

Impacts of Covid-19 Containment Measures on Informal Food Vending in Residential Neighbourhoods in Nairobi City County

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Abstract

Informal vending is a widespread economic activity and it includes food distribution services in the cities of the Global South including Nairobi City County. It plays a critical role in food supply to urban consumers in addition to the employment that it creates for the vendors. Vending attracts people with limited livelihood options due in part to the ease of entry on account of the low-investments in the small-scale enterprises. However, sensitivity of the vending trade to restrictive regulations such as Covid-19 containment measures disrupted the flow of food for sale by urban food vendors. A study on the impacts of the measures on food vending in two adjacent residential neighbourhoods in Nairobi City County was conducted to appraise the implications to vending businesses and the coping mechanisms adopted by vendors. Sourcing of food transported to urban food markets from rural areas and also directly from the farmers by the food vendors confirmed that vending is a continuation of urban-rural linkages. Enforcement and compliance with the containment measures disrupted the flow; causing loss of business hours, increases in the cost of vending operations, and escalation in the prices of food. These impacts threatened to destroy the livelihoods of the vendors against a backdrop of the challenges faced in coping with the pandemic itself. The article recommends the formulation of a municipal policy on food vending that aims to streamline the logistics of buying food at the urban markets; the transportation of food to vending spaces and to the sites in urban residential neighbourhoods. The article further recommends that the vendors adequately organize themselves into vendors' business groups that could aid them in mobilizing and accessing money to support their growth and for sustaining their food vending operations instead of solely relying on augment support offered by the government.

Keywords: Informal food vending, containment measures, urban food consumers, Covid-19 impacts

INTRODUCTION

Informal vending is a widespread economic activity and it includes food distribution services in cities of the Global South including Nairobi City County. It plays a critical role in food supply to urban consumers in addition to the employment that it creates for the vendors (Uwiteji, 2016). Vending attracts people with limited livelihood options due to the ease of entry on account of the low-investments in the small-scale enterprises. The spaces and sites where informal fresh food vending operations occur rarely comply with local urban zoning plans. Urban land use planning discounts informal food vending in land/space requirement and spatial placement. Pro-urban vending legislation and smart zoning that least restricts informal fresh food vendors can create a conducive system for urban food supply (Arif et al., 2015). However, political commitment and innovative planning are lacking. Inevitably the

role of informal urban food vendors was critical in the delivery of food to urban consumers during the peak of the Covid-19 pandemic (Cesar and Megumu, 2021).

The reviewed literature outlining the theory that informs this article are derived from the vending and informal concepts. The vending and informal concepts are clarified before describing food vending in the informal urban economy as a source of livelihood that encompasses employment, income and food supply to consumers. The implications for Covid-19 containment measures arising from enforcement and compliance by food vendors are also outlined. The article further outlines the research methods, results of analysis and the discussions of the findings and concludes by formulating the study's conclusions and recommendations.

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THEORY

Vending and Informal Concepts

Vending is the offer of items and/or commodities for sale in the urban market economy which is normally conducted from semi-permanent structures or in open-air sites and spaces. The idea and meaning of vending as an operational concept in the distribution and supply of food to urban consumers in this article is restricted to informal vending of fresh food and commodities, flowing from rural food producers in the context of urban-rural relations (Kago and Sietchiping, 2017). Informality underlines the ease of vending in the distribution and supply of the food to consumers, resting on the flexibility of entry and exit of the vendors in food trade. The absence of coherent policies, planning for their sites and spaces as well as the legal status governing their operations explain widely-occurring informality that can at times, pervade the formal order (Kusakabe, 2006). Food vending therefore, mainly operates outside the formal municipal administration and planning ethos.

Informal, in contrast to formal; connotes the absence of established formats, manners, rules or structures and diplomacy in physical and/or non-physical transactive interactions between and/or among two or more parties. The informal economy has been variously defined depending on context and country or region. Charmes (2022) describes informal economy as an enterprise that is not subject to labour laws, income taxation, social protection, and workers' entitlements but it is a dominant source of non-agricultural jobs. Muranga et al. (2021) define informal economy as self-employment in trade, production of goods and/or providing services that under-declares income and/or inflates expenditure. This article has adopted the more inclusive definition of the informal economy which is:

“Employment without labour and/or social protection in/or outside formal enterprises and as well as self-employment and wage employment in small unregistered enterprises.” (Chen's, 2007 p 2).

The definition encompasses employment and enterprises; recognizing the two as resilient and in a growing social-economic continuum of segmented transactions and exchange operations in the market economy.

The informal economy, therefore, permeates social institutions, resource use practices and economic production in low- and middle-income countries where it has generated over 2 billion jobs for 60% of people globally (Martinez and Short, 2022). Informal economic activities range from resource use in smallholder subsistence farming that are striving to also produce a surplus for the market; to trade in food and related commodities, industrial goods as well as services.

