectious diseases. However, in recent times, research on the food environment is beginning to gain some importance in the sub-Saharan African region, and changes

¹ Adapted based on the definition of the 1996 World Food Summit

have been observed in the foodscape of urban areas across major cities of sub-Saharan Africa. These changes have accompanied the nutrition transition, which has been characterised by a shift in the consumption of traditional staple diets with high fibre and micronutrient contents, to the consumption of high-fat, energy-dense foods, including fast foods, processed carbohydrates and sugars, as well as sweetened, carbonated soft drinks¹⁴.

Changes in the foodscape in urban areas in sub-Saharan Africa, have been rapid¹⁵ and occurred in tandem with a socio-cultural paradigm where consumption of fast foods was viewed as a sign of affluence, as mostly the rich and affluent could afford such foods. Recent evidence, however, indicates that consumption of fast foods and processed foods is increasingly being observed among the urban poor¹⁶. This has been in part due to the changes in the foodscape in some communities in urban poor settings, which has resulted in the emergence of what is known as “food deserts”.

The concept of food deserts simply defines areas that lack access to healthy food options such as fresh groceries, including fruits and vegetables. The term has been used extensively in the Western context, particularly in the United States of America (USA), the United Kingdom (UK) and Australia. Areas that are classified as being food deserts offer unhealthy options such as fast foods, fatty and energy-dense snacks and processed foods rather than healthy options such as fruits and vegetables. In the USA, UK and Australia, inner cities and deprived communities have been found to have typical features of food deserts. Such communities or neighbourhoods where food deserts exist are classified as being “food-poor”¹⁵ and these communities tend to have a higher burden of overweight, obesity and diabetes¹⁷. The recognition of food deserts as a contributing factor to poor dietary quality and health outcomes among poor and deprived communities informs policy and research on urban food consumption¹⁵ in advanced countries.

In the African context, although food deserts are not a commonly used concept, this does not mean food deserts do not exist in Africa¹⁵. The characteristics of a food desert in the African context, particularly among the urban poor, has been defined by Crush *et al.* as “[poor], informal urban neighborhoods characterized by high food insecurity and low dietary diversity”¹⁸. This African context-specific definition of food deserts implies that residents of urban poor neighborhoods that are classified as being food deserts lack enough options for diversified diets and are at risk of being food- and nutrition-insecure. Recent evidence from research conducted in South Africa, Namibia, Ghana and Tanzania indicate that food deserts are emerging in Africa’s urban poor communities and neighborhoods. In a study conducted in urban poor Accra in James Town, Ussher Town and Agbogbloshie, Dake *et al.* (2016)¹⁹ found that the food environment in these communities had characteristics typical of a food desert. The food environment in these urban poor communities provided more options for out-of-home cooked foods (also known as street foods) and convenience foods, and very few options for fruits and vegetables (Figure 1). In this context, out-home cooked foods (i.e. street foods), which are

Figure 1. Visualization of a food desert in urban poor communities in Accra, Ghana. Source: Dake *et al.*, 2016¹⁹.

ready-to-eat foods prepared and sold by street vendors, were the most common. Convenience foods, which are mostly non-perishable food items such as canned tomatoes, sugar, sweetened carbonated drinks and other such processed foods were the next most common option available. Most of these convenience stores do not stock fresh produce such as fruits and vegetables. In these urban poor communities, there are very few locations or stands in the community where fruits and vegetables are sold (Figure 1).

In the city of Windhoek in Namibia, Crush *et al.* noted a change in the foodscape as there are now more supermarkets than there were twenty years ago¹⁸. However, they also note that most of the supermarkets were located in the high-income areas of the city, while in the informal settlements, there were no supermarkets (Figure 2). Low-income neighborhoods, and particularly informal settlements, had budget outlet alternatives rather than supermarkets. This distribution of supermarkets versus budget outlets has implication for both physical and economic accessibility to food for urban poor informal residents, and the options available to residents. While budget outlets are more physically and economically accessible for urban poor informal residents, these budget outlets also have limited fresh produce such as fruits and vegetables. Urban poor informal residents are thus at risk of being affected by food and nutrition insecurity, firstly because of limited physical and economic access, and secondly because of limited dietary diversity from the options available at budget outlets.

Figure 2. Location of supermarkets in the city of Windhoek, Namibia. Source: Crush *et al.*, 2018¹⁸.

