



# TRANSFORMING FOOD SYSTEMS AFTER COVID-19

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The year 2020 was unprecedented in many ways. For rich and poor countries alike, the coronavirus pandemic and associated policy responses brought a widespread health calamity, economic hardship, severe disruptions to services, and critical restrictions on movement. In low- and middle-income countries (LMICs), many vulnerable people faced threats to their immediate food security, health, and nutrition. The potential for long-term effects caused by loss of livelihoods, malnutrition, missed education, and depleted resources is high, especially as the end of the pandemic is not in sight for many of these countries. The pandemic also highlighted and often exacerbated weaknesses and inequalities in our food systems. A year on, the world is further off track for meeting the Sustainable Development Goals (SDGs) by 2030, and it is clear that food systems must play a central role in putting us on track. Food systems need to be transformed to achieve the SDGs, to better prepare us for the next shock, and to benefit the world's poor and vulnerable people and the planet.

Paradoxically, by upending our world, 2020 also offered an array of lessons and innovations that can inform and facilitate food system transformation. Although income losses caused serious, potentially persistent declines in food security and nutrition, food supply chains proved more resilient than expected. From the onset of the pandemic, many countries introduced measures to secure the flow of food products, and governments expanded social safety nets to ensure food security. Private sector innovations introduced along food supply chains helped to overcome disruptions caused by lockdowns. Also importantly, as food systems' central role and capacity for adaptation were demonstrated, the momentum needed to change our food systems for the better increased in 2020.



## IMPACTS ON FOOD SYSTEMS

The pandemic, and policy responses adopted to curb it, have affected our food systems from the global to the local level, setting back already-uneven progress and exposing weaknesses and vulnerabilities. Post-2020, the pandemic's course is unknown, but for countries that cannot access or administer vaccines quickly, the impacts will be prolonged.

### Lost Income

Falling incomes resulting from lockdowns and movement restrictions have been the primary driver of increased poverty and food insecurity. The number of poor people globally is likely to increase by about

## What is an ideal food system?

Ideal food systems have five critical attributes. They are **efficient**, providing incentives and removing hurdles for the private sector, from large businesses to smallholder farmers, to deliver efficiencies all along the food supply chain. They contribute to global **health** by producing affordable, nutritious foods and boosting demand for them among consumers, and by guarding food safety. They are **inclusive** of smallholder farmers and marginalized groups such as women, youth, the landless, and refugees and displaced people, helping them to build decent livelihoods and improve their wellbeing. They are environmentally **sustainable**, using technological innovations and governance approaches to conserve and protect natural resources and mitigate climate change. They are **resilient**, able to bounce back quickly from health, climate, and economic shocks, and to provide poor households with stable livelihoods that protect them from these shocks.



**Source:** Based on S. Fan et al., "Food Systems for Human and Planetary Health: Economic Perspectives and Challenges," *Food System Economics* (forthcoming).

150 million – 20 percent above pre-pandemic poverty levels, according to IFPRI estimates. In China, 18 percent of SMEs had closed permanently by May 2020 (often due to lack of consumer demand), representing a loss of 14 percent of total jobs. In Rwanda, household incomes are estimated to have fallen by 38 percent as a result of the lockdown. In many countries, urban and peri-urban lower-middle and middle-income households were most affected, yet the poor also lost income and had less capacity to cope. Remittance income was particularly affected by pandemic restrictions on travel, with global flows down by almost 20 percent. In Yemen, where conflict has already put many at risk of starvation, falling remittances reduced household incomes by more than 12 percent.

