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# HLPE 3<sup>rd</sup> Note on Critical, emerging and enduring issues

V0 draft for e-consultation

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## Introduction

The Committee on World Food Security, the foremost intergovernmental and international evidence-based and multi-stakeholder platform related to food security and nutrition, mandated its High Level Panel of Experts on Food Security and Nutrition (HLPE) to “identify emerging issues, and help members prioritize future actions and attentions on key focal areas” (CFS reform Document, 2009). In October 2013, the CFS requested the HLPE to produce a Note on critical and/or emerging issues affecting food security and nutrition (FSN). This request came in the context of the CFS’s own ongoing discussion on the selection and prioritization of its activities. The HLPE published this first note in August 2014. In October 2015, at its 42<sup>nd</sup> Plenary Session, the CFS decided that this HLPE note shall be updated at least every four years, depending on funding availability and the HLPE workload, and released in due time to be used at the starting point for the process of elaboration of the following CFS multi-year programme of work (MYPoW). The second note on CEI (2017) and informed the [MYPoW 2020-2023](#). The HLPE is now developing the third note, which has been renamed “Note on critical, emerging and enduring issues” (CEEI), recognizing that some of the key issues affecting food security and nutrition continue to exist, to inform the preparation of the MYPoW 2024-2027.

This draft note identifies seven key issues affecting FSN:

- 1. Building resilient and equitable supply chains for FSN**
- 2. Urban and peri-urban food systems**
- 3. Conflicts and the fragility of food systems**
- 4. Revitalizing climate policies for FSN**
- 5. Recognizing the role and rights of food system workers**
- 6. Building a meaningful interface for diverse knowledges and practices for FSN**
- 7. Emerging and re-emerging infectious diseases challenging FSN.**

## 1. Building resilient and equitable supply chains for FSN

### Rationale

Both the COVID-19 pandemic and the war in Ukraine have caused chaos for food supply chains around the world, revealing vulnerabilities and deep inequities in the current systems designed to ensure that food moves smoothly from farm fields to plates (HLPE, 2021). Food supply chains have become increasingly complex in recent decades, characterized by growing cross-border trade in food products and the reliance on millions of food system workers to supply inputs, grow, process, move, market, and prepare food. Food supply chains also depend on well-functioning transportation systems, require vast quantities of water and fossil fuel energy, and rely on regulations to ensure safety and quality. In the case of globally oriented food supply chains, smooth channels of international trade are vital to their functioning. The risks associated with disruptions and inequities in these systems can be multiplied when food supply chains rigidly rely on only global, or only local, supplies and labour or when there are multiple shocks affecting food systems at the same time (FAO *et al.*, 2021). Food supply chain dynamics are also different depending on their structure and organization in different regions and countries (Nchanji and Lutomia, 2021).

Food supply chains in many parts of the world had become increasingly organized around a “just-in-time” approach in recent decades, often dominated by just a handful of large firms, to achieve economic efficiencies (Clapp and Moseley, 2020). Staple crop production for international trade is also highly concentrated, with just a handful of countries supplying nearly all of the wheat, maize, rice and soybeans that are traded on global markets, and just a handful of firms that dominate their trade. Global food supply chains are also often highly inequitable with enormous power differentials between different food system actors. While a few firms dominate in agricultural inputs, food trade, processing, and retail, small-scale producers face challenges in accessing markets and food system workers often experience harsh working conditions with little pay. But as became clear during the pandemic and the conflict in Ukraine, this efficiency-focused model is characterized by rigidities due to a lack of diversity and stark inequities that can undermine their resilience – i.e. their capacity to recover, adapt and transform – in the face of shocks. Food supply chains became strained when any one of the factors that were required to make it function properly was affected negatively, such as the availability and mobility of healthy and safe food system workers, open channels of trade and transportation, and the availability of water and energy supplies (Klassen and Murphy, 2020; Battersby, 2020).