A shift in perception of the informal economy towards recognizing it is inevitable because it is a complex livelihood system driving economies of the Global South, especially in Africa. In Kenya for example, the informal economy grew over 48 years between 1972 and 2018 to 32% of the gross domestic product (GDP). This compared well with the sector that accounts for 33.3% and 15% of economic activities in low- and middle-income; and advanced countries, respectively (Muranga, 2021). The growth over the years in Kenya suggests that the informal economy generates a substantial income that contributes to unaccounted significant wealth. A study of 23 countries in Sub-Sahara Africa equally revealed that corruption, weak institutions and widespread unemployment undermine the productivity of the informal economy (Ouedraogo, 2017).

Informal Urban Economy and Food Vending

Earlier urban informal economy studies in the Global South focused on formalizing it through taxation or eradicating it on the perception that it is a nuisance (Joshim, 1980). At the same time however, studies in Kenya vindicated the role that social ties play in its entrepreneurial culture and ethics. In Ghana today, the informal urban economy contributes to fiscal decentralization, job creation and generation of household income; and it as well incorporates ready-to-eat traditional food business spaces into the urban space economy (Owuse-Sekyere and Amoah, 2020). However, national and municipal policies and regulations globally fall short of the full support for the sectors (Molebatsi and Morobolo, 2019). The lack of policies, failure to enact appropriate land use planning laws for spatial placement of the informal businesses and leveraging anti-informality regulations and administrative actions;

limits and constrains the potential for productivity of the sector. The role of the informal food vending system for example is adversely affected. However, in spite of these shortfalls of policy and regulatory restrictions, the resilience of food vending has deep historical roots in the social and economic fabric of rural and urban societies with at least one parent of 70% of informal urban traders in Ghana and Nigeria for example, having been a food trader (Recchi, 2021).

Food Vending Operations

The urban poor and food-insecure households in slums and other informal settlements of Africa rely on informal food vendors to access their daily rations of food (Busse et al., 2022). This makes vending the most widely used medium of retailing the food. Vending distributes food produced by the farmers from rural and urban food markets, to consumers through informal economy along urban-rural food supply chains (Skinner, 2016). A typical vending business is a small-scale sole-proprietor of fresh and/or cooked-ready-to-eat informal food retail operations with or without an employee assistant (Adeosun et al., 2022). The operations link the urban food consumers to the food supply chain right from rural producers and may occasionally engage an employee assistant who has family ties.

Vendors use their own savings to start and sustain the supply of food stock sold to the consumers. Sedentary vending is the most common with vendors preferring to operate their businesses along residential streets, local traffic distributor roads, walkways, and edges of open spaces including recreation lots and car parks. Open sites/spaces, handcarts, temporary kiosks and bandas, rafters for food displays, baskets, and canvas mats are the most common physical structures defining spaces of the food vending operations (Ambikapathi et al., 2021).

The embracing of waivers of formal registration for street food vending in Penang, Malaysia has eased women entry into vending and also enhanced the survival of their businesses (Lalitha, 2020). Women food vendors were also allowed to vend at supermarkets and shopping malls with a high concentration of shoppers. Vending by hawking clothes, industrial items including toys, tools, watches, beauty products; and fresh ready-to-eat food to consumers at construction sites, open-air

spaces, car repair garages and public bus parks were also permitted.

Moniruzzaman et al. (2018) study of self-employment, income generation and the culture of saving among 152 vendors confirmed policy and legal support for informal vending can enhance economic productivity and prospects for growth. Improving informal food retail at open-air markets, hawking and street vending strengthens food flow links between food producers and consumers. Policies to incentivize the vendors to create employment, generate income and offer low-cost food distribution services to consumers are essential in the food supply chain that is feeding into the urban-rural food supply sub-system.

Food Vending During the Covid-19 Pandemic

The impacts of the Covid-19 pandemic outbreak and containment measures that were enforced to control its spread were immediately felt in the informal urban economy, generally and in the food vending sub-sector in particular. The vulnerability of food vendors in cities, in addition to being the targets of harassment by municipal authorities and under-provision of amenities, including basic infrastructure and sanitation services were widespread. Effective responses were needed to support the businesses of the vendors in their concerted effort to comply with the containment measures and to forestall the human catastrophe that the pandemic posed in cities. Conventional social protection and pension schemes are out of reach of the food vendors, which invariably expose them to millions of health and business resilience challenges that undermine their vending operations (Mushagalusa et al., 2020).

