Urban governance and urban food systems in Africa: Examining the linkages

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ABSTRACT

Urban food systems have increasingly been recognised as a topic that needs to be better understood, in order to address issues of urban food security and urban poverty. This is particularly so in Africa, which has high rates of urban population growth and high levels of urban food insecurity. There has, however, been surprisingly little work on examining the existing processes through which urban food systems are governed. In this article, based on a review of the relevant literature, I examine what we know about urban governance and urban food systems in Africa. The governance of urban food systems in Africa is complex, with a range of governance actors with competing agendas. These governance actors impact on urban food systems, and thus on urban food security, in a variety of ways, including: the impact on food production (e.g. urban and peri-urban agriculture); the impact on the distribution of food; the impact on the retail of food by formal and informal traders; and the impact on food safety. There are many gaps in our knowledge about urban governance and urban food systems in Africa, including: processes in secondary cities; the role of, and impact of, local governments on urban food systems; the impact of inadequate transport systems on food distribution; and the impact of supermarkets (and their expanding supply chains) on urban food systems. We need to better understand existing urban governance processes, and their impacts on urban food systems, in order to be able to collaboratively design interventions to improve urban food security in Africa.

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1. Introduction

Urban food systems have increasingly been recognised as a topic that needs to be better understood in order to address issues of urban food security and urban poverty (e.g. Battersby, 2013). Although there has been much work on how the governance of urban food systems can potentially be improved, there has been surprisingly little work examining the existing processes through which urban food systems are governed. This is a particular concern in Africa, with its high rates of urban population growth and high levels of urban food insecurity. As Porter et al. (2007: 116) suggest, there are complex processes and rules shaping food systems in Africa, and "[w]e need to know more about how these formal and informal regulatory systems operate if we are to improve access to markets and thus enhance urban food supplies and also secure income and livelihoods". In this article, I examine what we know about urban governance and urban food systems in Africa, and identify key gaps in our existing knowledge.

This paper is based on a review of literature on urban governance, urban food security and urban food systems, with a particular focus on Africa. The emphasis was on peer-reviewed material from the last fifteen years, but a few publications that were older or not peer reviewed, but regarded as being of particular significance, were also included. The

search was for publications on governance and food more broadly, but the papers resulting from the search were then reviewed to check whether they were of relevance to the governance of urban food systems in Africa. A total of 257 publications were identified in the initial scan, of which 101 were deemed to be relevant. Given word constraints, not all of these publications were able to be cited in this paper.

First of all, I discuss urban food systems, with a focus on Africa. I then examine the concept of urban governance and the linkages between urban governance and urban food systems. The key ways in which urban governance impacts on urban food systems in Africa include: the impact on food production (e.g. urban and peri-urban agriculture); the impact on the distribution of food; the impact on the retail of food by formal and informal traders; and the impact on food safety. Finally, I identify key gaps in our knowledge on urban governance and urban food systems in Africa.

2. Urban food systems in Africa

The urban population of Africa has been growing rapidly, from an estimated 203 million in 1990 to an estimated 401 million in 2010 (UN-Habitat, 2014). During this period, the proportion of Africa's population living in urban areas was estimated to have increased from 32% in 1990 to 39% in 2010, and is expected to reach 50% by the 2030s (UN-Habitat, 2014). Much of this growth is taking place in intermediate and smaller cities; for example, urban settlements with populations of less than

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500,000 people are absorbing two-thirds of all urban population growth in Africa (UN-Habitat, 2008). It is also important to note that an estimated 46% of Africa's urban population lives in informal settlements and other types of slums — areas lacking adequate housing and services — and the majority of new urban population growth is taking place in these types of areas (UN-Habitat, 2008, 2014).

Steel (2008: 10) suggests that "[i]n order to understand cities properly, we need to look at them through food". This essentially means we need to understand urban food systems. An urban food system can be conceptualized as "a set of activities ranging from production through to consumption" (Ericksen, 2008: 234). These activities include production, processing and packaging (of which usually only a small proportion of these activities would be undertaken in and around the particular city in which the food is consumed), and distribution, retailing and consumption (Ericksen, 2008). Distribution and retailing are particularly important parts of urban food systems; they include "all activities involved in moving the food from one place to another and marketing it" (Ericksen, 2008: 238). It is important to note that food in urban areas is overwhelmingly purchased rather than produced by households. A study of five cities in the global South, including two African cities (Accra, Ghana, and Kitwe, Zambia) found that "households were overwhelmingly dependent on purchased food… For a majority of the city populations, in both the poorer neighbourhoods and the better-off areas, food accounted for half or more of all expenditures" (de Zeeuw & Prain, 2011: 37). The final set of activities in urban food systems relate to the consumption of food, which includes "everything from deciding what to select through to preparing, eating and digesting food" (Ericksen, 2008: 238).

A well-functioning urban food system can be regarded as one that ensures a high level of food security to residents, while simultaneously contributing to sustainable social and economic development (Ericksen, 2008). Food security can be defined as being when "all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 2009: 1).

The three key elements of food security are (Ericksen, 2008):

- Food availability: the amount, type and quality of food available, which depends upon production, distribution and exchange mechanisms (such as retail).
- Food accessibility: the ability to access the food required, which depends on households' purchasing power and the price of food, the various market and non-market mechanisms through which food is allocated, and the "social or cultural norms and values that influence consumer demand for certain types of food" (Ericksen, 2008: 240)
- Food utilization: the nutritional value of the food that is accessed, and food safety.

