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CHANGE, CHALLENGE
AND OPPORTUNITY IN
THE INDIAN URBAN FOOD
SYSTEM: LESSONS FROM
BANGALORE, INDIA

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Abstract

Over the past decade and a half, food policies have undergone much change as decentralization and the reliance on free markets have escalated. Increasing levels of research into the traditional wholesaling system prompted Indian lawmakers to embark upon reform. Using evidence obtained from doctoral research in Bangalore, India, this paper demonstrates that the traditional system is still largely intact. However, there are structural socio-economic and political challenges that act as barriers towards the continued survival of traditional food vendors in the urban sphere. This paper outlines key areas of research in price management, micro-small medium enterprise development, political empowerment and urban planning at the local scale that could provide new directions for urban, food, and local development.

Keywords

food vendors, food system, urbanization

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Introduction

The Global South faces an increasingly urban future (Fox 2012, Pieterse 2008). Indeed, over the next thirty years, virtually all of the global population increase (up to 9 billion) will take place in the urban areas of the South (UN DESA 2014). Seto et al (2014) argue that the current pace of urbanization is formidable and unprecedented, and there is a shift in global urbanization away from Europe and North America towards the cities of the South. India has also experienced rapid urbanization in recent decades (Kundu 2014, Sridhar and Wan 2014). One third of the country's 1.35 billion people resided in urban areas at the time of the 2011 Census, up from 29% in 2001 (Kundu 2014). The World Bank (2018) estimates that the figure had increased to 34% by 2017, while the UN projects that by 2030, 41% of the Indian population will be urbanized. In 2011, the country also had eight major cities with over 5 million residents. The largest was Mumbai (18.4 million), followed by Delhi (16.3 million), Kolkata (14.1 million), Chennai (8.7 million) and Bangalore (8.5 million).

Several scholars have noted that the urbanization process throughout India has exacerbated socio-economic inequality, including the elite capture of urban planning and decision-making processes, leading to a growth process that is an exercise in informality and an ad-hoc pursuit of competing agendas (Roy 2009, Kundu 2014, Shatkin 2014). Chadchan and Shankar (2012) have argued that the spatial growth of urban areas has lessened the per capita availability of arable land (from 0.5 hectares in 1950 to 0.15 by 2000). At the same time, per capita production of fruits and vegetables rose over the 1983 to 2010 period, while per capita production of food grains, pulses, and cereals remained stable (Kumar et al 2012). As production has not kept pace with population increase and urbanization, one of the consequences has been price inflation for key commodities. Stagnant productivity has also been complemented by environmental deterioration leading to lower soil quality, shrinking ground water sources, and pesticide overuse (Gahukar 2011, Hathn et al 2015). These trends have implications

for the future achievement of urban food security, and point towards the need to examine the existing urban food supply and demand systems.

The urban geographer Drakakis-Smith (1995, 2000) earlier pointed out that increasing urbanization in the 'developing' world has brought about changes in urban diets, food production, and retail structures that merited greater attention of urban scholars. Furthermore, the growth of supermarkets (often the result of foreign investment), the rise of fast food retail, and the lack of government support for various forms of traditional food actors (particularly the informal economy) have led to consumption patterns that may lead to the rise of chronic illnesses, while threatening the livelihoods of traditional farmers (exposed to imports, weaker bargaining position vis-a-vis multinational retail) and retailers (family-run stores, informal vendors). This call for more attention to the ways in which urbanization was interacting with and transforming urban food systems went largely unheeded with far more attention being given to rural production and food security (Crush and Riley 2019). This paper therefore forms part of a new research agenda to instate the future of urban food systems as a key research and policy issue in the 21st century (Crush et al 2020).

This discussion paper aims to shed light on current debates about the urban food economy in the Global South, drawing upon evidence collected from Bangalore, India, as part of the Hungry Cities Partnership. It builds on an earlier HCP report which surveyed a representative sample of informal food vendors in the city through in-depth interviews with various individuals in the food system (Honasoge et al 2019). The research presented here comprises findings and lessons learnt as part of a larger research project that aims to understand the supply-chain dynamics of the onion commodity as it makes its way from rural sites of production through the urban food system to consumers. The evidence presented and discussed in this paper primarily concerns the city's general food supply, food system transition, and the informal food economy. Specifically, the discussion focuses on the traditional food wholesaling system and its supposed demise.

