City-Region Food System, Global South And Cooperation Strengthening African Urban Food Systems Through The City-Region Framework

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CITY-REGION FOOD SYSTEM, GLOBAL SOUTH AND COOPERATION STRENGTHENING AFRICAN URBAN FOOD SYSTEMS THROUGH THE CITY-REGION FRAMEWORK

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Abstract

This article provides a comprehensive overview of the application of the City-Region Food Systems (CRFS) concept in the academic literature, particularly in the context of African cities, where food systems' sustainability was exacerbated by the COVID-19 pandemic and other less recent persistent crises. Via a Systematic Literature Review, it analyses the City-Region Food Systems (CRFS) approach as a response to urban food system challenges, emphasizing urban-rural linkages and localized supply chains. Findings highlight the necessity of integrating global supply chain dynamics, refining the city-region concept for African contexts, and leveraging CRFS as an administrative unit. Decentralized cooperation emerges as key to boosting CRFS contributions, suggesting a multifaceted approach to building resilient and sustainable food systems in post-pandemic African urban centres.

Il presente articolo esplora l'applicazione del concetto di City-Region Food Systems (CRFS) nella letteratura accademica, con riferimento al contesto africano, dove la sostenibilità dei sistemi alimentari, storicamente caratterizzata da alcune difficoltà, è stata aggravata dalla pandemia di COVID-19 e da altre crisi recenti. In particolare, tramite una Systematic Literature Review, questo lavoro enfatizza il CRFS come framework strategico per rispondere con successo alle sfide dei sistemi del cibo, con riferimento al rafforzamento dei collegamenti urbano-rurali e il ruolo della rilocalizzazione delle catene di approvvigionamento. I risultati mostrano la necessità di esplorare meglio il ruolo delle filiere globali, adattare con più efficacia il concetto di city-region ai contesti africani e comprendere quali opportunità esistono adottando i CRFS come unità amministrativa. La cooperazione decentrata emerge come fondamentale per rafforzare i contributi dei CRFS, suggerendo un approccio multidimensionale per costruire sistemi alimentari resilienti e sostenibili.

Key words: CRFS, Africa, urban food system, decentralised cooperation

Introduction

Acknowledging the multiple impacts of the COVID-19 pandemic on African urban food systems, the present work offers an in-depth examination of how the City-Region Food System (CRFS) concept has been applied in academic literature, with a particular focus on African cities, where the sustainability of food systems has been further strained by the COVID-19

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pandemic and other recent crises. These challenges include the heavy dependence on lengthy and complex food supply chains, the limited adaptability of agribusinesses, and the significant effects of corporate consolidation (FAO, 2018).

By relying on a Systematic Literature Review carried out on the Scopus database, the article discusses the introduction and application of the City Region Food Systems (CRFS) approach in the African continent. This approach was strongly promoted as a strategic response to the pandemic, aiming to enhance urban-rural linkages and re-localize food supply chains to create more sustainable, resilient, and inclusive food systems (Zuleta Ferrari, 2020; Dreschel, 2020; Blay-Palmer, et al., 2021).

The article also explores the effectiveness of the 'city-region' concept in CRFS, a term fraught with definitional ambiguity, particularly dealing with the problematic context of African cities, where urban areas often defy conventional categorizations used in global discussions on urbanisation and regional planning.

Food in African cities and the leftovers of COVID-19

The proportion of the population living in major urban centres across various African countries increased from 32% in 1990 to 39% in 2010 (UN-Habitat, 2020). This growth is projected to reach 68% by around 2050 (United Nations, 2015). However, more recent studies suggest that this urbanisation trend is accelerating even faster, with most of Africa's population already living in urban areas by 2015 (Moriconi-Ebrard, et al., 2020; OECD, et al., 2022). In this context, the vulnerability of urban areas, particularly concerning food security, is becoming a pressing issue (Bruno, Tesfay, & Dansero, 2023).