As most urban households depend on purchased food, affordability is usually the most important factor in determining food security. As a result, "[l]ow household income levels limiting access to food is the main cause of food insecurity, not the food availability as such" (de Zeeuw & Prain, 2011: 38). The economic crisis of the 1970s and 1980s led to declining incomes, growing poverty and increased informalization of urban economies in Africa, which in turn resulted in decreased urban food security (Maxwell, 1999). Nairobi, Kenya, is typical of the urban food security situation in Africa: "47% of the population is food-insecure", and "low- and medium-income households spend about three-quarters of their income on food... food is usually available but a nutritionally adequate diet is too costly for at least one third of households" (Dixon et al., 2007: i122). The net result is undernutrition. For example, surveys in Accra and Kitwe found "some 20-30 percent of the households in the low-income areas spend almost 100 percent of their available income on food", and that there were "disturbingly high levels of stunting (chronic malnutrition) and wasting (acute malnutrition) among children in both the lowest income and the

poor-middle income populations" (de Zeeuw & Prain, 2011: 37). Food security is particularly a problem in slum areas, which are characterized "by high food insecurity and low dietary diversity, with multiple market and non-market food sources but variable household access to food" (Battersby & Crush, 2014, p. 143). For example, a survey of 3000 households in slums in Nairobi found that 85% of households were food insecure (Kimani-Murage et al., 2014).

3. Urban governance and urban food systems

Governance can be defined in various ways. Many definitions are intertwined with normative notions of "good governance" and arguably focus too much on what should be rather than helping understand what is (Doornbos, 2001; Pearce, 2003). For example, the World Bank's definition of "good governance" has been criticized for being too depoliticized and for being associated with elements of neoliberal ideology, such as the need to promote conditions favourable for international businesses (Olivier de Sardan, 2011). Many scholars have found it more useful to use the concept of governance in a more analytical way to examine "the interactive relationships between and within government and civil society actors in cities" (Rakodi, 2004: 68) and "the range of political, organizational, and administrative processes through which stakeholders (including citizens and interest groups) articulate their interests, exercise their legal rights, take decisions, meet their obligations, and mediate their differences" (Bakker, Kooy, Shofiani, & Martijn, 2008: 1894).

One of the key characteristics of using a governance lens is the recognition that there is a wide range of actors involved in governance, such as various government organizations, civil society organizations – for example, non-governmental organizations (NGOs) and community groups – and the private sector (Devas, 2001). Using a governance lens is essentially about understanding these actors and the relationships between them. The distribution of power can be conceived of as being dispersed among these different actors and "exercised from innumerable points" (Foucault, 1976/1998: 94) by individuals such as "planners, policy analysts and researchers, and politicians" (Richardson, 1996: n.p.). Power is not evenly distributed, however, as there are particular "centres" or "nodes" with concentrations of power (Lindell, 2008). These "governance nodes" are groups of decision-makers where knowledge, capacity and resources are mobilized to manage the course of events (Johnston & Shearing, 2003; Shearing & Wood, 2003). These governance nodes impact on cities and towns through a range of "formal" and "informal" decision-making and regulatory processes (formality/informality should be regarded as a continuum rather than a dichotomy, but I use the terms to refer to the respective ends of the continuum). As Devas (2004b) notes, informal governance processes are, in practice, often more important than formal governance processes.

Urban governance can potentially impact on all parts of urban food systems. Key governance activities that can impact on urban food systems include the following:

- The provision of infrastructure, such as water, electricity, and roads, which are essential for the processing, distribution and storage of food.
- The provision of support (advice, credit, tax incentives, etc.) for the production and processing of food.
- The regulatory environment, which can include "land use planning and retail sites, shopping hours laws, labor market regulations, and advertising codes, health claims legislation and consumer protection" (Dixon, 1999: 155). These regulations, which can be both formal or informal (or a combination), can impact on where food is or is not produced or processed, where and when retail is allowed or not allowed, the types of food that can and cannot be sold, and who is involved in producing, distributing and selling food.
- Education and awareness raising (both formal and informal) about

nutrition and diet can impact on the types of food that are produced and consumed.

Key actors in governing urban food systems can include all levels of government, the private sector (for example big supermarket chains and chambers of commerce), international donors with food programmes, NGOs that attempt to promote food security (for example, through supporting urban agriculture), marketing and distribution networks, traders associations, and community groups.

Local government often bears the formal responsibility for activities that fundamentally impact on urban food systems (such as providing infrastructure, land use planning, regulating trade and enforcing health regulations). Much of Africa did not have a tradition of strong local government in the colonial or early post-independence eras. However, from the 1980s onwards there was a shift towards decentralization in Africa as governments and international agencies decided that improved urban management, decentralization and local democracy were interlinked. By 2000, it could be claimed that there was not a single country in Africa in which some form of local government was not in operation (Oyugi, 2000). The implementation of decentralization in Africa has, however, been very uneven and partial (Andrews & Schroeder, 2003; Smit & Pieterse, 2014; UN-Habitat, 2008). It has been argued by some scholars that the rushed and partial decentralization of public authority has often resulted in local governments that are "weak, disorganized, inadequately trained and staffed, and often underresourced relative to the new range of responsibilities they are expected to take on" (Meagher, 2011: 51).

Simultaneously with increased decentralization, there has been a shift in recent decades in the way local governments in Africa operate, towards privatization and partnerships (Myers, 2005; Nunan & Satterthwaite, 2001; Olivier de Sardan, 2011). The implementation of Structural Adjustment Programmes in many countries helped introduce these shifts. In Nigeria, for example, since the 1990s, public services that were previously administered by local governments (such as health centres, water supply, road repairs, and the management of public facilities and parks) were to a large extent privatized (UN-Habitat, 2008). Privatization of service delivery often disadvantages the urban poor, who are unable to pay for adequate levels of service provision. This is exacerbated by local governments usually having "inherited a collection of repressive by-laws, and planning and building standards, which are unsuited to the needs and ability to pay of the poor" (Devas, 2001: 404).

Traditional leaders can also play an important role in urban governance in Africa (particularly in land allocation), and are often more accessible to residents than elected politicians are, although they can also be "unresponsive, corrupt and interested mainly in maintaining power and patronage" (Devas, 2004a: 118). Olivier de Sardan (2011) notes that their only real accountability is to higher levels of government.

