Impacts of COVID-19 on People’s Food Security: Foundations for a more Resilient Food System

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Background
As part of the work implemented by CGIAR on COVID-19, the COVID-19 Research Hub Working Group 4 “Address food systems’ fragility and build back better” was tasked with implementing a global assessment of the impacts of COVID-19 on food systems and their actors, focusing specifically on the consequences of the pandemic for the food security and nutrition of those who have been affected by the crisis. This includes the formal and informal actors of food supply chains (from producers to street vendors) as well as consumers, in both rural and urban environments. Building on this assessment, the task was then to draw on key principles of resilience in the context of humanitarian and food security crisis, to identify preliminary elements of a food system resilience research agenda.

General approach and framework
The assessment was based on a methodical mapping of the information available worldwide, collected with electronic search engines in four languages (English, French, Spanish and Portuguese). Analytically, two main concepts were used to unpack and analyze the effects of COVID-19 on people’s food security and nutrition: the concept of food security and the concept of food environment. Several dimensions were then included in the analysis: food availability (supply); food access (affordability and physical accessibility); food utilization (quality and safety); stability; proximity; convenience; food waste and losses; and diversity of food items. In addition, elements of people’s wellbeing were considered, including agency and self-efficacy, prevalence of domestic violence, and increased risk of exposure to the virus.

The quality of the evidence was assessed using two standard criteria: knowledge elaboration and quality of data, and the level of analytics applied to the data was adjusted to the quality of the information.

Coverage and limits of the evaluation
In total, more than 9,630 documents discussing the impact of COVID-19 on the food security of the different food system actors published between January and December 2020, were identified, using a combination of keywords specifically chosen to address the objectives of the study. After removal of documents with low representativity and/or low reliability (mainly news media and personal social media reports), we were left with 337 documents covering 62 countries from Africa, Asia, Europe, Oceania and the Americas.

Several limitations of the analysis should be mentioned. First, although attention was paid to ensuring the comprehensiveness of the identification process, it is difficult to achieve a perfectly exhaustive review. Consequently, some documents that would have been useful for the analysis might have been missed. Second, the majority of the 337 documents reviewed were material posted or published during the phase of the pandemic when it was difficult for researchers to operate in the field and to obtain direct primary data. As a consequence, the information made available through those documents is in large part anecdotal or based on experiential knowledge. Even when more reliable and representative protocols were applied, the nature of the surveys used to generate data (telephone interviews) has led to a bias toward tangible, easily or quickly ‘measurable’ or quantifiable data/indicators to the detriment of more nuanced or qualitative data. Third, the analytical framework used for this study focuses essentially on food system actors and their direct (food) environment – a methodological choice induced by the primary objective of assessing the impact of COVID-19 on these actors’ food security and nutrition. As a consequence, the main entry point

1 The full report is available at https://ebrary.ifpri.org/digital/collection/p15738coll2/id/134295
for the analysis is the individual (actor, enterprise) level. This means that elements and processes important to consider in relation to the dynamics and/or the resilience of food systems but taking place at higher levels (e.g., drivers of food systems, institutional actors’ political agendas and priorities, local and national policies) have not been thoroughly explored.

**Initial key findings**

The review confirms what other analyses have also highlighted, namely, the magnitude and the severity of an unprecedented crisis that has spread worldwide and has spared only a few. But the review also reveals some other important elements. First it highlights that despite the attention that this global crisis received so far from the scientific community, we still have a relatively poor understanding (both quantitatively and qualitatively) of the actual impact of the pandemic on people’s food security and nutrition. This state of incomplete knowledge can be explained by the relatively short period of time since the pandemic began (meaning that only a small number of peer-reviewed, rigorous, research articles had been published by the time this review was conducted), and by the fact that research on the ground was severely constrained by the succession of lockdowns and mobility restrictions that have been imposed around the world.

Using the information available, the analysis reveals that the dimension of food security that has been most affected is accessibility, with reasonably solid evidence suggesting that both financial and physical access to food have been disrupted, in particular in urban areas and in low- and middle-income countries (LMICs). In contrast, there is no clear evidence that the availability of food has been affected beyond some initial disruptions due to panic buying; and there is not enough information to provide robust conclusions about the effects of the pandemic on the utilization of food (safety or quality). We note that those various disruptions in access (or even temporarily in availability) can be re-interpreted as disturbances in the stability dimension of the concept of food security, justifying the use of the concept of resilience in the second part of the report. Finally, the impact of COVID-19 on the nutritional status of people (so far conceptualized essentially as a consequence of the disruption in the economic accessibility to food on children), is still poorly documented but expected to be substantial in the long run. Beyond these direct effects, anecdotal accounts of degradation in people’s wellbeing were also found (especially in relation to domestic violence as well as voluntary or involuntary exposure to the virus), but the absence of detailed analyses in the documents available at the time of completing this review prevents more robust conclusions.