Historically, food insecurity has been primarily viewed through the lens of food scarcity and the challenges of inadequate food supply (Bricas, et al., 1985; Bricas & Tchamda, 2017), with little attention to the urban dimension of food security (Crush & Riley, 2018). The African Food Security Urban Network (AFSUN) reported in 2012 that 57% of households in the poorest neighbourhoods of major African cities were severely food insecure, while only 17% could be considered fully secure in terms of accessibility and purchasing power (Crush, et al., 2012). This statistic is significant when considering that food purchases in African cities account for approximately 50% of daily household expenditures (Battersby & Crush, 2014).

Moreover, the COVID-19 pandemic has severely tested food systems worldwide, particularly in African urban areas (FAO, 2020; ICLEI & FAO, 2020). This crisis has necessitated a profound reconsideration of food security policies, which have been heavily reliant on

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international trade at the expense of local production (Moseley & Battersby, 2020). Indeed, as food systems in Africa strongly rely on imports for many basic foods which make up an important portion of local diets, like rice for example (Sers & Mughal, 2020), the COVID-19 pandemic had significant impacts on imports, exports, and distribution, which hindered due to logistics constraints, ships quarantine and transportation congestion (Sherzad, 2020). The shortages in food caused price spikes, especially in basic goods like wheat and rice, further worsening the already vulnerable conditions of people experiencing forms of food poverty, or creating newer forms of deprivation (FAO, 2018; UNICEF, 2020).

International Cooperation and Urban Food Policies in Africa

International cooperation has long been a cornerstone for addressing global challenges, including food security, climate change, and sustainable development, and the abrupt cessation of these cooperative efforts due to the pandemic had severe consequences (Elechi, Nwiyi, & Adamu, 2022).

Firstly, the suspension of international projects meant that critical support and resources intended to bolster local food systems were delayed or made absent (Paterson, 2021; GAFSP, 2021). Then, projects aimed at improving agricultural practices, enhancing food distribution networks, and fostering sustainable practices were disrupted, leading to immediate and long-term setbacks for communities reliant on these initiatives (Olaniyi, et al., 2021).

Finally, with international collaborations on hold, countries were compelled to rely more heavily on their internal capacities, which in many cases were already under significant strain (Blay-Palmer, et al., 2021). The sudden surge in demand for local production, coupled with disruptions in labour markets and logistical challenges, exposed the vulnerabilities within national food systems.

Many studies addressed the role of Urban Food Policies (UFP) in dealing with the aforementioned issues of food security, especially in the African context (Morgan, 2009; Moragues-Faus & Morgan, 2015; Smit, 2016; Battersby, 2017; Bini, et al., 2017).

The subject of Urban Food Policies (UFP), also known as Local Food Policies (Dansero, et al., 2019), holds significant relevance in Africa, especially given the continent's rapid urbanization and population growth. Although largely emerging in the Global North (Morgan, 2009), the expanding global focus on UFPs is no longer confined to this context, as the systemic approach adopted by this set of tools is emerging as significant in the Global South too, where poverty,

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hunger, and climate change intersect most acutely (Morgan, 2015). Many African cities are increasingly engaging with UFPs to enhance their local food systems and promote equitable access to nutritious, and quality food.

Numerous studies have examined the role of UFPs in Africa (Marsden & Morley, 2014; Magarini, et al., 2017), their potential as drivers of local development (Filippini, et al., 2019; Balineau & Madariaga, 2020), the interaction between urban governance and food supply chains (Battersby & Watson, 2018; Bruno, et al., 2022), and the use of food as a tool of governance (Trough, 2017; Chassé, 2017).

This growing focus on food-related urban initiatives has fuelled a dynamic landscape of projects, particularly within decentralized cooperation frameworks. The latter is rooted in fostering equitable dialogues that transcend traditional "donor-recipient" relationships. In the context of Urban Food Policies, such cooperation offers the potential to reshape processes, overcoming pre-existing top-down perspectives (Magarini, et al., 2017).