In India vendors and residents in urban slums and informal settlements were rated as high risk social groups (Raju et al., 2021:1). Vendors in Kenya were required to strictly comply with nine (9) Covid-19 containment measures including (1) physical/ social distancing, (2) wearing face masks, (3) lockdowns, (4) quarantine/ isolation, (5) handwashing, (6) ventilation of enclosed spaces, (7) hand-covering of coughs and sneezes, (8) avoiding hand contact of the face, and (9) curfews from 7:00 pm that was later relaxed to begin from 10:00 pm to 4:30 am. Conducting vending businesses under these restriction measures led to low customer volumes, heightened the already weak purchasing power of the customers and

escalated costs of food transport and logistics. These undermined the sustainability of livelihoods and further threatened the very survival of the household members (Schwettmann, 2020). Lalitha (2020) suggests that the outbreak of Covid-19 reduced the flow of customer volumes to the supermarkets and malls in Malaysia where female vendors operated their food businesses. The reduction, together with the disruption of the food supply to these vendors, undermined their capacity to cope with the uncertainties introduced by the pandemic in their business environment.

Sixty-four countries in Africa, Asia and Latin America legalized informal food vendors as essential economic actors and in securing continuity of food distribution (Marchori, 2021). Twenty-one countries in Africa and twelve countries in Latin America representing 32.8% and 18.8% of the countries, respectively, also designated food vending as an essential service. However, enforcing compliance to the Covid-19 containment measures for the vendors to comply, imposed disabling restrictions on vending against meagre savings and disruptions in food supply. This further constrained access of the food to urban consumers while undermining rural to urban food supply chains in cities. Designating food vending as an essential service during Covid-19 did not help also in part due to the delay and corrupt practices in the issuance of travel permits to enter or/and exit lockdown areas (ILO, 2022).

RESEARCH METHODS

The case study method was used to align the vendors as units of data collection to generate comprehension of the thesis and/or principle(s) they represent (Devi, 2020). The case studies were selected on basis of the manifested information-rich features and potential for yielding insights and understanding of the issues being studied. The overall focus of the method was to generate general trends of impacts of Covid-19 containment measures in three steps, beginning with the selection of the two case study sites of Jericho and Buru Buru Phase III low- and middle-income residential neighbourhoods, respectively (**Figure 1**). Jericho (built in 1961) comprises of 1,500 public rental housing units while Buru Buru Phase III (built in 1978) consists of 887 owner-occupier housing units, amongst the other four phases (I, II, IV and V). The two estates, which are adjacent

to each and are separated by Rabai Road, and are five kilometres from Wakulima food market – the largest food market in Nairobi City County.

Purposive non-probability sampling was used to collect data from 36 informal food respondent vendors along streets and pavements, makeshift bandas, under umbrellas, mats and wooded rafters (Etikan et al., 2016). Thirty-nine percent of the respondent vendors were from Jericho and 61% were from Buru Buru Phase III. Despite the difference in the proportion, the vendors in the two-case study neighbourhoods have ever-changing vending spaces/sites with Buru Buru phase III attracting most vendors on account of youthful and young family migrants attracted by the supply of affordable bed-sitter rental housing (Rukwaro and Kieti, 2018). Data was also collected from three key informant government official respondents; two from the national government and one from the Nairobi City County government, respectively.

Structured and unstructured questionnaires were administered in in-depth interviews to collect data on: (1) socio-economic profile of vendors and their vending operations; (2) food distribution to vending spaces/sites as the terminal phase in the food flow supply chain in the urban-rural relations amongst the consumers accessing the food; and (4) compliance with the containment measures and the adopted coping strategies.

RESULTS

The Profile of Food Vendors and their Vending Operations

The average age of respondents was 38 years, ranging between 22 and 60 years for the youngest and oldest food vendors, respectively. The gender distribution was 58% males and 42% females. Food vending has attracted vendors from the Arusha region in Tanzania, accounting for 11% of the respondents. The remaining 89% were Kenyans with 87% of them born outside the two neighborhoods. The ancestral homes of the 89% proportion was Central Kenya (37%), Eastern Kenya (17%), Kajiado (13%), Western Kenya and Nyanza (10%), other regions 4%, and the study area a mere 2%.

The highest level of education achieved by the vendors was post-secondary at 19%. The level of secondary was 44% and 25% for primary