Given that a large component of the food system is still driven and controlled by informal players, the paper examines key themes regarding informal vendors in the food economy. It then looks at the specific developmental factors and challenges faced by micro-small and medium entrepreneurs.

none were willing to be interviewed. The evidence discussed in this paper therefore relates to basic purchasing and selling habits, general characteristics of vendors (with special emphasis on informal vendors), the challenges and threats that they face in the new urban and food retail economy, and their strategies and objectives navigating this space.

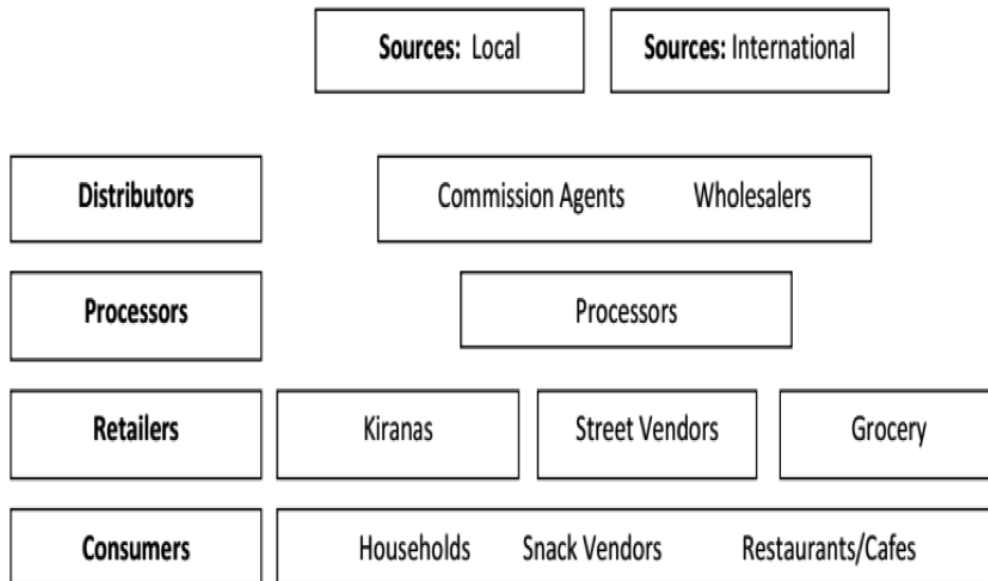
Methodology

Bangalore is situated in the south of India within a major agricultural region. The urban core itself has been dubbed the “silicon valley” of India owing to its reputation as a major international hub for information technology research and development. Over the last two decades the urban core has doubled in size and its rapid change as an emerging global city makes Bangalore an interesting case-study for studying food transitions. A semi-structured questionnaire was administered to 141 individuals in the food system of Bangalore, including 34 snack-vendors, 23 neighbourhood family stores, 42 street vendors of vegetables/onions, and 24 restaurant owners on the food supply side. While numerous attempts were made to contact grocery chains through both the use of cold-calls and personal connections, given the sensitivities related to food price volatility and the entry of foreign players,

Food System Characteristics and Transition

The basic food system in Bangalore is illustrated in Figure 1, with particular reference to the onion supply-chain. At the lower end of the food system are the retailers comprising street vendors (mobile traders and roadside stalls), kiranas (neighbourhood family-owned stores), Public Distribution System (PDS) fair price shops, grocers (individually-owned and supermarket chains) and markets (Srivastava 2008). The retail landscape is currently dominated by neighbourhood kiranas. Goswami and Mishra (2008) and Zameer and Mukherjee (2011) have pointed out that small-scale neighbourhood retailers offer the consumer convenience, food freshness, and familiarity. Williams and Gurtoo (2012) categorized informal vendors in Bangalore

FIGURE 1: Bangalore’s Onion Supply-Chain



into four main groups: family traditionalists, survivalists, rational economic actors pursuing profit, and social actor entrepreneurs.

Durkin (2016) and Gandhi and Zhou (2014) assert that long food chains in India mean that mark-ups are added to the price of food along its journey, thereby reducing affordability. A key element often blamed for this is the traditional wholesaling system. According to Minten et al (2010), there is little literature on the workings of traditional markets in India. Some of the literature that does exist has pointed to the burden of a logistical tax (high cost of doing business, transaction costs) due to inefficiencies and trader collusion. Indeed, it has been argued that traders at markets often play the role of both wholesaler (with an incentive to provide lower prices to farmers) and brokers (with an incentive to find higher prices for farmers) leading to a conflict of interest (Minten et al 2010).