Food supply chains risk disruption from many different types of shocks, including conflict, climate vulnerability, financial shocks, and local disasters (e.g. Davis *et al.*, 2021; Béné, 2020). These types of shocks have the potential to negatively impact multiple dimensions of food security. For example, shocks can lead to uneven food availability due to blocked trade, or lack of inputs and labour. Supply chain disruptions can lead to higher food prices that diminish food access and can lead consumers to shift to less healthy diets. Markets can also become unstable due to trade and transportation blockages. Disruptive food system shocks can also lead to wastage and excessive resource use, which undermines sustainability. And food supply chain vulnerabilities can deepen inequalities and weaken livelihoods and diminish the agency of food system actors (including producers, workers, traders and consumers), or their ability to interact with food systems on their own terms (HLPE, 2021).

Given the growing frequency of shocks to food supply chains, and the potential for additional shocks from a range of sources, it is imperative to take a deeper look at the types of vulnerabilities and inequities within food supply chains, and to suggest ways to make them more equitable and resilient so that they are able to function to support all six dimensions of food security, even in the face of shocks and crises.

**Key questions that could be addressed in this report:**

1. What kinds of inequities and power imbalances are present in food supply chains and how do they affect food security and nutrition and food system livelihoods, especially for those groups that face multidimensional and intersectional aspects of inequality and vulnerability?
1. What are the main vulnerabilities facing food supply chains and what are the potential consequences for food system actors (including food producers, traders, food system workers, and consumers), especially in relation to different kinds of potential shocks?
2. What characteristics are needed to make supply chains more resilient?
3. Are there trade-offs between efficiencies and resilience within different types of food supply chains, and how can they be minimized?
4. What are the costs and benefits of food trade via specialized global supply chains compared with food trade via territorial and local markets, especially with a view to ensuring diversity and resilience in food supply chains?
5. What types of policy changes are needed to enhance the resilience of food supply chains, including consideration of environmental sustainability, access to healthy diets, and human rights?
6. What is the regulatory role of states in building more resilient food supply chains?
7. What can be done to incentivize private sector strategies and investments promoting supply chain resilience?

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## 2. Urban and peri-urban food systems

### Rationale

Almost sixty percent of the global population currently lives in urban settings (UNDESA, 2018; World Bank, 2020) which are engines of growth and employment, producing over 80% of the global GDP (World Bank, 2020). The increase in urban population will be particularly stark in Africa and Asia, with the 15 fastest-growing cities all located in Africa. Alongside this urbanization, there has been a “geographical decoupling” (Langemeyer *et al.*, 2021:2) of cities from sources of food supply, with urban and peri-urban land use being reoriented for higher-value uses. Cities and towns are fast losing peri-urban agricultural lands, which have historically provided them with fresh food. Urban areas are also experiencing higher rates of extreme weather events as well as growing inequalities, compared to the past (Pelling *et al.* 2021). These trends mean that urban areas also concentrate risks for food insecurity and malnutrition, as it became clear during the COVID-19 pandemic. At the same time, urban areas are resourceful and are hubs for education, health and social services, as well as for food supply chains.

The informal food sector is critical to the food security of poor urban households in most rapidly growing towns and cities in the Global South. The informal food economy comprises a complex network of suppliers, transporters, hawkers, retailers, and street and market food vendors, in addition to farmers, making food more accessible and affordable to urban consumers. Yet, these informal sector actors mainly rely on their own resources and capital and have very little policy support for strengthening their enterprises and ensuring quality.

The strategies chosen will shape FSN, locally and globally, across the rural-urban continuum. Cities can play a vital role in shaping food system policies to bolster resilience by sourcing locally or regeneratively grown food where appropriate, avoiding food waste, and designing and marketing healthier food products, amongst others. A recent survey indicates that municipal governments play an enormous role in identifying and connecting food systems actors to foster innovative community-based initiatives to bolster food security and nutrition (FAO, 2020). In the face of the dramatic consequences of the pandemic, for example, initiatives by family producers for home delivery services of baskets of fresh food and local markets have multiplied, as have initiatives for food donations to low-income communities. These experiences point to the importance and viability of the territorial dimension of food systems for the realization of the human right to food (Recine *et al.*, 2021).