In 2001, FAO introduced the multidisciplinary "Food for Cities" initiative (FAO, 2011), and in 2013, the Bonn Declaration marked the first meeting of mayors to discuss Urban Food Policies (Magarini, et al., 2017). Further partnerships, including those by UN-HABITAT and UNEP, have facilitated collaborative networks around urban food issues at various scales (Salbitano, et al., 2017). In 2020, FAO launched the Green Cities initiative, aiming to improve the quality of life in urban and peri-urban areas by promoting sustainability, resilience, and multi-actor collaborations in 100 cities worldwide, including several African urban centers such as those in Senegal, Cameroon, Cape Verde, Ghana, Kenya, Madagascar, Tanzania, and Zambia (FAO, 2020).

About these processes, the role of the Milan Urban Food Policy Pact (MUFPP) has been crucial to activate innovative projects of decentralised cooperation in Africa's urban contexts (Magarini, et al., 2017; Dansero, et al, 2017). Signed in 2015, the MUFPP, now embracing more than 300 cities worldwide, is formed by urban governments and international organisations working collaboratively on Urban Food Policies. So far, 41 African cities have joined the pact. The expanded participation of cities has led to the creation of Regional Forums, platforms for exchange among cities belonging to the same geographic area. Several African cities have initiated innovative cooperative projects on the topic of food. The African Regional Forums, which began in Dakar in 2016 and were subsequently held in Brazzaville (2018),

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Niamey (2019), Ouagadougou (2021) and again in Dakar (2023), are managed directly by the cities involved and have strengthened important local collaborations (Magarini, et al., 2017).

Introducing City-Region Food System in the international cooperation framework

Hence, in light of the stress posed on food systems by the outbreak of the pandemic, as well as the links between international cooperation, urban food systems and Urban Food Policies, it is necessary to mention the work developed by FAO, in partnership with RUAF, about City Region Food Systems (CRFS).

CRFS has been developed from the geographical concept of city-region (Forster, et al., 2015; Rodriguez-Pose, 2008), and was defined by FAO as "the complex network of actors, processes and relationships to do with food production, processing, marketing, and consumption that exist in a given geographical region that includes a more or less concentrated urban centre and its surrounding peri-urban and rural hinterland; a regional landscape across which flows of people, goods and ecosystem services are managed" (Forster, et al., 2015, p. 8; Morgan, 2009). This framework aims to support the strengthening of urban-rural linkages, rethinking urban food systems and promoting relocalisation of the food chain, to ensure more sustainable, inclusive and just food systems.

Since its development, CRFS has been applied to a wide variety of contexts internationally, both as a tool in the urban planning of cities around the world and as a methodological framework in projects of decentralised cooperation (Santini, et al., 2019; Lassalle, 2021). As Blay-Palmer et al. (2018) state, CRFS is "both a conceptual framework and an integrative operational approach" (p.2). CRFS concentrates on particular metropolitan areas, but still it operates within larger food networks that connect these areas to national and international food systems. This calls for reflection on the relationships between local, regional, national, and international food supply chains, as well as the goal of embracing a "local responsibility for the global" (Massey, 2005, p. 155) and moving away from extractive to solidarity-based trade relations (Krähmer, 2023).

In this framework, it is also relevant to mention that rural landscapes are frequently subjugated by the existing global food system, which transforms them into operational landscapes of vast "planetary urbanization" (Gosh & Meer, 2021; Brenner & Schmid, 2015). One way to combat this process is to create CRFS that are robust and sustainable, in a food systems perspective that tackles the global north-south dynamics as well as the practice and discourse of urban domination over rural areas (Spanier & Feola, 2022; Guerrero, et al., 2024). Hence, it is relevant

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to understand how this theoretical framework applies to African cities, considering the challenges these territories had to overcome because of external stresses, and in a perspective of decentralised cooperation projects.

