Promoting Food Security, Safe Food Trading, and Vendors' Livelihoods in Informal Settlements: Lessons from Nairobi

Although often seen as solely a rural concern, food insecurity is widespread in cities of the Global South, especially in informal settlements where many residents struggle to access an affordable, healthy diet. The Food and Agriculture Organization (FAO) defines 'food security' as *"when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."*[1] But in many African cities, food insecurity is a major concern, particularly among low-income households. Rising food and fuel prices can be especially calamitous for the urban poor, who may devote over 50% of their household expenditures to food (Cohen and Garrett 2010, p. 469). **New strategies are urgently needed to reach low-income urban residents with affordable, nutritious, and accessible foods.**

Food traders are well-known figures in major markets or in central business districts (CBDs), but there is limited recognition for vendors selling food in informal settlements where many of them also reside. Although informal food systems in African cities are receiving more attention (Battersby *et al.* 2017, Skinner 2016), food vendors selling in informal settlements remain largely hidden. As discussed below, food vendors in Nairobi's informal settlements play a vital role in enhancing access to affordable snacks, fresh produce, and ready-made meals throughout the day (Githiri *et al*. 2016, Ahmed *et al*. 2015).

To foster more appropriate, safe, and inclusive urban food strategies, this brief will highlight the contributions of food vendors and new ways of supporting these traders in Nairobi's informal settlements. Vendors may struggle to ensure food safety, due to the poor infrastructure and hazardous environmental conditions in informal settlements (Ahmed *et al.* 2015). At the same time, these workers sell an array of accessible, low-cost foods and vending is a

key livelihood strategy, especially for women. Essential interventions may include trainings in food hygiene and offering water, sanitation, safe storage, rubbish collection, and other services that can promote food safety in informal settlements (Githiri *et al.* 2016). **Bolstering food vendors' livelihoods can spur inter-sectoral strategies that can also enhance quality of life and food security across their settlements.**

Drawing on an action-research project with food vendors in Nairobi, the following discussion will offer lessons for urban policymakers, informal worker organisations, and food security advocates. It begins with an overview of food insecurity and urbanisation trends in Africa, before analysing how vendors may play a critical role in improving food security in informal settlements. It will offer policy recommendations and explore how to promote several Sustainable Development Goals (SDGs) via a food-centred strategy in informal settlements.

Figure 1. Vendor selling fresh produce in the informal settlement of Mukuru, Nairobi. Photo by Alice Sverdlik

Urbanisation Trends and the Predominance of Informal Settlements in Africa

- According to UN data, **56% of African city-dwellers live in slums** as compared to just 21% in urban Latin America, 28% in urban Southeast Asia, and 31% in urban South Asia (UN-Habitat 2016, p. 203).

- With **over 150 informal settlements,** Nairobi is projected to grow from 4 million residents today to 6 million by 2030 and most growth is expected to occur in slums (World Bank 2016).

Although informal settlements (or 'slums') vary widely between and within cities, the UN has defined a 'slum' as "a contiguous settlement that lacks 1 or more of the following 5 conditions: access to clean water, access to improved sanitation, sufficient living area that is not overcrowded, durable housing, and secure tenure" (UN-Habitat 2016, p. 55). Although the prevalence of slums has declined globally, most African city-dwellers reside in informal settlements that typically have low-quality shelter and minimal infrastructure, rubbish collection, or other key services. From 1990-2014, the proportion of city-dwellers living in slums fell from 46% to 29.7% for the Global South overall (UN-Habitat, 2016). But in African nations, informal settlements are usually home to over half of the urban population. For instance, in 2014, 56% of Kenya's urban residents lived in slums, totalling 6.4m slum-dwellers (UN-Habitat 2016, p. 204). While Kenya is urbanising by 4.3% annually, the nation was just 27% urban in 2015 and only in 2050 will half of Kenya's population reside in cities (World Bank 2016, pp. 17, 38-9).

Like other cities of the Global South, many Nairobi residents have informal livelihoods lacking government recognition or social protection, and these workers may face persistent poverty (Brown and Roever 2016). Although the informal economy is very heterogeneous, African informal workers are often low-income and only rarely have their own unions (Lindell 2010, Kabeer *et al.* 2013). Women are usually concentrated in precarious informal livelihoods (Chen *et al.* 2016), but vending food can be a vital income-generating strategy for women and also help to alleviate food insecurity in informal settlements (see below).

Complex Patterns of Food Insecurity in African Informal Settlements

- Policymakers usually focus on food **availability** and have prioritised urban agriculture or other ways of enhancing production. However, it is also vital to improve food **access** and to tackle African cities' emerging **double burden** of over-nutrition and under-nutrition (Crush and Battersby 2016).