Large private sector organizations, such as the multinational food production companies, play a particularly important role in the governance of urban food systems. In some cases, "[t]heir actions can be damaging to the poor, forcing them off land they occupy and preventing informal traders from operating" (Devas, 2001: 400). Informal business organizations can also play a role in urban governance (Brown, Lyons, & Dankoco, 2010). A study of informal business organizations in Nigeria highlights their limitations in affecting formal decision-making, though, noting that "small entrepreneurs pay their local government taxes and even some state-level taxes, but they continue to receive little in the way of basic services in return" (Meagher, 2011: 68).

There is a vast range of civil society associations who, in practice, play a key role in urban governance in Africa, such as ethnicity-based networks, home-town associations, youth associations, savings groups, funeral groups, and so on (Devas, 2001; Olivier de Sardan, 2011). Many of these have an impact on their members' access to food in various ways. In addition, many Western-style community associations have been set up by international development agencies to undertake

food production and processing activities related to "wells, grain mills, credit, seeds, market gardening, etc" (Olivier de Sardan, 2011: 25). Various types of religious associations (for example, charismatic movements and Islamic brotherhoods) also play an important role in urban governance in Africa, particularly with regards to humanitarian interventions such as providing food (Olivier de Sardan, 2011).

NGOs can also be important "in enabling communities to organize and articulate demands" (Devas, 2001: 401).

As can be seen, there is a wide range of actors involved in urban governance, with very different interests and agendas, and with few processes for reaching consensus or resolving competing interests. The net result is often chaotic. As Lindell (2008: 1896) notes of the governance of market places in Maputo, Mozambique, "governance appears to lack any semblance of coherence and to be more fragmented, disjointed and split by deep antagonisms. The key actors continuously challenge each others' legitimacy to 'govern'".

All of the different types of actors discussed above can play a role in the governance of urban food systems. In many cases this is not a conscious role, with the impact on urban food systems being largely unintentional (Pothukuchi & Kaufman, 1999, 2000). It is only is recent decades, mainly in the global North, that actors in urban governance have begun to explicitly think about urban food systems and how to promote urban food security.

There have been numerous attempts at local food security strategies in North America, such as setting up Food Policy Councils in an attempt to co-ordinate various governance actors in ensuring that urban food systems promote food security (MacRae & Donahue, 2013), but there are fewer examples in the global South. Belo Horizonte is the best known; in the 1990s, the local government of Belo Horizonte launched a food security programme, the three main thrusts of which were: to prevent malnutrition by assisting poor households and individuals at risk; working with the private sector to ensure increased accessibility, affordability and quality of staple foods and fruit and vegetables; and increasing food production and supply (Rocha & Lessa, 2009). There have been some tentative steps towards developing urban food system strategies in South Africa (Haysom, 2015), but, in general, the governance of urban food systems in African cities happens in an uncoordinated and unintegrated way.

In the following sections, I review the literature on four key aspects of governance of food systems in Africa: the governance of the production of food in and around cities, i.e. urban and peri-urban agriculture; the governance of food distribution; the governance of formal and informal food retail; and the governance of food safety, both in terms of the safety of the food itself and the safety of food production and preparation processes.

4. The governance of urban and peri-urban agriculture in Africa

Agriculture in cities is an element of the urban food system that is within the ambit of urban governance. The importance of urban agriculture varies considerably between cities and countries in Africa, and is often quite limited (Crush, Hovorka, & Tevera, 2011; Zezza & Tasciotti, 2010). It is important to note that there are different types of urban agriculture in Africa, with different dynamics. The distinction between rainy season urban agriculture and dry season urban agriculture is particularly important; the example of Lusaka, Zambia, shows that dry season urban agriculture requires permanent access to land and sources of water and is therefore often dominated by higher-income households, whereas rainy season agriculture is more likely to be undertaken by low-income households (Drescher, 1999).

Part of the reason for many African cities having fairly low levels of urban agriculture is that most African national and local governments are intolerant of urban agriculture, seeing it as incompatible with their "modernist" visions of what cities should look like (Simatele & Binns, 2008; Tong, 2010). Opposition to urban agriculture is possibly sometimes also linked to the promotion of the "compact city" model (e.g.

Dempsey & Jenks, 2010), as dense and compact cities are generally regarded as more efficient and sustainable, although the example of Havana shows that urban agriculture can also occur in dense cities (Altieri et al., 1999).

The attitude of local government in Lusaka is typical of local governments in Africa; they view urban agriculture as a rural activity "whose practice within the city boundaries is inappropriate and detracts from the modern image of the city" (Simatele & Binns, 2008: 2). It is only in African cities experiencing steep economic decline that there seems to be high levels of participation in urban agriculture (Frayne, McCordic, & Shilomboleni, 2014). This is linked to the "crisis model" view of urban agriculture as a response to economic crises, with the urban poor forced into urban food production as a means of survival (Drescher, Jacobi, & Amend, 2000). Evidence seems to support this, as African cities in countries with particularly difficult economic conditions do seem to have higher levels of urban agriculture (Frayne et al., 2014). However, as noted above, it is not always the urban poor who are involved in urban agriculture (Frayne et al., 2014).

In cities with significant levels of urban agriculture, organizations of urban farmers can play an important role in promoting and supporting urban agriculture (Schmidt, Magigi, & Godfrey, 2015). In Dar es Salaam for example, the activities of urban farmers' associations include "joint production on communally held property and serving as a loan or finance agency for their members" (Schmidt et al., 2015).

While some authors (e.g. Lee-Smith, 2010; Maxwell, Levin, & Csete, 1998) suggest that urban agriculture has a tangible and beneficial effect on urban food security, other authors (e.g. Frayne et al., 2014: 187) are of the view that there is "no significant relationship" between urban agriculture and urban food security, as low-income households are usually constrained in access to land and other resources necessary to undertake urban agriculture, and high-income households often tend to participate and benefit more. This does not mean that urban agriculture cannot potentially contribute to food security, but means that, in order to ensure that low-income households can participate, there need to be preconditions in place, such as "inputs, extension services, credit/financial access, production and marketing infrastructure, and knowledge" (Frayne et al., 2014: 187). Some cities, such as Cape Town and Ndola, have developed urban agriculture policies which attempt to support low-income households' participation in urban agriculture.