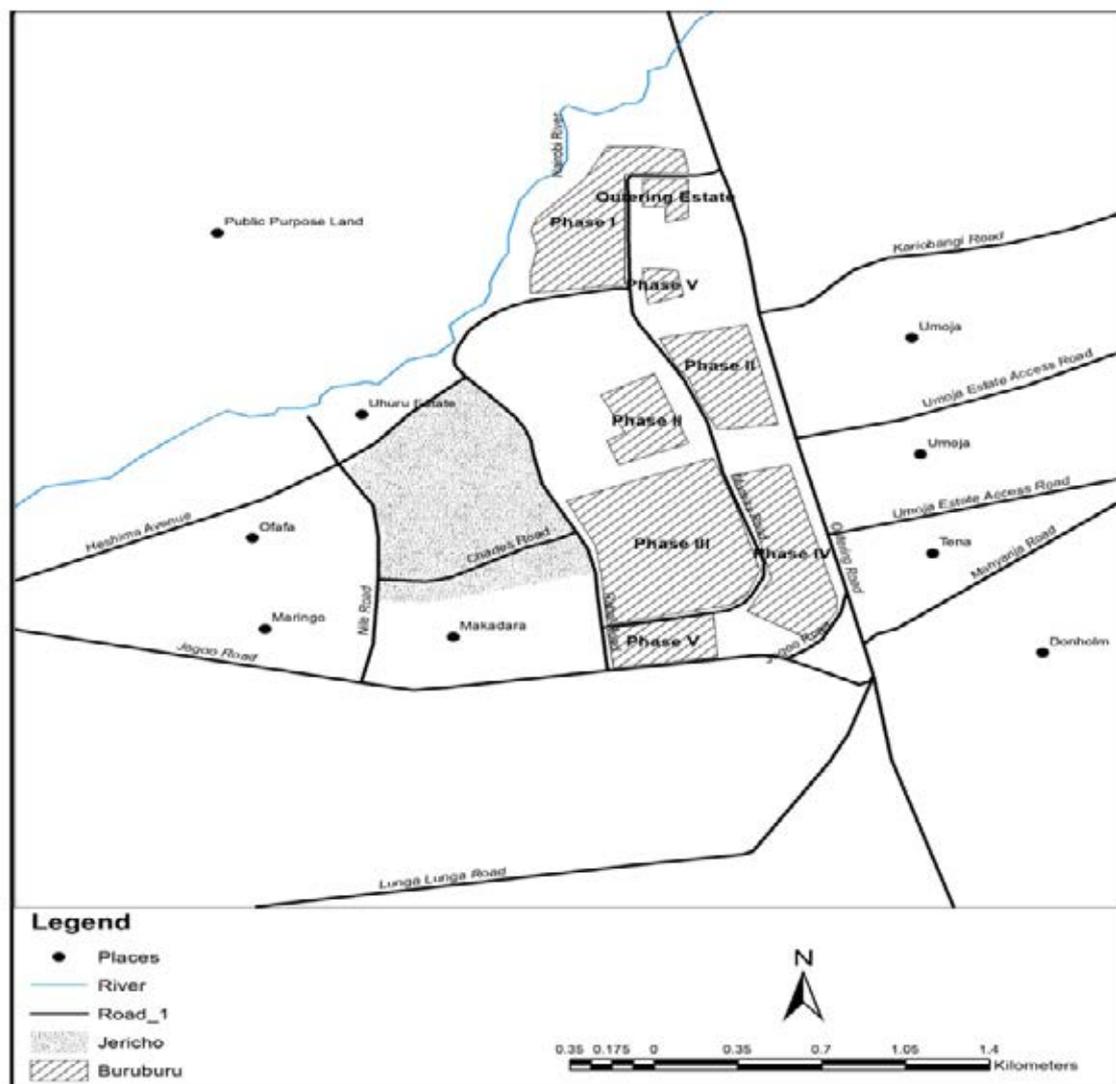


FIGURE 1
 Jericho and Buru Buru III Residential Neighbourhoods
Source: Adopted with modifications from R.W. Rukwaro and R.M. Kieti (2018:6).

education which combine to 69% proportion, and 11% of them without formal education. By relating the high proportion of married respondents (72%), with those with secondary and primary education certification (69%), suggests that the majority of the respondents were youthful married literate vendors, compared to single respondents (19%), widowed (6%) and divorcee (3%) respondents. Food vending was the main source of income for the highest proportion (89%) of the respondents. The remaining 11% their income from small provisional shops, selling of clothes, farming and transport businesses. Two sets of the most cited reasons why vendors chose to operate in the two neighborhoods were availability of customers by 29% and opportunity to earn income from food consumers by 24%. The second two most cited

reasons were proximity to where respondents lived by 18% and availability of space for vending (13%). About 5% of them cited low capital required to invest in food vending. Finally access by roads and being close to banks, proximity to other businesses that the respondents operated from having inherited food vending businesses from parents and having fewer competitors were cited by 3% each. Fruits, vegetables and cereals were the main food types that the vendors sold. The main vegetables were ginger, garlic, coriander, kales, cabbages, tomatoes and spinach. Consumers were offered green peas, pumpkins, eggplants, green maize, avocado and cucumber as supplements to the vegetables. The fruits were apples, watermelons, thorn melons, bananas, oranges and pineapples.

Arrow roots, Irish and sweet potatoes were the root tuber foods on offer. The range of cereals sold included lentils, maize, rice, beans, black beans and cowpeas. Consumers passing by the vendors were also offered Omena fish, and ready-to-eat-cooked Githeri- a popular traditional Kenyan dish of boiled beans and maize that is served with beef stew.