- Levels of food insecurity vary between Nairobi's slums and can change over time. Even members of the same household can have different nutritional outcomes (Beyer *et al.* 2016, Kimani-Murage *et al.* 2015).

Food insecurity in urban Africa has multiple underlying causes, which will require holistic policy responses. In African cities, chronic food insecurity is rooted in "*structural poverty...affordability of different types of food, [and] food safety challenges wrought by inadequate urban infrastructure, inadequate storage, refrigeration, and cooking technologies*" (Battersby 2016, p. 4). But past interventions narrowly target food availability and production, especially urban agriculture (UA), despite only limited evidence of UA's role in enhancing food security (Frayne *et al*., 2016, Poulsen *et al.* 2015). More inclusive, comprehensive strategies are needed in African cities, including greater attention to the low-income consumers and food vendors in informal settlements (Tacoli and Vorley 2016).

A further challenge is to tackle the increasingly complex, inequitable nutritional outcomes in African cities. Reflecting changing diets and lifestyles, studies have recently uncovered a double burden of obesity and under-nutrition amongst the urban poor in the Global South (WHO and UN-Habitat 2016). For example, households in Nairobi's slums can simultaneously have under-nourished *and* overweight members. According to a recent study in two of Nairobi's informal settlements, 43% of overweight mothers and 36% of obese mothers had children who were stunted (Kimani-Murage *et al.* 2015). Overall, this survey found that as many as 45.3% of children were stunted, with another 10.8% underweight, 8.8% were overweight or obese, and 2.5% wasted (see also (Domínguez-Salas *et al.* 2016, Cornelson *et al.* 2016).

Figure 2. Dense Informal Housing and Open Dumpsites in Mathare, Nairobi (UC Berkeley *et al.* 2012, p. 23)
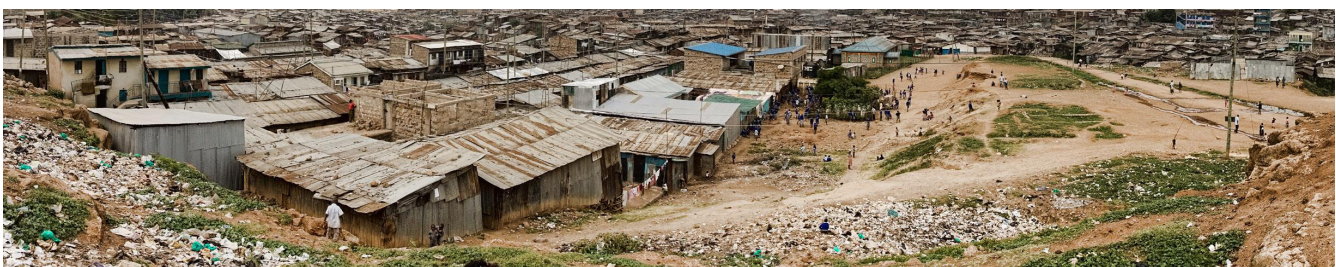
Patterns in food insecurity also change over time and may differ between informal settlements, requiring detailed data and locally-grounded strategies. In Nairobi, a survey from April 2013 found that severe food insecurity ranged from 19% in Viwandani to a staggering 69% in Korogocho (Beyer *et al.* 2016). Korogocho's levels of severe food insecurity jumped from 45% in August 2012 to 69% in April 2013, before declining slightly to 65% in February 2014 *(ibid.,* p. 11). Over the same period, levels of severe food insecurity were lower in Viwandani and Mukuru (varying from 19-29% and 34-55%, respectively). Food insecurity is loosely correlated with household incomes *(ibid.)* but further research is needed to explain these fluctuations. Surveys in Mathare, another informal settlement in Nairobi, found that food comprised 47% of households' mean monthly expenditures, far exceeding 11% for transport, 11% for school, and 8% for rent (UC Berkeley *et al.* 2012, p. 20). Below this paper will discuss informal food systems and a project with vendors in settlements including Mathare, Korogocho, and Viwandani.

Informal Food Systems in African Cities

- Informal vendors are a mainstay of the urban poor, who regularly purchase their accessible foods in small quantities (Skinner 2016). The diverse informal food system can include 1) wholesale markets (meat, fish, produce, etc.) 2) dry goods and general shops, and 3) stationary or mobile vendors (Battersby *et al.* 2017).

- Vendors often sell *street foods* (snacks, readymade meals, etc.), and women usually dominate the street food trade as well as other segments of the informal food system (Steyn *et al.* 2014, Tinker 1997).

- Informal food providers in the CBD or key markets are highly visible and often clash with local authorities, but those selling in informal settlements often remain hidden and poorly-understood.