Peri-urban agriculture often falls within the ambit of urban governance, as many functional urban areas in Africa include large expanses of peri-urban agricultural land. African cities are often characterized by "unregulated peri-urban land development" that has a negative impact on peri-urban agriculture (Kombe, 2005: 113). The ability of local government to control such sprawl is often limited by peri-urban areas being in customary ownership and under traditional authorities (e.g. Gough, 1999). The net result is the gradual displacement of peri-urban agriculture. For example, in Ghana, "as urbanisation increases, farmers are being pushed unto less favourable lands, farther villages or restricted to unauthorised public spaces in order to continue production. The absence of urban green belts reduces farming to flood plains and along public drains" (Kuusaana & Eledi, 2015: 462). In addition to farming being displaced from fertile land into marginal areas, the growth of urban areas also results in increased water pollution, which also has a negative impact on agriculture and the safety of the food that is produced (Kuusaana & Eledi, 2015).

5. Governance of food distribution

The distribution of food is essentially about "how food for consumption is physically moved to be available, in what form, when and to whom" (Ericksen, 2008: 239). The key determinants of food distribution include "transportation infrastructure, trade regulations, government transfer programs, and storage requirements" (Ericksen, 2008: 238).

At the urban scale, the key determinant is the urban transport system, the key elements of which (provision and maintenance of roads, managing traffic, ensuring roadworthiness of vehicles) are the responsibility of local (or other levels of) government. In general, urban transport infrastructure in African cities is inadequate. A study of 14 cities in Africa found that "to a greater or lesser extent in each of the cities, the networks of paved roads and associated traffic control facilities are deficient" (Kumar & Barrett, 2008: 37). The stock of vehicles is also largely inadequate: "widespread dilapidation is apparent, as basic safety standards with regard to lighting, tires, and brakes are openly flouted. Systems and procedures for routine vehicle inspections are clearly failing, while petty corruption among police officers means that no action is taken on the road" (Kumar & Barrett, 2008: 37). The net result is that many African cities are choked with traffic congestion. Although difficult to quantify, inadequately maintained and managed transport infrastructure and vehicle stock clearly can have an impact on food distribution. Pirie (1993: 12) suggests that "[i]n sub-Saharan Africa, limited infrastructure and transport service has occasionally disrupted food production and circulation". There have been a few documented instances where inadequate availability of functioning vehicles and inadequate maintenance of roads have significantly hindered the distribution of food (e.g. Good, 1988). It has also been noted that informal rural-urban and intra-urban food distribution networks, including informal taxi drivers, are important in African cities, but are vulnerable to state clampdowns on informality (Leybourne & Grant, 1999).

6. Governance of food retail

Most of the food retail sector in most African cities can be classified as being at the "informal" end of the formality/informality continuum. There are usually a wide variety of different types of informal food retail outlets, such as large traditional market places (which might have thousands of traders), various types of informal shops and kiosks, and street food vendors. Urban governance can impact on informal food traders in various ways, for example, through processes for allocating trading space and through the provision of infrastructure and services, such as water, electricity and refuse removal.

Market places are a particularly important element of urban food systems in Africa, and are an important site of urban governance. The governance of market places can impact on the accessibility, affordability and quality of food. Market associations generally play an important role in managing market places in Africa, particularly in West Africa (King, 2006; Porter et al., 2007). Market associations "control the selling space and can therefore exclude others and have wider effects on the vegetable production and marketing system" (Lyon, 2003: 20). In Maputo, for example, "[t]he market committees provide infrastructure (water, toilets, etc.), maintenance and security services, and organise cleaning in their respective markets…The committees also act as the principal regulators in the markets" (Lindell, 2008: 1889). Trader associations govern market places through a range of techniques, such as surveillance, peer pressure and control of physical space (Lyon, 2003). Market associations can also influence the decisions of local government, for example, the Market Traders Association in Kumasi, Ghana, successfully opposed plans of the local government to increase market fees by 300% (King, 2006). Local governments also usually play a role in managing market places, partially because trader fees can be a significant source of local government revenue (King, 2006). As most local governments lack adequate power to plan, regulate and provide infrastructure and services, this role is often limited to collecting fees (Meagher, 2011). In some cases the role of local government in markets is negative, for example, in its interventions in markets in Maputo, Mozambique, the local government "constrains vending activities through threats of eviction and the exercise of violence … local officials sow dissent and interfere in conflicts within the association, and play rival associations against each other" (Lindell, 2008: 1892).

Street food vendors play an important role in providing a variety of food for the urban poor (Dixon et al., 2007; Njaya, 2014; Steyn et al., 2013; van't Riet et al., 2001), but, whereas traders in market places have some protection, as a result of numbers and some form of official recognition, street traders are much more vulnerable. There frequently are waves of evictions of street traders, for example, when there is a change of political power or when a major event is about to take place (Devas, 2001; Hansen, 2004; King, 2006; Potts, 2007; Setsabi, 2006). Kumasi, Ghana, is a typical example: "the municipal government, or more specifically the (former) mayor, adopted a harsh policy towards informal sector traders in the city centre. In raiding parties which the (former) mayor had been known to lead, traders' stalls were wrecked and goods destroyed" (Devas, 2001: 403). Given these attitudes towards informal trade, it is unsurprising that, with a few exceptions such as the Warwick Junction project in Durban, South Africa (Lund & Skinner, 2004), local governments generally do not take the needs of informal traders into account in the planning and provision of infrastructure and services (for example, through designing streets with suitable spaces for street food vendors).

