

Was Covid-19 a Game-Changer? Inequality, Governance, and Urban Food Systems in Bengaluru, India

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Abstract

Game-changing crises have been explored as catalysts for transformative change towards sustainability. In this article, we examine the extent to which the Covid-19 pandemic acted as a game-changer, reshaping an urban food system in the Indian city of Bengaluru. Drawing on interview data with food system actors, we show that while Covid-19 generated a proliferation of adaptive initiatives and temporary shifts in practices, these were uneven and largely short-lived. Governance responses were biased with respect to classification of essential services, spatially differentiated enforcements, and institutional visibility. These responses systematically favoured organised, capitalised actors, while marginalising informal vendors and peri-urban producers. As a result, rather than catalysing longer-term transformation, the pandemic intensified existing inequalities and consolidated the position of dominant actors. We argue that game-changing crises did not inherently produce transformative change; instead, they acted as filters that revealed and deepened underlying power structures. Our findings highlight the need for justice-oriented urban food governance frameworks that can sustain alternative arrangements beyond moments of crisis.

Keywords

Covid-19; game-changers; India; social innovation; urban food systems

1. Introduction

Urban food system transformation is essential for sustainability (Rockström et al., 2025). This particularly matters in the Global South, where urbanisation is proceeding rapidly, alongside long-existing pressures on agricultural land, endemic poverty, and food insecurity. Several conceptualisations of food system transformation exist (Juri et al., 2024), as well as a diversity of approaches to effect change. There is consensus that systemic change requires new relationships between actors and the embedding of new sustainability values (Juri et al., 2024). Inclusive governance, engaging public, private, and civil society actors, is essential for steering food systems toward transformative pathways (Béné, 2022; Bui et al., 2019; Oñederra-Aramendi et al., 2023; Tefft & Jonasova, 2020).

Social innovation is fundamental to transformation, incubating new social relations, and operationalising new values and potentials for governance (Chebrolu & Dutta, 2021; Westley et al., 2016). Within this article, we explore the role of social-ecological crises in spurring, shaping, or limiting such innovation in urban India, bringing to bear the concept of game-changers as catalysts of change (cf. Avelino et al., 2017). We examine how food system actors in Bengaluru, India, responded to Covid-19 lockdowns—the “game-changing” catalyst—with new normativities, relationships, and initiatives. We explore the extent to which these disruptions initiated transformative change, the barriers or enablers of this, and implications for governance. We specifically draw on an integrative framework for the governance of food system transformations (Moragues-Faus et al., 2024). We explore the ways in which Covid-19 adaptations were game-changing in impacting the deep levers of governance set out within this framework. Our core finding is that while lockdowns did catalyse a great deal of grassroots activity, they did not initiate a truly transformative pathway, mainly because governance remained aligned to the interests of the most powerful along most of the axes set out by Moragues-Faus et al. (2024).

The context specificity of our empirical case is significant, given the near-certainty that agrifood systems in India—and the Global South—will face escalating pressures over the coming decades. We suggest that it is essential to understand how transformations may occur despite challenges, as well as how they may themselves act as game-changers. We focus on fresh produce because in India, these are consumed by all strata of society, are nutritionally important, and supply chains are easy to trace.

Small-scale enterprises, characterised by decentralisation and low levels of capital input, form the majority of retail sources for fresh produce in urban India (including in Bengaluru; Koduganti et al., 2019). These include corner shops, informal vendors with roadside stalls, and pushcarts or door-to-door sales (Narayanan & Saha, 2021). Supply chains are composed of 4 to 8 intermediaries (Chand, 2012; Trebbin, 2014) from “village level consolidators, transporters, wholesalers and commission agents to retailers” (Trebbin, 2014, p. 39). At all points, supply chains depend on the physical presence of multiple actors, liaising on a cash basis (Varshney et al., 2021).

At the other end of the spectrum are supermarkets and online retail platforms with highly organised procurement systems. Before the pandemic, Bengaluru stood as a nationally important “test market” for these retail formats in the food sector, as well as the explosive growth of tech-driven and app-based provisioning. It is within these spaces that the changing composition of India’s food plate is most evident, driven by an influential group of middle-class consumers: literate, English-speaking professionals working

within service industries (Dittrich, 2009). These consumers experiment with different cuisines, recreational dining, and artisanal or “boutique” food. Despite many new initiatives explicitly positioning themselves as “sustainability-aligned,” including via establishing new food-related enterprises such as quasi-professional urban farms (e.g., Frazier, 2024), there are concerns that they may deepen existing agroecological pressures and socioeconomic inequalities in and around cities (Frazier, 2024; Purushothaman et al., 2022). This aligns with emerging evidence of multi-dimensional sustainability and well-being outcomes of urban agriculture (Patil et al., 2026).

Addressing inequalities matters because Indian agriculture faces a deepening crisis. Over 80% of India’s farms are small (under 2ha). Most are in areas with converging social-ecological pressures from climate change and land degradation (Bharucha et al., 2021). Farm incomes are relatively stagnant. Agrarian distress drives an epidemic of farmer suicides each year—the largest number in the world. Urban expansion is a leading driver of loss of agricultural land (Choithani et al., 2024; Huang et al., 2020; Pandey & Seto, 2015), with food production and provisioning excluded from urban planning (Seto & Ramankutty, 2016).

The first Indian lockdown was announced on 24 March 2020, with only 4 hours’ notice (Gettleman & Schultz, 2020) and had immediate impacts across the food system. The announcement was met with a wave of panic-buying, particularly in cities. Informal labourers, faced with immediate loss of income, began a mass migration to their home villages. Food supply came under immediate strain due to transport disruptions. Within days, agricultural operations were severely disrupted due to labour, mobility restrictions, and a great deal of produce remained unharvested. Social distancing disrupted the functioning of wholesale and retail spaces, which, as we have described, rely on the physical presence of multiple actors (Varshney et al., 2021).

The lockdown was extended three times, to 75 days, becoming, at the time, one of the longest and most stringent in the world, until India began a phased reopening on 8 June 2020. While these disruptions appeared logistical, they were deeply shaped by governance decisions. As such, the impacts of the lockdown cannot be understood independently of the governance frameworks through which they were enacted. In the following sections, we briefly explore the concept of game-changers, before turning to an overview of the impact of the lockdown on Bengaluru’s food system and its governance.