By selling cheaply or on credit, in convenient locations, and with extended hours, informal providers significantly promote food access and affordability. In Cape Town, informal food traders may break-up bulk items into smaller amounts and offer credit to trusted customers (Battersby *et al.* 2017, p. 30). Ready-made street foods can also save time and fuel costs (Steyn *et al*. 2014), and these items are especially popular among school-children, labourers at lunchtime or after work, and with parents unable to cook *(ibid.,* Tinker 1997). Poor households in Africa usually lack storage or refrigeration, and therefore buy food regularly from nearby informal providers (Skinner 2016). Thus, the informal food system offers multiple pathways towards urban food security, as summarized in the following box:

> *Informal markets provide [a]* **wide range of products at a cheap price***...[and] they are* **vital to the poor***...There may be* **no electricity for cooking or refrigeration***, [but] a bowl of cooked porridge and chicken giblets in tomato sauce fills the void at an affordable price...In East Africa, the breaking down of commercially-available quantities into* **smaller, affordable units** *is called the 'kadogo economy,' which allows* **access to food to even the poorest** (Roesel and Grace 2014, p. 14).

Selling food also creates vital livelihood opportunities, and women often dominate several segments of the informal food system. Based on a recent review, women were involved in 90% of street food businesses in the Philippines, 81% in Zimbabwe, and 53% in Senegal (Proietti *et al.* 2014: 144). However, female food vendors typically sell less-lucrative items than their male counterparts. For instance, in Cape Town's townships, women usually operated survivalist food businesses and men dominated the profitable general shops or *spazas* (Battersby *et al.* 2017). Female providers prevailed in low-cost items like fresh produce, sweets, and chips, although surprisingly women dominated the profitable meat trade *(ibid.,* p. 11). Understanding women and men's distinct contributions to informal food markets can inform appropriate, gender-sensitive livelihood interventions.

Informal providers may struggle to ensure food safety, sometimes due to limited infrastructure access or other factors beyond their control, and their contributions to urban diets are usually ignored. Studies in South African cities confirm that informal providers remain a key source of food for the urban poor, despite supermarkets' ongoing expansion (Battersby *et al.* 2017, Skinner and Haysom 2016, Crush and Frayne 2011). Additionally, a review found that street foods make a major contribution to diets in the Global South, ranging from 13-50% of adult's daily energy intake and 13-40% of children's intake (Steyn *et al.* 2014). Past studies have uncovered food safety hazards amongst some informal providers (Proietti *et al.* 2014, Skinner 2016), but informal food providers are not always unsafe.[2] In a study of kale sold in Nairobi's informal markets and a formal supermarket, researchers found that E. coli levels and other forms of contamination were common in both outlets but higher in informal markets (Kutto *et al.* 2011, p. 50). With further support and recognition, informal providers can play an even more significant role in alleviating urban food security (see conclusions). The following sections will discuss an action-research project exploring food vendors' contributions to informal settlements as well training them in food hygiene techniques.

Figure 3. Fresh Produce and Fish in Nairobi's Informal Settlement of Korogocho (Githiri *et al.* 2016, p. 20)

Project Overview and Key Findings from Nairobi's Informal Settlements

Food vendors and leaders of Kenya's Slum-Dweller Federation spearheaded an innovative action-research project, with support from NGO staff at AMT and SDI-Kenya as well as interdisciplinary researchers.[3] This initiative combined community-led mapping, focus group discussions (FGDs), and surveys of vendors, thereby creating a multidimensional portrait of food vending in informal settlements.[4] Key findings from the research are as follows:

- **Contributions and benefits:** Vendors in informal settlements offer an *array of low-cost, accessible foods throughout the day. Women* dominate food vending, which they regularly *combine with childcare,* and working near home can result in *lower transit fares or other costs.* Selling in Nairobi's slums can create *stronger relations with customers* and may entail *reduced levels of harassment* by local authorities, as compared to vending in town.

- **Challenges:** Environmental *hazards,* minimal *storage,* and *poor infrastructure and services* can compromise food safety in informal settlements. Further challenges include *rising food prices* and *elevated levels of violence* in informal settlements, which can prevent vendors from selling at night and imperil their well-being.

Promoting Access to a Variety of Foods

The project surveyed 1,670 vendors in informal settlements selling a wide array of foods (see table below). The most commonly-sold items were **cooked food** (34%-46%) and **fresh produce** (34%-46%), with the remaining vendors offering uncooked foods, meat, fish, and milk. Cooked foods range from snacks like chips and *mandazi* (fried doughnuts) to rice, beans, chapatti, and *githeri* (beans and maize stew); uncooked foods may include dry cereals, sweet potatoes, and arrowroot. Some vendors start selling as early as 5AM (offering porridge, tea etc.) and others may work until 10 or 11PM, especially in areas with better security and lighting (Ahmed *et al*. 2015, p. 18).