Over time, the nature of food retail in African cities has been changing, with increased growth of "formal" retail outlets. In the past two decades, there has been rapid growth in supermarkets in Africa (Crush & Frayne, 2011; Reardon, Henson, & Berdegúe, 2007; Reardon, Timmer, Barrett, & Berdegue, 2003; Reardon, Timmer, & Berdegúe, 2004; Weatherspoon & Reardon, 2003). For example, between 1995 and 2012, Shoprite Checkers, a South African supermarket chain, opened 131 supermarkets in 16 different African countries outside of South Africa (Battersby & Peyton, 2014). The implications of this transformation for urban food security are not well understood, but a comparison of Blantyre, Malawi, and Gaberone, Botswana, suggests that the shift from local production of food and a largely informal retail sector to formal supermarkets with international supply chains may result in decreased levels of food security (Riley & Legwegoh, 2014). This is partially because of higher and less flexible prices: a study of food prices in Madagascar found that, while the quality of food in supermarkets is higher than that from informal traders, prices in supermarkets are 40%–90% higher those of informal traders (Minten, 2008). Supermarkets' restructuring of food supply chains may also result in increased food insecurity for low-income households.

Currently, the roll-out of supermarkets is being driven by the private sector; Crush and Frayne (2011: 806) note that there is an "absence of regulatory controls on supermarket expansion in urban markets" in Africa. However, local government potentially has an important role to play in deciding where supermarkets are located, how big they are, how they are designed (e.g. whether they are accessible to pedestrians) and whether they offer surrounding space for informal traders.

7. Governance of food safety

The main determinants of food safety, and the safety of those involved in producing and processing food, are "the procedures and standards and regulations (or lack of) for food production, processing, and packaging" (Ericksen, 2008: 240). Regulating food safety is therefore an important component of the governance of urban food systems. Many food safety regulations need to be enforced at a national level, for example, in Nigeria, the Federal Ministry of Health formulates and monitors policies and regulations on food hygiene and safety, the Standards Organization of Nigeria formulates and enforces standards on the composition of imported and locally manufactured food, and the National Agency for Food and Drug Administration and Control is responsible for the control of imported and locally processed food at national and state level (FAO, 2005). These processes fall outside of the scope this paper, which is concerned with the local level enforcement of food safety regulations in urban areas, for example, through regular visits by health inspectors. While regulating and enforcing food production, processing, distribution and retail in the formal sector can be

relatively straightforward if there is sufficient capacity in place, addressing food safety in the informal sector is probably the main food safety challenge faced at the local level (Cambaza dos Muchangos et al., 2015).

Street foods are a particular concern, as they "often do not meet proper hygiene standards, in large part because of weak regulatory systems, inadequate food safety laws, lack of financial resources to invest in safer equipment, and lack of education for food-handlers" (CSPI, 2005, p. 25). Studies from Nigeria (Umoh & Odoba, 1999), Burkina Faso (Barro et al., 2006), Uganda (Muyanja, Nayiga, Brenda, & Nasinyama, 2011) and Zimbabwe (Gadaga, Samende, Musuna, & Chibanda, 2008) have confirmed that street food has a high risk of contamination. Typical issues include inadequate access to water and sanitation, inadequate refuse removal and exposure to flies, which can all result in contamination of food. Similarly, a study of poultry meat sold at markets in Maputo, Mozambique, found that all the samples purchased were contaminated with faecal matter and had the potential to cause diarrhoea (Cambaza dos Muchangos et al., 2015). The authors concluded that: "Poultry meat is contaminated at all levels of the market chain from farm to sale" (Cambaza dos Muchangos et al., 2015: 197).

Some, but not all local governments are involved in enforcing standards of hygiene among informal traders (Muyanja et al., 2011). Even where local government does attempt to enforce health standards, this enforcement is often only partial. For example, in Abeokuta, Nigeria, food vendors are required to obtain an annual certificate from health authorities, but a survey found that only 31% of vendors had these (Omemu Aderoju, 2008).

Most recommendations for ensuring food safety focus on hygienic practices by food handlers (e.g. WHO, 2006), and it is important for stakeholders in urban governance to raise awareness of this and ensure implementation (for example, through inspection and penalties), but it is also important to ensure that the necessary infrastructure and facilities are available. A study of street food vendors in Tshwane, South Africa, found that vendors generally followed "good basic hygiene practices" but that the overall environment in which they cooked and sold food resulted in the contamination of food (Oguttu et al., 2015: 204). "Unavailability of potable water and lack of proper infrastructure for the production of safe food has led to the quality of street-vended ready-to-eat chicken being contaminated by faecal and environmental contaminants and pathogenic organisms" (Oguttu et al., 2015: 202). Providing potable water, sanitation and adequate protection from the elements for markets and informal traders is therefore important for helping to ensure food safety.

In addition to the safety of the food, there can also be many risks associated with producing and preparing food, for example, from using "heat generated by unprocessed biofuels and residual oil products" (Clancy, 2008: 467). For example, in Lagos, Nigeria, women involved in fish smoking use discarded oils barrels to make fires to smoke fish, and are exposed to wood smoke and other pollutants from the residual oil for up to seven hours per day (Maduka, 2006). The use of waste timber for wood fuel can also expose vendors who cook food to high levels of arsenic (Niyobuhungiro & von Blottnitz, 2013). Local governments and trader associations potentially have an important role to play in reducing these risks, for example, through the provision of appropriate infrastructure and promoting safer practices.

8. Conclusion

The governance of urban food systems in Africa is complex, with a range of governance actors with competing agendas. These governance actors impact on urban food systems, and thus on urban food security, in a variety of ways. There are, however, many gaps in our knowledge. First, the literatures on urban governance and urban food security largely focus on the large primate cities, such as Accra, Lusaka and Maputo. Although there is some literature on secondary cities (e.g. Kumasi), there is not enough, given that these smaller cities account for most of the urban population growth in Africa. Second, while there has been a

significant amount of research on the role of groupings such as traders' associations and urban farmers' associations, there has been surprisingly little research on the role of, and impact of, local governments on urban food systems. Third, there has been very little research on food distribution in Africa and the impact of inadequate transport systems on food distribution. Fourth, we know little about the impact of supermarkets (and their expanding supply chains) on urban food systems, and the governance of urban food systems, in Africa.