In the state of Karnataka, Veen and Venkatesha (2014) undertook a study of vegetable marketing channels for four major commodities (banana, tomato, cabbage, and cauliflower). Their surveys found that, on the whole, farmers realized higher prices by selling to large-scale formal retailers (supermarket chains), and the chains were able to achieve lower costs along with lower levels of wastage. Dastagiri et al (2012) undertook a study of the marketing efficiency of various horticultural product supply chains. They found that in Karnataka, marketing efficiencies were the highest for direct marketing lines (buying directly from farmers). However, direct product lines could have employment/income implications for those in the middle of the chain. A similar recent analysis of onion marketing in Rajasthan by Meena et al (2016) found that shorter channels were more efficient. Lastly, Minten et al (2012) sought to understand the wholesale market system in the state of Uttarakhand in northern India and found that the broker system led to exorbitant commissions and poor service.

Private (wholesale) markets were outlawed for decades until the Agricultural Produce Marketing Committee APMC reforms of 2003/4 (FICCI,

2017). Liberalization reforms were enacted in 2003 (Model Act for State Agricultural Produce Marketing Committee - APMC), which aimed at opening the door to foreign investment, giving farmers more choice of buyers, freeing up movement of food, and allowing private wholesale infrastructure. However, little research has been done on the effects of these private initiatives (IFPRI 2011). Since the amendments to the APMC in 2013, market fees have been abolished on flowers, fruits, and vegetables, while the marketing committees collect user fees from buyers at rates laid down in by-laws approved by the Director of Agriculture Marketing. Buyers of fruits and vegetables pay a 1% commission fee to the APMC yards, while farmers are not charged. Indeed, commission agents charge 5% to wholesalers and retailers (out of which 1% is given to the Marketing Committee). Furthermore, farmers have also started selling directly to consumers through personalized deliveries, online/telephone sales, and so on (Surie and Sami 2017).

In 2014, in response to intense lobbying, the Indian central government passed the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, with the objective of legitimizing street vending (Patel et al 2014). To implement the Act, the Government of Karnataka state (in which Bangalore is located) passed an amendment in 2016 that set out rules as to how Town Vending Committees would be formed. These committees are entrusted with the responsibility of specifying zones where street-selling can occur. However, the mandate of the Act has yet to be implemented, and how this unfolds will yield important insights about the politics of informality.

Reardon and Minten (2011), Reardon and Timmer (2012) and Reardon et al. (2007) note that over the course of recent decades, the consolidation of food processing (and supply-chains) and the rise of big retail have accelerated. Recent empirical work has also established that relationships between the formal and informal economy are more nuanced than (previous) simple domination or cooperation-themed models would suggest (Roberts 2014, Waibel and McFarlane 2012, Williams and Nadin 2012). In the case of India, Chakrabarti (2013) and

Mukim’s (2015) national-level econometric models point out that there are key buyer-seller linkages between formal and informal firms within the same industry and technological spillovers promote co-agglomeration.

Peddi (2014) has noted that some of the biggest retail chains in India have set up in Bangalore, while Srivastava (2008) has observed that these chains have resorted to discounting as a strategy for establishing themselves in the market. In 2012, foreign direct investment into food retail was allowed. Several domestic chains partnered with foreign corporations to gain access to fresh capital and technology. As a result, ‘organized’ retail chains in India are making inroads into the sale of fruits and vegetables. Given that these developments are recent, the implications for the informal sector that makes up over 90% of the food retail supply in India is still unclear (Cohen 2013).

Some have welcomed these new developments. Venkatesh (2008) has argued that the introduction of more modern retail chains will allow farmers to obtain higher prices, increase access to markets

(new infrastructure development), allow for direct farming, and higher government tax revenue. Peddi (2014) has argued that the standards for freshness and quality will also rise if farmers are able to sell to modern retail chains. Rani and Babu (2005) have pointed to evidence that shows that organized retail could offer the consumer better prices.

Both food vendors and consumers still largely obtain their onions from traditional sources (Tables 1 and 2). Indeed, some feel that they obtain cheaper prices along with other benefits such as delivery, trust/long-standing relationships, freshness, and proximity. Even middle-class household consumers follow a similar pattern, noting that traditional vendors still supply at a cheaper price than supermarket chains. While the evidence may differ for other commodities, given the central role that the onion commodity plays in the foods eaten in southern India, the traditional supply system seems to have remained largely intact. Although the traditional system remains strong, the literature on the informal economy and SMMEs suggests that there are challenges ahead.