Urban and peri-urban agriculture is an important option, which has potential positive impacts on dietary diversity, the quality of city spaces and community action and empowerment. Yet there is little state support for urban and peri-urban agriculture in most cities, especially in the global South. During the COVID-19 lockdown, it was only home gardens, which provided some nutritious and healthy food supplements to the urban middle classes (Lal, 2020). Many people in urban areas, especially migrants, undocumented, informal workers, were forced to go to food banks and charities, with great harm to their rights, dignity and agency.

Given the social and economic significance of urban areas, it is imperative to address the challenges of urbanization and rural transformation to ‘build back better’ in the wake of the COVID-19 pandemic – addressing poverty and inequality, building resilience and social inclusion and fostering sustainable lives.

### **Key questions that could be addressed in this report:**

1. How can urban and peri-urban food systems be made more equitable and accessible both for food system actors and in terms of food security and nutrition outcomes?
2. How can urban food supply chains, formal and informal, local and global, be made more resilient to ensure food security and nutrition within urban settings, in particular for food system workers in the informal economy?
3. What changes are needed in urban planning to better support all dimensions of food security – including support for human rights and agency as well as sustainability, especially for the most vulnerable and those in informal settlements?
4. How can national and municipal governments strengthen the potential for low-carbon, inclusive, relatively self-sufficient and resilient cities and towns to drive improved food security and nutrition in the wake of the COVID-19 pandemic?
5. What are the most appropriate planning and policies along the rural-urban continuum to address issues of land tenure, urban expansion into previous farmland, migration to urban areas and the growing competition for natural resources?
6. What are the potential benefits and challenges of territorial markets for strengthening food security and nutrition for urban populations?
7. How can climate change policies be brought to the city level, while guaranteeing food and nutrition security?

### 3. Conflicts and the fragility of food systems

#### Rationale

Conflict is one of the major drivers of hunger and malnutrition, and at the same time, hunger can be a cause of conflict under certain conditions. The ongoing dire situations of conflict and post-conflict countries and regions – including Yemen, South Sudan, North-Eastern Nigeria, Afghanistan and, most recently, Tigray, Ethiopia – have increased the incidence of extreme hunger and malnutrition (Global Hunger Index, 2021). The current war in Ukraine is exacerbating global food system challenges due to the blockage of grains and other produces, increase in prices and damage to agricultural infrastructure and farming cycle, forecast to sharply increase the number of people suffering from hunger (FAO, 2022). There are more than 30 million people in over three dozen countries who are just one-step away from a declaration of famine (UN, 2021), a number that has continued to climb in the last several years. Fragile states in particular are in a dire situation. When conflict meets with the climate emergency, extreme weather events, infectious diseases, and competition over access to valuable resources like water and arable land, severe food insecurity deepens (FAO and WFP, 2021).

Without a lasting peace, the international community is unlikely to reach the goal of zero hunger. Conflict adversely affects all six dimensions of food security (HLPE, 2020). It can displace farmers and pastoralists, destroy agricultural assets, disrupt markets, increase food prices, and undermine livelihoods, resulting in severe hunger and malnutrition, especially for those already vulnerable, such as smallholder and subsistence farmers, herders, women, children, indigenous peoples, and minorities (Moseley, 2017). In conflict situations, severe hunger and malnutrition often spreads quickly to neighbouring places, creates forced displacement and migration. Without an urgent response, conflict-driven hunger not only kills people, but also destroys entire food systems.

Humanitarian short term, emergency response is vital, yet ultimately not enough. Such operations are typically meant to address immediate crises, rather than enabling long term peaceful and sustainable food systems. Moreover, humanitarian organizations are already beyond their capacity to solve even immediate emergencies because of limited financial resources (Global Humanitarian Assistance Report, 2021).

Long term development assistance and investment are key to breaking the vicious problem of hunger and conflict, but without peace building, such efforts are hindered. The international community has an obligation to respond to the human tragedy of conflict-driven hunger, given the United Nations Charter, the founding principles of Rome based institutions and international human rights commitments.