Conceptualising the city-region perspective in African cities

Before delving into the specific features of the adoption of CRFS in African cities, it is helpful to understand if the city-region, as per how conceived in economic geography (Brenner & Schmid, 2015), connotation applies to the urban centres located in this continent. Indeed, while there is consensus on the essential characteristics of a city-region, the absence of a universally accepted definition results in a broad spectrum of interpretations across various spatial scales below the national level. As affirmed by others (Battersby & Watson, 2019; Krähmer, et al., 2022), this definitional ambiguity is not an issue of meanings only; rather, it implies a lens for reading urban systems which might not apply effectively.

According to previous urban research (Scott, 2001; McCann, 2007), the term "city-region" refers to urban spatial configurations that span significantly different territorial scales without a fixed definition. It is often used to emphasise the extensive size or broad scope of a metropolitan area (Scott, 2022).

It sometimes encompasses various forms, such as conurbations, urban agglomerations, and other urban clusters, distinguished by their population density and economic interconnections (ibid.). Thus, the concept of the city-region is inherently dynamic, necessitating adaptation to diverse environmental contexts. Moreover, the discourse on city-regions, though robust and extensive in the international arena, has largely overlooked African contexts (Beall, et al., 2015). This oversight is significant, as city-regions are rarely viewed as an African component, remaining largely invisible in global city-region rankings and discussions.

Notoriously characterised as the world's most anti-urban continent, Africa's major cities and their regional dynamics are frequently absent from empirical studies that have shaped the international city-regional literature for decades. This literature has predominantly developed from reference points outside Africa, which fail to consider the unique urbanisation patterns and city-visioning strategies observed in the continent (ibid.).

Despite this lack of recognition, the reality on the ground tells a complex story. Across Africa, rapid population growth and urbanisation are transforming settlements on the edges of large cities. These areas, once marked by independent subsistence or rural economies, are

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increasingly becoming integral to the urban frameworks of large cities. They contribute to the city's ecosystem services, infrastructure, labour markets, and broader economic footprint. In post-apartheid South Africa, for example, what was once considered 'peri-urban' areas have become recognized as part of the functional city-region (Nhamo, et al., 2021). These areas have been redefined as urban and incorporated into the regulatory and fiscal management of geographically extended municipalities. Incorporating the data about Gauteng, a province in South Africa, further illustrates the complexity and significance of city-regions in Africa. Despite being the smallest of the nine provinces with a land area of only 18,170 km², representing just 2% of the national land area, Gauteng has the highest population density in the country, with approximately 15.5 million people, or 26% of South Africa's total population (Korah, et al., 2024). This stark contrast highlights how such a small geographical area can exert substantial influence and play a key role in the national context, not only due to its dense population but also because of its economic significance. This evolving urban landscape in Africa underscores the need for a better understanding and inclusion of African cities in the global city-region discourse. Recognizing and integrating African experiences can enrich the city-regional literature and offer new insights into urban planning and policy formulation, ensuring that they reflect the real and diverse dynamics of cities across the continent, other than offering innovative platforms of dialogue and cooperation among sparse urban centres.

CRFS and decentralized cooperation

Although the concept of CRFS has not always been widely named in cooperation projects yet, many initiatives align with its principles by striving to localise and integrate local food systems to enhance sustainability and equity. In projects of decentralised cooperation, the aim has often been to bolster local food systems while fostering more equitable relationships between donors and recipients. Specifically, Urban Food Policies have evolved from traditional north-south cooperation to establishing more symmetrical, local horizontal partnerships (Bini, et al., 2017; Magarini, et al., 2017). Recently, the European Union has launched initiatives under the Horizon 2020 framework, such as the "African Food Cities" and "EU-African Union" calls, highlighting the importance of supporting decentralised cooperation within urban contexts. Within these calls, most of the projects, while adhering to sustainability and resilience principles, have implicitly adopted a CRFS approach.