Table 1. Distribution of Foods Vended in Nairobi's Informal Settlements

Settlement name *(number of vendors surveyed)*	Cooked food	Fresh produce	Uncooked food	Meat or fish	Miscellaneous
Korogocho *(N=610)*	46%	34% *(veg 30%, fruit 4%)*	12%	4% meat 3% fish	1% milk
Viwandani *(N=400)*	39%	46% *(veg 31%, fruit 15%*	4%	10% meat	1% milk
Mathare, Mukuru, and Kibera *(N=660)*	34%	42% *(unspecified)*	7%	12% meat	5% multiple products

Low-Cost Foods and Selling on Credit: A cooked-food seller in Korogocho noted that for just a few shillings, vendors can feed families all day: *"We start measuring rice at 20 shillings…For beans, we start selling at 10 shillings. If you have a family, and you have 50 shillings, you can buy rice and soup for 10 shillings [for 5 people]. And that can cover a day"* (quoted in Githiri *et al.* 2016, p. 35). Food vendors often select affordable varieties and reflect local preferences. As a vegetable seller in Viwandani declared, *"I know my customers' needs very well, so I'm able to serve them well. For example, most people here would want 4 tomatoes at Ksh. 10. If I buy the big tomatoes that cost Ksh. 5 each, no one would buy them"* (quoted in *ibid*., p. 29). Although unit costs of vended foods are higher than those purchased in bulk, small quantities are well-suited to the low, erratic incomes of the urban poor. Additionally, vendors in Nairobi's slums may allow residents to borrow food, much as Battersby *et al. (*2017) found in Cape Town's townships.

Benefits for Food Vendors in Informal Settlements

Income-generation: Vendors may be sole breadwinners and the livelihood is vital for their households. According to a woman who has sold cabbage for 15 years in Korogocho, the business has supported her extended family despite her husband's lack of employment: *"The business has really helped me a lot because my husband is unemployed...Through it, I've been able to bring up my children and adopt four other children, take them through school and also I'm able to feed my grandmother back in the village...The little I get has been able to sustain us"* (quoted in Githiri *et al.* 2016, p.35).
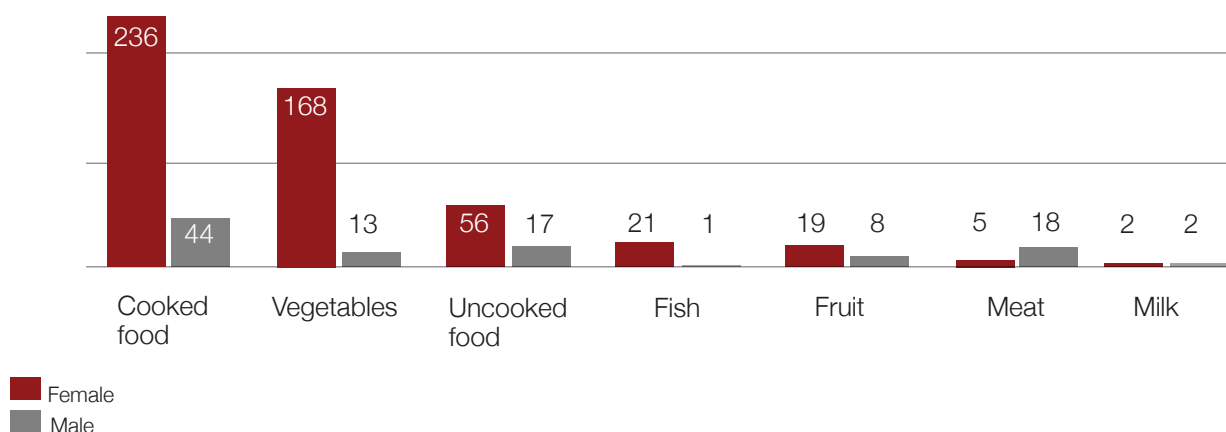
Lower Operating Costs, Including Less Harassment: By working nearby, vendors usually reduce costs such as storage, rent for vending-spaces, and transport fares, although they may still go to the CBD to source their foods. Furthermore, vendors saw the reduced harassment by local authorities as a major benefit of selling in their settlements (like other cities, vendors in downtown Nairobi must regularly pay bribes[5]). According to a Viwandani vendor who previously worked in the CBD, "because of being harassed by the City Council, I left town and came to sell in the settlement" (quoted in Githiri *et al*., 2016, p. 28). Her business of selling groundnuts and coffee was now flourishing and she had no stress, a major relief after the Council's earlier disruptions.