There are examples around the world where effective development policies have helped to respond to conflict-driven hunger, and solve conflict giving hope to peaceful recovery and restoration of food systems that are sustainable and equitable (FAO, 2016). A long-term, holistic approach is necessary for solving structural problems relevant to food insecurity such as political and economic shocks, depleted natural resources, and socio-economical exclusion as a result of conflict (CFS, 2015).



**Key questions that could be addressed in this report:**

1. How is the right to food compromised in conflict situations, and what to do avoiding it?
2. What are the main challenges for humanitarian action in ensuring access to food of vulnerable populations in situations of conflict, including in its complex relationship with other and multiple crises such as climate change, and the pandemic?
3. What are the most promising policies and approaches to support local agrifood systems, food security and nutrition and ensure resilience in contexts of high insecurity and conflict?
4. How can local people affected by conflict be enabled to be agents of change rather than passive receivers in time of humanitarian assistance?
5. How can the international community promote the humanitarian-development-peace nexus to prevent conflict-related hunger crises?
6. How could policies and laws help to pre-empt the use of starvation as a weapon of war?
7. What are the consequences of economic sanctions on human rights and food security and nutrition in conflict and post conflict societies?

## 4. Revitalizing climate policies for FSN

### Rationale

Climate change remains a critical and enduring global threat to food security and nutrition. Since the publication of the HLPE report on climate change (HLPE, 2012), there have been significant legal, political and scientific developments, and climate change related impacts have become existential threats, especially, but not exhaustively, in the Mediterranean, Western Asia, North and sub-Saharan Africa, as well as small islands, and coastal developing states. Previously predicted impacts of these trends, such as warming average temperatures, sea level rise, ocean acidification, extreme weather events like drought, flood, fires, tornados and unusual rainfall have become everyday occurrences (IPCC, 2022). These impacts contribute to severe hunger and malnutrition, as well as poverty, especially in fragile regions and countries (FAO, 2016). Climate change also affects all forms of malnutrition more broadly (Fanzo *et al.* 2018; Swinburn *et al.*, 2019; Dietz, 2020).

At the same time, food systems continue to be a significant source of GHG emissions that contribute to further climate change, with between 21–37 percent of greenhouse gas emissions associated with food systems (IPCC, 2019; Crippa *et al.*, 2021). Intensive, monoculture and expansionary agricultural land uses and agricultural and food system practices have continued to contribute to greenhouse gas emissions (FAO, 2016). These include the clearing of forests for crop cultivation and animal grazing, the release of carbon from tilling the soil, and the use of fossil fuel-based inputs such as fertilizers and pesticides. Intensive animal agriculture also has a high environmental footprint, and the heavy reliance on energy for food processing, the cold chain, long distance trade and global supply chain also contribute to the problem (UNEP, 2019; Pellegrini and Fernandez, 2018). Activities beyond primary food production such as processing, transformation, retail and post-consumer waste are major contributors to GHG emissions (Crippa *et al.*, 2021), with about 6 percent of GHG emissions relate to food losses and waste alone (Poore and Nemecek, 2018).

Given the ongoing complex dynamics between climate change, food security and nutrition, and food systems, it is vital to evaluate and revise existing policies, and to identify where challenges occur and what opportunities have arisen in the last decade. It is necessary to find a forward-looking policy tool that is compatible to recent global law and policy developments such as the 2030 Sustainable Development Goals (2015); the Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC) (2015); new developments of the UN Convention of Biological Diversity (CBD), and the UN Convention to Combat Desertification (UNCCD).

The recent reports of the Intergovernmental Panel on Climate Change (IPCC) made clear that the relationship between food systems and climate change is complex and it has to be dealt with in a holistic manner. This means adaptation and mitigation policies of the climate change regime should be revised from the perspective of FSN to include justice, a human-right based approach, as well as sustainability, to the implementation of diversified, equitable, and climate resilient production methods.

Moreover, recent developments and methods such as “green economy”, “circularity”, “climate smart agriculture”, “precision agriculture”, etc., should be evaluated to ensure their compatibility with principles of climate justice, to prioritize rights and livelihoods of vulnerable groups such as smallholder and subsistence farmers, food systems workers, indigenous peoples, women and children, especially in fragile geographies.