2. Game-Changers for Sustainability Transformations

Game-changers are defined as specific, disruptive events, combined with narrative framings by social actors of these events as “systemic,” and the emergence of alternative narratives and practices in response. Game-changers are not singular exogenous shocks acting as landscape pressures independent of human agency (Swilling, 2016). Instead, they are best understood as being part of a “contextual dynamic that is perceived by social actors as changing the dominant logics, rules and conditions of engagement of existing socio-technical regimes” (Swilling, 2016).

Game-changers create opportunities for “new ideas, programs, projects to get traction and secure resources needed for further transformation” (Westley et al., 2016). In other words, they effect change by spurring social innovation. This we understand as changed social practices, reflecting alterations to how people make decisions or behave, alone or together (Franz et al., 2012). These new normativities reflect new “guiding transformative visions” (Loorbach et al., 2016), as well as double- and triple-loop learning: respectively

signifying questioning the underlying assumptions animating the prevailing paradigm and institutionalising new practices (Pahl-Wostl, 2009). In embedding new normativities and learning, social innovations “break decisively from prevailing approaches to address a social challenge in a new way” (Swilling, 2016).

We argue that while Covid-19 gave space to new normativities and relations amongst food system actors, it did not catalyse systemic transformation in Bengaluru’s urban food system largely because governance responses reinforced pre-existing inequalities. Organised retail platforms, digital enterprises, and formalised collectives were able to consolidate their position, while informal vendors, peri-urban producers, and small traders faced disproportionate losses. In this sense, the pandemic acted more as an accelerant of existing political-economic trajectories. This raises critical questions for urban food governance beyond 2030: how can governance systems respond to crises in ways that are both resilient and just?

3. Methods

We conducted two sets of semi-structured interviews focusing on food system actors’ experiences of Covid-19 lockdown measures—the first during the lockdowns (March–July 2020; 37 interviews) and the second at the end of the lockdowns (Nov–Dec 2020; 14 interviews). We reviewed media sources to generate an overview of the types of adaptations spurred by the lockdowns. Following expert validation of this overview, we used it to identify interviewees.

We then used purposive and snowball sampling (Berndt, 2020) to broaden our interviewee cohort. Our sample size was based on thematic saturation as well as ensuring fair representation of different actors across supply chains. We interviewed online and in person, in English ($n = 22$) or the local language (Kannada; $n = 15$ and all 14 in the second round). Interviews were audio-recorded; where permission was declined, we prepared handwritten notes. Kannada recordings were translated into English by the authors.

We analysed data thematically. Our “code and retrieve” method (Ritchie et al., 2003) was applied cross-sectionally across the two sets of transcripts. We first sorted the transcripts deductively into nine themes: adaptation, adaptation by class, drivers and barriers to Covid-19 adaptations, changes to drivers and barriers, long-term potential of Covid-19 adaptations, sustainability implications of Covid-19 adaptations, enablers and barriers to food systems transformation, values for transformed food systems, and visions of transformed food systems. These themes were defined through a series of discussions between the authors, based on reflection on the content of our initial transcripts and our research questions, against our reading of the literature on game-changers (cf. Avelino et al., 2017). Once our transcripts were coded against these general themes, we conducted a round of deeper, inductive coding to help refine the themes and code data, which was of high salience for further understanding. In our elaboration of findings, R1 and R2 indicate Round 1 and Round 2 of the interviews respectively.

4. Findings

4.1. Differential Disruptions and Responses Across Food System Actors and Markets

Urban food governance operates through spatially uneven regimes of visibility, authority, and entitlement, rather than as a coherent territorial field. Lockdowns exposed and amplified this unevenness across different

types of actors, government responses, and markets. These dynamics illustrate how the crisis was experienced very differently across the food system.

Well-positioned enterprises were largely able to maintain supply, while vulnerable actors (small vendors and independent farmers) experienced cascading failures. Well-organised retail platforms experienced lockdowns simply as a period of operational strain. Their resilience was attributed to proximity to production zones, pre-existing logistics, and the ability to mobilize and achieve institutional recognition as “essential services,” which resource-poor actors failed to obtain. As one co-founder explained, the pandemic exposed the fragility of long-distance sourcing: “the resilience of the supply chain is directly proportional to the length of the supply chain...ours was not in threat—it is a very local supply chain” (Platform CEO, R1). Farmer Producer Organisations (FPOs) similarly reported either minimal disruption or increased demand, benefitting from collective transport arrangements, pre-negotiated market access, and the capacity to secure police permissions for movement during curfews: “During the first lockdown there was double the demand. Since markets in cities were closed and produce from far off places couldn’t come to the city, we had to work day-and-night” (FPO Co-founder, R1). This resulted in organizational growth: “Around 200 farmers newly joined during the Covid time, which is about a 20% increase” (FPO Co-founder, R1).

By contrast, small and informal vendors experienced catastrophic losses, leading many to exit the market permanently. They faced restricted operating hours, inconsistent enforcement of mobility restrictions, and intensified competition from online platforms. As one summarized: “The lockdown impacted mostly street vendors....We went back years and years” (Street Vendor Leader, R2). As employment in other sectors shrank, food vending became a refuge sector, dramatically increasing competition: “Before the lockdown 10 vegetable vendors were there, now there are 100” (Horticultural Producers’ Cooperative Marketing and Processing Society [HOPCOMS], Official, R2). Independent farmers faced acute losses. With wholesale markets disrupted and transport restricted, much produce became unmarketable: “Some of the farmers ploughed back the produce in their farms only instead of spending money to take it to the market and dump it there” (Agricultural Expert, R1).

Interviewees described state action as spatially uneven and actor-specific, focusing primarily on those already visible within formal governance and regulatory frameworks. Rather than compensating for vulnerability, governance reinforced existing hierarchies, differentiating between actors deemed either essential or dispensable. Within Bengaluru’s privileged urban core, provisioning was maintained through the classification of food-related activities as essential services and with police support to enable mobility. Initiatives operating within middle-class neighbourhoods received a great deal of media coverage, amplifying their perceived legitimacy: “Media was covering these apartment-level initiatives...so the narrative became that citizens are managing” (Civil Society Actor, R2). This visibility translated into protection for privileged actors already legible to the state. By contrast, in peri-urban areas: “There was no guardian to think about us” (Peri-Urban Farmer, R1). These actors had limited access to transport permissions, faced inconsistent enforcement of rules, and had negligible outreach from local administrations. The effectiveness of formal government schemes was also uneven. Compensation schemes for crop losses reached hardly 15–20% of farmers (Government Advisor, R1) and support measures for informal workers were universally dismissed: “Street vendor schemes were only publicity” (Street Vendor Leader, R2). These insights clearly illustrate that inequality during the pandemic was not simply a consequence of disruption but was actively produced through governance.