Combining women's paid and care work: Thanks to their proximity to home, female traders can more easily care for young children and combine their livelihoods with household chores. As a porridge vendor in Viwandani explained, she can readily blend her paid and unpaid work: *"I'm able to prepare my kids to go to school and then open up my business. When they come for lunch, they'll find me at home still. I'm happy because when my kids come from school, they'll find me and I think that they don't lack my love and care. So I'm able to **balance my duties at home and my work**"* (quoted in Githiri *et al.* 2016, p. 29, emphasis added). Using surveys in Korogocho, the following graph underscores women's dominance of cooked foods and vegetables, which are the most commonly-sold foods in other slums.

A total of 610 vendors were surveyed in Korogocho, with **women** comprising **93%** of vegetable sellers and **84%** of cooked-food sellers. Meanwhile, **men** were **78%** of meat-sellers and **23%** of uncooked-food vendors surveyed in Korogocho (see below from Githiri *et al.* 2016)

Figure 4. Vendor's Gender and Food Type in Korogocho, Nairobi

Food Type	Female	Male
Cooked food	236	44
Vegetables	168	13
Uncooked food	56	17
Fish	21	1
Fruit	19	8
Meat	5	18
Milk	2	2

Female
Male

Challenges Facing Food Vendors in Informal Settlements

The project explored vendors' environmental, social, and political challenges, which partly overlap with traders in other sites but may also reflect the elevated insecurity and particularly hazardous environments in Nairobi's slums.

1. Poor Infrastructure and Services in Hazardous Environments:
These interrelated concerns can negatively affect food safety and vendors' livelihoods. To cater for passers-by, many vendors work near roads or paths in Nairobi's informal settlements (Ahmed *et al.* 2015). However, these locations may expose foods to dust, mud, or solid waste due to the poor roads and meagre solid waste management (see Figure 5). Inadequate water and sanitation are a further challenge: vendors may struggle to prepare and adequately clean their foods as a result of informal settlements' contaminated or inaccessible water provision. Flooding can also prevent vendors from working or even lead to electrocutions stemming from low-quality illegal electricity (Githiri *et al.* 2016, p. 31). Additionally, Viwandani and Mukuru are located in Nairobi's industrial area, and particulate matter emitted by nearby factories can contaminate food. Thus, bacterial food safety may be compromised via several pathways in Nairobi's informal settlements (see also below on inadequate storage). Although often beyond the sellers' control, this array of constraints can negatively affect consumer health as well as curtail food vendors' livelihoods.

2. Rising Food Prices and Entrenched Poverty:
Vendors were often concerned by mounting food prices, since their low-income customers cannot afford more expensive items. A woman selling chips in Korogocho cannot raise her prices in line with higher potato prices, and she believed vendors' businesses *"might end up even collapsing because you know [that] our selling prices don't change"* (quoted in Githiri *et al.*, 2016, p. 37). Vendors in Korogocho often noted that they sell foods in larger quantities and at cheaper prices than in formal estates, but they still cannot increase prices due to their customers' poverty.

3. Unsold Leftovers and Inadequate Storage:
Vendors utilised a range of strategies to avoid unsold leftovers, which reflect vendors' poverty and lack of refrigeration for perishable foods. These tactics may be quite benign, such as eating at home with their families (improving household food security) and selling or giving away foods to livestock-keepers (reducing food waste). But more worryingly, cooked-food sellers may mix fresh and spoilt foods, *"basically from fear of making losses"* (quoted in Ahmed *et al.* 2015, p. 28).

4. Insecurity and Fear of Crime:
Insecurity is widespread in Nairobi's informal settlements and may curtail vendors' hours or threaten their safety. Based on the project's maps, insecurity in Korogocho has even prevented food vendors from operating in several areas of this settlement (Githiri *et al.* 2016). Fear of crime can affect vendors and customers alike, as many clients are unwilling to buy at night. Meanwhile, vendors may be forced to close early, hire informal security guards, or risk theft and assault.

5. Lack of Government Support or Interventions:
Some settlements have been upgraded (including parts of Korogocho and Mathare), but many vendors still feel abandoned and marginalised. As a mandazi-seller in Viwandani declared, *"We feel like there is no government because there's nothing that we've seen done by the government"* (quoted in Githiri *et al*. 2016, p. 34). Vendors sometimes enjoyed a lower level of harassment in informal settlements, while others complained of paying weekly bribes to the City Council but receiving no rubbish collection or other services in return. Furthermore, during Nairobi's periodic cholera outbreaks, public health officers or police may target food vendors and force them to close (both in informal settlements and elsewhere). Punitive strategies during cholera outbreaks only deepen vendors' suspicion of government and miss a vital opportunity to promote food safety or enhance vendors' skills.