**Key questions that could be addressed in this report:**

1. In what ways have our understandings of the dynamics between climate change, FSN and food systems changed since the HLPE report on climate change was published in 2012? What are the implications of our current understanding of the links between climate and FSN for food security investments and policies and nutrition outcomes? To what extent do the most recent climate policy agreements address food security and climate interactions, and what additional policy directions are needed?
2. What regions and populations are most negatively affected by the synergistic dynamics between climate change and food systems? What are the food systems and regions that contribute most to these dynamics?
3. To what extent do recent climate-focused technologies and practices for food and agriculture represent real opportunities to build climate resilient food systems and what are their potential costs and challenges might arise especially on fragile groups and fragile environments?
4. What measures are best suited to building more climate resilient food systems for small-scale producers and other vulnerable and marginalized food system actors?
5. What specific role and policy developments are needed to recognize the role of women in FSN in times of climate emergency and natural disasters?

## 5. Recognizing the role and rights of food system workers

### Rationale

Food systems employ the majority of people in developing countries in both self/informal and wage employment and will continue to do so for the foreseeable future. However, despite their contribution to food security, workers across the food system have long been underpaid and undervalued, facing occupational hazards, poverty and food insecurity (Hurst *et al.*, 2007; HLPE 2021; various ILO reports).

Many of the workers involved in the different stages of food systems such as from production to supermarkets and restaurants are subject to precarious working conditions, with low wages, are not protected by labour legislation, have no access to social protection, and work in hazardous occupations that can lead to work accidents and occupational illness, chemical contamination (ILO, 2017; ITUC, 2021; Wilshaw and Willoughby, 2019). These risks are particularly aggravated for migrant, undocumented and seasonal workers, who may lack rights and face further discrimination due to difference in language and culture. Workers in restaurants, fast food chains and food deliverers are often employed under precarious and temporary arrangements. They are subjected to long working hours, low wages and unhealthy conditions. More recently, what has been called the "uberization of the economy", or the "gig economy" is particularly important for food delivery workers, most of whom are young, have few labour rights or unaware about their rights, are underpaid and are among the most vulnerable categories of workers.

There are countless reported cases of child labour, workers in conditions similar to slavery and sexual violence. Around 70 percent of child labour – nearly 112 million boys and girls – takes place in agriculture, including farming, livestock, forestry, fishing and aquaculture (ILO and UNICEF, 2020).

On average, women make up 40 percent of the agricultural labour force in the Global South, ranging from 20 percent in Latin America to 50 percent or more in parts of Africa and Asia. Despite their significant contribution to the agriculture sector including fisheries, rural women typically find themselves in disadvantaged positions, they tend to face more restricted access to productive resources and assets, financial services and social protection, and they face discrimination at work with respect to pay, contractual arrangements and responsibilities.

COVID-19 has impacted workers across the food system while, at the same time, these essential workers have received few protections on the job. Exposed to the disease due to environmental conditions and cramped working spaces, they have had little access to healthcare and have been excluded from many economic stimulus programmes (Food Chain Workers Alliance, 2021; Parks *et al.*, 2020).

Improving the quality of jobs in the food system requires attention to raising returns to labour, increasing stability in earnings, and improving working conditions, especially to women, youth and migrants (World Bank, 2017).

The precarious working conditions in food systems besides impacting on workers also compromises the achievement of the SDGs and need to be accounted for and reversed (Kurtz *et al.*, 2021).

**Key questions that could be addressed in this report:**

1. How to improve the working and living conditions of all food system workers, especially those in informal and seasonal contractual arrangements?
2. How to improve the working and living conditions of unpaid family members contributing to the food economy, such as women and youth?
3. How to ensure the effective elimination of child labour in food systems?
6. How to link the right to food with the right to work in a food system approach?
7. How to implement “Business and Human Rights Principles” to supply chain workers, plantation workers, and the gig economy?
8. How to improve and extend social protection systems that include informal economy and undocumented, migrant workers?
9. How to promote cooperation among various institutions such as FAO, ILO, OHCHR, UNICEF and WHO, as well as the International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (IUF) to improve synergies and coordination to promote conditions of food systems workers?