Food vendors bought 45% of the food they sold to consumers from Nairobi City County food markets, 19% from wholesalers and 17% from distributors. The proportion of food distributors and farmers who supplied food directly from out of the city-county to the vendors, without having first to transport it to the city food markets was 10%. Out of the 45% of vendors who sourced food supplies from the food markets in the city and identified Wakulima food market as the source was 29%. Gikomba market, located 2 km from Wakulima food market was the source of 7% of them while another 3% of them sourced their food supplies from Nyamakima, Korogocho, Highridge, Parklands, and Jogoo road food markets, which are also in the city.

Modes of Food Transport by Vendors

The results of data show that vendors sourced the food they stocked in two main ways along urban-rural relations functions. Firstly, 64% of vendors are food supply destinations for food transported to Wakulima and other food markets in the city from rural food markets and from the farmers in Kenya. Tanzania and Uganda are also important sources of food from where the transporters brought to urban food markets and distributed to the vendors for sale to consumers. Wakulima market combined with Parklands market are the destination markets for vegetables and fruits, while Nyamakima and Gikomba markets are the destinations for the cereals. These two sets of food markets perform an agglomeration function of the food transported to Nairobi City County from rural food markets and the farmlands. The food markets also perform a food distribution function for access by the consumers through retail by food vendors. Secondly, the 10% of vendors receiving food supplies directly from farmers who send them to vendors in Jericho and Buru Buru Phase III residential neighborhoods, for vending to consumers also perform an urban-rural relations function.

More than half (52%) of the respondents used public transport in transporting food products from the food markets to their business sites. Vendors preferred Matatus (14-seater vans licensed to offer public transport in Kenya), more than any other type of public transport. This is because Matatu drivers transport food stocks to their vending sites/spaces. Matatus are also considered to be faster in the quest for the drivers to make innumerable passenger and goods round-trips to meet the targets of daily earnings. Handcarts were used by less than half of the proportion of the public transportation at 20% but they were widely used in transporting tomatoes packed in wooden crates. Hired pick-trucks and private vehicles of close relatives were used by 11% of the respondents each, respectively. Porters delivered food loads from traders at the markets to nearby bus-stops where it is loaded on Matatus that transported the food to vending spaces/sites of 5% of the respondents.

Impacts of Covid – 19 Containment Measures

There were five main negative impacts on food vending, which arose from enforcing and complying with Covid-19 containment measures. The first negative impact manifested in the reduction of the daily vending business hours, which was cited by the majority (94%) of the vendors. Out of this proportion, 59% cited a reduction of working hours which arose from the compliance with curfew rules alone. Pre-Covid-19 operating hours were from 9:00 am to 10:00 pm daily. Wakulima and other food markets opened for food trade at 5:00 am daily when vendors bought their stocks of food to last two to three days per week. However, curfew rules required people to be indoors from 7:00 pm to 4:30 am which forced the market to open for food trade and to begin at 6:00 am – a loss of 1 hour per day.

The vendors were forced to comply by adjusting their arrival time at the food markets, 1 hour late. They also closed their businesses at 6:00 pm to be at home by 7:00 pm in order to avoid arrest by the police for failure to comply with the curfew rules. On average, vendors lost four hours (6:00 pm to 10:00 pm) evening business time that included peak vending business hours from 6:00 pm to 8:30 pm. Vendors made the highest food sales during these peak hours from customers returning home from work. Low sales and loss of evening customers was reported by 15% of respondents

each. This included the loss of customers who had lost jobs and were no longer regular customers and the loss of stock from the perishing of fresh foods products.

Secondly, the impacts on the cost of running food vending business resulted to the increase in the cost of operating the businesses in three areas, which was reported by 89% of respondents. These comprised of an increase in the cost of food products and transport, and the higher costs that the vendors incurred in purchasing and installing Covid-19 control and prevention materials and facilities such as face masks (51%), sanitizers (21%) and hand washing dispensers (18%). Loss of stock from the perishing of the food products on account of reduced business hours translated to a significant impact on the cost of business at 8% response by the vendors.

Thirdly, the impacts on sales and customer base at 92% response proportion of the vendors, with 51% attributed to a decrease in customer base alone, suggests that a large magnitude and strong chain reactions were transmitting the impacts in the food supply value chain. These impacts are crucial in appreciating internal processes and outcomes of food vending by noting that a decrease in customer base led to a decrease of sales, which was reported by 24% of the vendors and that only a marginal increase of sale prices to customers was half at 12%. It would appear that the loss of customer base on account of weak purchasing power occasioned by lack of income, itself following job losses; was a key factor influencing impacts on the sales and on the customer base. Here, two impacts undermined the capacity of food vendors from operating at pre-Covid-19 levels of food vending at the peak of enforcing the containment measures. To begin with, there was complying with the containment measures by closing their businesses early and then there was the increasing prices of food. There was also a shift by some customers to purchasing their food in larger quantities directly from food markets at discounted prices to reduce the frequency of their shopping trips.