6. Obstacles to Organising Vendors in Informal Settlements:
Although some vendors engage in welfare-oriented community groups, these workers usually lack their own organisations. A woman selling eggs and sausages in Viwandani explained, *"We're located in different areas so it's hard for people to come together, and also because the mobile vendors move about to many places"* (quoted in Githiri *et al.* 2016, p. 30). As she noted, it is difficult to organise vendors who are **often dispersed and lack a common work-site**. Further obstacles include vendors' **poverty and time constraints** (reflecting long hours of vending and unpaid care-work), as well as **limited public recognition** for labourers in informal settlements. However, as discussed below, the project has helped to address many of these challenges.

Capacity-Building to Enhance Food Safety and Launching Vendors' Savings Groups

- Vendors have joined *Muungano wa Wanavijiji,* Kenya's slum-dweller federation, and they regularly engage in savings as well as clean-up activities.

- 100 vendors have received food safety trainings led by local nurses, as well as by staff at the International Livestock Research Institute (ILRI) and African Population and Health Research Centre (APHRC).

Two training sessions were held in early 2016 with 100 vendors from several settlements, and participants later taught other members of their groups.[6] Utilising a 'train-the-trainer' model helped reach additional vendors, who took several steps to promote food safety. According to two vendor leaders in Mathare, the trained vendors now thoroughly clean their fresh produce and fully cook their foods, including at home:

Most of the members who came for the training, they changed the way that they wash their vegetables and cook their meats. Now they use a lot of water, not like before –[before] they would use the same bucket of water all day. Now they've changed…they put a tap in the bucket and then water flows to the kale *[sukuma wiki]*…They boil the meat completely, for more than an hour...At home, we practice it now, we cook thoroughly (interview with leaders, 22nd Dec 2016).

Dust, mud, flooding, and other environmental hazards can pose risks to food safety in Nairobi's informal settlements[7]

Additionally, food vendors cooperate in cleaning local environments, such as unclogging nearby drains or collecting rubbish. Like other *Muungano* groups, members save regularly and engage in a 'merry-go-round' (i.e., a rotating savings association) with funds helping to purchase stock or cover other expenses. Future advocacy campaigns will focus upon upgrading infrastructure, services, and storage facilities. Vendors also aim to expand their network in Nairobi's informal settlements.

Figure 5. Open drains and solid waste near cooked food in Mathare, Nairobi. Photo by Stephanie Ray

Reflections and Creating Future Initiatives with Food Vendors in Informal Settlements

- Vendors in Nairobi's informal settlements initially struggled to understand how they promoted 'food security' since they do not engage in food production, but the term was subsequently embraced.

- Food vendors in informal settlements may have some commonalities with home-based workers (HBWs), who are again largely invisible to urban policymakers and often engage in female-dominated trades.

- Informal settlements are vibrant sites of economic activity (Chen *et al.* 2016). Vendors and other workers in slums may benefit from social or economic support (e.g., access to childcare and livelihood trainings).

During the project, vendors in Nairobi's informal settlements broadened their understanding of urban food security and increasingly incorporated food sellers into Muungano's community savings groups. As the leaders in Mathare recalled, vendors initially thought that food security only referred to urban agriculture and did not apply to them. But subsequently, they realised that food vending was itself a major contribution to their fellow residents: *"Because the 'food security' thing was so wide, we don't know if it was about farming and here we are in Nairobi, we are not farming, there are no farms here in Nairobi! [laughs]...But it's later that we came to understand it's about the small foods we are selling in the community, and how it's helping the community…"* (interview, 22nd Dec 2016). The slum-dweller federation also recognised the project as helping to expand its membership base and deepening its roots in women-led savings groups (see Lines and Makau 2017 for more on Muungano's methods and organising strategies).

When asked about organising vendors without a market or single work-space, the leaders in Mathare agreed it was more difficult than mobilising vendors in Nairobi's CBD. As one explained, *"It's a challenge— because what do you share, after all? You don't share the same space, you don't share the same services. You know, in Muthurwa* [a downtown market], *it's easier because when they have issue of services, issue of City Council, they must have their own representative"* (interview, 22nd Dec 2016). She carefully contrasted the dispersed vendors in informal settlements with those selling in a central market, who may have stronger leadership and more salient shared concerns. In Mathare, leaders sometimes struggled to mobilise stationary vendors since they have long hours and cannot readily leave their trading sites (especially at peak hours like lunchtime). By contrast, the leaders found it easier to mobilise hawkers as they are not rooted in the same area, making them more flexible and available for meetings.