## 6. Building a meaningful interface for diverse knowledges and practices for FSN

### Rationale

Despite economic growth and rapid technological transformations, over 2 billion people globally face food insecurity at moderate or severe levels, increasing by an additional 83 to 132 million since the outbreak of the covid-19 pandemic (FAO *et al.*, 2020). The failure of existing policies to meet SDG2 has created an urgent need to re-examine strategies for making food systems more resilient and equitable. Central to this process of food system transformation is engagement with different knowledge systems and worldviews.

Food systems, by their very nature, are diverse, embracing a range of knowledges and technologies in adapting to different agro-ecological, political-economic and socio-cultural contexts. Despite an acknowledgement of this diversity and the need for context-specific solutions to enhance human wellbeing and environmental sustainability (HLPE, 2020), different knowledge systems continue to be juxtaposed against one other – scientific and modern approaches vs. more traditional technologies and indigenous practices. Mainstream agriculture and nutrition interventions, with a focus on modern technologies and market-based mechanisms as key organizing principles for food systems, often ignore their socio-cultural basis including gendered taboos, and ideas of good health and healthy living (Mistry and Berardi, 2016).

HLPE (2021: 73) briefly reviewed how diverse systems of knowledge, learning and innovation contribute to young people's engagement in sustainable food systems. It argued that sustainable food systems require the democratization of knowledge production, both through public research and the strengthening of horizontal networks of grassroots research. This would allow for an interaction and interface between traditional and local, gendered community knowledge (including indigenous knowledge systems) and more formal education systems, building partnerships that draw the best from both. This is particularly important as knowledges and practices change over time and space, in response to changes in the drivers of food systems, whether physical, economic or social.

Since 2002, the FAO has through its Globally Important Agricultural Heritage Systems (GIAHS) designated 62 systems in 22 countries as agricultural heritage sites. These represent not just diverse natural landscapes but also agricultural practices that create sustainable livelihoods and food security in rural areas while combining biodiversity, resilient ecosystems, traditions and farmer innovations in a unique way. The wealth and breadth of accumulated knowledge and experience in the management and use of resources needs to be promoted and conserved and, at the same time, allowed to evolve. In fact, drawing on the biological heritage of neglected and underutilized crop species and landraces in modern agricultural research could contribute towards addressing micronutrient malnutrition – a phenomenon that has increased as climate changes, and biodiversity shrinks (Padulosi *et al.* 2022; 2013).

An important development in the knowledge domain is the rapid spread of digital technologies. While digitalisation can enhance inequalities, it also offers new opportunities for bringing together modern science and technology (a range of genetic, biological, space and information technologies, renewable energy and value chains to reduce food losses and waste) and indigenous and community knowledges to find solutions across important dimensions of FSN (HLPE, forthcoming). Modern techniques have the potential to contribute to improving resource efficiency, strengthening resilience and social equity through FSN-oriented innovations such as biofortification, drones and sensors to allow precision farming, mobile-based weather information to mitigate the impacts of climate change, agronomic practices to reduce greenhouse gas emissions, amongst others (World Bank 2021). Farmers on the ground, drawing on local knowledge, however, can be equally adept at safeguarding soil, plant and animal health, or water quality, for instance, if their expertise in analysis and problem-solving is recognized, supported and further strengthened (Swaminathan, 1997). Computer-aided and applied research and extension can support this process, considering farmers as agents of change and empowering them to make strategic decisions and choices concerning their lives and livelihoods.

A key question that arises in the process of democratizing knowledge is that of intellectual property. Intellectual property regimes have in the past used indigenous and traditional knowledges to secure patents for individuals or companies, thereby creating inequities in the processes of knowledge sharing. Article 9 of the International Treaty on Plant Genetic Resources for Food and Agriculture (2009) affirms the rights of farmers, who have contributed to conserving, improving and making available these resources for future generations. Equitable sharing of benefits is the fundamental principle underlying this treaty signed by 148 member states. In fact, national legislation from countries such as India, where the Protection of Plant Varieties and Farmers' Rights Act, 2001, sought to ensure that farmers, women and indigenous communities are not deprived of their rights, informed the treaty.