The fourth impact was an increase in wholesale and retail prices of food products at food markets that 89% of vendors reported. About 81% of them were categorical on the increase in wholesale and retail prices. The increase in transportation costs from markets to vending spaces/sites, including

costs incurred in logistics of accessing food-producing areas and rural food markets were due in part to lockdowns in Nairobi City County and the enforcement of the curfew in food-producing areas.

Finally, compliance with containment measures impacting negatively on the types and varieties of food that the vendors sold, further clarifies the causes of reduced daily vending business operating hours, reduced wholesale and retail prices, increased cost of running food vending business and an increase in the wholesale and retail prices at the food markets. Less than half (46%) of the vendors reported that the types and the varieties of food that they sold were negatively affected. About 45% of vendors cited that the food products supplied before the Covid-19 outbreak were no longer available, which confirms that the impacts on food types and varieties were indeed significant.

Fish, fruit types and beans were the most affected resulting to 37.5% of the vendors buying whatever food products were sold at the food markets to replenish their stock. As wholesale and retail prices increased, lockdown restrictions deepened the challenges faced in food transportation to urban food markets from rural markets and farmlands. This led to the continued fall of pre-Covid-19 levels of food types and varieties at Wakulima and other urban food markets where vendors purchased their stocks for sale to consumers.

Compliance and Coping Strategies

Food vendors had to comply with the containment measures at their vending sites/places to continue operating legally. The first three measures that they complied with were wearing face masks by 24%; 17% acquiring handwashing stations and 16% installing sanitizer dispensers. At 14%, vendors' insistence on handwashing and/or sanitizing by customers and 11% on social distancing, suggests fairly low levels of behavioral compliance with the two containment measures. Similarly, 7% and 4% of the vendors reported requiring their customers to wear face masks and paying for food purchases by the M-PESA personal financial platform, respectively, equally suggests very low levels of behavioral compliance with the two measures. Cumulatively, however, the vendors stocked face masks for customers who did not carry them and had to do so before they could

be sold the food items. There were also the ones that disallowed customers' queues, which are indicators of the concerted efforts that the vendors employed in behavioral compliance with the containment measures.

Observance on travel restrictions to comply with curfew hours and lockdown by 72% and 83% food vendors, respectively, are strong compliance indicators. In comparison, compliance levels for public health protocols at 56% of food vendors who always observed physical and social distancing and wearing face masks while 42% always washing hands; and an increase of wearing of masks to 58% for sometimes were lower. Overall, however, these levels of compliance for curfew hours, lockdown and public health suggest a significant compliance by the food vendors in managing the spread of the pandemic. The levels are a compelling case of determined food vendors to survive adversities from limitations imposed by two perspectives in the containment measures. On one hand, there were limitations stemming from enforcing policy, legislation and governance of Covid-19 pandemic curfew hours and lockdown. On the other hand, there is the personal responsibility of individual food vendors to behaviour in ways that complied with all public health protocols as imperative for own survival and their vending businesses as their main sources of livelihoods.

The 22% of respondent vendors who closed their businesses temporarily are twice as many, 11% of them who reported they opted to continue vending operations for lack of alternative means of livelihoods. Another set of respondents at 8% each concentrated on selling food only in demand and reducing profit margins to remain in business. Finally, 6% of the vendors who diversified the food that they sold and those that took credit to remain in business. About 3% offered customers food on credit, they opened additional food vending sites to increase the chances of making sales and for increasing food prices. Each of these actions underline the diversity of coping strategies that were adopted.

Challenges in Recovery from Impacts

The challenges that the food vendors encountered included low returns from sales due to the weak purchasing power of consumers, unpaid debts, reduced business hours, loss of stock due to perishability of the food products, increased

costs of operations and lack of accessing food products. Restrictions of travel within the Nairobi Metropolitan Region, where Nairobi City County is located, by imposing lockdowns and curfews introduced limitations in accessing food markets to purchase food stocks. High costs of transport also reduced profitability of vending and resulted in the loss of customers, the inability of customers to afford food products that the vendors offered, the reduced pre-lockdown levels of to- and from-upcountry travel – were all drastic challenges that confronted the vendors to continue remaining in business.

Two-thirds (66%) of the vendors combined into, to a moderate extent and to a large extent levels of business recovery from the impacts. The remaining 33% recovered to a small extent. The vendors cited two categories of government actions that the respondents cited could have offered to assist in the recovery of vending businesses from the impacts. Financial aid to stock food vending businesses and direct money transfers to strengthen food purchasing power of the poor were cited by 26% and 10% of the vendors, respectively. Offering subsidized farm inputs by 2% of the respondents, opening the economy fully and creating jobs by 1% each were also cited. Interestingly, 15% of the vendors reported that the government did not have to intervene in the recovery of their businesses.