Wholesale and retail markets emerged as critical sites where the governance of food provisioning was enacted. Interviewees described market closures and restricted operations not only as logistical disruptions, but as governance decisions that redistributed risk unevenly. As such, this unevenness shows the limits of crisis-induced change when infrastructure changes are not accompanied by shifts in market relationships, governance practices, or incentives. Here, we describe how restrictions played out unevenly across four markets: Agricultural Produce Market Committee (APMC) markets, Bengaluru's central wholesale market (KR Market), peripheral wholesale infrastructure, and informal weekly markets.

Markets operated by the APMC had their operations limited to two to four hours per day. These compressed trading windows privileged actors with speed, proximity, storage capacity, and established relationships with commission agents. For small farmers and traders, however: "If you missed that window, there was no second chance. The produce had nowhere to go" (Wholesale Trader, R2). An alternative market, Dasanapura APMC, developed as a wholesale alternative, was underutilised: "Only about 10–15 shops out of 212 were actually trading" (Government Advisor, R1). Traders attributed this to the persistence of entrenched trading relationships and market power elsewhere: "Capitalist traders are still in Yeshwanthpur. That is where the real business happens" (Wholesale Trader, R2). Thus, governance interventions operating through time (restricted hours) and place (peripheral relocation) disproportionately advantaged powerful actors, and excluded those without capital, storage, or institutional leverage.

Within two centrally located markets, interviewees described markedly different governance experiences. At KR Market, lockdown restrictions intersected with an ongoing renovation project, producing what many described as double displacement: "KR Market was already under renovation. Then Covid came. So, traders were displaced twice" (Market Trader, R1). Small traders and vendors lost customers and bargaining power, while commission agents and larger traders consolidated control: "We were told to move, but no one asked how we would manage customers or transport" (Small Vendor, R2). In Russell Market, vendors were allowed to operate intermittently, with enforcement practices varying daily: "We had to keep explaining [to police] every day that vegetables are essential. It depended on which officer came" (Russell Market Vendor, R1). This undermined livelihoods: "Customers stopped coming because they didn't know if the market would be open" (Russell Market Trader, R2).

Smaller weekly markets (*santhes*) were most severely affected, with blanket bans for extended periods. This disproportionately impacted small farmers, street vendors, and low-income consumers who rely on these sites for affordable produce. *Santhes* were denied formal recognition as essential infrastructure, rendering them invisible within governance frameworks, despite their important role in food supply for low-income citizens. Several respondents contrasted this with the continued operation of supermarkets and malls: "Malls could open later, online was allowed, but *santhes* were not even discussed" (Civil Society Actor, R2).

In summary, the lockdowns functioned as a selective stress test of Bengaluru's urban food system rather than a uniform disruption. Variable supply chain breakdowns, governance responses, and market closures interacted to produce sharply differentiated outcomes, structured by actors' positionality within existing market, infrastructural, and governance arrangements. Actors embedded in organised networks, recognised jurisdictions, and formal market spaces were able to secure continuity or absorb disruption. Those operating informally, peripherally, or without institutional visibility experienced cascading failures, income loss, and displacement.

4.2. Innovations in Response to Covid-19 Lockdowns

We now turn to how adaptive initiatives were assembled in response to the uneven pressures described in Section 4.1, who participated, and which adaptations dissipated once conventional retail resumed. Rather than understanding adaptations as automatic pathways to transformation, we understand them as situated experiments whose emergence, form, and durability were shaped by governance and resource access.

4.2.1. Community-Organised Direct Procurement

Community-organised direct procurement of fruit and vegetables emerged as amongst the most widely publicised responses to the lockdowns. Run by residential associations and volunteers, these initiatives were characterized by high levels of social solidarity, where volunteers worked together to bypass collapsed markets. This relational shift—a potential marker of transformation—was grounded in a localized sense of trust and moral economy. For instance, consumers reported a willingness to forego weighing produce because they trusted farmers. While the media celebrated these as examples of citizen-led resilience, interviewees revealed that such initiatives were highly contingent, labour-intensive, and unevenly accessible, with questionable long-term transformative potential. Other ad-hoc direct-sales initiatives (e.g., initiated by farmers) also dissolved once conventional supply was restored: “After lockdown, people went back to shops. Direct selling stopped” (Small Farmer, R2). Constraints included lack of time, absence of marketing skills, and uncertainty about pricing: “We are farmers, not sellers. We cannot stand and sell every day” (Farmer, R1). Others highlighted regulatory ambiguity, particularly around police permissions: “Sometimes police allowed, sometimes they said you cannot stand here” (Farmer, R2).

4.2.2. Responses From FPOs and Other Farmer Collectives

FPOs and farmer collectives represented a more institutionally anchored form of adaptation. Pre-existing collectives with organisational structures, market linkages, and internal governance mechanisms were well-positioned not only to withstand disruption, but also to consolidate and expand. Established FPOs emerged as some of the most resilient actors, with members benefitting from collective transport arrangements, centralised aggregation, and the ability to negotiate permissions and logistics at scale: “We had planning in place. We planned schedules for three months, which farmers will harvest what, where it will go” (FPO Co-founder, R1). Demand for FPO-supplied rose enough to result in significant organisational growth: “Around 200 farmers newly joined during the Covid time, which is about a 20% increase” (FPO Co-founder, R1). For many, this expansion worked as a strategy to mitigate uncertainty: “Farmers realised that alone it is very risky. In a group, at least we have some assurance” (FPO Leader, R2). FPO respondents reported that demand persisted: “Even now, demand is 20–30% higher compared to before Covid” (FPO Manager, R2). This was attributed to a combination of consumer trust, reliable quality, and stable supply arrangements.

The lockdown accelerated trajectories that were already in motion rather than creating entirely new ones. Additionally, interviewees were careful not to overstate transformation. Sustaining growth required continuous managerial effort, access to working capital, and navigation of volatile markets: “Covid helped us grow, but [the] future is unpredictable. Market is still unstable” (FPO Leader, R2). Organic collectives experienced some of the most rapid growth, driven by heightened consumer concern around health, safety,

and traceability: “Our membership doubled—from around 100 farmers to almost 200” (Organic Collective Leader, R1). Respondents interpreted this as a validation of collective-based production and marketing: “People started believing in our system. They saw that we were consistent even during Covid” (Organic Collective Leader, R1). Rapid growth also introduced new vulnerabilities, including concerns about quality control and trust: “Some people cheated. They brought non-organic produce and sold it as organic” (Organic Farmer, R2). Maintaining credibility required increased monitoring, which strained organisational capacity: “We had to spend more time checking, verifying. Otherwise, trust will break” (Collective Coordinator, R2).