As outlined by the HLPE (2020), it is important therefore to bridge the gap between multiple forms of knowledge in equitable and integrated ways, respecting local understandings, to improve the resilience of food systems and support enhanced food security and nutrition for all.

### **Key questions that could be addressed in this report:**

1. How can more meaningful engagement between indigenous knowledge systems and mainstream scientific knowledge systems be achieved for building just and sustainable food systems that enhance, rather than marginalize, Indigenous worldviews?
2. What system change is necessary for equitable, easy access to knowledge, especially for smallholder farmers, women, indigenous and local communities?
3. How can we make local/traditional knowledge and agricultural heritage equally authoritative, and protect against appropriation?
4. How can agricultural research, education, and extension systems harness frontier science and technology for transforming food systems that strengthen community agency and empowerment?
5. How can we address the risks to communities from knowledge sharing including patenting through regulatory frameworks, and create an environment of trust for knowledge co-production?

6. How can we reduce inequalities in access to digital resources, and use these tools for strengthening knowledge interfaces within and across communities and other institutions?



## 7. Emerging and re-emerging infectious diseases challenging FSN

### Rationale

The FAO has projected that global food demand will increase sharply by 2100 necessitating substantial increases in crop and animal production (Rohr *et al.*, 2019). Unless there is a major transformation to more sustainable forms of agriculture<sup>1</sup>, intensification of production to meet this demand is likely to boost use of antibiotics, water, pesticides and fertilizer, as well as contact amongst humans, domestic and wild animals with consequences for the emergence and spread of infectious agents (Wallace, 2016). Emerging infectious diseases threaten food security by disrupting food systems and increasing food prices, both locally and globally. On the other hand, adequate food production would improve human health by reducing food prices and enhancing nutrition, thereby boosting immunity and resistance to infectious diseases (Foley *et al.*, 2020).

The interplay between emerging and re-emerging infectious diseases and FSN was brought to the fore by the unfolding COVID-19 pandemic, which has affected food systems and threatened people's access to food via multiple dynamics: lower food productivity and production, disruption to food supply/value chains, higher prices of food, loss of income, and lower income, disruptions to school meal programmes, altered food environments, etc. (Moseley and Battersby, 2020).

Together, the unprecedented rate of infectious disease emergence and the need to sustainably feed the global population represent two of the most formidable ecological and public health challenges of the twenty-first century. These complex dynamics need to be investigated and global policy decisions are required to tackle both the COVID-19 crisis and future emerging and re-emerging infectious diseases at a regional and global scale.

The One Health Commission has produced considerable research linking the importance of human, animal and environmental health to SDG 3, 6, 11, 13, 14 and 15. Surprisingly, the links to SDG 2 and FSN are less explicit in this debate.

### Key questions that could be addressed in this report:

1. How does the threat of emerging and re-emerging infectious diseases affect food system stability, resilience and sustainability across different regions?
2. How do societal inequities (regional/global, urban/rural, etc.) contribute to the problem of emerging infectious diseases, and how do those diseases in turn affect social inequities and hence FSN?
3. What is the role and impact of agricultural practices and systems, agro-food industry, processing, transport, and retail, in the emergence and spread of new infectious diseases?

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<sup>1</sup> In this brief, the word "agriculture" is used broadly to define crop farming, animal production, forestry, fisheries and aquaculture, and allied activities.

4. How are some food practices and systems help respond to infectious diseases?
5. How does consumer and social behaviour affect responses to the impact of infectious diseases on food security, nutrition, and food systems?
6. In what ways are labour-intensive food production systems and food supply chain/structure vulnerable to infectious disease disruptions to food systems? e.g. shortage of food system workers occasioned by travel restrictions (locally, regionally and globally) and transportation logistics, including supply chains for agricultural inputs, cross-border supply and distribution networks.
7. What are the broad implications of emerging and re-emerging infectious diseases for the six dimensions of food security and nutrition (availability, access, utilization, stability agency and sustainability)?

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- ✓ [CDP Cities on the Route to 2030.pdf](#) (more on climate action than food security)
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