We need to better understand existing urban governance processes and the competing interests of urban governance actors in order to be able to collaboratively design interventions to improve urban food security in Africa. In particular, we need to know more about the roles that local governments do, and can, play. Local governments potentially have an important role to play in promoting urban food security, as in Belo Horizonte, but given that local governments in Africa usually have fewer resources at their disposal, simply replicating this approach will probably not be possible. Coordinating the role of different actors involved in governing urban food systems will be important, perhaps necessitating something like the Food Policy Councils found in North America, but the frequently antagonistic relationships between governance actors in many African cities will make this challenging.

Acknowledgements

References

Altieri, M. A., Companioni, N., Cañizares, K., Murphy, C., Rosset, P., Bourque, M., & Nicholls, C. I. (1999). The greening of the "barrios": Urban agriculture for food security in Cuba. *Agriculture and Human Values, 16*(2), 131–140.

Andrews, M., & Schroeder, L. (2003). Sectoral decentralisation and intergovernmental arrangements in Africa. *Public Administration and Development, 23*(1), 29–40.

Bakker, K., Kooy, M., Shofiani, N. E., & Martijn, E. -J. (2008). Governance failure: Rethinking the institutional dimensions of urban water supply to poor households. *World Development, 36*(10), 1891–1915.

Barro, N., Bello, A., Savadogo, A., Ouattara, C., Iiboudo, A., & Traoré, A. (2006). Hygienic status assessment of dish washing waters, utensils, hands and pieces of money from street food processing sites in Ouagadougou (Burkina Faso). *African Journal of Biotechnology, 5*(11), 1107–1112.

Battersby, J. (2013). Hungry cities: A critical review of urban food security research in sub-Saharan African cities. *Geography Compass, 7*(7), 452–463.

Battersby, J., & Crush, J. (2014). Africa's urban food deserts. *Urban Forum, 25*(2), 143–151.

Battersby, J., & Peyton, S. (2014). The geography of supermarkets in Cape Town: Supermarket expansion and food access. *Urban Forum, 25*(2), 153–164.

Brown, A., Lyons, M., & Dankoco, I. (2010). Street traders and the emerging spaces for urban voice and citizenship in African cities. *Urban Studies, 47*(3), 666–683.

Cambaza dos Muchangos, A. B., Roesel, K., McCrindle, C., Matusse, H., Hendrickx, S., Makita, K., & Grace, D. (2015). Informal markets in Mozambique risky for local chicken. In K. Roesel, & D. Grace (Eds.), *Food safety and informal markets: Animal products in sub-Saharan Africa* (pp. 197–200). Abingdon, UK: Routledge.

Clancy, J. S. (2008). Urban ecological footprints in Africa. *African Journal of Ecology, 46*(4), 463–470.

Crush, J., & Frayne, B. (2011). Supermarket expansion and the informal food economy in southern African cities: Implications for urban food security. *Journal of Southern African Studies, 37*(4), 781–807.

Crush, J., Hovorka, A., & Tevera, D. (2011). Food security in southern African cities: The place of urban agriculture. *Progress in Development Studies, 11*(4), 285–305.

CSPI (Center for Science in the Public Interest) (2005). *Food safety around the world.* Washington, DC: CSPI.

de Zeeuw, H., & Prain, G. (2011). Effects of the global financial crisis and food price hikes of 2007/2008 on the food security of poor urban households. *Urban Agriculture Magazine, 25*, 36–38.

Dempsey, N., & Jenks, M. (2010). The future of the compact city. *Built Environment, 36*(1), 116–121.

Devas, N. (2001). Does city governance matter for the urban poor? *International Planning Studies, 6*(4), 393–408.

Devas, N. (2004a). Urban government: Capacity, resources and responsiveness. In N. Devas (Ed.), *Urban governance, voice and poverty in the developing world* (pp. 95–122). London, UK: Earthscan.

Devas, N. (2004b). Urban poverty and governance in an era of globalization, decentralization and democratization. In N. Devas (Ed.), *Urban governance, voice and poverty in the developing world* (pp. 15–36). London, UK: Earthscan.

Dixon, J. (1999). A cultural economy model for studying food systems. *Agriculture and Human Values, 16*(2), 151–160.

Dixon, J., Omwega, A., Friel, S., Burns, C., Donati, K., & Carlisle, R. (2007). The health equity dimensions of urban food systems. *Journal of Urban Health, 84*(1), 118–129.

Doornbos, M. (2001). 'good governance': The rise and decline of a policy metaphor? *The Journal of Development Studies, 37*(6), 93–108.

Drescher, A. W. (1999). Urban agriculture in the seasonal tropics: The case of Lusaka, Zambia. In M. Koc, R. MacRae, L. J. A. Mougeot, & J. Welsh (Eds.), *For hunger-proof cities: Sustainable urban food systems* (pp. 67–76). Ottawa, Canada: International Development Research Centre.

Drescher, A. W., Jacobi, P., & Amend, J. (2000). Urban agriculture, a response to crisis? *UA Magazine, 1*(1) (Retrieved 6 March 2016 from http://www.ruaf.org/sites/default/files/Urban%20food%20security%20-%20UA%20response%20to%20crisis.pdf).

Ericksen, P. J. (2008). Conceptualizing food systems for global environmental change research. *Global Environmental Change, 18*(1), 234–245.

FAO (2009). *Declaration of the world summit on food security.* Rome: FAO.

FAO (Food and Agriculture Organization of the United Nations) (2005n). National food safety systems in Africa - a situation analysis. Presented by Nigeria. *Report for the FAO/WHO regional conference on food safety for Africa, Harare, Zimbabwe, 3–6 October 2005* (Retrieved 13 March 2016 from ftp://ftp.fao.org/es/esn/food/meetings/2005/italy_crd5_en.pdf).

Foucault, M. (1998). *The will to knowledge: The history of sexuality volume 1 (R. Hurley, trans.).* London, UK: Penguin (Original work published 1976).