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For instance, the INCITIS[1] project exemplifies the merging of circularity with agri-food technologies to enhance food availability and accessibility across eight African cities. By promoting local production, waste reduction, and responsible consumption, it adheres to the CRFS model. This approach seeks to integrate urban and rural areas through circularity, ultimately aiming to improve food security within these regions. Similarly, AFRIFOODLINKS[2] operates in 15 African and 5 European cities, developing urban food systems through decentralized cooperation, and mutual learning mechanisms. By advocating for sustainable diets, agri-food technologies, and inclusive multi-actor governance, AFRIFOODLINKS emphasizes re-localization, local production, and the strengthening of urban linkages, all of which align with CRFS principles. Lastly, HEALTHY FOOD AFRICA[3] engages 17 partners from both Africa and Europe, focusing its efforts on 10 African cities. By employing the Food System Labs approach, this project addresses a variety of themes, with a strong emphasis on enhancing local food production and governance. This includes reinforcing connections among small local food chain actors and reducing the distance between producers and consumers. Collectively, these initiatives underscore a significant shift towards integrating food-city themes in decentralized cooperation projects, highlighting a renewed focus on localizing urban food systems. But most importantly, the principles they embrace align with those promoted by the City Region Food System approach, these projects enhance the involvement of local actors and synergies, thereby improving urban-rural linkages at the local level.

The research question

The adoption of the City Region Food System (CRFS) approach in African cities presents both significant opportunities and notable challenges. As a theoretical and operational tool, the CRFS approach supports the rethinking and restructuring of local food systems in Africa, encouraging the recognition and addressing of site-specific challenges and opportunities. Research in the African context suggests that the application of the CRFS approach can expand perspectives on achieving positive change in urban food systems (Haysom & Fuseini, 2019). However, to effectively foster systemic transformation, it is imperative to address critical issues inherent to the diverse and place-based characteristics of African urban food systems. This includes the

[1] Incitis Food project, available at: https://incitis-food.eu/. Accessed on 22/11/2024.
[2] AfriFOODlinks project, available at: https://afrifoodlinks.org/. Accessed on 22/11/2024.
[3] HealthyFoodAfrica project, available at: https://healthyfoodafrica.eu/. Accessed on 22/11/2024.

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need to integrate local supply chains within a broader framework of globalized food networks. Furthermore, the CRFS approach must be tailored to the unique socio-economic, cultural, and environmental contexts of African cities. Thus, a critical question arises: how is the CRFS approach applied in African urban centres to address the specific challenges of food systems? And what contributions have been underscored?

The methodology of the research

The research methodology employs a rigorous, multi-step approach to investigate the emergence of the CRFS approach in African cities. Initially, a keyword search was executed using the Scopus database, targeting the terms "city-region*", "food", "system", and "Africa". This search produced 77 preliminary results (Table 1). Only articles in English were considered; irrelevant ones were excluded if 1) empirical research was lacking, 2) a clear analysis of CRFS and African cities was missing 3) the theoretical grounding of the CRFS framework was not debated. The titles and abstracts of the remaining 14 underwent an analysis using the WordStat software to elucidate word correlations and identify salient themes. Single words' frequencies were considered; hence, the analysis took into consideration how often single voices occurred, shedding light on the thematic priorities within the literature. Secondly, it analysed the phrases; so, it considered the juxtaposition of relevant words according to the text.

Table 1 – Table showing the number of resources related to the search string used for the research on the Scopus database

Database	Search String	N. of results
Scopus	TITLE-ABS-KEY (city AND region AND food AND system AND africa)	77

Results

The City-Region Food Systems (CRFS) approach has emerged as a vital framework for addressing the intertwined challenges of food security in Africa's rapidly urbanizing contexts (Lane et al., 2012; Nhamo et al., 2021; Karg et al., 2016). By focusing on the regional linkages between cities and their surrounding rural areas, the CRFS model highlights the importance of viewing food systems as interconnected networks, rather than isolated rural or urban entities (Paganini et al., 2020; Mathinya et al., 2022).

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Table 2 – Schematization of the articles' content deriving from the thematization of the literature resulted from the SLR, reporting the main topics of articles, their frequencies in articles' content and the related references.