4.2.3. Adaptations by Digital Platforms

Digital enterprises entered the crisis with access to capital, digital infrastructure, and pre-existing customer bases, enabling rapid scaling. Large online platforms benefited from warehouse infrastructure, supply contracts, and brand recognition: “Big platforms struggled for maybe 10 days. After that, they were running at full capacity” (Retail Analyst, R1). Reduced traffic allowed delivery routes to be expanded, while lockdown-related mobility restrictions expanded the consumer base: “A lot of elderly people started ordering online because they had no other option” (Platform Operations Manager, R2). Platforms were then able to institutionalise demand through subscription models, digital payments, and backend coordination. As a result: “Even after lockdown, a large number of customers stayed. They got used to the system” (Platform CEO, R2). These initiatives represent one of the few responses that were scaled and retained beyond lockdowns. However, respondents also acknowledged that such success was contingent on substantial investment and organisational depth: “This kind of scaling is not possible without funding and logistics support” (Agri-Tech Investor, R1).

In contrast, public-sector digital initiatives were widely described as unsuccessful, despite institutional legitimacy and public trust: “The online system was announced, but it never really took off” (HOPCOMS Official, R2). Respondents attributed this to weak backend integration, limited delivery capacity, and lack of experience in managing last-mile logistics: “We did not have the systems to handle home delivery at that scale” (HOPCOMS Official, R2). By contrast, “private companies already had everything in place. Government systems are not built for that speed” (Policy Advisor, R1). Interviewees described the adaptations made by private platforms as accelerations of existing business models rather than novel innovations, raising important questions about who can convert disruption into durable advantage: “Covid just fast-forwarded what we were already planning to do” (Platform CEO, R1).

4.2.4. Individual Entrepreneurship

These responses involved individuals repurposing skills and capital to establish new food enterprises. While celebrated in media accounts, these entrepreneurial adaptations were closely linked to pre-existing socioeconomic position, access to capital, risk tolerance, and familiarity with formal market environments. One interviewee described a case frequently referenced by respondents of an IT-sector employee who set up a new coconut vending business: “One IT person started selling coconuts. He was successful because he could invest and manage” (Market Observer, R1). Unlike street vendors or migrant workers, these individuals could absorb short-term losses and navigate regulatory uncertainty.

Lockdown-driven vacancies created opportunities for agile new entrants: “Many stalls were empty. Whoever had money and courage could take that space” (Wholesale Trader, R1). However, informal vendors and displaced workers lacked the capital, documentation, or permissions required to occupy such spaces, keeping them away from recognition as “essential service” providers: “Poor vendors cannot suddenly take a shop. They don’t have that flexibility” (Street Vendor Leader, R2). Several interviewees cautioned against equating entrepreneurial success with systemic transformation: “Business is luck, job is job. People were just trying something because there was no work” (Small Trader, R1). Thus, individual entrepreneurship functioned less as a pathway to transformative change or redistribution of opportunity, and more as a foray for individuals with the privilege to experiment.

To summarise, disruption caused by lockdowns spurred a variety of adaptations. These were uneven, creative, and deeply imprinted by pre-existing structures of power and resource access. We find within them limited evidence of a radical re-visioning that may be the hallmark of social innovations with long-term viability. The trajectories of different adaptations diverged sharply depending on their access to organisational capacity, capital, and institutional recognition. Initiatives attempting to operationalise truly new relationships largely dissipated after the lockdowns. These patterns reinforce the broader argument of this article: that the capacity to convert crisis into opportunity was structured by access to capital, institutional recognition, and regulatory flexibility. In this sense, entrepreneurial success during the pandemic reflects not a levelling of opportunity, but the reproduction of inequality through governance and market structures.

4.3. Shifts in Values and Consciousness

Within this subsection, we examine how heightened uncertainty prompted new narratives and trace their durability, contradictions, and political limits. We reflect on whether there was any real change to the “dominant logics” (Swilling, 2016) of food systems, leading to the “transformative visions” which are the hallmark of social innovations driving systemic change (Loorbach et al., 2017).

4.3.1. Health and Immunity

Respondents described a deepened concern with immunity, safety, and preventive health, articulated through changes in diet, cooking practices, and procurement. There was increased demand for medicinal plants, herbs, and traditional preparations: “People realised that medicine can only get you so much. Food became very important” (Organic Farmer, R2). Many urban consumers ate more home-cooked food, and food preparation became more intentional. Respondents suggested that these practices persisted beyond the lockdowns, particularly within middle-class households. However, interviewees were careful to distinguish between changes in consumption behaviours and structural transformation, partly because these shifts were unevenly distributed and largely individualised. Despite momentary new encounters between producers and consumers, most consumers did not show sustained concern for producer livelihoods, agroecological practices, or market equity. As one civil society actor reflected: “People were worried about their immunity, not about how food is produced or who produces it” (Civil Society Actor, R2). Another respondent said: “Health became personal. Sustainability did not become collective” (Policy Analyst, R2). This is mirrored by scholarship elsewhere in India (Dittrich, 2009) that shows how individual health has been a key influence on urban food choice—absent a concern with sustainability imperatives.

4.3.2. New Awareness of the Fragility of Supply Chains and the Importance of Local Food

Urban consumers were suddenly faced with a new awareness of the fragility of conventional provisioning. Empty shelves, delivery delays, and media reporting of agricultural losses made it clear that food systems depend on complex and vulnerable networks: “For the first time, people realised that food may not always be available when you want it” (Retail Analyst, R1). The media circulated reports of vegetables rotting in fields, farmers dumping produce, and disrupted transport, creating a moral dissonance between urban scarcity and surplus at the farm gate: “People were seeing news of farmers throwing vegetables while cities were struggling” (Civil Society Actor, R1). This prompted some expressions of concern for farmers’ losses and a growing interest in shortening supply chains: “People started asking: ‘Can we buy directly from farmers?’” (FPO Coordinator, R1). These concerns aligned well with existing discourse on *Atmanirbhar* (self-reliance), a concept promoted within national-level political messaging in India. Interviewees referenced this discourse, linking it to observations made during the lockdowns about the relative resilience of short supply chains: “Covid proved that short chains are more resilient. When long supply chains broke, local systems survived” (Platform CEO, R1). For some consumers, this translated into participation in community procurement or trial purchases from FPOs and platforms.