Similar findings have also been observed among Black South Africans in informal settlements. Micklesfield (2013) reports that such informal settlements in South Africa lack access to a variety of food options that are of high quality, including fresh groceries. Such urban areas tend to have access to less varied, less expensive options that are of poor quality, but commonly available from informal vendors¹⁶. The limited options have implications for dietary diversity and food and nutrition security for residents of urban poor, informal settlements.

These observed food deserts in different contexts in sub-Saharan Africa have the potential to contribute to the already rising burden of malnutrition in the region, particularly overnutrition. For example, among urban poor residents of Accra, Dake *et al.* (2016) found that each additional convenience store located in these urban poor study communities was associated with a 0.2kg/m² increase in body mass index (BMI)¹⁹. These findings indicate that the emergence of food deserts among the urban poor in sub-Saharan Africa pose additional risks of food and nutrition insecurity.

Towards attaining food and nutrition security among the urban poor in sub-Saharan Africa

Food security has been a global development agenda, yet not much is being achieved in addressing the problem, particularly in sub-Saharan Africa where there have even been increases in the prevalence of malnutrition in recent years. While several factors could account for this lack of progress in

addressing food and nutrition security in sub-Saharan Africa, one key issue is the framing of food security. First, food and nutrition security are invariably viewed as rural issues in both research and policy domains. Urban food insecurity has been marginalised and largely ignored on the global food security and development agenda²⁰. However, evidence from a study conducted in 18 low-and-middle income countries, using nationally representative household survey data collected between 1996 and 2003, shows that in 12 out of the 18 countries, food insecurity in urban households equalled or surpassed the levels in rural households. Additionally, the spatial dynamics reveal marked inequality in food and nutrition insecurity between urban and rural areas; but for a long time, much of the focus on food insecurity was on rural areas⁴, while the situation in urban areas remained largely neglected. There is, however, growing recognition that, urban areas suffer much the same fate, and even a worse one in some circumstances, as rural areas and the urban poor in particular are at increased risk of being food- and nutrition-insecure. While several factors contribute to food and nutrition insecurity in urban areas of Africa, a focused perspective on the urban poor reveals the impact of emerging foodscapes which limits access to healthy and diverse options to ensure a balanced diet.

Against the foregoing, it is important to emphasize that the food system in urban areas forms an integral part of the health and wellbeing of residents, and in particular the urban poor. Furthermore, the foodscape in urban areas of sub-Saharan Africa has a major potential influence on whether food and nutrition security among the urban poor is achieved, by operating through pathways that influence food availability, food access and food utilisation. In terms of food availability, the foodscape in urban poor areas is increasingly being inundated by energy-dense, high-calorie, processed foods which are often of low nutritional quality. This in turn structures access to food, and again, given that such low-quality foods are often less expensive compared to healthier options, the urban poor gravitate towards the less expensive, but poor nutritional quality option to meet their food and nutrition security needs⁶. The health status of urban poor residents may be further compromised, as the threat posed by the foodscape is not given due attention. But unfortunately, research on foodscapes in urban areas of Africa is limited, and the evidence is scanty. There is therefore a need for more research to generate adequate empirical evidence on the nature and impact of foodscapes on food and nutrition security, as well as on the nutritional status, health and wellbeing among the urban poor. Evidence from such research will inform context-specific targeted policies and interventions, to address the challenges presented by the foodscape in Africa, and where available, harness any opportunities for improving access to healthier food offerings to reduce the negative impacts of the emerging foodscape on food and nutrition security in Africa, particularly on the urban poor.

Conclusion

The nutrition paradox, which plays out in the form of a double burden of malnutrition in its various forms at the

individual, household and population levels, is only the beginning of an upcoming era, where food and nutrition insecurity combined with emerging foodscapes will further complicate health risks, particularly for the urban poor in Africa. Against the foregoing, it is important for governments of African countries to pay attention to the changing foodscape in urban spaces. Policy regulations that promote the availability, affordability and accessibility to healthy options such as fruits, vegetables, fish and meat, while limiting unhealthy options, need to be researched and implemented. Macro-level policies may include promoting urban agriculture

and imposing higher tax rates for processed foods/fast foods, sweetened carbonated drinks, and energy-dense foods. African governments also need to invest in making a diverse range of healthy foods accessible and affordable for the urban poor, while also ensuring that socio-environmental and healthcare systems that are essential for achieving food and nutrition security are in place in urban poor areas of Africa.

Data availability

No data are associated with this article.

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