Advocates can continue organising vendors and other informal workers in informal settlements, but this may require attention to a wider range of work-sites. Informal livelihoods in the Global South usually *"take place in a diversity of workplaces…Many of the homes that double as workplaces are located in slum or squatter settlements, **sites of significant economic activity**"* (Chen *et al.*, 2016, p. 334, emphasis added). Organising interventions may need to recognise women's blurring of paid and unpaid labour in slums; for instance, female vendors may leave their kiosks to care for children before returning to sell food. Organisers may devote extra effort to outreach, such as visiting dispersed worksites and meeting at times that do not conflict with vendors' peak sales or care-work.

Future action-research can 1) analyse vendors' diverse worksites, 2) explore the interplay between categories of informal workers, and 3) forge new alliances between workers in informal settlements. Vendors may have work-sites that change over time, since multiple selling spaces can strengthen their livelihoods and help to cope with official harassment.[8] As noted above, some food vendors in downtown Nairobi relocated to informal settlements after the City Council's extractions became intolerable (Githiri *et al.* 2016). Furthermore, findings suggest that vendors in informal settlements may resemble home-based workers (HBWs). Like HBWs, food vendors are overwhelmingly female; rely heavily upon local shelter and infrastructure for their livelihoods; and are usually invisible to urban policymakers (cf. Chen and Sinha 2016). Building upon these insights may help in organising and advocating for vendors, HBWs, and other vulnerable labourers in informal settlements.

A fuller **analysis of informal work-sites across cities**—including how labourers may relocate or **combine several spaces** over time to bolster their livelihoods—can help to create innovative organising strategies. By understanding a wider range of informal work-spaces and the **shared challenges of food vendors, home-based workers,** and others **selling in informal settlements,** organisers can better **reach these hidden labourers** and develop **new ways to support them.**

Promoting Multiple SDGs and New Urban Agenda via Support for Food Vendors

- As the successor to the Millennium Development Goals, the 2030 Agenda has promoted social inclusion, environmental sustainability, and pro-poor economic development in its 17 Sustainable Development Goals (SDGs). SDG 2 set targets of ensuring universal access to *safe, nutritious,* and *sufficient food* and *eliminating all forms of malnutrition* by 2030.[9] Additionally, SDG 2 prioritised *agricultural productivity* and *adaptation to climate change*, but overlooked the urban aspects of food security or nutrition (Battersby 2016).

- The New Urban Agenda (NUA) pledged to advance urban food security by harmonising *food policies with energy, water, health, transport, and waste management strategies*; fostering *rural-urban linkages*; *reducing food waste*; and promoting *urban agriculture*.[10] Although this is a valuable multi-sectoral approach, the NUA overlooked *informal* food providers and the crucial need to enhance food *access* among the urban poor.

Holistic initiatives benefiting food vendors in informal settlements have the potential to promote urban food security, the NUA, and multiple SDGs. The NUA already endorsed multi-sectoral strategies to enhance urban food security, but neglected the potential of *informal* food providers and their vital role in enhancing *access* to affordable food sources. Meanwhile, the SDGs have missed the urban dimensions of food security (Battersby 2016). But the interrelated SDGs can still offer a blueprint for how to support food vendors and foster wider benefits in informal settlements. Initiatives to address food vendors' complex unmet needs in informal settlements can simultaneously promote food security (SDG 2), health (SDG 3), and other related SDGs.

In particular, multi-sectoral upgrading projects benefiting food vendors can help to achieve SDG 11 on cities (with targets on slum upgrading), SDG 6 on water and sanitation, and SDG 7 on modern energy access. Gender-

sensitive interventions (SDG 5 on gender equity) are also needed, as women predominate in informal food sales but usually offer less-lucrative items than male providers (Githiri *et al.* 2016, Battersby *et al.* 2017). Complementary initiatives such as enhancing rubbish collection and access to refrigeration can promote food safety, minimise food waste, and bolster vendors' livelihoods (SDG 1 on eliminating poverty). These approaches resonate strongly with the NUA's proposed urban food security strategies, though with additional attention to informal providers and their role in improving access. Further lessons and recommendations are offered below.

Conclusions and Policy Recommendations

Food vending in informal settlements can create several pathways towards food security and safety and can generate vital livelihoods, especially for women, but these workers also face several challenges. In Nairobi's informal settlements, food vendors sell near their customers, in appropriate quantities, and at affordable prices throughout the day; they may even offer credit. Popular items range from cooked meals and fresh produce, to meat, fish, snacks, and dry goods. Vending is also a significant livelihood strategy, particularly for women who can readily combine vending with their unpaid care-work in informal settlements. Meanwhile, key challenges include hazardous selling environments; long working hours; meagre infrastructure, services, and storage; insecurity and fear of crime; lack of government support; and few organisations. But vending is still an unusually promising entry-point to enhance food security, thanks to traders' affordability and proximity to low-income households. **With further interventions, vending can play an even more essential role in promoting urban food security, safe access to food and continue strengthening the livelihoods of (mainly female) sellers in informal settlements.**