However, respondents were careful to distinguish momentary concern from lasting change in market relations: “There was sympathy for farmers, but sympathy is not the same as changing how markets work” (Agricultural Economist, R2). Indeed, “as soon as things normalised, people went back to supermarkets” (Platform CEO, R2). Despite the discourse on *Atmanirbhar*, institutional support for local food remained limited: “Everyone was talking about *Atmanirbhar*, but nothing changed in how markets are supported” (Policy Analyst, R2). Others cautioned that the rhetoric of localisation actually obscured the role of the state: “*Atmanirbhar* became a way of saying people should manage on their own” (Civil Society Actor, R2). Consumers themselves “preferred convenience again” (Retail Analyst, R2) after the lockdowns, and farmers noted: “During Covid everyone talked about farmers. Now nobody [does]” (Small Farmer, R2). Thus, localisation and *Atmanirbhar* operated as interpretive frames for immediate events, providing meaning to crisis experiences and legitimising certain adaptations. However, without institutional reform, these remained politically and materially limited. Responsibility for resilience was placed on individual consumers’ choices or on farmers’ adaptations: “The lesson people took was ‘we should manage better,’ not ‘the system should change’” (Policy Advisor, R2).

4.3.3. Contested Visions of Transformation

Interviews showed that the crisis surfaced a plurality of competing imaginaries, shaped by actors’ positionality, institutional location, and risk exposure. Visions diverged not only for proposed solutions, but also in underlying assumptions about efficiency, equity, responsibility, and the role of the state. Platform-based actors and agri-tech entrepreneurs framed transformation in terms of technological optimisation and market efficiency. For them, the crisis demonstrated the need for digitally-mediated coordination: “Small farmers are actually very efficient, but they need technology to connect them properly to markets” (Platform CEO, R1).

Economists and market analysts were more skeptical of decentralised models: “Direct farmer–consumer models are very costly. They cannot work at scale” (Agricultural Economist, R2). For them, transformation

required improving existing systems rather than replacing them, with efficiency and price stability taking precedence over relational considerations. By contrast, bureaucrats and policy advisors emphasised the role of the state in food security: “In the end, distribution has to be managed by the government. That is the only way to ensure coverage” (Former Bureaucrat, R1). This vision prioritised public procurement, regulated markets, and welfare provisioning, reflecting confidence in state-led coordination but often underplaying the exclusions and unevenness of governance interventions (as described in our findings). Farmer leaders and FPO representatives emphasized capacity-building and market literacy as the foundation of transformation: “Farmers have to learn marketing. Otherwise, they will always be dependent” (FPO Leader, R2). Here, transformation was framed as empowerment through skills and organisation, but responsibility for change was placed on farmers. This suggests the pandemic partially cemented FPOs’ role as smallholder-protective institutions. However, due to persistent capital constraints and continued reliance on individual capacity-building, their role remained institutionally incomplete rather than providing structural protections against land and market consolidations.

Informal vendors and small traders expressed a different orientation, wherein the idea of transformation was met with ambivalence or outright resistance: “We don’t want change. We want the same business, but without harassment” (Street Vendor, R2). Rather than aspiring to alternative futures, these actors prioritised stability, recognition, and protection from arbitrary enforcement, highlighting how transformative discourse can feel alien or threatening to those already precarious. Interestingly, the most explicit political critique came from street vendors, who framed digitalisation as a form of dispossession: “Online business is like British colonialism. It takes control away from small people” (Street Vendor Leader, R2).

Across these accounts, what is striking is the absence of a shared language of transformation. Actors spoke past one another, grounded in markedly different experiences. The game-changing moment thus revealed the political nature of transformation, in which competing interests, values, and power relations shape which imagined futures are desirable or even possible. Rather than converging towards a post-crisis agenda, lockdowns exposed transformation itself as a contested terrain. This contestation, our findings suggest, helps explain why adaptive practices failed to align across actors and governance scales.

5. Discussion: Implications For Urban Food Governance

Crises expose structural weaknesses, disrupt dominant arrangements, and may open space for social innovation (Avelino et al., 2017). At the same time, critical political economy perspectives sound a note of caution which further research should take into account, highlighting how crises can reproduce or intensify existing inequalities (Jessop, 2015; Klein, 2007; Pelling & Dill, 2009). Our findings show how the pandemic acted as a radical disruptor that opened space for actors to reflect on the “rules of the game” governing food systems and explore different organisational forms and relations. However, they also laid bare the complex—and resilient—networks of power which limited the potential for change. Indeed, Avelino highlights the importance of actors’ abilities to mobilise resources and institutional capital (Avelino, 2017; Avelino et al., 2016; Avelino & Wittmayer, 2016), implying that crises should be explored more as potential enablers rather than catalysts for change.

Within this section, we reflect on how food system governance during the pandemic either helped or hindered adaptive responses, as well as what governance changes are needed to facilitate transformative

change. We draw on an integrative framework (Moragues-Faus et al., 2024), which sets out five principles to be considered for governing food system transformations.

5.1. Time: Windows of Opportunity or Disaster Capitalism?

Crises may be conceptualised as temporal openings during which dominant regimes destabilise and alternative practices may gain traction (Avelino et al., 2017; Köhler et al., 2019; Loorbach et al., 2017). However, crises may also allow powerful actors to consolidate advantage under conditions of urgency (Klein, 2007). Our findings show how the lockdowns embodied both dynamics simultaneously, in uneven ways. Across Bengaluru's food system, the lockdowns created a compressed temporal window in which supply chains faltered and new arrangements briefly emerged. Adaptive responses proliferated, reflecting what Avelino et al. (2017) describe as moments of heightened agency during crisis. Yet these were time-bound and fragile. Similar patterns have been observed in other contexts, where innovations struggle to persist beyond emergency conditions due to institutional constraints and limited resources, resulting in difficulty in scaling beyond local contexts (Feola & Nunes, 2014; Moore et al., 2015). In contrast, actors with access to capital, organisational depth, and logistical infrastructure were able to gain long-term advantage. This illustrates how temporal endurance becomes a key axis of power during disruptions, with privileged actors able to strategically extend "crisis time" while others experience it as compressed and existential (Jessop, 2015). For informal vendors, small farmers, and daily-wage workers, lockdowns represented an immediate, existential threat. For capitalised firms, "crisis time" was an opportunity for consolidation. This temporal asymmetry reflects broader patterns of injustice, where governance responses prioritise short-term stabilisation while neglecting the longer recovery horizons required by marginal actors (Adam, 1998; Leach et al., 2011).