DISCUSSION

Socio-economic Profiles of Food Vendors

The vendors are fairly distributed by gender, age and literacy, reflecting they are potentially knowledgeable and adaptive to a dynamic food vending environment. Majority of the vendors (89%) are Kenyans and most (87%) were born outside Jericho and Buru Buru Phase III neighbourhoods, suggesting a strong presence of rural to urban migrants. The largest proportion of vendors are from Central Kenya followed by Eastern Kenya and Kajiado in that order. This confirm propensity to migrate in search of employment to urban areas which are close to rural ancestral communities.

The importance of informal food vending as a source of food supply in low- and medium-income residential neighbourhoods in Nairobi City County that the results of data have confirmed; underline the importance of food vending as

small-scale informal business according to Adeosun et al. (2022). The results also confirm that there is a low capital outlay needed to start and remain in the informal food vending business that Recch (2021) noted in Ghana and Nigeria. Finally, the presence of emigrant food vendors from Arusha region in Tanzania bears the significance of inadequate employment opportunities in East African countries that Ouedraogo (2017) suggests require addressing in the Global South.

The finding that close to three-quarters of vendors (72%) were potential dependents for food and other household needs, aligns with perspectives on vending in Chen's (2007) definition of informal economy as employment and self-employment in small, unregistered enterprises. This suggests a strong attachment for them to succeed in food vending as the main source of livelihood. Incidentally, operating food vending businesses in the two neighborhoods was informed by the availability of customers, proximity of where the vendors lived and effective accessibility of vending spaces/sites that results show, confirm the articulated importance of local roads, walkways and kiosks and bandas (Ambikkapathi, et al, 2021). Further still, the businesses that the vendors had inherited in addition to the capital value they gained from vending operations, align with the finding by Lalitha (2020) in Malaysia; and Recchi (2021) in Ghana and Nigeria.

The dominance of fresh food that vendors sold to the consumers illustrates the importance of reliable sources of supplies and cost-effective transportation from those sources to places where vendors sell to consumers. The vendors relied on the demand of their customers to buy vegetables, fruits, vegetable supplements, and root tubers food stocks at the markets and also from farmers who sent the food directly to them. The significance of these four categories of food products is the dominance of fresh foods (vegetables, fruits and vegetable supplements) that are high value, have short shelf-life and are perishable. For the vendors, reliable and efficient transportation of the foods through urban-rural food supply value chains to stock their vending businesses was critical for the survival of the businesses. Lentils, maize, rice, an assortment of legume food products, Omena fish, and ready-to-eat-cooked Githeri and beef stew that the vendors sold were low volume and lower value food items that they stocked to enhance

income from sales of the four main categories.

Two observations are made on food markets in Nairobi City County. Firstly, a 45% proportion of food supplies from the markets that the vendors sold reflects the critical role of urban food markets in the distribution of food to sustain informal food vending businesses. The function of the urban food markets as agglomeration points of food transported from rural farmlands and rural food markets into the city county, and as accessible by the vendors for distribution to the urban consumers is also underlined. Secondly, a third of the vendors buying their food stock for their businesses at Wakulima food market alone underlines the centrality of the market as a destination of the food transported from producing areas; and as the main food distribution point to urban consumers. This centrality of Wakulima market and its role in distribution of food authenticate and validate its significance, similar to the role of the car park spaces adjacent to supermarkets and shopping malls that the Malaysian women used for vending in Malaysia.

Food Vending in Urban-Rural Linkages

The results of the data show that the vendors' sourcing of food for distribution and access by consumers, confirm food vending is a continuation of urban-rural linkages as noted by Skinner (2016), involving two sets of actors. Food transporters from rural farmlands and rural food markets; to urban food markets (Wakulima and other food markets in the city-county). On their part food vendors bought food stocks that they transported by a galaxy of means (Matatus, handcarts, hired pickup trucks, private motor vehicles and porters) to their vending spaces/sites that are food flow terminal points. The food parcels from farmers who sent the food directly to the vendors is the second future of food flows in the urban-rural supply value chains.

The results further show that the food vendors were actors in food flows between Kenya (i.e. Wakulima food market in Nairobi City County) and rural food areas in Tanzania and Uganda. This flow is an international supply chain that also underlines the urban and rural linkage relations defy state borders in responding to market and survival imperatives.

Impacts of Covid-19 Containment Measures

Business hours were the most negatively impacted aspect of food vending from enforcing its compliance with curfew hours that reduced pre-Covid-19 levels of business. The vendors lost five business hours each day including two and half hours (6:00 pm to 8:30 pm) of peak business periods when sales are the highest on account of large numbers of customers returning home from work.