Main Topic	Frequency	References
Urbanization	4	(Nhamo et al. 2021; Warshawsky 2016; Hannah et al. 2022; Lane et al. 2012).
Urban and Peri-Urban agriculture	4	(Paganini et al. 2018; Bellwood-Howard et al. 2018; Crush and Caesar 2014; Karg et al. 2023).
Food Security and Resilience	4	(White and Kampanje-Phiri 2019; Blekking et al. 2020; Das and Chirisa 2021; Mathinya et al. 2022).
Governance and Policy Implications	2	(Chirisa and Bandauko 2015; Asiama et al. 2021; Warshawsky 2016).

Among the literature taken into consideration, visible in Tab. 2, where the articles were thematized and each article has been counted one time, it is relevant to mention some interesting contributions; at first, we consider Blekking et al. (2020) who highlight the difficulties in assessing food security in urban settings using conventional metrics. Their analysis of household data from Lusaka reveals disparities in food access based on employment type and socio-economic status. By situating their findings within a CRFS context, the study points to the need for tailored food security measures that consider the complex interactions between urban consumers and regional food suppliers. This perspective reinforces the value of a city-region approach in capturing the full scope of urban food security challenges.

White and Kampanje-Phiri (2019) challenge the common narrative that labels local food economies as merely "informal", suggesting that this mischaracterization diminishes their true value. By embracing the CRFS lens, their work emphasizes the crucial role that local markets and food networks play in enhancing food security across both urban and rural areas. This approach advocates for a shift in policy focus, recognizing the significance of these regional systems in sustaining livelihoods and fostering economic stability.

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Related, there is Hannah et al.'s work (2022), that explores how the CRFS perspective sheds light on food sourcing patterns in secondary cities of Sub-Saharan Africa, revealing that traditional open-air markets remain vital for low- and middle-income households, despite the rise of supermarket chains. This finding challenges the prevailing assumption that modern retail will dominate urban food landscapes and highlights the resilience of regional food networks in shaping household food access. In this framework, it is interesting to underline how others provide an in-depth analysis of food flows in four West African cities, using the CRFS approach to map the transportation and distribution networks that facilitate regional food movement (Karg, et al., 2022). Their findings illustrate the logistical complexities of these city-regions, highlighting the need for improved infrastructure and better coordination across transportation modes. The study's focus on the movement of food commodities aligns well with the core principles of the CRFS framework, which emphasize understanding and optimizing regional flows to support urban food security.

An important contribution emerges from the examination of small-scale farming in South Africa by Mathinya et al. (2022) who exemplify how the CRFS framework can offer deeper insights into agricultural productivity challenges. The research shows that low output levels are not just the result of biophysical constraints but are also tied to broader regional disparities in infrastructure, market access, and policy support. By considering small-scale farming within a regional food system context, the study points to the need for multi-level interventions that go beyond farm-level solutions, integrating smallholders into regional value chains and supporting diverse livelihood strategies.

Bellwood-Howard et al. (2018) bring attention to the role of urban and peri-urban agriculture (UPA) in shaping city-region food systems in West Africa. Their spatial analysis of farming practices in Tamale and Ouagadougou reveals how the historical and geographical context of urban agriculture influences its integration into the regional food system. In Tamale, more relaxed planning regulations allow isolated urban farms to play a significant role in the market, while in Ouagadougou, open-space farming predominates. These findings suggest the importance of adapting urban agriculture policies to the specificities of each city-region to maximize its contributions to food security.

Instead, Nhamo et al. (2021) apply the CRFS approach to assess the environmental impacts of urbanization in the Gauteng City-Region, identifying critical issues related to land use, water management, and service delivery. Their analysis advocates for integrated planning strategies that take into account the interconnected nature of urban infrastructures. By aligning ecological