### Disruption of Food Supply Chains

Food supply chains, though relatively resilient, were disrupted by labor restrictions and falling demand. Food services were especially affected and many poor people lost jobs in urban areas, particularly in the tourism and restaurant sectors. Traditional food systems, with few linkages beyond the farm, were less affected by restrictions; and modern, vertically integrated systems often were able to adapt because they had control of their supply chains. However, food systems transitioning from traditional to modern, which are characterized by longer supply chains and still-fragmented storage, transportation, and services, were more vulnerable. In many countries, mobility restrictions reduced the availability of hired labor for harvesting and other farm activities and disrupted transport. In Ethiopia, for example, restrictions on mobility constrained the labor supply to rice farmers, about 75 percent of whom rely on hired day-laborers. Further along the supply chain, perishable products were most affected. In Senegal, for example, small fresh fruit and vegetable enterprises were hampered by the closure of traditional markets and social-distancing requirements, leading to food spoilage and lost income.

### Food Insecurity and Reduced Nutrition

Increased poverty, reduced incomes and employment, and food supply disruptions are reflected clearly in rising levels of food insecurity and worsening nutrition. For example, more than a third of Bangladeshi youth reported moderate or severe food insecurity during their country's lockdown period.



And in Nepal, more than 30 percent of rural households said they were still spending less on food even six months after an initial lockdown. Dietary quality and diversity have been affected by both reduced incomes and reduced availability of nutritious perishable products such as fruits, vegetables, and animal-sourced foods. Studies in Guatemala and China show that households shifted toward cheaper starchy staple foods; in other countries, consumption of cheap ultra-processed foods increased. In addition, lockdowns shuttered schools and daycare centers, which provide critical meals and supplementary nutrition to hundreds of millions of young children. Early projections for 118 LMICs suggest that 9.3 million more young children could suffer from wasting (low weight-for-height) as a result of the pandemic. This decline in food security and sound nutrition, compounded by missed education and reduced healthcare, will have lifelong consequences.

## MAGNIFYING DIFFERENCES AND SHORTCOMINGS

The pandemic has been a stark reminder of the greater vulnerability of the poor and other disadvantaged groups to shocks.



## Poverty

Poor households, more than wealthier households, saw their food security, livelihoods, and wellbeing decline, both because the poor are heavily employed in the informal sector and perform physical labor that was restricted by lockdowns, and because they spend a larger share of their income on food. Migrant workers, in particular, were likely to lose their employment. In Ethiopia, for instance, poorer households were far more likely to report high stress than were wealthier households. The pandemic also disrupted vital services for poor communities, including public sector food, nutrition, health, and poverty programs. It also amplified the impact of the digital divide; better-off communities were able to rely on Internet services to access schooling, market information, and health services, while poor communities were left in relative isolation and education faltered.

The impact of COVID-19 on the rural-urban gap is more complex. On the whole, urban households experienced larger income losses because they work in the service and industry sectors, which were most





severely affected by restrictions and the economic recession. Agriculture and agrifood systems, with the exception of food services and restaurants, have been more resilient, in part because agrifood systems were generally exempted from movement restrictions. Thus the rural poor were partially buffered from the shock. Nevertheless, poverty has risen in both rural and urban areas. Due to larger rural populations living close to the poverty line, however, more people in rural areas were pushed into poverty.

### Women

Disadvantaged groups, including women, have borne the brunt of the pandemic due to the economic, legal, and social barriers they already faced and their reliance on informal work. Women account for 39 percent of employment globally but incurred 54 percent of total job losses during the pandemic. Many experienced increases in their already-heavy workloads. In rural India, for example, about 50 percent of households surveyed reported that women were spending more time fetching water and firewood during the pandemic. The stress on households from lost incomes and stay-at-home orders also can lead to increased domestic violence, which most affects women and children. Yet, national policy responses have largely failed to adopt a gender-sensitive approach and risk leaving women further behind.

### Regions

Beyond shared vulnerabilities, including large numbers of informal workers with few social protections, a wide digital divide, and reliance on domestic and international remittances, there were also important differences among regions and countries related to policy reactions, demographics, and food and economic system structures. As the pandemic is far from over in many places, how it will evolve and its long-term impacts in different regions are still unknown; we have just a snapshot from 2020.