TABLE 1: Onion Supply Sources of Vendors

Type of vendor	Sources of onion	Reasons
Snack vendors	Wholesale markets Kiranas Street vendors	Easy access-short distance Familiarity Cheaper prices Relationships/Regularity
Kiranas	Commission agent Wholesale market	Agent – might offer lower price Can call to get price Relationship Closer distance
Street vendors	Commission agent Wholesale market Kiranas	Yard auction – cuts out middlemen Low prices Good quality (fresh) Relationship (regular suppliers) Delivery services (CA)
Restaurants	Wholesale market Kirana	Regular supplier – fair price Relationship

TABLE 2: Onion Supply Sources of Household Consumers

Source of onions	Reasons
Kirana	Location (proximity) Prices reasonable
Street vendor	Freshness Quality Price Convenience Bargaining opportunity Choice of quality
Grocery stores	Online (more convenient) Availability of other goods Offers
HOPCOMS (Horticultural Producers Cooperative Marketing and Processing Society)	Proximity to HOPCOM warehouse
Both kirana and street vendor	Depending on price and quantity
Street vendor and grocery chain	Depending on price

Perspectives on the Food System from Below

This section of the paper examines the challenges faced by smaller players in the food retailing system from the perspective of the players themselves. Table 3 is based on a city-wide survey of informal food vendors in Bangalore conducted in 2018 and shows the major challenges faced by all vendors. As the table shows, economic challenges were of paramount importance but almost 50% felt that government policies also posed a significant obstacles.

The research for this study amplified and elaborated some of these challenges, as well as breaking them down by type of outlet (Table 4). Given the large number of individuals and families dependent upon the urban food economy in Bangalore, the growth of competition presents a particular challenge to urban livelihoods. While most of the food businesses interviewed reported that their earnings are generally stable and sufficient to meet livelihood needs, there are both long-term structural and emerging challenges on the horizon. One of the

recurrent themes is the increase in competition that many of the actors across the urban food-chain have experienced as Bangalore's population has doubled in size over the past two decades.

Food vendors (both informal and formal) complained that while they were once the only food vendor in their chosen space, many others have now moved in alongside them. As one noted:

The competition has increased. When I started I used to take the cart around places because there were less shops in the area. So, the business was good. But now I can't do that because there are shops in every corner.

Another noted that "we have many vendors now and that's why the customers have gotten split." There is also a widespread perception that competition has impacted their income and will prove to be a major challenge in the future. Family-run establishments also expressed particularly strong concerns about the growth of competition from multi-national grocery chains and their online platforms. One of the strategies that street vendors use to cope with competition is to experiment with different products and ingredients in order to find a business formula that is sustainable. The key factors for those decisions seem to be price, demand, and durability. While some have tried to distinguish themselves from the competition in this way, most seem resigned to the new state of affairs. Several street vendors argued that it is not worth it as there is enough business for everyone to at least survive.

It was largely felt that when a business formula was found that ensured stability, it was best to stick to it. Street vendors said that it was not possible to offer promotions or provide home delivery as their margins are already too thin.

Kirana vendors also disavowed the practice of open competition and prefer to make small changes to businesses such as the introduction of novel products. Restaurants felt that it was necessary to gauge customers and their preferences over time rather than compete outright by dropping prices or other strategies.

While there are no easy answers to the conundrum of increasing competition, this is a phenomenon that has received almost no attention in the research literature on food, urban planning, and policy. There may well be vendor-led arrangements occurring

with respect to the use of space, product-choice, and entry-barriers; however, the literature on these practices is slim and more investigation into these areas would help with planning how space can be regulated.

TABLE 3: Challenges Faced by Food Vendors

	No.	%
Economic challenges		
Too few customers	833	83.3
Insufficient sales	557	55.7
Too many competitors	522	52.2
Customers don't pay their debts	342	34.2
Lack of access to credit	333	33.3
Suppliers charge too much	165	16.5
Competition from supermarkets/large stores	153	15.3
Operating challenges		
Storage problems	238	23.8
Restricted by lack of relevant training in accounting, marketing, other business skills	38	3.8
No refrigeration	34	3.4
Policy challenges		
Government interventions	474	47.4
Goods and services tax reform	90	9.0
Security challenges		
Harassment/demands for bribes by police	108	10.8
Crime/theft of goods/stock	99	9.9
Crime/theft of money/income	55	5.5
Verbal insults against your business	45	4.5
Conflict with entrepreneurs from other communities/castes/religious groups	18	1.8
Physical attacks/assaults by citizens	14	1.4
Prejudice against my nationality/regional identity	10	1.0
Confiscation of goods by police	9	0.9
Conflict with entrepreneurs from within own community/caste/regional/religious group	7	0.7
Prejudice against my gender	6	0.6
Arrest/detention of yourself/employees	2	0.2
Physical attacks/assaults by police	0	0.0
Note: Multiple-response question		
Source: Honasoge et al (2020)		