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and built environments within a CRFS framework, the study demonstrates how holistic planning can enhance resilience and mitigate the risks associated with rapid urban expansion.
The theme of agriculture is then connected to the urban, as discussed by Paganini et al. (2018), and fits naturally within the CRFS model. The study highlights how urban farming in Cape Town and Maputo contributes to dietary diversity, income generation, and community cohesion. By embedding urban agriculture within the broader food system, the research reveals its potential to act as a buffer against supply chain disruptions, reinforcing the importance of localized food production in city-regions. However, challenges related to market access and agroecological practices remain, necessitating further integration of urban farming into formal urban planning.
The matter of food governance issues emerges too; in particular, some evaluate how, in Msunduzi, South Africa, the dominance of supermarket chains limits the role of informal markets, making it harder for poorer households to access diverse and nutritious food options (Crush & Caesar, 2014). By incorporating a CRFS perspective, the study suggests that a more inclusive governance model is needed, one that acknowledges the contributions of both formal and informal food networks in maintaining food access for all urban residents.
The study by Das and Chirisa (2021) takes the CRFS approach a step further by proposing a water-nutrient-food nexus model. This framework explores how wastewater management can be linked to nutrient recovery and urban food production, turning waste streams into valuable resources. By framing the city-region as an interconnected ecological system, the research offers practical solutions for resource efficiency and enhanced food production, aligning closely with the regenerative goals of the CRFS framework.

The analysis of the texts reveals several key insights into the use and importance of the CRFS concept. Concerning the first results, the term “urban” stands out prominently, appearing 91 times and accounting for 20.97% of the total word frequency. Unsurprisingly, urban areas represent the focus of the debate surrounding the CRFS, which aims at rethinking and reshaping the ways in which food systems are organised on the urban scale. Further scrutiny reveals that terms “cities” and “agriculture,” each appearing 25 times, indicate a balanced focus on both urban environments and agricultural practices. This word duo supports the idea that the scholarly debate around the CRFS, is pressing on the need to rethink the city and its relationship with agriculture. In accordance with CRFS principles, the aims might regard the reconnection and integration of agriculture in urban areas, exceeding the heterodox perception that

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agriculture belongs to the rural landscapes far away from the city. The frequent appearance of terms “security” and “systems,” each mentioned 25 and 23 times respectively, reflects the compelling concerns with food security and the systemic nature of food policies. Nonetheless, the marked distinction between the first term, urban, and the others, reveals a specific connotation of research concerning food, which is strongly anchored to cities yet.

The second analysis offers a more refined perspective, focusing on the specific prominence of coupled words. Nonetheless, again, “Urban Food” is the key concept and appears 29 times. This term’s frequent occurrence underscores its significance as a dominant theme in the literature on CRFS. Secondly, the prominence of “food security” mentioned 22 times, further emphasises the critical intention of scholars to investigate this specific issue. This is closely followed by “food systems”, which appears 20 times, pointing to the necessity of adopting a holistic view that encompasses all aspects of food production, distribution, and consumption. Additionally, terms such as “urban agriculture”, appearing 18 times, and “urban food systems” mentioned 10 times, indicate a substantial interest in integrating agricultural practices within urban settings and understanding their broader systemic implications. This interest reflects the growing recognition of urban agriculture as a viable solution to enhance food security and sustainability in rapidly urbanising regions.

Discussion

The thematization of the CRFS literature reveals a significant scholarly engagement within the CRFS framework, emphasizing not just the centrality of urban areas but the complex interrelations between cities, agriculture, and food security. This interconnectedness challenges traditional dichotomies between urban and rural, advocating for a holistic understanding of how food flows, governance, and production practices shape resilient city-region systems. Although scholars’ discourses on the CRFS have given little attention to the African context, often regarded as inherently anti-urban, our literature review reveals quite high interest rates in this area. Again, the findings clearly indicate a focus on urban landscapes, while underscoring the importance of integrating agriculture in cities and strengthening the connections between rural and urban areas in Africa.