**COVID-19 impact pathways**

The impact pathway analysis (see figure below on p.4) that was built on these initial findings provides additional insights. Of particular importance is the observation that contrary to what had been concluded in several other documents, the disruption in access to food due to people’s loss of employment or reduction in income/revenues was not limited to its
financial component (affordability). Another important pathway that contributed to this outcome relates to the disruption in physical access to food outlets in urban context, especially during the time of complete lockdowns. This disruption in physical access was then shown to affect proximity and convenience, which, combined with the reduction in affordability induced by the decrease in people’s incomes, eventually led to a degradation in food choice and diversity.

Major conclusions

Serious concerns had been initially expressed about the severe disruptions that the successive waves of lockdowns have induced for the food system actors and, more generally, in people’s livelihoods and local and global economies. The fears were that these disruptions may lead to local – or even global – food shortages. The evidence suggests that those fears – albeit justified – did not materialize. Overall, food systems ‘resisted’ the shock and no major episodes of severe food shortage were observed. This resilience of the food systems came, however, at great cost, with the majority of the systems’ actors having to cope with severe disruptions in their activities. At the same time, a group of actors was able to take advantage of the crisis; those are the grocery stores and supermarkets which made billions of dollars in profits in 2020, thus raising questions about the best way that part of these profits could be redistributed or used to cover some the costs that the crisis inflicted.

Overall, although the (short-term) capacity of food system actors to resist, adapt and innovate in the face of the economic challenges imposed by the lockdowns led some experts to emphasize the intrinsic resilience of the system, it should also be kept in mind that a large part of that resilience resulted simply from the special status of the larger actors as ‘essential services,’ which allowed them to continue operating while many other economic sectors had to shut down. This apparent resilience was also built at the cost of hundreds of thousands of smaller or informal food system actors who disappeared during the crisis.

The longer-term implications of the COVID-19 crisis for the dynamics and performance of the local and global food systems are difficult to predict.

Preliminary elements of a food system resilience research agenda

The various findings synthesized above have implications for both policy and research. Several lessons and propositions are distilled throughout the report and are synthesized below.

First, the review reveals important gaps in our knowledge about resilience in relation to food systems. Several factors explain this situation, including the recognition that the concept of resilience is still very often used in a rhetorical manner...
in food system policies and very theoretically in the academic communities, where it is discussed essentially in the context of high-income countries. As such, these academic pieces are of limited use to guide research on the resilience of food systems and their actors in LMICs and very little is currently known about the different elements that would be necessary to strengthen the resilience of both the actors and the systems in the context of those LMICs. This analysis lays out some initial elements of a research agenda in that direction.

**Identifying actors’ and value chains’ vulnerabilities**

An initial task in building policy-relevant science on food system resilience in LMICs will be to improve our knowledge and understanding of the actors that operate in those systems. At the present time, very little is known (especially among CGIAR researchers) about the ‘missing (or hidden) middle’ — that part of the food system located between production (the farmers) and consumption (nutrition), the two areas where CGIAR has directed most of its research effort to date. It is critical that more attention be paid to the formal and informal actors that make up the rest of the system, and to the factors that make these actors more (or less) vulnerable to disruptions and shocks. Mapping the different sources of vulnerability that affect particular actors (e.g., processors, retailers, street vendors), commodities (e.g., fruits, vegetables), markets (open, closed), or value chains (e.g., small livestock) in low-income countries should be a priority. For this, comparative analyses built on common frameworks should be conducted in which criteria such as seasonality, supply spikes, perishability, or exposure to extreme weather events could be used to identify, assess, and compare the level of vulnerability of actors operating in different commodities and value chains. It is informative to notice that no systematic comparative analysis has been proposed across the CGIAR system to compare different value chains in relation to their respective exposure and vulnerability to COVID-19. Rather, most of the documents reviewed were single-commodity focused (often in direct line with the institutional interest of the Center with which the authors were affiliated). Even those that discussed several commodities presented them separately.