TABLE 4: Challenges/Threats to Business

Snack vendors	Price volatility-stagnant/Irregular income Competition-people switching to restaurants/migration from rural areas Customers prefer variety Keeping prices competitive and profitable Income irregular or stagnant Managing losses Managing customer needs and expectations
Kiranas	Competition-local and grocery stores (discounts/online) Loss of regular customers Less focus on relationships – low customer loyalty Income stagnation or reduction
Street vendors	Competition – pressure to lower price/client-base lessening/diversity splitting customers/grocery chains/reduction of opportunity for mobile sales Improve product quality to stay competitive Weaker relationships with customers Price volatility-income effect
Restaurants	Cost of doing business has risen – labour, ingredients, gas prices Surviving start-up Clients demand variety Ensuring quality product Competition – decline in sales

Incomes and Price Instability

Dasgupta's (2003) socio-economic survey of informal sector workers in New Delhi found that incomes are irregular, a majority desire regular wage work, and rural migrants dominate the sector. Gurtoo (2009) showed that there are significant earnings differences between enterprise owners (working in sales and semi-technical jobs) and those working for others. However, these studies are not food sector-specific. In addition to increased competition, major fluctuations in commodity prices present a significant challenge to both vendors and consumers. Given the changing nature of food systems across India, the impacts upon income security are an important issue, as these comments suggest:

Price is really inconsistent now. There is nothing we can do about it. We simply reduce the quantity purchased when the selling (market) price is too low.

It's a bit of a problem because we have no choice but to sell at the market price irrespective of our investment. So if the price drops suddenly we end up incurring losses.

We cut down our purchasing quantity because the customers will drop or buy less. But that's why we purchase more frequently, to gauge the demand and be flexible.

One of the kirana vendors argued that the industry is currently not a level playing field and that there should be policies to intervene in markets and impose 'price floors' so that traditional vendors cannot be undercut by the bigger players newly arrived on the scene. Some vendors stated that periods of price volatility can mean temporary financial losses, and they must then rely on periods of inflation to break even. Table 5 summarizes the types of responses adopted by different categories of food outlet.

TABLE 5: Responses by Type of Vendor

Snack vendors	Fewer onions Increase prices – pass it on to customers Reduce ingredients Suffer losses Produce different products
Kiranas	Follow and pass on to customers Reduce purchases
Street vendors	Purchase carefully, more frequently Pass increases on Incur temporary losses Reduce purchase of particular commodity Try to break even and then lower price
Restaurants	Lower quantity but cannot raise price Have to take loss as cannot reduce main ingredient Experiment with different dishes Raise price in response and cut costs

While India manages issues of food price instability through public investments in infrastructure, providing input supports to its farmers, and liberalizing its markets to move away from the traditional wholesale model, there is much research to be done on what is effective (Paul et al 2017). How prices transmit from the rural to the urban and within the urban sphere is poorly understood (Nuthalapatti et al 2020, Rajendran 2015). It is clear, however, that the traditional supply system (through wholesale markets) still largely holds. Why that continues to be the case requires further investigation, given that much of the literature on supply-chains argues that this system contributes to inflated prices (as traders and intermediaries hoard food and/or exploit farmers) and should logically be replaced by a more streamlined supply flow where prices/market information is more readily accessible and producers can make decisions more freely (IDS 2012, Minten et al 2012).

Finance

While micro-credit has been a celebrated instrument of poverty alleviation, on balance its success has not been universal nor is it universally accepted as a tool. However, there is some evidence that in the urban sphere it helps to have stronger support from the lending institution, with the added

presence of social workers and dedicated credit managers. At the same time, the use of organized vendor self-help groups in combination with NGOs and civic authorities could provide the necessary collective collateral, support, and financial mentoring that is needed for enterprises to succeed over time (Banerjee 1998, Bhowmik and Saha 2013). Furthermore, it is key to understand the varieties of food vendors and their particular needs and challenges, as the investment required for growth and/or stability may be larger and more complex than models that have largely been tried in the rural sphere (Baker et al 2020, Banerjee 2013, Kersten et al 2017).