The increase in cost of food products also on account of increased costs that the food transporters incurred, translated to the prices that the wholesale and retail traders offered to the vendors. On their part vendors incurred increased costs in transporting the food from the markets and also incurred new costs of acquiring face masks, sanitizers and hand washing dispensers. As results of the data also show, a fall in the number of customers on account of job losses, led to a fall in sales that translated into an increase in food prices by the vendors, expecting to but did not compensate for loss of business. The purchase of food by some customers in large quantities from Wakulima at discounted prices to avoid unnecessary trips to the vendors also contributed to loss of revenues from their sales. The increase of sale price by the vendors to counteract the negative impacts from loss stemming from reduced customers, was also a response to increased wholesale and retail prices at food markets.

The consequential changes of costs and prices beginning with the vendors, through to customers and food markets; to food transporters reflects the functional principle of the food supply chain representing urban and rural relations. Vendors resulted to averring that whatever food products were offered at the food markets was in response to the costs and prices:

The respondents reported that the Lockdown of the Nairobi Metropolitan Region and travel restrictions to and from the Region led to costs that food transporters incurred in direct transport costs and as logistics such as acquiring travel permits and tests for Covid-19 infection. These were cited as the main causes of increases in wholesale and retail prices of food, and reduced types and varieties of food transported from producing rural areas and rural food markets; to urban food markets for distribution to supply the vendors.

Compliance and Coping Strategies

Vendors mainly complied with the wear of face masks, installing hand washing dispensers and hand sanitizers in that order. The low compliance in physical and social distancing is on account of relying on own discretion (without external policing) that informed behaviour of individuals, which included the use of M-PESA as a platform for transacting business. The compliance was backed by mere self-motivation, personal initiatives and control of the vendors that proved weak. While some vendors closed their businesses, others adopted a multiplicity of coping strategies singly or in combination to remain in business. Reduced profit margins and volumes of stock, selling food products in demand only, taking loans and food stocks on credit, opening new vending sites to increase the chances of making sales, and/or increasing food prices are noted.

Challenges

The three challenges that the vendors faced in operating their businesses are reduced earnings, unpaid debts and the perishability nature of food products. Travel restrictions within the Nairobi City County and Nairobi Metropolitan Region stemming from imposed lockdowns and curfews hampered accessing the food markets to purchase food stock supplies. The inability of consumers to afford food products that the vendors offered, restriction of pre-lockdown levels of upcountry travel and a high number of customers working from home introduced drastic challenges for the vendors. The ensuing challenges of weak financial capacity, disrupted supply of food stocks and customer base of the vendors were expected to recover with government support after enforcement and compliance of the containment measures were relaxed and removed altogether. This, however, was not the case.

Two-thirds of the vendors reported a combined recovery of to a moderate extent and to a large extent only, with funding of the remaining one-third reporting recovery to a small extent. With a combined proportion of 67% of the vendors expecting government incentives but 15% none, vendors in the two residential neighbourhoods were left to innovate their own vending operation strategies to overcome the challenges towards recovery.

CONCLUSION AND RECOMMENDATION

This article makes four conclusions. First, the presence of emigrant food vendors from Arusha region in Tanzania in the Jericho and Buru Buru Phase III suggest that there is an easing of international border crossing restrictions that has incentivised jobless migrants to foreign cities (Nairobi) where they engage in the informal urban economy of food vending. Secondly, the two ways that food vendors sourced stocks of food for vending and accessed the consumers confirmed that food flow through vending contributes and in fact it is part of the urban-rural linkages. The stocks of food transported from producing areas and rural markets, to Wakulima and other urban food markets in Nairobi City County; and the food stocks that the vendors received directly from the farmers to sell to the consumers reinforced the fact that food vending is part of the urban-rural linkages continuum.

Thirdly, the four main impacts of Covid-19 containment measures on food vending business, namely; (1) reduced operating hours, (2) increased cost of operating the businesses, (3) low sales from loss of customers base and increase in prices of food, and (4) reduction in the type and varieties of food that the vendors sold to consumers – all undermined the livelihoods of the vendors. Their survival was not only threatened but the threat to cut-off of vital food supplies to urban consumers loomed was also real. Finally, vendors adopted coping strategies that leveraged threadbare survival throughout the pandemic period, and onward during the post-covid-19 recovery period that followed; expecting that the government would offer financial and other forms of support but this did not happen. This article makes a recommendation for the formulation of municipal policy on food vending to streamline the logistics of buying food at the urban markets, and transportation to vending sites and spaces. The policy should cover the planning for food vendor sites and spaces including the design of the vehicular street carriageway in relation to adjacent pedestrian walkways along road reserves. The access of the sites and spaces as the last-mile logistics in the delivery of food stocks to the vendors will also be covered. Lastly, the article recommends that the food vendors adequately organize themselves into vendors' business groups for aiding the mobilization and accessing of money

to support their growth. This is better the option for sustaining their food vending operations instead of entirely relying on government. Their capacity for coping and sustaining their vending operations against adversities such as Covid-19 and any other similar disasters, as well as the impacts resulting from enforcing and complying with the containment measures will also be enhanced.

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