Figure 6. A vendor in Mukuru preparing *mandazi* (doughnuts) at a small restaurant that he runs with his wife. Photo by Alice Sverdlik

In addition to holistic upgrading initiatives, food vendors may benefit from greater recognition by food security advocates, informal worker organisations, and slum-dweller groups. Multi-sectoral projects that upgrade services, infrastructure, and food storage facilities can improve food safety, while also enhancing slum-dwellers' quality of life more generally (Githiri *et al.* 2016). Additionally, upgrading can **promote SDGs** including access to water, sanitation, and clean energy as well as fostering more inclusive urban development. Related efforts can improve vendors' **hygiene practices** (perhaps replicating the 'train-the-trainer' model in Nairobi), and vendors are already joining Kenya's slum-dweller federation *Muungano*. Worker and slum-dweller groups can **organise vendors** alongside other labourers in informal settlements to bolster their livelihoods. For instance, organisations can support vendors' access to credit and food storage; promote food-processing activities; or help diversify into more lucrative trades (depending on local contexts and priorities). Future action-research can analyse food vendors' livelihood dynamics, such as changing sites and other responses to official harassment.

Figure 7. Potato vendor at her shop in Mukuru. Photo: courtesy of vendor

Urban food insecurity can only be tackled via multifaceted strategies, but food vendors in African informal settlements are especially well-placed to reach the urban poor and deserve official support. Dialogue with local authorities may enhance traders' recognition while also shaping appropriate interventions. Vendors' food safety violations and failure to pay taxes rightly concern local officials; however, traders already pay bribes (an unofficial tax) and may readily seek licenses if these are more widely-available (Roever and Skinner 2016). Additionally, urban officials can promote food security by collaborating with vendors and other informal food providers, such as developing partnerships to enhance access to nutrient-rich foods (Roesel and Grace 2014). To increase demand for safe and nutritious foods, urban policymakers may launch awareness-raising campaigns with consumers (*ibid*., also Robinson and Humphrey 2015). At a metropolitan and regional scale, the NUA has cogently argued for multi-sectoral approaches to food security. **If vendors are incorporated into broader urban food-system strategies, policymakers can simultaneously bolster these workers' livelihoods and more effectively promote food security in African informal settlements.**

Figure 8. Fruit seller in Mathare, Nairobi. Photo by Stephanie Ray

NOTES

1. This widely-accepted definition encompasses 4 key pillars of food availability, access, utilization, and stability, but most attention has centred upon food availability and often neglected the other dimensions (Crush and Battersby 2016, p. 7).
2. As researchers concluded, "there is not enough evidence to make strong statements about the safety of formal and informal markets. What we do know from case studies is that *food from informal markets is often safe and food from formal markets is often not safe*" (Roesel and Grace 2014, pp. 29-30, emphasis added).
3. See acknowledgments section for the project's partners. Research was conducted from 2014-2016 with vendors in the settlements of Mathare, Mukuru, Kibera, Viwandani, and Korogocho.
4. For more on the methodology of community-led mapping with vendors, see Ahmed *et al.* (2014) and blog by P. Cravero, "Mapping for Food Safety," available at http://www.iied.org/mapping-for-food-safety
5. For vendors' confrontations with local authorities and regular harassment in Nairobi's CBD, see Lindell and Ihalainen (2014) and Mitullah (2010). Vendors are similarly harassed in many cities of the Global South (Roever and Skinner 2016).

6. See blog by G. Githiri and S. Mbaka, "Demystifying constraints to food safety through training in Nairobi's Informal Settlements", available at https://citypracticeblog.wordpress.com/2016/02/26/demystifying-constraints-to-food-safety-through-training-in-nairobis-informal-settlements/
7. See Ahmed *et al*. (2015) and blog by A. Sverdlik, "Nourishing livelihoods: the food vendors sustaining Nairobi's slums", www.iied.org/nourishing-livelihoods-food-vendors-sustaining-nairobis-slums See also blogs by P. Cravero, "Mapping for Food Safety," www.iied.org/mapping-for-food-safety, and "Informal Food Vendors: Urban Food Security's Invisible Experts", www.iied.org/informal-food-vendors-urban-food-securitys-invisible-experts
8. Similarly, according to a comparative study in 5 cities, 13% of over 400 vendors had responded to official harassment by shifting their sites or times of vending (Roever and Skinner 2016, p. 367).
9. See full text available at http://www.un.org sustainabledevelopment/hunger/
10. UN-Habitat (2016), Quito Declaration, pp. 13 and p. 17, available at https://habitat3.org/the-new-urban-agenda/

Acknowledgements

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