Like all businesses, access to finance is crucial for food-based enterprises. While the majority of food vendors surveyed financed their operations through a combination of savings and help from family members, some of the more financially vulnerable were forced to access funds from local financiers. Hoosange et al (2020: 33) found that only 8% of food vendors in Bangalore had financed start-up with loans from micro-finance institutions. On the other hand, 33% had acquired start-up capital from informal money lenders. High interest rates can lead to years of indebtedness where all extra income beyond living expenses is directed towards servicing their debt. As one street vendor noted:

I don't think it (a loan) would be helpful because it requires monthly payments. Sometimes we can't pay every month regularly. So to pay back the loan we would be likely forced to take another loan.

Some vendors cited the lack of capital as a reason for not investing in more locations for their business or expanding existing operations.

In the case of street vendors, a lot of the expenses that require the acquisition of loans are personal rather than business-related (e.g. education, health-care, marriage of children). With respect to start-up costs, finance is often obtained through family networks. Those who were interested in micro-finance stressed that it is important to understand the particular circumstances of street vendors. Specifically, interest rates need to be minimal, and

there is a need to reduce the required documentation as personal and financial records may be non-existent. Frequent repayment schedules are not viable for street vendors and group lending schemes may be a deterrence. As one vendor stated, having to be responsible for someone else's default when one is already financially challenged raises the risk of borrowing.

Technology: Access and Use

One of the strategies that food vendors can implement to adapt to a growing and changing food sector is the utilization of technology to improve efficiencies and marketing outcomes, and provide a better service to their clientele (Chen 2016). While there is some adoption of electronic-wallet technology by small-scale groceries and the restaurant sector, most of the informal vendors did not think of technical innovations as a priority. Some find the cost prohibitive or exploitative, or lack the financial margins for investment, or do not possess the education or confidence with technology to go down that route. There is also a widespread sentiment that internet-based technology would not be of much help to small operations. One street vendor noted:

I have heard about it but I don't want to because it has additional charges and taxes. What revenue we do get is low enough. Why would I want to pay more for online transactions.

Hoonasage et al (2020: 30) report low usage of IT in their survey of informal food vending in Bangalore although 29% of those surveyed said they use cellphones to coordinate with suppliers. Only 14% took orders by phone and 13% received payments from apps such as Paytm and Tez.

Several of the kirana vendors interviewed for this study had invested in e-wallet technologies. However, one kirana owner stated that electronic transactions would involve running to the bank regularly and it was preferable to conduct sales in

cash. Some also felt that this was a scam from the telecom companies to extract money from them. Digital payments, however, were quite commonly used by restaurants.

Formalizing the Informal

Formalizing the informal is often advanced as a desirable policy option by international organizations such as the ILO and World Bank (Young and Crush 2019). Street vendors interviewed for this study cited the costs of formalization as an issue, although there was recognition that the extension of legal protections could stop any potential harassment from occurring:

I would like to upgrade to a regular store but the rents in the busy areas are high for someone like me to put up a store.

The only thing we require is legal recognition of vendors so that we cannot be evicted or harassed in the future.

There were reports of harassment from city authorities, confirming the findings from the HCP city-wide survey of informal vendors (Table 3). One street vendor stated that there had been an attempt to evict vendors from a particular location, but the order was rescinded following the intervention of a member of the legislative assembly. Few of the street vendors interviewed were members of co-ops or organized into trade unions, avenues through which greater rights and services could be obtained. Given the slim profit margins experienced by many of the players in the food economy, it would probably be more prudent to research and implement the option of extending rights and services rather than looking at these businesses as an avenue for tax revenue generation. At the same time, there was a general consensus that little is wanted and/or needed from government or public service agencies. This is perhaps reflective of eroded social trust and a feeling that public authorities are best avoided.

Conclusion

This discussion paper addresses the dynamics of the changing urban food system in Bangalore, India, from the perspective of participants who are struggling to maintain a niche in that system. Despite a decade and a half of policy changes and changes in food supply chains, the traditional retailing system continues to be the dominant supply-chain mechanism for food delivery in the urban sphere. At the same time, these small players continue to struggle in the context of increased competition, rising wholesale food prices, income instability, and official harassment. Furthermore, the factors that impact growth and innovation -- such as micro-finance, affordable loans and technology development -- bypass many and leave business models precarious and stagnant. While such a state of affairs has persisted and allowed these traditional players to survive until now and deliver a level of service acceptable to consumers, increasing levels of foreign direct investment and the growth of big retail threatens to transform the urban food industry much to the detriment of traditional industry. Solutions to these challenges need urgent research and implementation.

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