From an urban food governance perspective, the findings highlight a critical limitation of emergency-oriented responses. While governance interventions facilitated short-term continuity—through temporary permissions, policing support, or logistical relaxation—they failed to align with the differentiated temporal needs of vulnerability and recovery. As a result, many crisis-induced innovations exhausted their transformative capacity (Herrfahrdt-Pähle et al., 2020) before they could institutionalise. In summary, if crises are to be used as opportunities to open transformative pathways for food systems, governance must extend beyond enabling momentary experimentation to actively sustaining alternatives over time. Without time-sensitive support, crises benefit those who can endure uncertainty longer. This reinforces our argument that Covid-19 was not transformative in the sense of altering underlying governance structures. Instead, it revealed how crisis-induced change is mediated by governance regimes, rather than producing transformation in and of itself.

5.2. Place: Spatial Selectivity and The Urban–Peri-Urban Divide

State power is exercised unevenly across space, producing fragmented geographies of regulation and support (Allen, 2003; McFarlane, 2011; Simone, 2014). Governance capacity is closely tied to spatial reach: places that are legible and proximate to state authority are more readily governed during crisis (Allen, 2003). Urban peripheries in particular are frequently governed through exception and improvisation rather than stable inclusion, rendering informality particularly vulnerable during crisis (Simone, 2014). Our findings show how Covid-19 lockdowns intensified these inequalities, particularly along the urban–peri-urban divide.

Within Bengaluru's urban core, food provisioning was rapidly incorporated into emergency governance frameworks. In contrast, peri-urban areas remained institutionally invisible (Narain, 2009, 2010). Market governance further illustrated spatial selectivity. Central markets such as Russell and KR Markets were governed through differentiated spatial logics while informal weekly markets were rendered invisible. Thus, spatial inequalities were not produced by the pandemic itself but reflected entrenched patterns of fragmented urban governance (McFarlane, 2011; Narain & Vij, 2016). From a food systems perspective, this underscores a critical limitation of urban-centric resilience strategies: without recognising peri-urban spaces as integral, crisis responses are likely to reinforce spatial injustices. Importantly, these inequalities were not new, as Covid-19 did not produce spatial injustice, but intensified and exposed it.

5.3. Relationships: From Solidarity to Transaction

A sustainable food system rests on collaborative social infrastructures, marked by social cohesion and trust-based networks (Davies, 2019). Our findings reveal that the pandemic initially catalysed a normative shift toward such infrastructures. However, a critical analysis of these relational shifts reveals a stark bifurcation between episodic solidarity and sustained transaction. While the crisis prompted humanitarian efforts—such as community groups producing 3,000 rotis daily for stranded migrants—these relationships did not foster structural change. As traditional retail outlets reopened, collaborative models collapsed. Power inequities mediated these relationships. Well-positioned actors successfully converted the crisis into durable transactional advantages; vulnerable actors like street vendors were excluded from these new relational networks. Street vendor leaders explicitly framed the rise of tech-led relational models as a form of “British colonialism,” arguing that digital platforms centralize control and dispossess small-scale, traditional actors. The implication for post-2030 governance is that solidarity requires institutionalization. For a transformative agenda to succeed, governance must create public infrastructures that support the relational density of traditional markets while ensuring equity across all groups of actors (Battersby & Watson, 2018; Clapp, 2021). Without state-led coordination to bridge the gap between “niche” solidarity and “regime” efficiency, urban food relationships risk reverting to transactional models that further marginalize the unorganized sector.

5.4. Diversity: Plural Knowledges and Contested Visions of Transformation

Sustainable food systems rest on a plurality of knowledges and practices, yet dominant actors often marginalize—and thus render invisible—the lived experiences and culturally-specific practices of informal actors in favour of capital-intensive models (Alkon & Agyeman, 2011). Indeed, we found scepticism voiced by economists and market analysts toward decentralized models. While community-led procurement demonstrated social innovation, economic analysts argued these models are too transactionally costly to become mainstream. This illustrates a fundamental governance principle: transformation is not an “optimal” technical path but a politically contested process where the knowledge of well-positioned actors often overshadows the knowledge of those more vulnerable. For urban food governance to enable truly transformative change, it must institutionalize plurality, recognizing that a thriving food economy requires the integration of diverse voices rather than the displacement of traditional practices by private digital infrastructures. These findings speak directly to debates on just transitions within urban food systems. While resilience and efficiency were prioritised during the crisis, questions of justice—who benefits, who is protected, and whose practices are sustained—remained largely unaddressed. A just transition in urban food

governance requires not only technological or market innovation, but a redistribution of visibility, recognition, and support toward marginalised actors. Without this, crisis responses risk reinforcing existing inequalities under the guise of resilience.

5.5. Power: Structural Asymmetries and the Limits of Crisis-Induced Change

The fifth principle of food system governance—power—cuts across all the principles discussed above. As understood here, power is not exercised solely through overt control, but through the structuring of possibilities, and by determining who can act, adapt, and endure under conditions of disruption (Gaventa, 2006). Our findings demonstrate that the lockdowns did not disrupt these power relations; instead, they rendered them more visible and, sometimes, more entrenched. Structurally powerful actors were able to convert crisis conditions into sustained advantage through their access to capital, infrastructure, and institutional recognition. Their capacity to endure and wait out the crisis was itself a manifestation of power, resonant with political economy accounts of how crises redistribute resources upward rather than democratising access (Streeck, 2014). Spatially, power operated through jurisdictional inclusion and exclusion. Actors located within administratively central spaces benefited from facilitation and protection, while peri-urban and informal spaces remained weakly governed and unsupported. Relationally, power was exercised through networks and intermediaries. Well-organised actors negotiated exceptions and mobilised support. In other words, governance operated through selective inclusion, privileging actors who conform to dominant institutional norms (Jessop, 1997). Epistemically, power shaped which futures were imaginable and which were excluded from consideration (Lukes, 2026). Technological and managerial solutions were privileged, while informal, place-based practices were marginalised as inefficient or transient.

6. Conclusion

We set out to examine whether the Covid-19 lockdowns functioned as a game-changer for Bengaluru's urban food system. Our findings suggest that while the crisis opened a temporary window for experimentation and adaptive responses, it did not initiate transformative change. Instead, governance responses reinforced and, in many cases, intensified existing inequalities. Organised and capitalised actors consolidated their position, while informal vendors, small farmers, and peri-urban producers faced disproportionate losses. While contributing to scholarship on food system transformation, our findings highlight the importance of institutional plurality within urban food systems governance. Rather than a single dominant pathway to transformation, multiple and often competing institutional arrangements coexist within the food system. The crisis revealed how these institutions interact, compete, and shape transformative potential.