Countries in South Asia initiated strict lockdown measures at the earliest stage of the pandemic, keeping COVID-19 cases low, and spent heavily on their already-large social protection networks, support to agriculture, and maintaining food price stability. But the region's labor markets, especially in the nonfarm and informal sectors, proved to be fragile, due in part to their reliance on migrant workers.

In East and Southeast Asia, lockdowns were among the strictest, and have been relatively effective in controlling the spread of the virus; but the region has struggled to support large populations of urban poor affected by the pandemic. Expansion of regional trade, however, has helped mitigate the impacts of global trade restrictions, as many exports, including agricultural products, have been rerouted to China.



Africa south of the Sahara recorded relatively few COVID-19 deaths in 2020, but short-term policy responses and the global recession have interrupted a long period of economic growth, with decreases in household incomes, protests over lockdowns, increases in food insecurity, and millions more people living in extreme poverty. Some countries were able to invest heavily in social protection measures, but rates of coverage remain quite low compared to the global average. For several African countries, high costs of the pandemic response and economic contraction pose a risk of fiscal crisis.

Latin America and the Caribbean have been hit hard due to a high level of urbanization and the ease with which the virus spreads in such dense environments, as well as due to the prevalence of obesity, which raises morbidity. Employment in the informal sector, which lacks social safety nets, is common, and has been severely disrupted by movement restrictions.

Central Asia was largely able to protect its agriculture sector, but lost remittances and the region's heavy reliance on a few commodity exports have accentuated the pandemic's economic shock. Finally, the Middle East and North Africa region faces challenges related to reduced incomes, especially the loss of tourism income and remittances, and disruptions of the industry and service sectors. However, the region's agrifood system offers a strong foundation for post-pandemic recovery.

## LESSONS FOR FOOD SYSTEM TRANSFORMATION

By highlighting these inequities and weaknesses, the pandemic offers lessons about what must be addressed and what investments and policies will work to increase resilience to shocks and contribute to long-term food system transformation.

### Resilience

Three types of measures can make a food system more resilient to shocks, including epidemics and natural disasters. First is to reduce stress on our food systems by limiting the frequency and magnitude of shocks; this will leave them better positioned for the shocks that cannot be avoided. For example, investing in climate change mitigation now will reduce the likelihood and magnitude of future shocks, such as droughts and flooding. Second, resilience requires the capacity to anticipate shocks. Investments in early warning systems, development of improved data and indicators, and digital technology are examples of ways to increase access to actionable information for individuals, businesses, and governments. Third, the capacity of all actors in our food systems to absorb shocks must be improved. Capacity enhancement requires a variety of instruments, such as better access to finance; flexible social safety nets; competitive markets and efficient value chains; reliable trade







agreements; and investment in rural services, infrastructure, and R&D for improving food production systems. At the global and national levels, multilateral financial institutions will need to address the financial constraints of many developing countries. Measures for resilience need to be embedded in longer-term transformation strategies to make food systems more efficient, inclusive, sustainable, and healthy, and must pay special attention to the most vulnerable households and communities in our food systems.

### Social Safety Nets

To respond to lost employment and incomes, many countries either deepened social protection programs, providing larger benefits, or extended them to include more beneficiaries, such as informal workers and the urban poor. These efforts provide evidence that pro-poor interventions can be expanded if there is political will; they also offer more complex lessons about what works, especially in terms of inclusion. Programs built on robust existing systems were most successful. But while they helped to stem the rise in poverty, these social protection programs did not seize the opportunity to increase gender equity. Future efforts should consider a range of complementary programming, especially for strengthening women's control of assets and social capital.



### Nutrition and Diets

Targeted social protection programs can also contribute to improvements in dietary quality and diversity, including behavior change communication, vouchers for healthy foods, and improved quality for school meals. Support for development of national food-based dietary guidelines can inform public and private investment strategies that promote production and consumption of nutritious foods. Measures to shift "food environments" (for example, food labeling) and consumer demand (for example, public awareness campaigns) toward healthier diets will help redirect food systems to provision and consumption of more nutritious foods.