Frayne, B., McCordic, C., & Shilomboleni, H. (2014). Growing out of poverty: Does urban agriculture contribute to household food security in southern African cities? *Urban Forum, 25*(2), 177–189.

Gadaga, T., Samende, B., Musuna, C., & Chibanda, D. (2008). The microbiological quality of informally vended foods in Harare, Zimbabwe. *Food Control, 19*(8), 829–832.

Good, K. (1988). Weak state and backward agriculture in Zambia: A case study and its implications. In K. Chazan, & T. M. Shaw (Eds.), *Coping with Africa's food crisis* (pp. 185–209). Boulder, CO: Lynne Rienner.

Gough, K. (1999). The changing nature of urban governance in peri-urban Accra, Ghana. *Third World Planning Review, 21*(4), 393–410.

Hansen, K. T. (2004). Who rules the streets? The politics of vending space in Lusaka. In K. T. Hansen, & M. Vaa (Eds.), *Reconsidering informality: Perspectives from urban Africa* (pp. 62–80). Uppsala, Sweden: Nordic Africa Institute.

Haysom, G. (2015). Food and the city: Urban scale food system governance. *Urban Forum, 26*(3), 263–281.

Johnston, L., & Shearing, C. (2003). *Governing security: Explorations in policing and justice.* London, UK: Routledge.

Kimani-Murage, E., Schofield, L., Wekesah, F., Mohamed, S., Mberu, B., Ettarh, R., ... Ezeh, A. (2014). Vulnerability to food insecurity in urban slums: Experiences from Nairobi, Kenya. *Journal of Urban Health, 91*(6), 1098–1113.

King, R. (2006). Fulcrum of the urban economy: Governance and street livelihoods in Kumasi, Ghana. In A. Brown (Ed.), *Contested space: Street trading, public space, and livelihoods in developing cities* (pp. 100–118). UK: ITDG Publishing; Rugby.

Kombe, W. J. (2005). Land use dynamics in peri-urban areas and their implications on the urban growth and form: The case of Dar es salaam, Tanzania. *Habitat International, 29*(1), 113–135.

Kumar, A., & Barrett, F. (2008). *Stuck in traffic: Urban transport in Africa. Africa infrastructure country diagnostic report.* Washington, DC: World Bank.

Kuusaana, E. D., & Eledi, J. A. (2015). As the city grows, where do the farmers go? Understanding peri-urbanization and food systems in Ghana - evidence from the tamale metropolis. *Urban Forum, 26*(4), 443–465.

Lee-Smith, D. (2010). Cities feeding people: An update on urban agriculture in equatorial Africa. *Environment and Urbanization, 22*(2), 483–499.

Leybourne, S. L., & Grant, M. (1999). Bottlenecks in the informal food-transportation network of Harare, Zimbabwe. In M. Koc, R. MacRae, L. J. A. Mougeot, & J. Welsh (Eds.), *For hunger-proof cities: Sustainable urban food systems* (pp. 110–114). Ottawa, Canada: International Development Research Centre.

Lindell, I. (2008). The multiple sites of urban governance: Insights from an African City. *Urban Studies, 45*(9), 1879–1901.

Lund, F., & Skinner, C. (2004). Integrating the informal economy in urban planning and governance: A case study of the process of policy development in Durban, South Africa. *International Development Planning Review, 26*(4), 431–456.

Lyon, F. (2003). Trader associations and urban food systems in Ghana: Institutionalist approaches to understanding urban collective action. *International Journal of Urban and Regional Research, 27*(1), 11–23.

MacRae, R., & Donahue, K. (2013). *Municipal food policy entrepreneurs: A preliminary analysis of how Canadian cities and regional districts are involved in food system change.* Toronto, Canada: Toronto Food Policy Council & Canadian Agri-Food Policy Institute.

Maduka, J. O. (2006). Smoke gets in their eyes: The women fish smokers of Lagos. *ENERGIA News, 9*(1), 12–13.

Maxwell, D. (1999). The political economy of urban food security in sub-Saharan Africa. *World Development, 27*(11), 1939–1953.

Maxwell, D., Levin, C., & Csete, J. (1998). Does urban agriculture help prevent malnutrition? Evidence from Kampala. *Food Policy, 23*(5), 411–424.

Meagher, K. (2011). Informal economies and urban governance in Nigeria: Popular empowerment or political exclusion? *African Studies Review, 54*(2), 47–72.

Minten, B. (2008). The food retail revolution in poor countries: Is it coming or is it over? *Economic Development and Cultural Change*, *56*(4), 767–789.

Muyanja, C., Nayiga, L., Brenda, N., & Nasinyama, G. (2011). Practices, knowledge and risk factors of street food vendors in Uganda. *Food Control*, *22*(10), 1551–1558.

Myers, G. A. (2005). *Disposable cities: Garbage, governance and sustainable development in urban Africa*. Aldershot, UK: Ashgate.

Niyobuhungiro, R. V., & von Blottnitz, H. (2013). Investigation of arsenic airborne in particulate matter around caterers' wood fires in the Cape Town region. *Aerosol and Air Quality Research*, *13*(1), 219–224.

Njaya, T. (2014). Operations of street food vendors and their impact on sustainable urban life in high density suburbs of Harare, in Zimbabwe. *Asian Journal of Economic Modelling*, *2*(1), 18–31.

Nunan, F., & Satterthwaite, D. (2001). The influence of governance on the provision of urban environmental infrastructure and services for low-income groups. *International Planning Studies*, *6*(4), 409–426.

Oguttu, J., Roesel, K., McCrindle, C., Hendrickx, S., Makita, K., & Grace, D. (2015). Arrive alive in South Africa: Chicken meat the least to worry about. In K. Roesel, & D. Grace (Eds.), *Food safety and informal markets: Animal products in sub-Saharan Africa* (pp. 202–220). Abingdon, UK: Routledge.