While the CRFS may function as an analytical lens to explore how a given urban food system is organized and operates, or it can be implemented as a governance tool to administer and reshape local food systems effectively, it is evident that food systems intersect with a wide array

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of themes and disciplines. Similarly, strategies for re-localizing food systems in response to external shocks are inherently complex. This complexity arises not only because each food system is unique to its specific context but also because each territory, and consequently each metropolitan area and its surroundings, is organized and managed differently. While it is feasible to delineate a specific foodshed for a particular urban area (Karg, 2016), it is crucial to recognize that local nutritional needs are often met by extending the supply chain beyond the defined city-region. Focusing on specific metropolitan areas, the CRFS model operates within broader food networks that link these regions to both national and global food systems. In African contexts, where metropolitan dynamics involve numerous connections among diverse actors and sectors that are not immediately visible, the complexity of CRFS is particularly pronounced. The current global food system frequently subjugates rural landscapes, transforming them into operational assets for extensive urbanization, reflecting global north-south dynamics (Spanier & Feola, 2022; Guerrero, et al., 2024).

Theoretically, the CRFS can disrupt this dynamic by involving rural communities in the development of food system policies. However, given that each food system is specific to its environment and that the administration and organization of a metropolitan area differ from those of its surrounding areas, it is imperative to adopt a multi-scale approach to food system planning.

By addressing site-specific opportunities and challenges, the CRFS approach may provide a viable foundation for enhancing local food systems in African cities. However, effective implementation requires a thorough understanding of the distinct socioeconomic, cultural, and environmental contexts of African urban centres. By incorporating African experiences into the global city-region discourse, policymakers and urban planners can develop more inclusive and effective strategies that reflect the diverse and dynamic realities of cities across the continent. The findings highlight the critical importance of integrating both agricultural and urban environments in food planning to enhance food security and sustainability in rapidly urbanizing areas.

Moreover, recent decentralized cooperation projects have demonstrated a commitment to re-localizing food systems, increasing local production, and rethinking the relationships between urban and peri-urban areas, as well as between producers and consumers, aligning with the core principles of the CRFS model. In the context of African cities, as evidenced by these projects, incorporating this approach into cooperation efforts is crucial. Collaborative projects should

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aim to relocalize food systems to improve both economic and material food accessibility and to understand the unique opportunities and obstacles of each urban food system. The ultimate goal should consist in promoting a decentralized cooperation logic, encouraging cities to engage in dialogue based on shared needs. This approach not only addresses immediate food security concerns but also fosters long-term sustainability and resilience in urban food systems, accommodating the diverse and dynamic realities of African urban centers. By leveraging the CRFS framework, be that as an analytical or governance tool, cities can navigate the complexities of local and global food interactions in a context of international cooperation, ultimately enhancing food security and promoting equitable development.

Conclusion

In conclusion, analysing City Region Food Systems (CRFS) within African cities highlights the urgent need for enhanced local governance and robust Urban Food Policies, especially in light of the multifaceted impacts of the COVID-19 pandemic. Indeed, the pandemic has exacerbated existing challenges within African urban food systems, including heavy reliance on lengthy and complex supply chains. The CRFS approach offers a strategic response by aiming to strengthen urban-rural linkages and relocalize food supply chains, fostering more sustainable and resilient food systems. However, applying the city-region concept within the African context reveals a need for further refinement and adaptation, and the inadequacies of one-size-fits-all approaches. African cities often defy conventional categorizations, indicating additional work is required to fully realize the potential of CRFS in these settings. Despite the clear need for localized food systems, the deeply ingrained global nature of African cities' supply chains must be acknowledged. These global connections play a significant role in current food system dynamics, and any approach to CRFS must integrate these linkages to ensure effectiveness and sustainability.

Moreover, the role of CRFS as an administrative unit proves valuable, offering a framework for coordinated efforts and integrated policies that address the specific needs of urban food systems. This administrative structure enhances local governments' capacity to implement

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targeted interventions and support resilient food systems. Decentralized cooperation also emerges as key in boosting CRFS contributions. Fostering collaboration among local governments, communities, and stakeholders can enhance CRFS initiatives, promoting shared learning, resource mobilization, and collective action. The findings underscore the necessity for African cities to adopt a multifaceted approach to urban food governance. Combining the strengths of local and global food supply chains, leveraging CRFS administrative capabilities, and encouraging decentralized cooperation is essential for building resilient, sustainable food systems capable of withstanding future shocks and enhancing urban populations' food security.

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