For policymakers, our study underscores the need to move beyond short-term crisis management, toward governance that supports institutional diversity. Strengthening urban food systems requires policies that improve visibility and protection for informal actors, integrate peri-urban production into urban planning, and foster collaborative infrastructures across market, civic, and public institutions. Without such governance reforms, crisis-driven innovations are unlikely to translate into long-sustaining food system transformation. This has important implications for urban food governance beyond 2030. Crises do not inherently generate transformation; they reproduce the logics of the systems through which they are governed. Building resilient food systems requires going beyond short-term crisis management toward

justice-oriented governance that recognises and supports diverse actors, particularly those historically marginalised. Without such shifts, future disruptions are likely to deepen, rather than redress, existing inequalities. Beyond 2030, governance could formalise these plural arrangements through mechanisms such as vendor registration protections, participatory food policy councils, and peri-urban planning frameworks. This may enable shifting from ad-hoc crisis accommodation toward durable, justice-oriented recognition of marginalised actors.

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Conflict of Interests

The authors declare no conflict of interest.

Data Availability

The data that support the findings of this study are available from the corresponding author upon request.

LLMs Disclosure

Microsoft Copilot was used as an aid to the literature review during the post-review stage, in order to help identify articles discussing the limitations of the concept of game-changers. A list of articles was generated. Two articles from this list were included in the final reference list, following up from reading and discussion by the authors. No LLMs or AI aids were used at any other stage—from research conceptualisation and execution through to submitting the article for review.

References

- Adam, B. (1998). *Timescapes of modernity: The environment and invisible hazards*. Routledge.
- Alkon, A. H., & Agyeman, J. (Eds.). (2011). *Cultivating food justice: Race, class, and sustainability*. MIT Press.
- Allen, J. (2003). *Lost geographies of power*. John Wiley & Sons.
- Avelino, F. (2017). Power in sustainability transitions: Analysing power and (dis)empowerment in transformative change for sustainability. *Environmental Policy and Governance*, 27(6), 505–520.
- Avelino, F., Grin, J., Pel, B., & Jhagroe, S. (2016). The politics of sustainability transitions. *Journal of Environmental Policy & Planning*, 18(5), 557–567.
- Avelino, F., & Wittmayer, J. M. (2016). Shifting power relations in sustainability transitions: A multi-actor perspective. *Journal of Environmental Policy & Planning*, 18(5), 628–649.
- Avelino, F., Wittmayer, J. M., Kemp, R., & Haxeltine, A. (2017). Game-changers and transformative social innovation. *Ecology and Society*, 22(4), Article 41.
- Battersby, J., & Watson, V. (2018). *Urban food systems governance and poverty in African cities*. Taylor & Francis.
- Béné, C. (2022). Why the Great Food Transformation may not happen—A deep-dive into our food systems' political economy, controversies and politics of evidence. *World Development*, 154, Article 105881.

- Berndt, A. E. (2020). Sampling methods. *Journal of Human Lactation*, 36(2), 224–226.
- Bharucha, Z. P., Attwood, S., Badiger, S., Balamatti, A., Bawden, R., Bentley, J. W., Chander, M., Davies, L., Dixon, H., Dixon, J., D'Souza, M., Butler Flora, C., Green, M., Joshi, D., Komarek, A. M., McDermid, L. R., Mathijs, E., Rola, A. C., Patnaik, S., . . . Pretty, J. (2021). The top 100 questions for the sustainable intensification of agriculture in India's rainfed drylands. *International Journal of Agricultural Sustainability*, 19(2), 106–127.
- Bui, S., Costa, I., De Schutter, O., Dedeurwaerdere, T., Hudon, M., & Feyereisen, M. (2019). Systemic ethics and inclusive governance: Two key prerequisites for sustainability transitions of agri-food systems. *Agriculture and Human Values*, 36(2), 277–288.
- Chand, R. (2012). Development policies and agricultural markets. *Economic and Political Weekly*, 47(52), 53–63. <https://www.jstor.org/stable/41720551>
- Chebrolu, S. P., & Dutta, D. (2021). Managing sustainable transitions: Institutional innovations from India. *Sustainability*, 13(11), Article 6076.
- Choithani, C., CP, A. J., & Rajan, S. I. (2024). Rural-urban transition and food security in India. *Global Food Security*, 42, Article 100780. <https://doi.org/10.1016/j.gfs.2024.100780>
- Clapp, J. (2021). The problem with growing corporate concentration and power in the global food system. *Nature Food*, 2(6), 404–408.
- Davies, A. R. (2019). *Urban food sharing: Rules, tools and networks*. Policy Press.
- Dittrich, C. (2009). The changing food scenario and the middle classes in the emerging megacity of Hyderabad, India. In L. Meier & H. Lange. (Eds.), *The new middle classes: Globalizing lifestyles, consumerism and environmental concern* (pp. 269–280). Springer.
- Feola, G., & Nunes, R. (2014). Success and failure of grassroots innovations for addressing climate change: The case of the transition movement. *Global Environmental Change*, 24, 232–250.
- Franz, H. W., Hochgerner, J., & Howaldt, J. (Eds.). (2012). *Challenge social innovation: Potentials for business, social entrepreneurship, welfare and civil society*. Springer.
- Frazier, C. (2024). *Cultivating livability: Food, class, and the urban future in Bengaluru*. University of Minnesota Press.
- Gaventa, J. (2006). Finding the spaces for change: A power analysis. *IDS Bulletin*, 37(6), 23–33.
- Gittleman, J., & Schultz, K. (2020, March 24). Modi orders 3-week total lockdown for all 1.3 billion Indians. *The New York Times*. <https://www.nytimes.com/2020/03/24/world/asia/india-coronavirus-lockdown.html>
- Herrfahrdt-Pähle, E., Schlüter, M., Olsson, P., Folke, C., Gelcich, S., & Pahl-Wostl, C. (2020). Sustainability transformations: Socio-political shocks as opportunities for governance transitions. *Global Environmental Change*, 63, Article 102097.
- Huang, Q., Liu, Z., He, C., Gou, S., Bai, Y., Wang, Y., & Shen, M. (2020). The occupation of cropland by global urban expansion from 1992 to 2016 and its implications. *Environmental Research Letters*, 15(8), Article 084037.
- Jessop, B. (1997). The governance of complexity and the complexity of governance: Preliminary remarks on some problems and limits of economic guidance. In A. Amin & J. Hausner (Eds.), *Beyond market and hierarchy* (pp. 95–128). Edward Elgar Publishing.
- Jessop, B. (2015). *The state: Past, present, future*. John Wiley & Sons.
- Juri, S., Terry, N., & Pereira, L. M. (2024). Demystifying food systems transformation: A review of the state of the field. *Ecology and Society*, 29(2), Article 5.
- Klein, N. (2007). *The shock doctrine: The rise of disaster capitalism*. Knopf Canada.