Olivier de Sardan, J. -P. (2011). The eight modes of local governance in West Africa. *IDS Bulletin*, *42*(2), 22–31.

Omemu, A., & Aderoju, S. (2008). Food safety knowledge and practices of street food vendors in the City of Abeokuta, Nigeria. *Food Control*, *19*(4), 396–402.

Oyugi, W. O. (2000). Decentralization for good governance and development. *Regional Development Dialogue*, *21*(1), 3–22.

Pearce, K. C. (2003). Democracy and development as contested terrain: The discourse of the 'good governance' agenda in Africa. *Review of Communication*, *3*(1), 28–30.

Pirie, G. H. (1993). Transport, food insecurity, and food aid in sub-Saharan Africa. *Journal of Transport Geography*, *1*(1), 12–19.

Porter, G., Lyon, F., & Potts, D. (2007). Market institutions and urban food supply in West and Southern Africa: A review. *Progress in Development Studies*, *7*(2), 115–134.

Pothukuchi, K., & Kaufman, J. (1999). Placing the food system on the urban agenda: The role of municipal institutions in food systems planning. *Agriculture and Human Values*, *16*(2), 213–224.

Pothukuchi, K., & Kaufman, J. L. (2000). The food system: A stranger to the planning field. *Journal of the American Planning Association*, *66*(2), 113–124.

Potts, D. (2007). City life in Zimbabwe at a time of fear and loathing: Urban planning, urban poverty and operation Murambatsvina. In G. Myers, & M. Murray (Eds.), *Cities in contemporary Africa* (pp. 265–288). New York, NY: Palgrave Macmillan.

Rakodi, C. (2004). Urban politics: Exclusion or empowerment? In N. Devas (Ed.), *Urban governance, voice and poverty in the developing world* (pp. 68–94). London, UK: Earthscan.

Reardon, T., Henson, S., & Berdegúe, J. (2007). 'Proactive fast-tracking' diffusion of supermarkets in developing countries: Implications for markets institutions and trade. *Journal of Economic Geography*, *7*(4), 399–431.

Reardon, T., Timmer, C. P., Barrett, C. B., & Berdegue, J. (2003). The rise of supermarkets in Africa, Asia, and Latin America. *American Journal of Agricultural Economics*, *85*(5), 1143–1146.

Reardon, T., Timmer, P., & Berdegúe, J. (2004). The rapid rise of supermarkets in developing countries: Induced organizational, institutional, and technological change in agrifood systems. *Electronic Journal of Agricultural and Development Economics*, *1*(2), 168–183.

Richardson, T. (1996). Foucauldian discourse: Power and truth in urban and regional policy making. *European Planning Studies*, *4*(3), 279–292.

Riley, L., & Legwegoh, A. (2014). Comparative urban food geographies in Blantyre and Gaborone. *African Geographical Review*, *33*(1), 52–66.

Rocha, C., & Lessa, I. (2009). Urban governance for food security: The alternative food system in Belo Horizonte, Brazil. *International Planning Studies*, *14*(4), 389–400.

Schmidt, S., Magigi, W., & Godfrey, B. (2015). The organization of urban agriculture: Farmer associations and urbanization in Tanzania. *Cities*, *42*(Part B), 153–159.

Setsabi, S. (2006). Contest and conflict: Governance and street livelihoods in Maseru, Lesotho. In A. Brown (Ed.), *Contested space: Street trading, public space, and livelihoods in developing cities*. Rugby, UK: ITDG Publishing.

Shearing, C., & Wood, J. (2003). Nodal governance, democracy, and the new 'denizens'. *Journal of Law and Society*, *30*(3), 400–419.

Simatele, D. M., & Binns, T. (2008). Motivation and marginalization in African urban agriculture: The case of Lusaka, Zambia. *Urban Forum*, *19*(1), 1–21.

Smit, W., & Pieterse, E. (2014). Decentralisation and institutional reconfiguration in urban Africa. In S. Parnell, & E. Pieterse (Eds.), *Africa's urban revolution: Policy pressures* (pp. 148–166). London, UK: Zed Books.

Steel, C. (2008). *Hungry city: How food shapes our lives*. London, UK: Chatto and Windus.

Steyn, N., Mchiza, Z., Hill, J., Davids, Y., Venter, I., Hinrichsen, E., ... Jacobs, P. (2013). Nutritional contribution of street foods to the diet of people in developing countries: A systematic review. *Public Health Nutrition*, *17*(6), 1363–1374.

Tong, T. (2010). From colonialism to modernism to postcolonialism: The case of urban agriculture in Lusaka, Zambia. *Undercurrent: The Canadian Undergraduate Journal of Development Studies*, *7*(3), 36–43.

Umoh, V. J., & Odoba, M. B. (1999). Safety and quality evaluation of street foods sold in Zaria, Nigeria. *Food Control*, *10*(1), 9–14.

UN-Habitat (United Nations Human Settlements Programme) (2008). *The state of African cities 2008: A framework for addressing urban challenges in Africa*. Nairobi, Kenya: UN-Habitat.

UN-Habitat (United Nations Human Settlements Programme) (2014). *The state of African cities 2014: Re-imagining sustainable urban transitions*. Nairobi, Kenya: UN-Habitat.

Van't Riet, H., den Hartog, A., Mwangi, A., Mwadime, R., Foeken, D., & van Staveren, W. (2001). The role of street foods in the dietary pattern of two low-income groups in Nairobi. *European Journal of Clinical Nutrition*, *55*(7), 562–570.

Weatherspoon, D. D., & Reardon, T. (2003). The rise of supermarkets in Africa: Implications for agrifood systems and the rural poor. *Development Policy Review*, *21*(3), 333–355.

WHO (World Health Organization) (2006). *Five keys to safer food manual*. Geneva, Switzerland: WHO.

Zezza, A., & Tasciotti, L. (2010). Urban agriculture, poverty, and food security: Empirical evidence from a sample of developing countries. *Food Policy*, *35*(4), 265–273.