### Natural Resources

The 2020 pandemic likely emerged from intensified human-wildlife interactions linked to environmental degradation; future pandemics as well as other food system shocks, such as natural disasters, will arise from intensification of agriculture, environmental degradation, and climate change. Breaking out of the vicious cycle of unsustainable agricultural practices and natural resource degradation requires integrated, “nature-positive” solutions – both technological and governance mechanisms – that meet food needs *and* protect and restore ecosystems. For example, habitat conservation can support biological pest-control services, and so reduce the need for pesticides. Governance approaches that can help build more resilient and sustainable agroecosystems include landscape-level management; multistakeholder platforms and support for community-based management of resources; and incentives for sustainable practices such as payment for environmental services.

### Private Sector Adaptation

The private sector’s experience sheds further light on how food supply chains can become more resilient and flexible. As a number of trends were accelerated by the pandemic – including the growth of third-party logistics and delivery firms and especially the use of digital platforms – businesses that were able to pivot

and innovate quickly proved to be far more resilient. Examples range from delivery of food in urban areas to digitalization of supply chains. Well-integrated modern supply chain entities were best placed to pivot quickly. However, the difficulty faced by transitioning food systems underlines the need to support small and medium producers and enterprises through access to credit, capital, and insurance to mitigate risk, and access to adequate infrastructure and markets so that they can participate effectively in supply chains. This requires an enabling business environment that encourages private sector innovation, modernization, and inclusion. Public policies and investments that will help create this environment include regulations that facilitate market integration, including through international markets, as well as provision of adequate basic infrastructure, from roads to financial institutions to digital connectivity, that enhances resilience and allows the private sector to generate employment and better livelihoods along supply chains.

### Balancing Policy Trade-Offs

As the pandemic evolved, governments adopted many new policies, first in an effort to control the spread of the virus and then to mitigate the negative impacts of lockdowns and social distancing, providing a wealth of evidence on policy impacts. As the coronavirus pandemic

continues, and other health, economic, or environmental shocks arise, more data and analysis are needed to help policymakers better manage critical trade-offs among different objectives – for example, between health and economic objectives. Understanding the interplay of health, economic, and social policy actions and addressing complex shocks requires a multisectoral perspective and clearly defined priorities. Building policy systems that can address future shocks – that are adaptable, coherent, effective, and have citizens' confidence – can help decision-makers respond in an informed, timely, and cohesive way not only when a crisis strikes but for long-term food system transformation.

## LOOKING AHEAD

Research and evidence must underpin public and private sector efforts to transform food systems. People, businesses, and governments need information to manage both short-term shocks and long-term change. Digital innovations have accelerated during the pandemic and clearly demonstrated the value of closing the digital divide. But inclusive transformation will require far broader capacity enhancement, including increased access to finance and to markets and better infrastructure, social safety nets, and rural services. The ongoing pandemic has shone a harsh light on the vulnerabilities of our food systems but has also proved that adaptations and innovations can be greatly accelerated. As we move into the second year of the pandemic, the *2021 Global Food Policy Report: Transforming Food Systems after COVID-19* provides a set of evidence-based ideas drawn from the experiences of 2020 and recommendations for making the transformation to healthy, resilient, efficient, sustainable, and inclusive food systems possible. But there is still much to learn, and IFPRI's research is continually being adapted to meet changing needs.

This publication is based on the peer-reviewed report *2021 Global Food Policy Report: Transforming Food Systems after COVID-19*, published by the International Food Policy Research Institute.

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IFPRI is a CGIAR Research Center

1201 Eye St, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: [ifpri@cgiar.org](mailto:ifpri@cgiar.org) | [www.ifpri.org](http://www.ifpri.org) | [www.ifpri.info](http://www.ifpri.info)

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