- Koduganti, J., Adelina, C., Mohanraju, J. S., & Anand, S. (2019). No. 14: *The state of household food security in Bangalore, India* (Article 38). (2019). Hungry Cities Partnership. <https://scholars.wlu.ca/hcp/38>
- Köhler, J., Geels, F. W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., Alkemade, F., Avelino, F., Bergek, A., Boons, F., Fünfschilling, L., Hess, D., Holtz, G., Hyysalo, S., Jenkins, K., Kivimaa, P., Martiskainen, M., McMeekin, A., Mühlemeier, M. S., . . . Wells, P. (2019). An agenda for sustainability transitions research: State of the art and future directions. *Environmental Innovation and Societal Transitions*, 31, 1–32.
- Leach, M., Stirling, A. C., & Scoones, I. (2010). *Dynamic sustainabilities: Technology, environment, social justice*. Routledge.
- Loorbach, D., Avelino, F., Haxeltine, A., Wittmayer, J. M., O’Riordan, T., Weaver, P., & Kemp, R. (2016). The economic crisis as a game changer? Exploring the role of social construction in sustainability transitions. *Ecology and Society*, 21(4), Article 15.
- Loorbach, D., Frantzeskaki, N., & Avelino, F. (2017). Sustainability transitions research: Transforming science and practice for societal change. *Annual Review of Environment and Resources*, 42, 599–626.
- Lukes, S. (2026). *Power: A radical view*. Bloomsbury.
- McFarlane, C. (2011). *Learning the city: Knowledge and translocal assemblage*. John Wiley & Sons.
- Moore, M. L., Riddell, D., & Vocisano, D. (2015). Scaling out, scaling up, scaling deep: Strategies of non-profits in advancing systemic social innovation. In M. McIntosh, S. Waddell, S. Waddock, S. Cornell, D. Dentoni, & S. McLachlan (Eds.), *Large systems change: An emerging field of transformation and transitions* (pp. 67–84). Routledge.
- Moragues-Faus, A., Clark, J. K., Battersby, J., & Davies, A. R. (2024). The potential of urban food governance to transform lives, cities, and the planet. *Global Food Security*, 40, Article 100751.
- Narain, V. (2009). Growing city, shrinking hinterland: Land acquisition, transition and conflict in peri-urban Gurgaon, India. *Environment and Urbanization*, 21(2), 501–512.
- Narain, V. (2010). *Peri-urban water security in a context of urbanization and climate change: A review of concepts and relationships* (Paper No. 1). SaciWATERS.
- Narain, V., & Vij, S. (2016). Where have all the commons gone? *Geoforum*, 68, 21–24.
- Narayanan, S., & Saha, S. (2021). Urban food markets and the COVID-19 lockdown in India. *Global Food Security*, 29, Article 100515.
- Oñederra-Aramendi, A., Begiristain-Zubillaga, M., & Cuellar-Padilla, M. (2023). Characterisation of food governance for alternative and sustainable food systems: A systematic review. *Agricultural and Food Economics*, 11, Article 18.
- Pahl-Wostl, C. (2009). A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Global Environmental Change*, 19(3), 354–365.
- Pandey, B., & Seto, K. C. (2015). Urbanization and agricultural land loss in India: Comparing satellite estimates with census data. *Journal of Environmental Management*, 148, 53–66.
- Patil, S., Singh, C., Koduganti, M., Poonacha, P., Sharma, S., Roy, P., & Kiran, A. (2026). Urban agriculture in India: Mapping its landscape and sustainability and well-being outcomes. *Local Environment*. Advance online publication. <https://doi.org/10.1080/13549839.2026.2643219>
- Pelling, M., & Dill, K. (2009). Disaster politics: Tipping points for change in the adaptation of sociopolitical regimes. *Progress in Human Geography*, 34(1), 21–37.
- Purushothaman, S., Sadashiva, V. P., & Dhanush, K. M. (2022). Agroecological impacts of urban demand for fresh vegetables: Preliminary insights from exploratory surveys in Bengaluru. *Ecology, Economy and Society*, 5(2), 107–117.
- Ritchie, J., Spencer, L., & O’Connor, W. (2003). Carrying out qualitative analysis. In J. Ritchie & J. Lewis (Eds.), *Qualitative research practice: A guide for social science students and researchers* (1st ed., pp. 219–262). Sage.

- Rockström, J., Thilsted, S. H., Willett, W. C., Gordon, L. J., Herrero, M., Hicks, C. C., Mason-D'Croz, D., Rao, N., Springmann, M., Wright, E. C., Agustina, R., Bajaj, S., Bunge, A. C., Carducci, B., Conti, C., Covic, N., Fanzo, J., Forouhi, N. G., & Gibson, M. F., . . . & DeClerck, F. (2025). The EAT–Lancet Commission on healthy, sustainable, and just food systems. *The Lancet*, 406(10512), 1625–1700.
- Seto, K. C., & Ramankutty, N. (2016). Hidden linkages between urbanization and food systems. *Science*, 352(6288), 943–945.
- Simone, A. (2014). *Jakarta, drawing the city near*. University of Minnesota Press.
- Streeck, W. (2014). *Buying time: The delayed crisis of democratic capitalism*. Verso Books.
- Swilling, M. (2016). Africa's game changers and the catalysts of social and system innovation. *Ecology and Society*, 21(1), Article 37.
- Tefft, J., & Jonasova, M. (2020). Chapter 3: Food systems transformation in an urbanizing world. In J. Crush, W. Laurier, B. Frayne, & G. Haysom (Eds.), *Handbook on urban food security in the Global South* (pp. 34–61). Edward Elgar Publishing.
- Trebbin, A. (2014). Linking small farmers to modern retail through producer organizations—Experiences with producer companies in India. *Food Policy*, 45, 35–44.
- Varshney, D., Kumar, A., Mishra, A. K., Rashid, S., & Joshi, P. K. (2021). India's COVID-19 social assistance package and its impact on the agriculture sector. *Agricultural Systems*, 189, Article 103049.
- Westley, F. R., McGowan, K. A., Antadze, N., Blacklock, J., & Tjornbo, O. (2016). How game changers catalyzed, disrupted, and incentivized social innovation: Three historical cases of nature conservation, assimilation, and women's rights. *Ecology and Society*, 21(4), Article 13.

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