These comparative frameworks should not stop, however, at the technical aspects (shelf life, perishability, storage, food-borne disease risks, etc.) of the commodity itself. Ineffective rule of law, economic or political marginalization of particular groups, gender inequity, price changes, “invisibility” of the informal sector, and other factors are all existing sources of impact pathways of COVID-19 on food systems and their different actors.

| Impact pathways of COVID-19 on food systems and their different actors. |
| --- | --- | --- | --- |
| Direct effects of COVID or directly-related responses by authorities | Immediate consequences on food system actors | Subsequent repercussions on food system actors and/or other (non-food systems) actors | Final impacts on consumers’ food security dimensions and/or food system actors’ health & well being. |
| a. COVID related illness or death | 6. Reduction in downstream demand | 15. Increased exposure | 17. Disruption in access to (usual) food outlets |
| b. Mobility restriction and lockdown | 7. Increased wasted food | 16. Domestic violence | 18. Increased risk of consumption of unsafe food |
| c. Safety or sanitary decrees/regulations | 8. (Relative) Increase in price of food/too low affordability | 19. Increased gender discrimination | 21. Forced shift to more expensive food outlets |
| Affecting producers, workers and food system mid-stream actors | 9. Degradation in Rules of Law | 10. Increased gender discrimination | 17. Disruption in access to (usual) food outlets |
| Affecting producers, workers and mid-stream food system actors and consumers | | 12. Drop in perceived self-efficacy or agency | |
| Affecting consumers (including producers, workers and mid-stream food system actors) | | 13. Degradation in food choice and diversity | |
vulnerability that will need to be better understood if we want to be in a position to strengthen the resilience of the food system actors in LMICs.

Understanding actors’ responses to shocks

One of the key principles in resilience analysis is that the final outcome of a situation where an individual, household, enterprise, sector, or the whole system is hit by a shock does not depend merely on the direct impact of the shock, but on the combination of that shock with the responses that the different actors (as individuals or as groups) put in place to mitigate or counteract its initial effects. The distressing experience of the impacts of COVID-19 on food systems perfectly illustrates this point: the current threat to the food security and wellbeing of millions of people worldwide does not derive from the effect of the virus itself (the initial shock), but from the disruptions in food deliveries, market linkages, economic activities, and household incomes and revenues induced by the successive waves of mobility restrictions and lockdowns that have been put in place by national or local governments in an attempt to mitigate the initial health impact of the pandemic.

Beyond its direct informative value, this observation has important implications from a resilience research perspective. It means that documenting and understanding more thoroughly the types of responses put in place by different actors in the wake of an adverse event (flood, political collapse, zoonotic epidemic, etc.) is a second essential step (after understanding their vulnerability) toward building more resilient food systems in the future: without a good understanding of actors’ motives and behavior and the way they respond to shocks, it is impossible to anticipate their reactions and put in place interventions and policies that can mitigate the negative effects of some of the detrimental responses.

Understand better resilience capacity

It is now well established that a useful way to conceptualize resilience is to conceive of it as an emerging property resulting from a combination of capacities. These capacities are themselves built on social, human, financial, natural, physical or mental capitals which households accumulate or develop during non-crisis periods and can then draw on in anticipation of, or in response to, a sudden or predicted shock. While our understanding of what resources are important for farmers to build their resilience capacities is improving rapidly, in contrast, our understanding of the situation for midstream actors, for whom very little data is collected, is still extremely limited. Yet until we have a better sense of what constitute the elements of each actor’s resilience capacity in a given food system, it will be difficult to design appropriate interventions to help those actors build their own capacity to respond more positively to future shocks.

Beyond rhetoric, and beyond resilience

As mentioned earlier, statements about resilience are often rhetorical. For instance, it is often claimed that local food systems are more resilient than global ones. No empirical evidence is available, however, to back up those statements. One obvious implication would be to develop research to test this hypothesis empirically. The underlying mental model, however, is one that assumes there is an ‘optimal scale’ at which resilience operates. Our view is that, instead of trying to determine the optimal scale that allegedly makes a food system (be it local or regional) more resilient, research should be designed to explore and identify the conditions (type of shocks, characteristics of the food system, behavior of the actors, etc.) that make a given food system more (or less) resilient. This type of information would be very useful for policymakers who are increasingly interested in investing in food system resilience at different scales (local but also regional). However, ultimately, the choice of the ‘right’ investment or policy should be driven, not by resilience considerations, but by the more important objective of making those food systems more sustainable, that is, socially more equitable, nutritionally healthier, inclusive, and environmentally sounder. In this agenda, resilience is the means, not the end.